

Issue 706

PS

September  
2011

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-706

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Unlimited



TWO STRANGERS TALKING ABOUT  
PREVENTIVE MAINTENANCE? WHO ARE  
THEY? FIND OUT ON PAGE 27 IN

“A Milkshake  
Conversation”!





GERMANY

AFGHANISTAN

ALASKA

KOREA



**I**t's human nature to hang onto magazines with useful or interesting articles. We want to keep them or pass them on to others we think might like or use the information.

From where we sit, that's great! We **want** you to pass on your old or extra copies of *PS*, too! Here are some ideas:

- Flag an article for Soldiers in your unit to read, especially if they don't normally see *PS*. It might solve a problem or put them in touch with someone who can help.
- Make copies of articles that apply to your unit. Hand them out or post them in a central location.
- Pass on a copy of *PS* to somebody who's never heard of us. *PS* proves that technical information doesn't have to be delivered in a dull way.
- A *PS* staffer discovered one unit puts *PS* issues in the motor pool restrooms. Now that's what we call a concentrated learning effort!



**PS****THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

TB 43-PS-706, 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.

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

Just write to:

**MSG Half-Mast**  
**PS, the Preventive Maintenance Monthly**  
**USAMC LOGSA (AMXLS-GP)**  
**5307 Sparkman Circle**  
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Or email to:

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**JOYCE E. MORROW**

Administrative Assistant to the Secretary of the Army

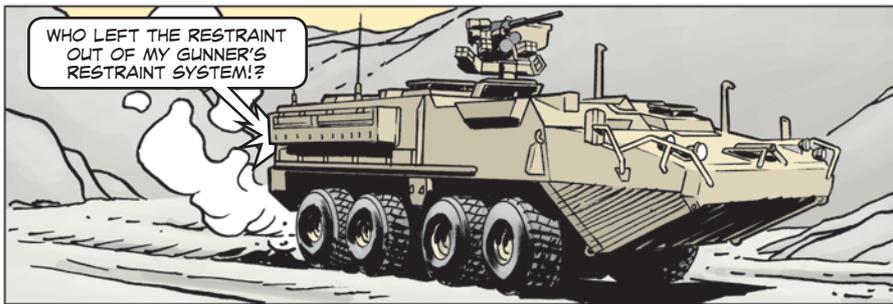
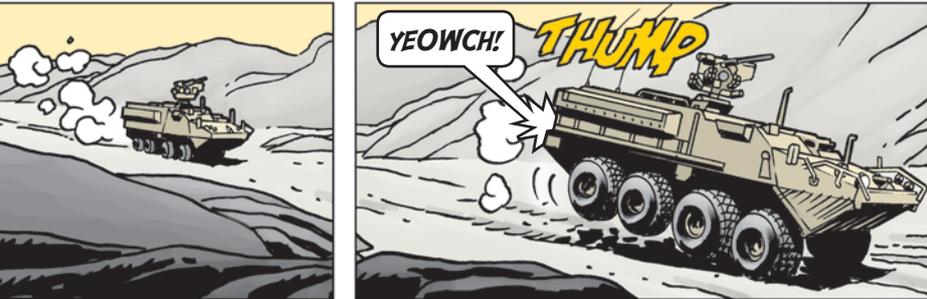
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Stryker...

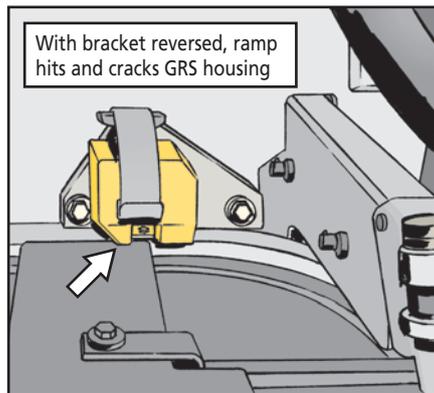
# BRACKET FIX SHOWS SOME RESTRAINT



The newly installed gunner's restraint system (GRS) on the M1126 ICV, M1127 RV, M1130 CV, M1131 FSV, and M1132 ESV Strykers won't do much restraining if it's not installed right.

The right-rear retractor for the air sentry guard GRS was installed the wrong way on some of these Strykers. The bracket that mounts the retractor to the floor was flipped, moving the retractor closer to the center of the vehicle.

Unfortunately, that places the retractor too close to the ramp. When the ramp is closed, it hits the retractor casing and cracks it. Then the GRS webbing can bind as it retracts. That can keep it from tightening properly, which puts you at risk.

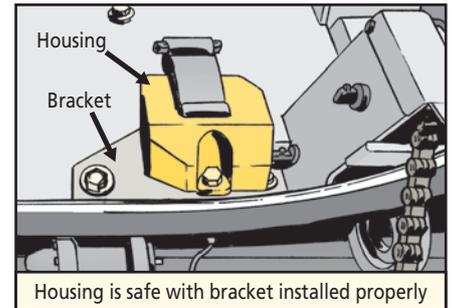


As part of your before-operations PMCS, inspect all of the GRS harnesses, retractors and brackets, but pay special attention to the right-rear air guard bracket. If the bracket is installed wrong, it's considered a safety issue and your vehicle is NMC until the problem can be fixed. Notify your mechanic and he'll correct the bracket orientation.

If the bracket was installed properly and there's enough clearance for safe operation of the retractor, you're good to go. However, there may be a few vehicles that still have an interference problem even after the bracket is reinstalled correctly.

In those cases, tell your mechanic. He'll replace the old bracket with a new one, CAGE 1EAW9, PN DTA201374. The new bracket mounts the same way, but has been reshaped to move the retractor <sup>3</sup>/<sub>4</sub> inch farther out of the way. The bracket is also stamped with the word **TOP** for proper orientation.

You'll find the complete scoop on this issue in TACOM GPA 11-007.



M88-Series Recovery Vehicle...

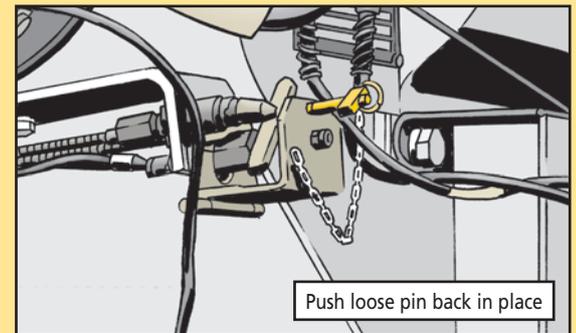
# PREVENTING PIN PROBLEMS

Drivers, when you exit your M88A1-series recovery vehicle, do you sometimes feel a little tug on your pants?

That's because it's easy to snag the back of your coveralls on the engine fire suppression system safety pin. If the pin is pulled out—even slightly—it activates a sensor that keeps the engine from starting the next time.

So if you feel a little tug on the back of your coveralls at the end of the mission, reach back and make sure the safety pin is pushed in all the way.

If the engine won't start next time, you may not have noticed the snag. Make the safety pin your first check.



# 1, 2, 3, KICK!

HEY! CHECK OUT THESE MOVES!

GREAT! JUST DON'T TRY TO USE 'EM WHEN YOU GET INTO MY DRIVER'S COMPARTMENT!



No, it's not the latest dance move. It's the way most drivers go about climbing into the driver's compartment of their Bradleys.

Sure it's a tight fit and it's not exactly easy to see where you're putting those size 12s. But with all the knobs, switches, and panels down there, it's just too easy to put a careless foot down in a place that goes CRUNCH!

One place in particular that you need to avoid is the automatic fire extinguisher system (AFES) panel. One sharp kick there can crack the panel and—in rare instances—even cause an accidental discharge.

Make AFES panel a "foot-free" zone



SO TAKE IT SLOW AND SETTLE INTO THAT DRIVER'S SEAT WITHOUT CAUSING ANY DAMAGE.



AND SAVE THOSE OTHER MOVES FOR THE DANCE FLOOR.

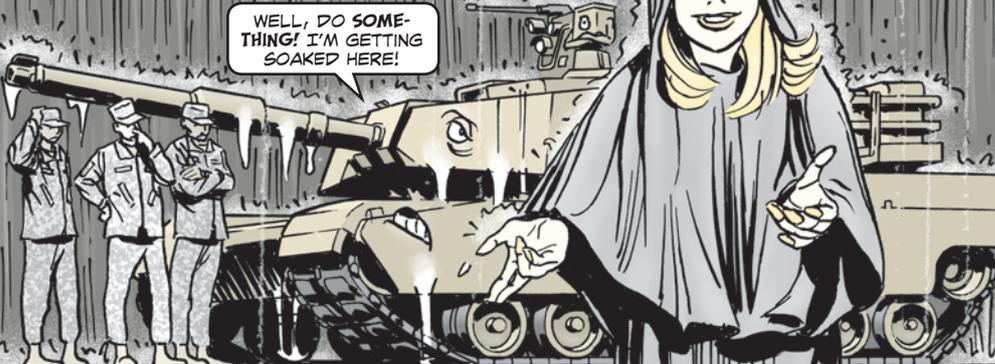
M1A2 SEP Tank...

## KEEPING CROWS COVERED

SO NOW THAT YOUR M1A2 SEP TANK HAS THE COMMON REMOTELY-OPERATED WEAPON STATION (CROWS) INSTALLED...

...HOW DO YOU PROTECT IT FROM THE ELEMENTS?

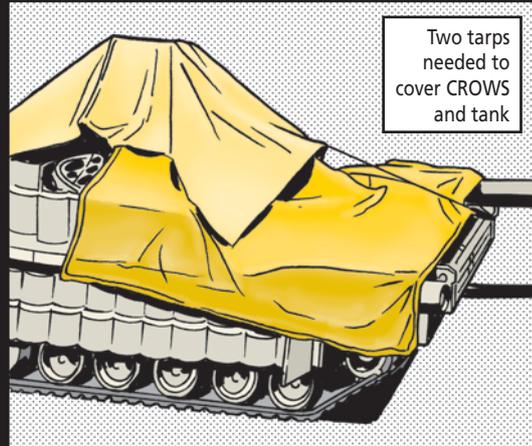
WELL, DO SOMETHING! I'M GETTING SOAKED HERE!



If you move the tarp to cover the CROWS, you can't protect the air induction system—and vice versa. The answer to this problem is an extra tarp.

A second tarp is being added to the Bil (WP 0555) in an upcoming change to TM 9-2350-388-10-3. Until then, you'll need to get the second tarp yourself. Order an olive drab tarp with NSN 8340-00-841-6456 or a tan tarp with NSN 2540-01-330-8062.

Two tarps needed to cover CROWS and tank



# PMCS is a By-the-Book Job

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) ARE VITAL FOR KEEPING YOUR VEHICLE READY TO COMPLETE THE MISSION.

BUT IF YOU DON'T QUITE UNDERSTAND HOW THE PMCS TABLES IN YOUR -10, -20 AND -23 TMS WORK, YOU'RE ALREADY WELL BEHIND THE CURVE.

SO LET'S PLAY SOME CATCHUP WITH A LESSON IN PMCS 101.

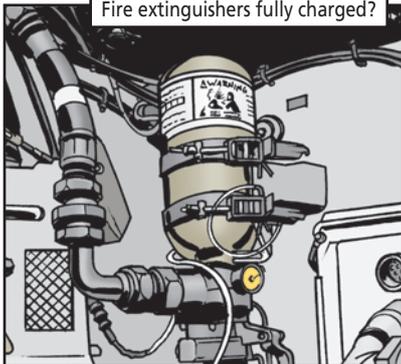
## Before Operation

These checks and services make sure your vehicle is fully mission capable before you use it. Any faults found that make equipment non-mission capable must be fixed before the equipment is dispatched or used.

Checking oil levels, eyeballing fire extinguisher gauges for proper pressure and inspecting indicator lights on the driver's panel are just a few examples of before-operation PMCS.

While you're at it, pay special attention to the WARNINGS, CAUTIONS and NOTES that go along with these checks. A WARNING means someone could be hurt or killed. A CAUTION means equipment could be damaged. A NOTE is just a heads up about something important.

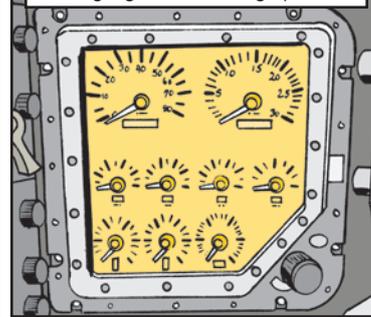
Fire extinguishers fully charged?



## During Operation

These are vehicle checks and services that you make during the mission. Things like checking your personnel heater for exhaust leaks during stops or keeping an eye on generator and engine temperature gauges as you drive are excellent examples of during-operation PMCS.

Check gauges often during operation



## After Operation

These PMCS checks are designed to find faults or damage that may have occurred while in the field. Checking hatches for ease of operation, and removing, inspecting and cleaning air filters are examples of after-operation PMCS.

Clean air filters after operation

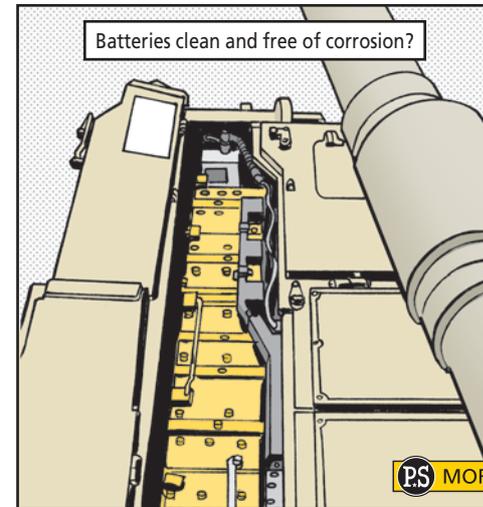


## Weekly PMCS

Whether your equipment has been used or not, weekly PMCS is an important part of keeping it ready to go. Weekly PMCS should be done once a week and if you're using the equipment for the very first time. If your vehicle hasn't been operated in the last week, you should do both a before-operation PMCS and a weekly PMCS at the same time.

Examples of weekly PMCS include checking hydraulic lines, cleaning and inspecting vehicle batteries, and opening drain plugs to release trapped water in the hull.

Batteries clean and free of corrosion?

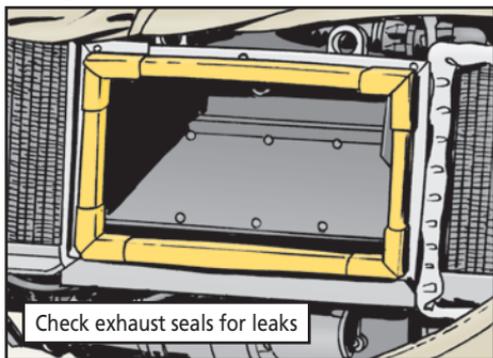


PS MORE

## Monthly PMCS

These checks and services should be done every month even if your vehicle has not seen action. If your vehicle hasn't been operated during that month, you should also do after-operations PMCS at the same time.

Checking engine exhaust seals, armament boresighting, and inspecting ammo compartments for moisture are good examples of monthly PMCS.



## Unusual Conditions

When facing unusual conditions—like cold, sand, or heat—pay close attention to the Operation Under Unusual Conditions section of your TM. There you'll find preventive maintenance info that you might not otherwise see in the PMCS tables.

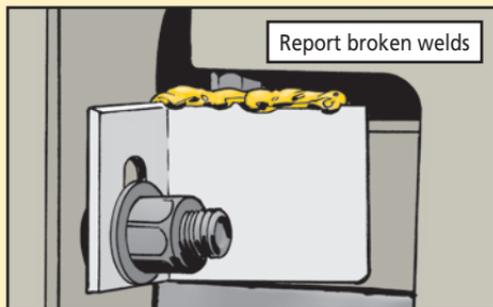
## Don't Stop Now!

Now that you've gone through every item in your vehicle's PMCS tables, you may think you're finished. But you're not there yet.

At the very beginning of the PMCS section, you'll find a general inspection category. This section is a catch-all for a lot of items that don't have a specific check called out.

Here you're directed to look for such things as:

- Loose nuts, bolts, screws and clamps.
- Broken welds.

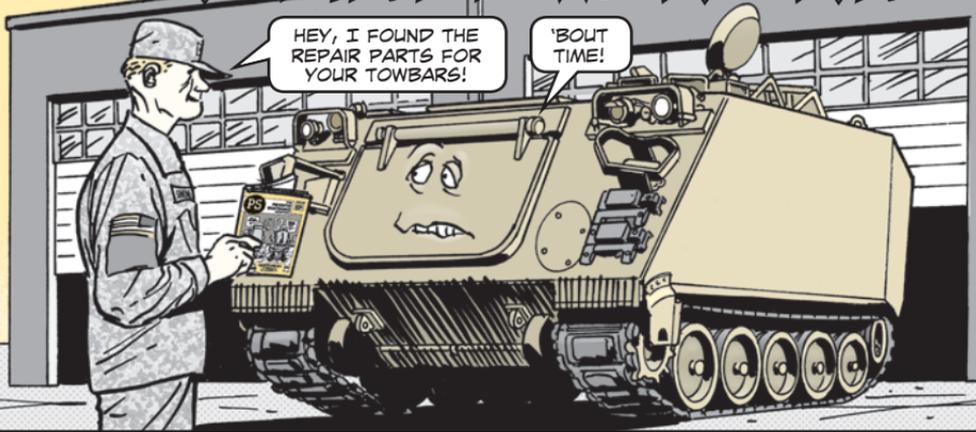


- Cracked or broken insulation, bare wires, and loose or broken connectors.
- Cracked, broken or hardened hold-down straps.
- Worn or leaking hoses and fluid lines.

You should try to fix any PMCS fault on-the-spot. If you can't, record the fault on your vehicle's DA Form 5988-E or DA Form 2404 so it can be taken care of at the appropriate level.

Remember, the goal is to have your vehicle operational and in the battle. The best way to do that is to fix the small problems before they grow into big problems that involve downtime. Following all of your vehicle's PMCS instructions is the best move you can make.

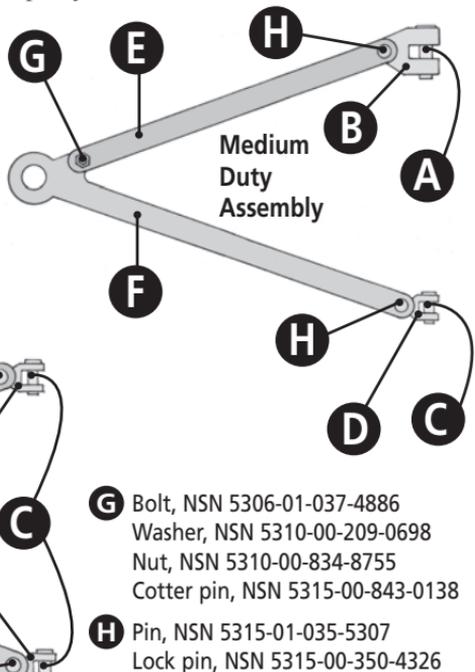
# TRY THESE TOWBAR PARTS



Need to repair some M113A3 FOV towbars, NSN 2540-00-936-7801? Repair parts can be kinda hard to find—at least until now.

Order from this list of components to repair your towbars:

- A** Pin, NSN 5315-01-035-5307
- B** Clevis, NSN 5340-01-051-3609
- C** Pin, NSN 5315-01-031-6207
- D** Clevis, NSN 5340-01-046-4770
- E** Tube assembly, NSN 4710-01-507-6935
- F** Tube assembly, NSN 4710-01-507-6936



# LUBRICATION TABLE CHANGES

Table 1 Lubrication Table			
Component	Fluid/Lubricant	Capacities	Expected Temperature (Degrees)
Engine oil	OE/HDO-40 (tactical, MIL-L-2104)	40 qt	100°F to 120°F (38°C to 49°C)
	OE/HDO-15/40 (tactical, MIL-L-2104)	40 qt	-6°F to 120°F (-21°C to 49°C)
	OEA (Arctic, MIL-L-46167)	40 qt	20°F to -50°F (-7°C to -46°C)
Transmission oil	OE/HDO-10 (tactical, MIL-L-2104)	40 qt	-6°F to 120°F (-21°C to 49°C)
	OE/HDO-15/40 (tactical, MIL-L-2104)	40 qt	100°F to 120°F (38°C to 49°C)
	OEA (arctic, MIL-L-46167)	40 qt	20°F to -50°F (-7°C to -46°C)
Transfer case oil	OE/HDO-40 (tactical, MIL-L-2104)	10.5 qt	-6°F to 120°F (-21°C to 49°C)
	OEA (Arctic, MIL-L-46167)	10.5 qt	40°F to -50°F (4°C to -46°C)
Hydraulic reservoir oil	OE/HDO-30 (tactical, MIL-L-2104)	234 qt	60°F to 120°F (-16°C to 49°C)
	OE/HDO-10 (tactical, MIL-L-2104)	234 qt	-6°F to 74°F (-21°C to 24°C)
	OEA (arctic, MIL-L-46167)	234 qt	20°F to -50°F (-7°C to -46°C)
Oil can points	OE/HDO-30 (tactical, MIL-L-2104)	As required	20°F to 120°F (-7°C to 49°C)
	OE/HDO-10 (tactical, MIL-L-2104)	As required	-6°F to 100°F (-21°C to 38°C)
	OEA (arctic, MIL-L-46167)	As required	40°F to -50°F (4°C to -46°C)
	Cleaner lubricant	As required	120°F to -50°F (49°C to -46°C)
Axle #1 gear oil	GO-80W/90 (MIL-L-2105)	33 pt	-6°F to 120°F (-21°C to 49°C)
	GO-75 (MIL-L-2105)	33 pt	20°F to -50°F (-7°C to -46°C)
Axle #2 gear oil	GO-80W/90 (MIL-L-2105)	36 pt	-6°F to 120°F (-21°C to 49°C)
	GO-75 (MIL-L-2105)	36 pt	20°F to -50°F (-7°C to -46°C)
Axle #3 gear oil	GO-80W/90 (MIL-L-2105)	41 pt	-6°F to 120°F (-21°C to 49°C)
	GO-75 (MIL-L-2105)	41 pt	20°F to -50°F (-7°C to -46°C)
Axle #4 gear oil	GO-80W/90 (MIL-L-2105)	40 pt	-6°F to 120°F (-21°C to 49°C)
	GO-75 (MIL-L-2105)	40 pt	20°F to -50°F (-7°C to -46°C)
Axle #5 gear oil	GO-80W/90 (MIL-L-2105)	32 pt	-6°F to 120°F (-21°C to 49°C)
	GO-75 (MIL-L-2105)	32 pt	20°F to -50°F (-7°C to -46°C)
Planetary hub gears, gear oil	GO-80W/90 (MIL-L-2105)	3.1 pt	-6°F to 120°F (-21°C to 49°C)
	GO-75 (MIL-L-2105)	3.1 pt	20°F to -50°F (-7°C to -46°C)

Table 1 Lubrication Table (continued)			
Component	Fluid/Lubricant	Capacities	Expected Temperature (Degrees)
Steering gear box 2.21:1, gear oil	GO-75W/90 (MIL-L-2105)	0.5 pt	120°F to -50°F (49°C to -46°C)
Self-recovery winch gear box, gear oil	GO-75W/90 (MIL-L-2105)	2 qt	120°F to -50°F (49°C to -46°C)
Hoist gear box, gear oil	GO-75W/90 (MIL-L-2105)	1 pt	120°F to -50°F (49°C to -46°C)
Swing drive gear box, gear oil	GO-75W/90 (MIL-L-2105)	1 pt	120°F to -50°F (49°C to -46°C)
Solvent cleaning compound	MIL-PRF-680	As required	All temperatures
	Ethylene Glycol (MIL-A-46153)	100 qt	Above -50°F (-46°C)
Antifreeze	Arctic-type (MIL-A-11755)	103 qt	Use when extended periods of 40°F (4°C) are encountered



Table 7 Capacities	
Item	Specification
Engine oil w/filter	32 qt
Cooling system	100 qt
4500SP transmission w/filter	39 qt
Front tandem axle #1 carrier	17 qt
Axle #2 carrier	17.5 qt
Rear tandem axle #3 carrier	22 qt
Axle #4 carrier	19 qt
Axle #5 carrier	15 qt
Wheel ends	1.55 qt
Hydraulic reservoir w/filters	234 qt
Power steering reservoir	33.5 qt
Fuel tank (main)	100 gal
Fuel tank (auxiliary)	85 gal
Transfer case	10.5 qt
Radiator	96 qt
Windshield wiper fluid	3 qt
On and off road w/arctic kit	-50°F to 120°F (-46°C to 49°C)
On and off road w/o arctic kit	-25°F to 120°F (-32°C to 49°C)

Up-armored  
HMMWVs...

# Preventing A/C Compressor Failure

**NOBODY**  
WANTS  
PARTS  
TO FAIL  
ON THEIR  
VEHICLES.

BUT THAT'S HAPPENED  
**SEVERAL** TIMES WHEN THE  
A/C COMPRESSORS FAILED  
ON M1151, M1151A1, M1152,  
M1152A1, M1165, M1165A1, AND  
M1167 UP-ARMORED HMMWVs.

THE **GOOD** NEWS IS  
THAT SOME CHANGES  
TO OPERATING AND  
MAINTAINING THE A/C  
SYSTEM CAN STOP  
A/C FAILURE.



PREVENT FAILURE OF YOUR UP-ARMORED HMMWV'S A/C COMPRESSOR, COMPRESSOR CLUTCH AND PULLEY ASSEMBLY BY INSTALLING AN UPGRADED THERMOSTAT SWITCH, NSN 6685-01-539-7057. AND MAKE SURE YOU PRACTICE THE FOLLOWING NEW PROCEDURES:

## Changes for Operators

OPERATORS, GET TM 9-2320-387-10 W/CHANGE 6 AND MAKE THESE PMCS CHANGES:

1	ADD THE FOLLOWING TO THE BOTTOM OF TABLE 2-2, PMCS, ON PAGE 2-32.2:				
7	Before	Serpentine Drivebelt and Pulleys	<p>a. Visually check drive and idler pulleys for evidence of excessive wear or misalignment.</p> <p>b. Check if serpentine drivebelt is missing, broken, cracked, frayed, loose, misaligned, or split.</p>	<p>a. brok mis</p> <p>b. driv or b fiber crack in d fray (5.1 is lo (off d on a</p>	
7.1	Before	Service Port Caps	Check the A/C service port caps for presence and security.		
2-32.2	Change 2				

HAND TIGHTEN IF LOOSE, REPORT TO MAINTENANCE PERSONNEL IF MISSING. (YOU DON'T NEED AN ENTRY IN THE NOT FULLY MISSION CAPABLE IF COLUMN.)

2

ON A SEPARATE SHEET OF PAPER, WRITE THE FOLLOWING TWO CAUTIONS AND INSERT IT BETWEEN PAGES 2-40 AND 2-41...



**\*\*\*CAUTION\*\*\***  
Prior to engagement and during operation of the A/C, ensure the voltmeter needle is in the green zone. Failure to comply may result in damage to equipment.

**\*\*\*CAUTION\*\*\***  
For A/C system operation in ambient temperatures of 75 degrees Fahrenheit or less, ensure that all instrument panel vents are fully open and the fan switch is on high. Failure to comply may result in damage to equipment.

**\*\*\*CAUTION\*\*\***  
Prior to engagement and during operation of the A/C, ensure the voltmeter needle is in the green zone. Failure to comply may result in damage to equipment.

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For A/C system operation in ambient temperatures of 75 degrees Fahrenheit or less, ensure that all instrument panel vents are fully open and the fan switch is on high. Failure to comply may result in damage to equipment.

3

WRITE IN THE FOLLOWING CAUTION IN THE BLANK AREA OF PAGE 2-101...

TM 9-2320-387-10

**2-35.1. AIR CONDITIONER OPERATION (M1151, M1151A1, M1152, M1152A1, M1165, M1165A1, M1167)**

**a. Operation.**

- (1) Start engine (para. 2-12).
- (2) Flip A/C / HEAT switch (2) up to turn on air conditioner.
- (3) Flip fan switch (3) to desired setting, HIGH/LOW, to activate A/C air output.
- (4) Adjust vents (1) for air flow direction.

**b. After Operation.**

- (1) Flip fan switch (3) down to OFF position.
- (2) Stop engine (para. 2-14).

**\*\*\*CAUTION\*\*\***  
For A/C system operation in ambient temperatures of 75 degrees Fahrenheit or less, ensure that all instrument panel vents are fully open and the fan switch is on high. Failure to comply may result in damage to equipment.



## Changes for Mechanics

MECHANICS, YOU'LL NEED TO MAKE THE FOLLOWING PMCS CHANGES...

1

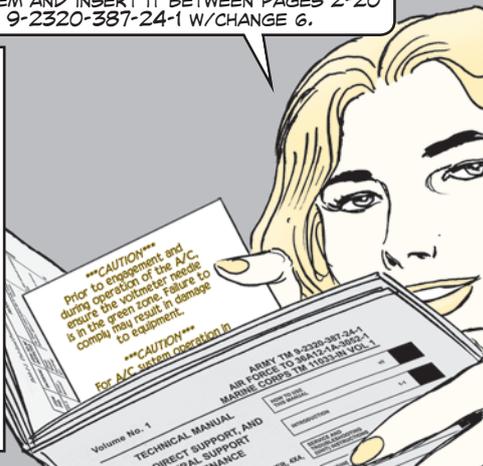
ON A SEPARATE SHEET OF PAPER, WRITE THE FOLLOWING TWO CAUTIONS AND PMCS ITEM AND INSERT IT BETWEEN PAGES 2-20 AND 2-21 OF TM 9-2320-387-24-1 W/CHANGE 6.

### \*\*\*CAUTION\*\*\*

Prior to engagement and during operation of the A/C, ensure the voltmeter needle is in the green zone. Failure to comply may result in damage to equipment.

### \*\*\*CAUTION\*\*\*

For A/C system operation in ambient temperatures of 75 degrees Fahrenheit or less, ensure that all instrument panel vents are fully open and the fan switch is on high. Failure to comply may result in damage to equipment.



WRITE IN THESE CHANGES TO THE PMCS TABLE:

ITEM NO.	INTERVAL	ITEM TO BE INSPECTED	PROCEDURES	NOT FULFILLING CAPABILITY
24.1	Semi-Annual	Deep Water Fording Kit	<p><b>a.</b> Inspect vent tubes for bends, cracks, breaks, deterioration, and restrictions.</p> <p><b>b.</b> Inspect vent tube mounting hardware for proper installation.</p> <p><b>c.</b> Inspect intake and exhaust extensions for proper installation and leaks.</p>	<b>c.</b> Any ex leaks.
24.2	Semi-annually	Air Conditioning	<p>a) Inspect compressor, clutch/pulley assembly, and all A/C lines/hoses/fittings for evidence of leaks.</p> <p>b) Open all A/C vents. Turn A/C on, flip fan switch to HI, wait 5 minutes to allow temperature to stabilize.</p> <p>c) During the 5 minute wait period, observe the compressor clutch for rapid on/off cycling. If rapid cycling is evident, shut off A/C system.</p> <p>d) Check air flow at the commander's right hand vent for cool air. If air at the vent is not cooler than crew ambient, and/or rapid cycling of the compressor clutch occurred, initiate A/C troubleshooting.</p>	

TM 9-2320-387-24-2

### 25-50.1. A/C SYSTEM SERVICING (Cont'd)

#### f. Charging System

#### NOTE

If A/C system requires replacement of a major component or has been flushed, refrigerant oil must be added to system to compensate loss (refer to task g.).

- Evacuate A/C system (refer to task e.).
- Connect refrigerant R-134a source to center hose (5) of manifold gauge set (3).
- Open refrigerant R-134a source to allow refrigerant to flow into center hose (5).
- Purge center hose (5), low-pressure hose (6), and high-pressure hose (4) as follows:
  - Slightly loosen center hose (5) at center port (7) of manifold gauge set (3) until refrigerant escapes, then tighten hose (5).
  - Open high-pressure gauge valve (2) and low-pressure gauge valve (1) to allow refrigerant to flow into high-pressure hose (4) and low-pressure hose (6).
  - Purge high-pressure hose (4) and low-pressure hose (6) at service ports on compressor.
  - Turn high-pressure gauge valve (2) and low-pressure gauge valve (1) clockwise to OFF position.
- Connect STEICE-R (para. 2-47) to obtain engine rpm reading.

#### WARNING

Ensure high-pressure gauge valve is in closed position on manifold gauge set during charging. Failure to do so will cause compressor to build pressure in refrigerant container, causing injury to personnel or damage to equipment.

- Start engine and set engine speed to 1,500 rpm with hand throttle (TM 9-2320-387-10).
- Turn on A/C system (TM 9-2320-387-10) and set blower fans on high speed.

#### NOTE

Keep refrigerant container upright at all times so refrigerant enters system as a gas.

- Open low-pressure gauge valve (1) on manifold gauge set (3) until system is fully charged with 3 lbs 8 oz of R-134a refrigerant (refer to table 14-2).
- Close low-pressure gauge valve (1) on manifold gauge set (3).
- Return hand throttle to normal idle (TM 9-2320-387-10).
- Stop engine (TM 9-2320-387-10).
- Remove refrigerant R-134a source from center hose (5) of manifold gauge set (3).
- If no refrigerant oil is needed, disconnect manifold gauge hoses (4) and (6) from A/C system service ports (9) and (10). Install caps (8) on service ports (9) and (10). If refrigerant oil is needed, perform task g.

### \*\*\*CAUTION\*\*\*

Ensure service port caps are installed and hand tightened. Failure to comply may result in damage to equipment.

*\*goes between steps 12 and 13*

25-168.8 Change 5

2

IN THE SPACE AT THE BOTTOM OF PAGE 25-168.8 OF TM 9-2320-387-24-2, ADD THE FOLLOWING CAUTION AND ASTERISK IT TO GO BETWEEN STEPS 12 AND 13:



3

FINALLY, DURING THE NEXT MAINTENANCE OF THE A/C SYSTEM, WHETHER IT IS A COMPONENT REPLACEMENT OR JUST A REFRIGERANT RECHARGE, MAKE SURE THE THERMOSTAT SWITCH, NSN 6685-01-539-7057, LABEL HAS A **GOLD BACKGROUND WITH BLACK LETTERING**. THE GOLD LABEL SWITCH IS DESIGNED TO PREVENT THE COMPRESSOR FROM CYCLING/SWITCHING ON BEFORE VALIDATING AVAILABLE VOLTAGE, VALIDATING SYSTEM PRESSURE, OR COMPLETELY DISENGAGING BASED ON A PREVIOUS OFF SIGNAL. THERMOSTAT SWITCHES WITH ANY OTHER COLOR LABELING SHOULD BE REPLACED.

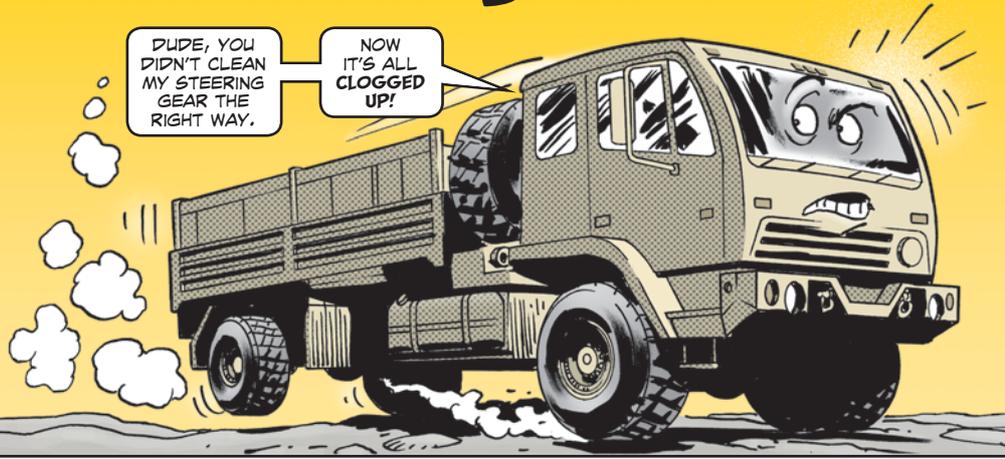
LOOK FOR THESE UPDATED A/C OPERATING AND MAINTENANCE CHANGES...

...IN FUTURE UPDATES TO TM 9-2320-387-10, TM 9-2320-387-24-1 AND TM 9-2320-387-24-2.



PS END

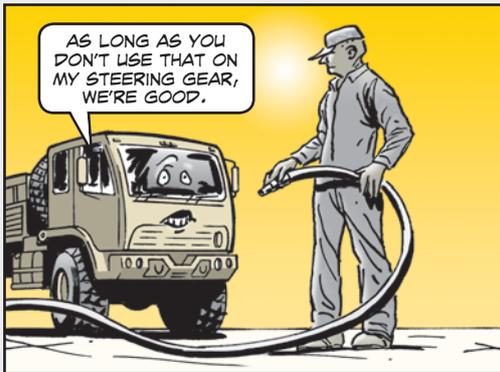
# Preserve Your Steering Gears



These steering gears, NSN 2530-01-555-4681, are used on all FMTVs, including LTAS variants.

Improper cleaning creates steering gear trouble. Using a high-pressure air hose on steering gear components forces sand, dirt, and other debris into the components, creating damage and wear.

Also, exceeding the vehicle's payload limits can cause undue stress on the steering gear assembly.



These issues can put your life in danger and make your FMTV NMC. But you can avoid that! Here's how you can preserve your FMTV's steering gear and maintain control of your steering.

**DON'T** use high-pressure air when you clean the steering gear. That should help you avoid forcing dirt, sand or other debris into the components.

And when operating your FMTVs, it is vital **NOT** to exceed maximum payload or maximum towed load limits!

FOLLOW THE LIMITS IN THIS TABLE.



Vehicle	Payload	Maximum Towed Load
Truck, Cargo, M1083A1	10,000 lbs	21,000 lbs
Truck, Cargo, M1083A1P2	10,000 lbs	21,000 lbs
Truck, Cargo w/MHC, M1084A1	10,000 lbs	21,000 lbs
Truck, Cargo w/MHC, M1084A1P2	10,000 lbs	21,000 lbs
Truck, Cargo, Long Wheelbase, M1085A1	10,000 lbs	21,000 lbs
Truck, Cargo, Long Wheelbase, M1085A1P2	10,000 lbs	21,000 lbs
Truck, Cargo, Long Wheelbase w/MHC, M1086A1	10,000 lbs	21,000 lbs
Truck, Cargo, Long Wheelbase w/MHC, M1086A1P2	10,000 lbs	21,000 lbs
Truck, Expansive Van, M1087A1	10,000 lbs	21,000 lbs
Truck, Expansive Van, M1087A1P2	Not Applicable	21,000 lbs
Truck, Tractor, M1088A1	Not Applicable	21,000 lbs on pintle hook 60,710 lbs on fifth wheel
Truck, Tractor, M1088A1P2	Not Applicable	21,000 lbs on pintle hook 63,000 lbs on fifth wheel

# RPG Net Kits

CAN'T YOU DO SOMETHING TO PROTECT ME FROM THE DAMAGE RPGS DO?



WOW! I FEEL SAFER ALREADY!

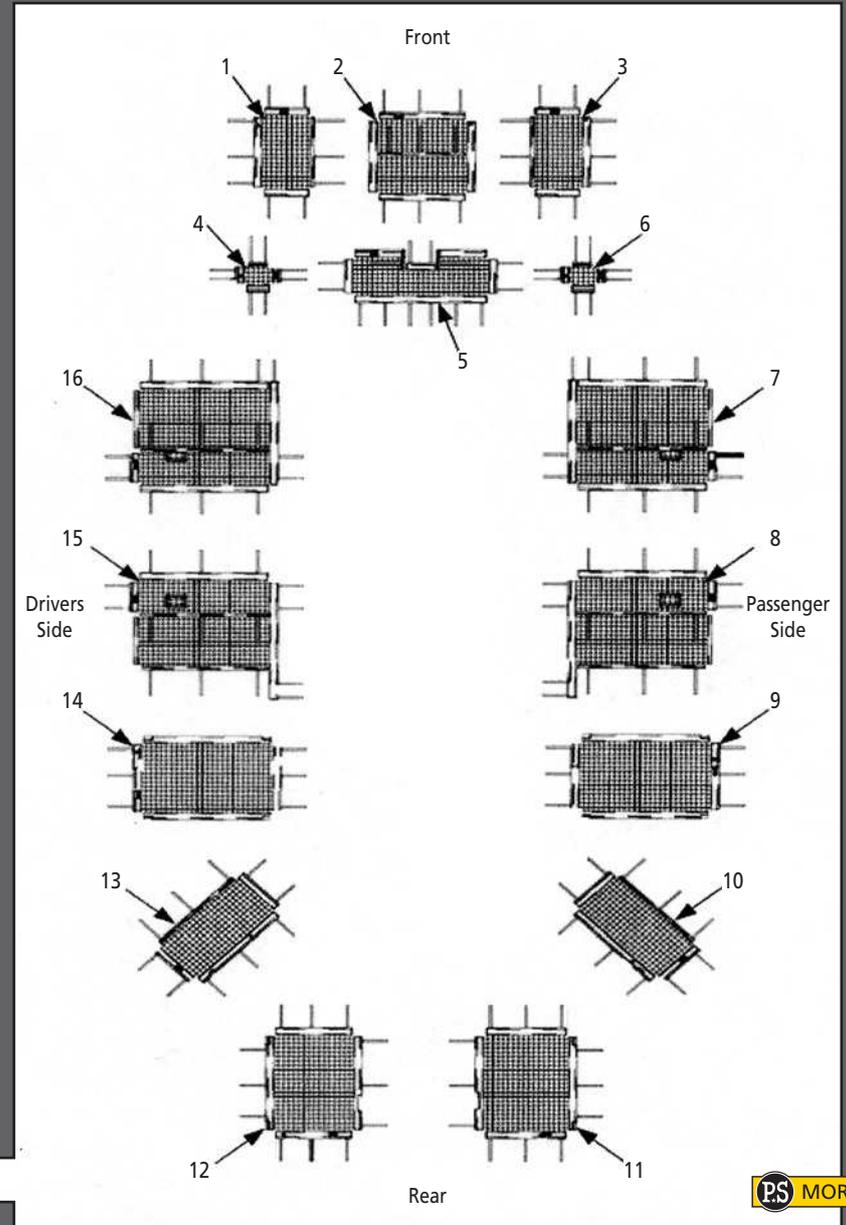


**R**ocket-propelled grenade (RPG) net and frame kits are now available for the MRAP M-ATV. The initial installation is performed by Oshkosh field service representatives (FSRs). These FSRs can help you identify maintenance procedures. Some repair parts are still being provisioned and a COTS manual will be available in late summer or fall. However, DA G-4 wants you to know about these parts.

There are sixteen (16) nets that you can order at your unit that fit on the M-ATV to deflect RPGs and help minimize damage to the vehicle.

Here's the list of kits:

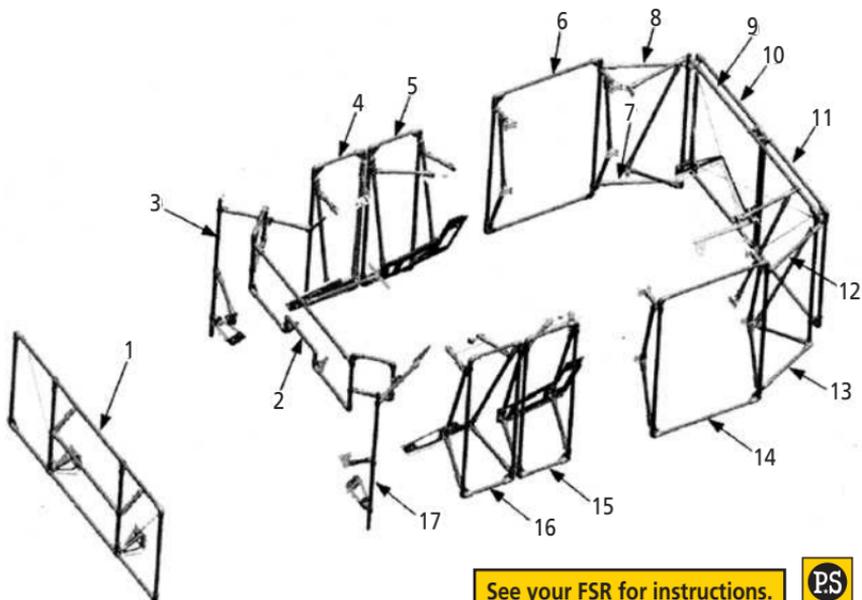
Net	NSN 2540-01-586-	Location on Vehicle
1.	0820	DS Grill Frame Net
2.	0822	Middle Grill Frame Net
3.	0819	PS Grill Frame Net
4.	0818	DS Support Frame Net
5.	0821	Windshield Frame Net
6.	0823	PS Support Frame Net
7.	0816	PS Front Door Frame Net
8.	0814	PS Rear Door Frame Net
9.	0812	PS Canopy Frame Net
10.	0810	PS Rear Corner Net
11.	0808	PS Cargo Door Frame Net
12.	0809	DS Cargo Door Frame Net
13.	0811	DS Rear Corner Net
14.	0813	DS Canopy Frame Net
15.	0815	DS Rear Door Frame Net
16.	0817	DS Front Door Frame Net



HERE'S WHAT  
CORRESPONDING  
FRAMES ARE  
AVAILABLE...



Frame	NSN	Location on Vehicle
1.	2510-01-586-0778	DS Grill Frame
2.	2541-01-586-0779	Windshield Frame
3.	2510-01-586-0950	PS Fender Frame
4.	2510-01-586-0944	PS Front Door Frame
5.	2510-01-586-0946	PS Rear Door Frame
6.	2510-01-586-0947	PS Canopy Frame
7.	2510-01-586-0949	PS Bottom Corner Strut
8.	2510-01-586-0949	PS Upper Corner Strut
9.	2510-01-586-0958	Cargo Doors Support Frame
10.	2510-01-586-0953	PS Cargo Door Frame
11.	2510-01-586-0952	DS Cargo Door Frame
12.	2510-01-586-0949	DS Upper Corner Strut
13.	2510-01-586-0949	DS Bottom Corner Strut
14.	2510-01-586-0948	DS Canopy Frame
15.	2510-01-586-0945	DS Rear Door Frame
16.	2510-01-586-0943	DS Front Door Frame
17.	2510-01-586-0962	DS Fender Frame



See your FSR for instructions.

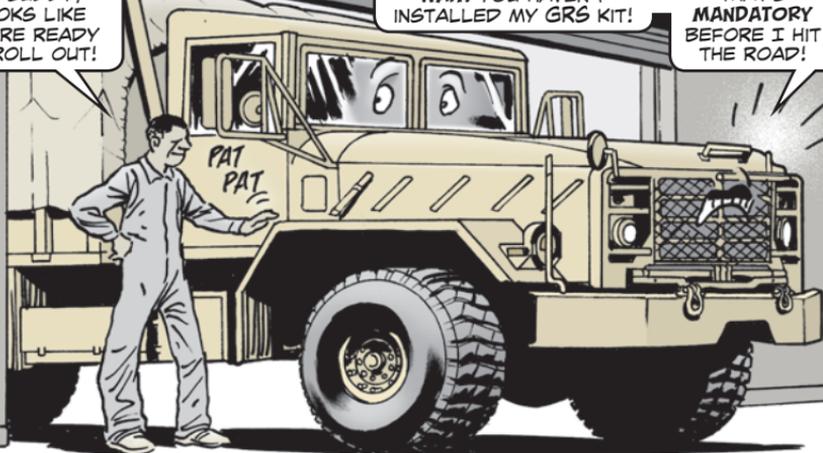


# M939 Gunner Restraint System

OK BUDDY,  
LOOKS LIKE  
YOU'RE READY  
TO ROLL OUT!

WAIT! YOU HAVEN'T  
INSTALLED MY GRS KIT!

THAT'S  
MANDATORY  
BEFORE I HIT  
THE ROAD!



To get a gunner restraint system (GRS) kit for M939/A1/A2-series 5-ton trucks equipped with the light weapon station (LWS), order NSN 2540-01-582-2639. The restraint system prevents a gunner from being ejected in an accident or rollover and **must be** used on these vehicle models: M923/A1/A2, M925/A1/A2, M927/A1/A2, M928/A1/A2, M931/A1/A2 and M932/A1/A2. Also, an instructional video on how to wear the GRS harness is available through the Army Training Network at:

<https://atn.army.mil>

For further details, see Page 61 of PS 697 (Dec 10):

<https://www.logsa.army.mil/psmag/archives/PS2010/697/697-60-61.pdf>

HMMWVs...

## AUTHORIZED LED LIGHTS

Looking for LED lights to install on your unit's HMMWVs? That's probably a tough search because the TMs don't list the approved LED lighting yet.

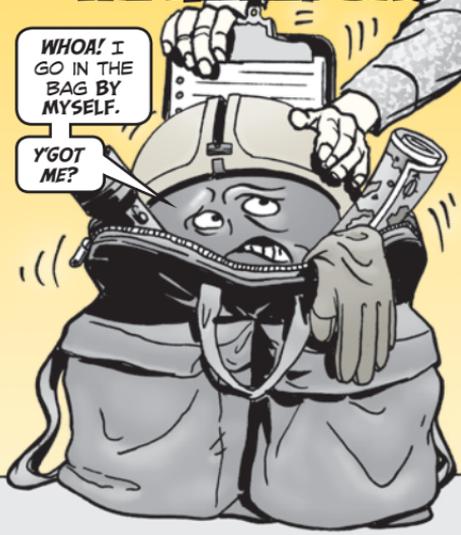
But we've got good news! Your search is over. The authorized NSNs in this table should square you away.

Just remember to replace both the left and right sides when you swap out incandescent lights with LED lights.

NSN 6220-01-	Nomenclature
564-0484	LED blackout, drive and composite lamp kit (full kit)
566-3669	LED blackout drivelight assembly
566-4110	LED front composite light assembly
566-4728	LED rear composite light assembly
586-4949	LED headlight

IHADSS  
Helmet...

# DON'T STUFF THE HELMET BAG



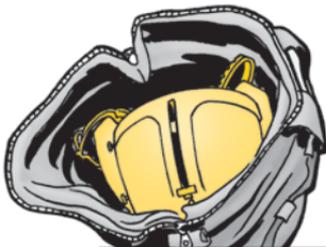
Pilots and gunners, treat your AH-64's integrated helmet and display sighting system (IHADSS) helmet with care. It's a delicate piece of equipment.

Only the helmet and the extra visor and housing in its protective cover go into the helmet bag. And always place the helmet in the bag with the front facing up. Don't use the bag like a Christmas stocking stuffer by cramming in gloves, flashlights, knee boards, maps and checklists.

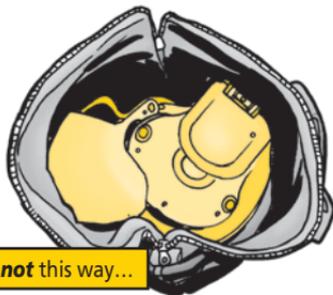
Piling extra items on top of or inside the helmet can damage the mic boom, sensors, IR harness, and cause helmet soft spots.

Helmets are fitted for head size. Stuffing the inside stretches the helmet out of shape. That puts your noggin at risk.

Cramming your helmet bag with stuff can leave you with a helmet you can't use to communicate and that can't protect you. Keep other gear out of the helmet bag.



Helmet goes in **this** way...



...not this way...



...not this way...



...and not this way

# ARMY AVIATION MAINTENANCE



TWO-LEVEL  
MAINTENANCE  
HAS ARRIVED...

...AND  
I'M HERE  
TO STAY!

FOR THE FOLKS IN THE AVIATION COMMUNITY, THE GO-TO BIBLE TO LEARN ABOUT TWO-LEVEL MAINTENANCE AND OVERALL AVIATION MAINTENANCE IS TC 3-04.7, WHICH WAS FORMERLY FM 3-04.500, ARMY AVIATION MAINTENANCE.



ONE OF THE  
CHANGES TO AN  
OLD STANDARD IN  
AVIATION IS  
THE TERM "AVIM"  
MAINTENANCE.



NOW  
THERE'S A  
NEW TERM ON  
THE BLOCK!



GET USED TO  
SAYING "ASC"...

...AS IN  
AVIATION  
SUPPORT  
COMPANY.

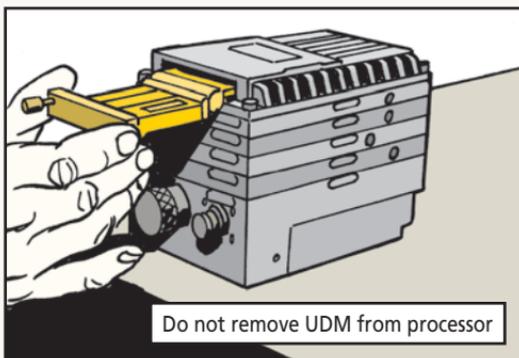
YOU CAN FIND THIS TRAINING CIRCULAR, TC 3-04.7, ON ARMY KNOWLEDGE ONLINE: <https://www.us.army.mil> AND THE GENERAL DENNIS J. REIMER TRAINING AND DIGITAL LIBRARY: <http://www.train.army.mil>

All Aircraft... **TURN IN COMPLETE AN/APR-39 PROCESSORS**



ONE WAY TO SLOW DOWN THE SUPPLY SYSTEM IS TO REMOVE PARTS FROM COMPONENTS THAT SHOULD STAY WITH THE END ITEM.

That's the case with the AN/APR-39 processor. When you turn in the processor for depot repair, **do not remove** the A7, user data module (UDM) circuit card assembly (CCA) NSN 5841-01-201-8645, from either the AN/APR-39A(V)1 digital processor, NSN 5895-01-395-7447, or the AN/APR-39A(V)4 digital processor, NSN 5895-01-445-6940.



Turning in processors to the depot without the UDM card puts the brakes on the repair delivery schedule and the ability to fill requisitions in a timely manner. This results in aircraft on ground (AOG), which has a negative impact on readiness rates.

So, make sure that all processors are turned in to the depot with the UDM card installed. That means do not separate them.

UH-60 Series...



# Keep on Struttin'



SINCE YOU LIKE STRUTTIN', STRUT ON OVER HERE AND CLEAN MY STRUTS AND ACTUATOR ROD!

**M**echanics, ignoring Black Hawk shock strut inspections means you'll pay the price sooner or later.

Clean and inspect the struts and check the strut's pistons daily for lube like it says in TM 1-1520-237-PMD.

You'll save yourself time and energy and your unit lots of down time and repair dollars if you do PM now rather than extensive repairs later.

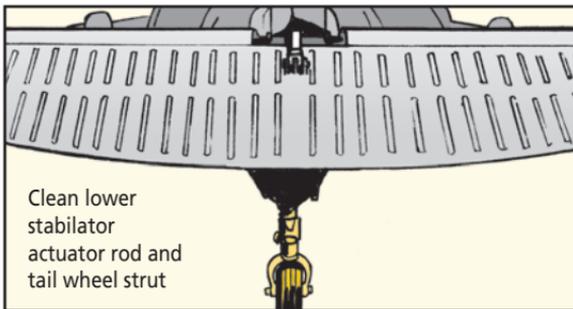
If the struts are left unchecked, dirt and crud build up and can get into the seals. When that happens, the gunk can cut or weaken the seals, causing hydraulic leaks.

Strut your stuff by using a little hydraulic fluid, MIL-PRF-5606, applied to a clean cloth and a little elbow grease to clean the struts. This will prevent a buildup of dirt, crud and corrosion.

While you have your cloth and hydraulic fluid out, take time to clean the tail wheel strut and lower stabilator actuator rod. If there is surface corrosion on the actuator rod, remove corrosion with abrasive mat, NSN 5350-00-967-5089. Then wipe them down with the cloth and fluid.



Clean shock struts before and after each flight



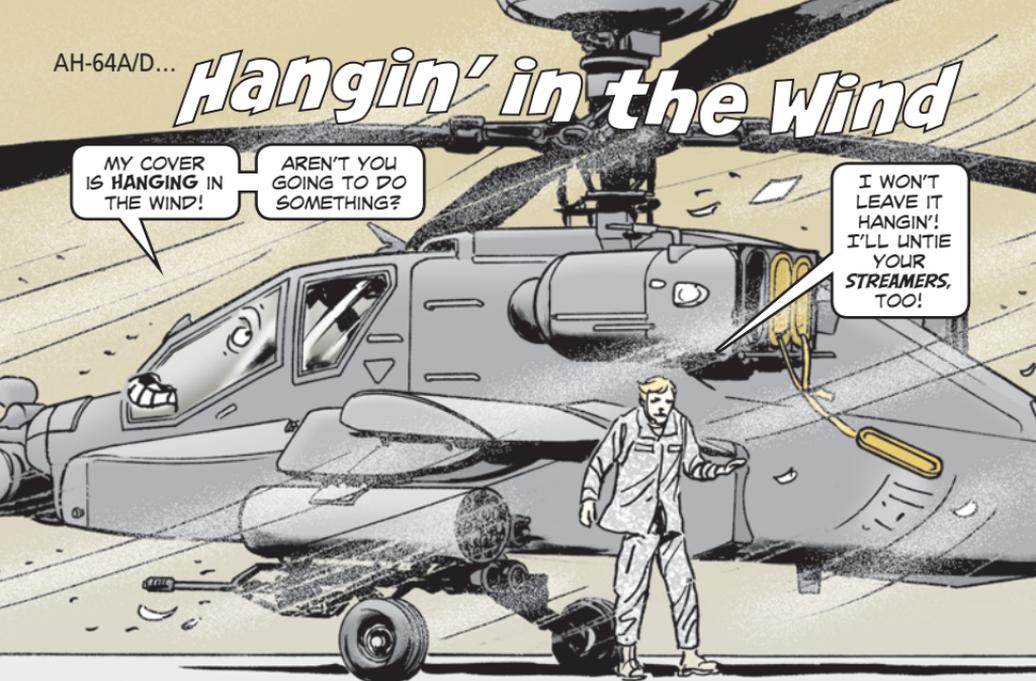
Clean lower stabilator actuator rod and tail wheel strut

# Hangin' in the Wind

MY COVER IS HANGING IN THE WIND!

AREN'T YOU GOING TO DO SOMETHING?

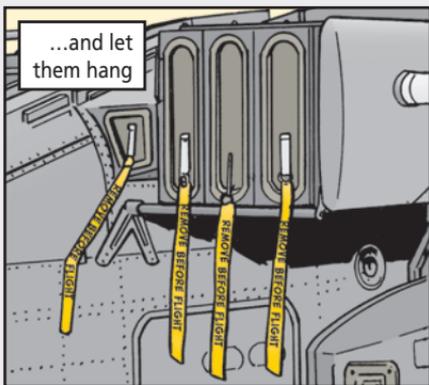
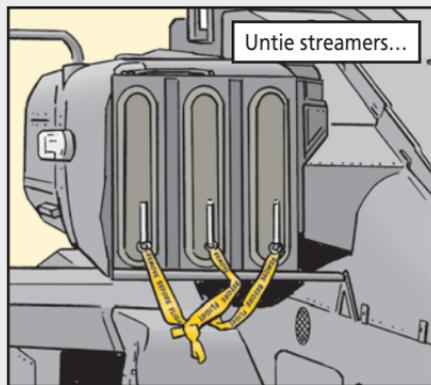
I WON'T LEAVE IT HANGING! I'LL UNTIE YOUR STREAMERS, TOO!



**M**echanics, if you tie together the REMOVE BEFORE FLIGHT streamers to prevent losing your AH-64 exhaust covers, you'll get damage you don't want. You must leave the streamers untied after the exhaust covers are tightly secured.

Tying streamers together causes problems. If a cover falls out on a windy day, it will hang in the wind and bang against the airframe, causing unnecessary damage.

To make matters worse, the wind can also blow hanging covers into the EFAB and the environmental control system (ECS) exhaust vents. To prevent damage, leave the streamers untied after the covers are installed. This will keep your aircraft from being on the NMC list.



# A Milkshake Conversation



MAN, THIS IS GOOD! AFTER THE DAY I'VE HAD...

DINER



...THIS IS JUST WHAT THE DOCTOR ORDERED.

ROUGH DAY, HUH?

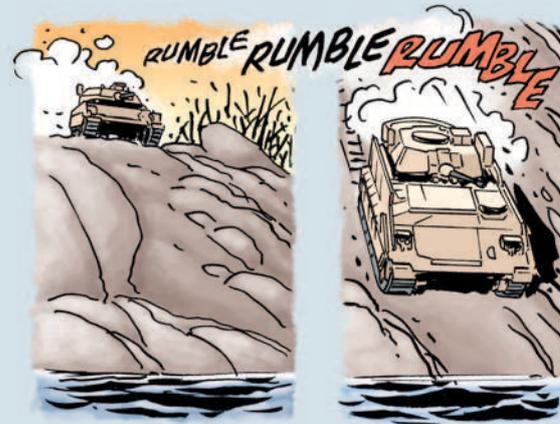


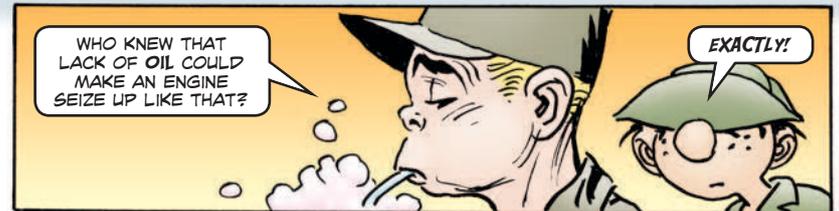
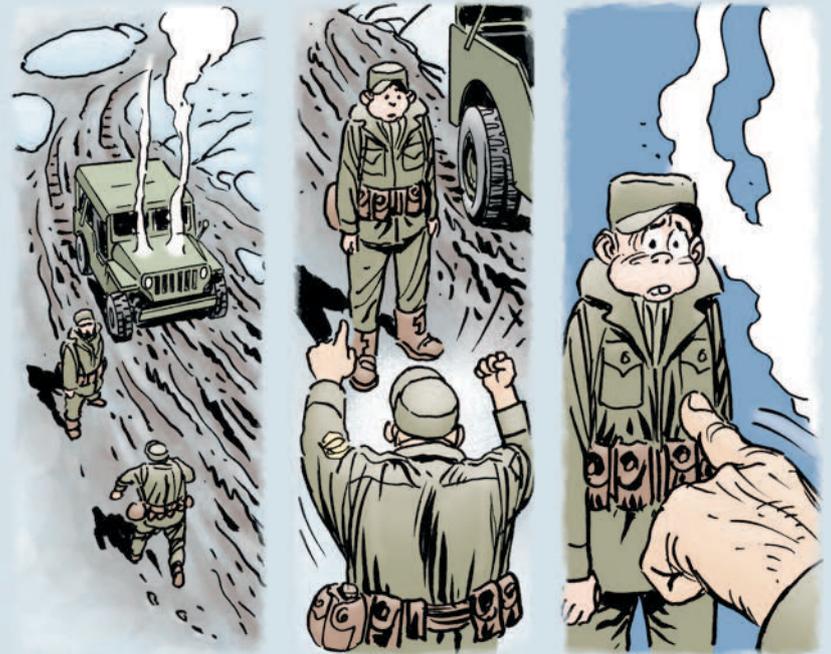
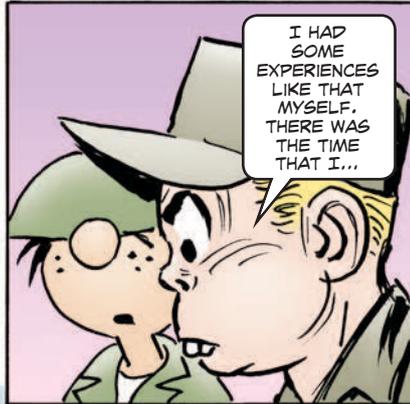
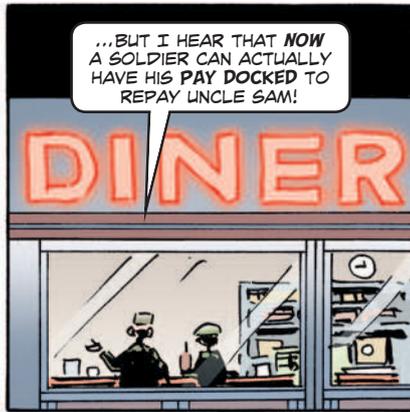
I'LL SAY!

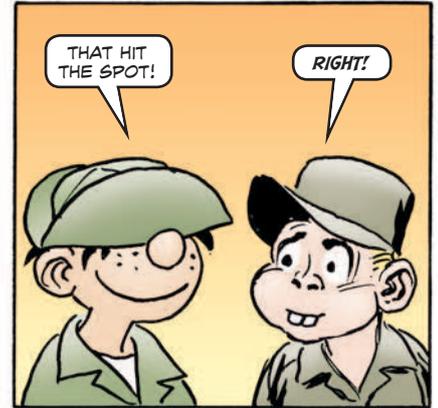
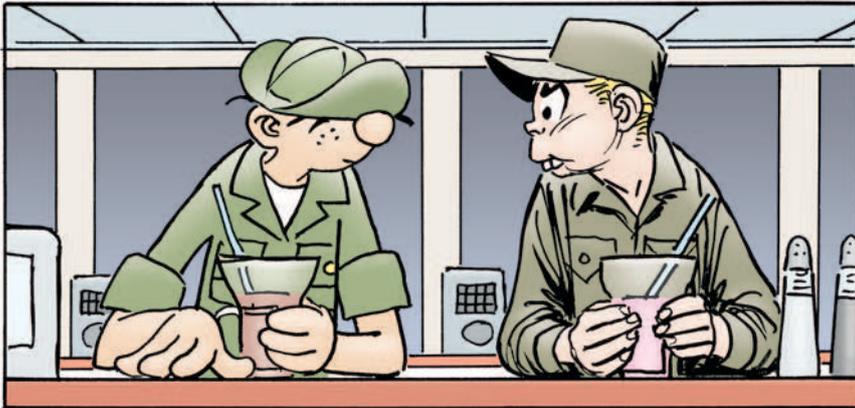
MY SERGEANT WAS ALL OVER ME FOR ONE SILLY LITTLE MISTAKE!



JOE KUBER







SERGEANT SNORKEL,  
MEET PRIVATE  
JOE DOPE, RETIRED.

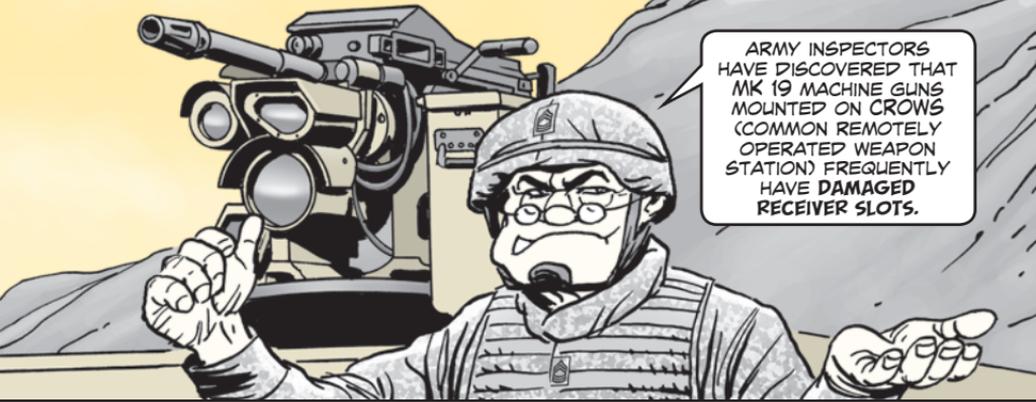
MASTER SERGEANT HALF-  
MAST, MEET PRIVATE  
BEETLE BAILEY.



**JOE DOPE APPEARED IN PS MAGAZINE FROM  
ISSUE #1 UNTIL HIS RETIREMENT IN 1957.**

**BEETLE BAILEY AND SGT SNORKEL APPEAR  
COURTESY OF KING FEATURES SYNDICATE.**

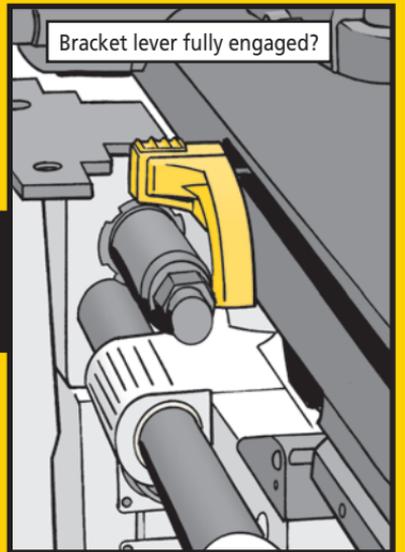
# SHOOT DOWN CROWS PROBLEMS!



The damage is caused by the cocking actuator bracket lever not being fully engaged in the left side of the receiver slot. If the lever's not fully engaged and not electronically charged, the lever doesn't make contact with the bolt. Then the cocking actuator bracket lever drags the full length of the receiver slot. Often the MK 19 must be coded out.

Here's how to shoot down CROWS problems:

- Do the PMCS in the MK 19's TM 9-1010-230-10 before you mount the gun. Also lube it. All the PMCS and lubing instructions are in WP 0010.
- When installing the MK 19 on CROWS, carefully follow the instructions in WP 0016 of the CROWS' TM 9-1090-219-10.
- Make sure the cocking actuator bracket lever is fully engaged so that the charger hook can't score the receiver as the lever moves back and forth.
- If the cocking actuator lever doesn't fully engage or the cocking actuator arm slot isn't parallel to the mount so that the cocking bracket can seat properly, repeat the instructions in WP 0016.
- If that doesn't cure the misalignment, tell your repairman. Something is wrong.



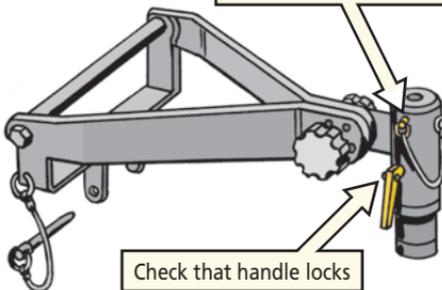
# Safety Proofing Your Mount



HERE'S HOW TO SAFETY PROOF YOUR MOUNT SO THAT DOESN'T HAPPEN TO YOU...

- Lightly pull the quick-release pin to make sure it's secure in the universal pintle adapter. If the pin comes out, it's not secure. The pin can work out during firing, letting the mount come loose. Your armorer can order a new pin with NSN 5315-01-447-2233.
- Before firing, make sure the manual control handle that secures the mount cradle to the universal pintle adapter is actually locked. Sometimes it doesn't stay locked and the cradle works loose during firing. If it's not locked, tell your armorer. He needs to replace the handle.

Check quick-release pin for damage



Check that handle locks

## Staying Out of a Jam

If you use the cartridge catch bag, empty it periodically during firing. If the bag becomes too full, your MK 19 could have trouble ejecting rounds. That could lead to stuck rounds and jamming.

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

HERE'S THE  
CORRECT WAY  
TO CHECK FOR A  
LOOSE BARREL ON  
YOUR M16 OR M4!



## A TRUER BARREL CHECK

Dear Editor,

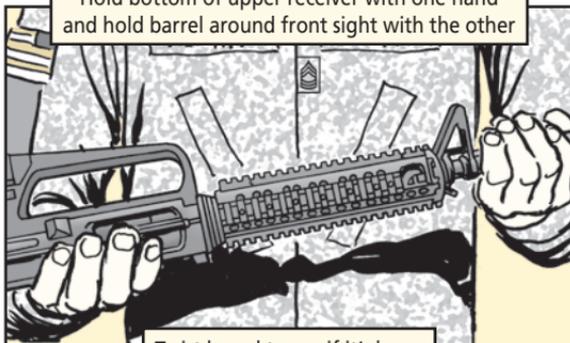
In PS 700 (Mar 11), you recommended Soldiers check the barrel on their M16 or M4 for looseness by trying to turn the barrel. If there is any movement, you should tell your maintenance personnel because a loose barrel kills accuracy.

But unfortunately you show the Soldier holding the lower receiver while twisting the barrel. There is almost always a little movement between the lower receiver and the upper receiver that the barrel is attached to. That's normal and doesn't affect the weapon.

Soldiers should separate the upper and lower receivers and hold the bottom of the upper receiver while twisting the barrel.

Grip the barrel around the front sight assembly for better leverage, but make sure if there is any movement it's the barrel and not the sight that's moving. See WP 0008-9 in TM 9-1005-319-23&P for more info.

Hold bottom of upper receiver with one hand and hold barrel around front sight with the other



Twist barrel to see if it's loose

James Garner  
TACOM logistics assistance representative  
Ft Benning, GA

*Editor's note: Your point hits the bullseye! Thanks, Mr. Garner.*

# MAKE SURE DEHUMIDIFIER WORKS



HOW COME THERE'S SO MUCH MOISTURE ON THESE WEAPONS?

AREN'T YOU DOING YOUR JOB, MR. DEHUMIDIFIER?

I'VE STOPPED WORKING, BUT NOBODY NOTICED!

Dear Editor,

We have seen your articles in *PS* on the importance of running a dehumidifier in the arms room, especially in humid areas like here in Louisiana. Without a dehumidifier, moisture builds up on the weapons and soon you've got serious corrosion problems.

One thing I would like to add to that is that armorers need to make sure the dehumidifier is actually working. Some arms rooms now have dehumidifiers connected to a pipe that drains the water outside. We've run into cases where the dehumidifier is making noise like it's working, but it's not really sucking up any moisture. I suggest armorers double-check at least weekly that their humidifier is actually drawing water. If it's not, they need to get the dehumidifier repaired or replaced, pronto!

SGT Elijah Kramer  
Camp Beauregard, LA

*Editor's note:* Good point, Sergeant. And, remember, armorers, once the dehumidifiers fill up, they must be emptied or they stop working. If you're going to be gone, make sure someone else is emptying the dehumidifier.

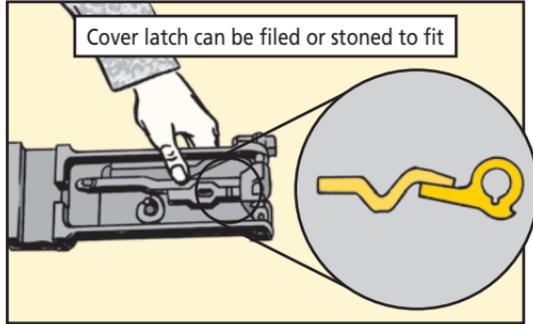
# File Latch to Fit



TACOM is authorizing armorers to file or stone the cover latch to fit.

Step 3 in WP 0027 00-3 in TM 9-1005-213-23&P is being changed to read:

*"Install cover latch (4) and cover latch lever (5) in subassembly cover (2). Be sure cover latch is under lip on flat spring (3). Cover latch is a File/Stone To Fit part. Remove ONLY enough material to allow cover latch to maintain the top cover clearance (0.020 inch max) check as indicated on WP 0020 00-7."*



Small Arms...

## **GAGING TB ONLY ON INTERNET**



Dear Editor,

In your article on small arms gages on Page 26 in PS 698 (Jan 11), you said TB 43-180, *Calibration and Repair Requirements for the Maintenance of Army Materiel*, is on EM 0022. Unfortunately, that EM has been rescinded. But you can still find the TB on the ETM site:

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

The TB is updated monthly.

MSG Andrew Wilde  
State TMDE Coordinator  
MOARNG

*Editor's note: Thanks for the update, Master Sergeant.*

M95 Mortar Fire Control System...

HEY, THE MFCS ISN'T WORKING!

DID YOU CHECK THE 35W9 CABLE? IF IT WAS BAD IT COULD HAVE DAMAGED ALL THE OTHER CABLES!

# CHECK FOR BAD CABLE

SOME BAD 35W9 CABLES FOR THE M95 MORTAR FIRE CONTROL SYSTEM (MFCS) HAVE GOTTEN INTO THE SUPPLY SYSTEM.

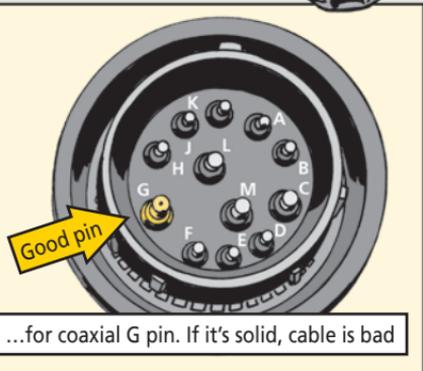
THE CABLE CAUSES A BAD CONNECTION TO THE DAGR AND CAN DAMAGE THE OTHER CABLES IT CONNECTS TO.



THE PROBLEM IS THE **WRONG G PIN** WAS INSTALLED IN THE PI CONNECTOR. THE CORRECT G PIN IS **COAXIAL, NOT SOLID.**



Check 35W9 cables...



...for coaxial G pin. If it's solid, cable is bad

So immediately check all your 35W9 cables, including those in supply stock, for the wrong G pin. If it's solid, it's wrong. Also check any 3W9, 3W2, and 55W7 cables that may have been connected to the 35W9 for damaged pins.

If you find any, isolate the cable and file a Product Quality Deficiency Report (PQDR) with the Product Data Reporting and Evaluation Program (PDREP):

<https://www.nslcptsmh.csd.disa.mil/webpqdr/webpqdr.htm>

After your PQDR is reviewed, you will receive shipping instructions for the unserviceable 35W9. After the cable is inspected, you'll receive credit for the cost of the 35W9.

For more info on how to use PDREP, check out Pages 54-55 of PS 694 (Sep 10):

<https://www.logsa.army.mil/psmag/archives/PS2010/694/694-54-55.pdf>

Tools...

# Bar Codes Make Inventory Easy!

BAR CODING MAY BE THE WAY TO GO FOR TRACKING TOOLS.

HERE'S HOW ONE TOOL ROOM USED BAR CODES.



Dear Editor,

Running a large tool room like ours at Camp Beauregard, LA, can be a nightmare if you don't stay on top of what tools you have and who has checked them out. If you don't keep accurate records, soon you've got a real mess.

We've made organizing our tool room easier with bar coding. We bought a bar coding system from one of the major tool companies that lets us create bar codes for both the tools and people who check them out. We give each tool or tool set a bar code and each person or unit that we deal with a bar code. When someone checks out a tool or tool set, we scan both the tool bar code and the person or unit's bar code. The information is instantly logged into our computer. Then, when we need to check where a tool is, we can do so in seconds.

Bar coding can even help you keep track of bench stock



PS MORE

We also keep a record in the database of when tools were calibrated so that we can easily tell when a particular tool is due a trip to TMDE.

Even our bench stock is bar coded, which helps us keep track of what items need to be replenished.

We dedicate one computer just for the bar code info and we don't hook it up to the Internet to safeguard against viruses. And, of course, we weekly back up the information to an external drive in case the computer crashes.

SFC James Price  
Camp Beauregard, LA

**EXCELLENT  
IDEA, SERGEANT.**

THERE ARE NUMEROUS  
COMPANIES THAT SELL  
BAR CODING SYSTEMS.

YOU CAN  
FIND THEM  
BY DOING  
AN ONLINE  
SEARCH FOR  
**BAR CODE  
KITS.**



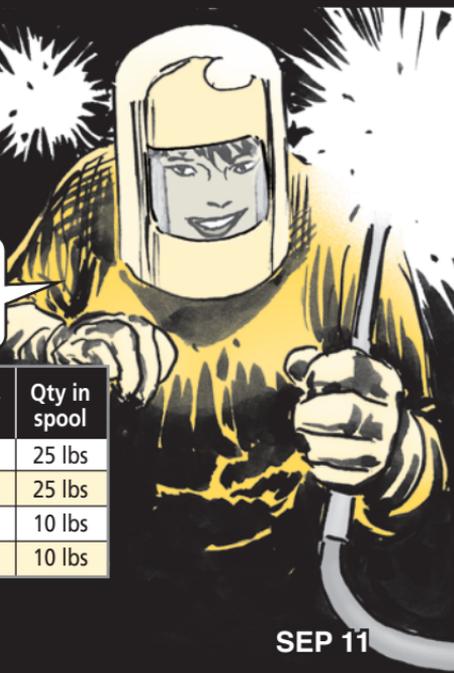
Welding...

# NSNs FOR WELDING WIRE

KEEP THESE  
NSNs HANDY  
WHEN YOU  
NEED WELDING  
WIRE FOR...

...YOUR WELDING SET,  
NSN 3431-01-262-3566  
AND IN YOUR  
ORGANIZATIONAL SHOP SET,  
NSN 4940-01-236-0166.

NSN 3439-	Electrode, welding	Wire diameter, inches	Qty in spool
01-013-2800	steel	0.030	25 lbs
01-012-1003	steel	0.045	25 lbs
00-885-3638	aluminum alloy	0.047	10 lbs
01-012-6661	aluminum alloy	0.030	10 lbs



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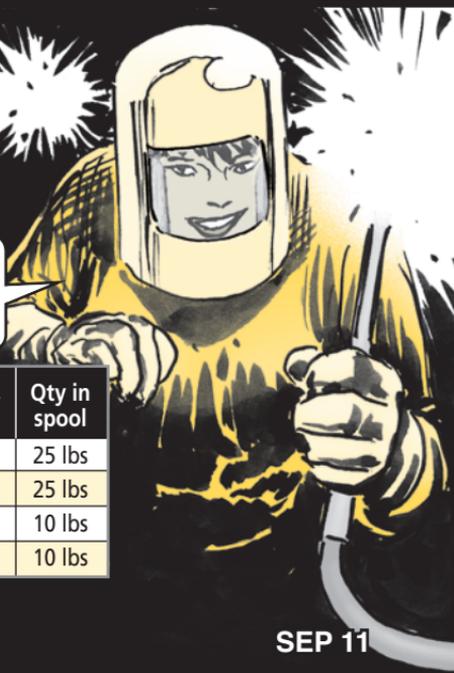
Welding...

## NSNs FOR WELDING WIRE

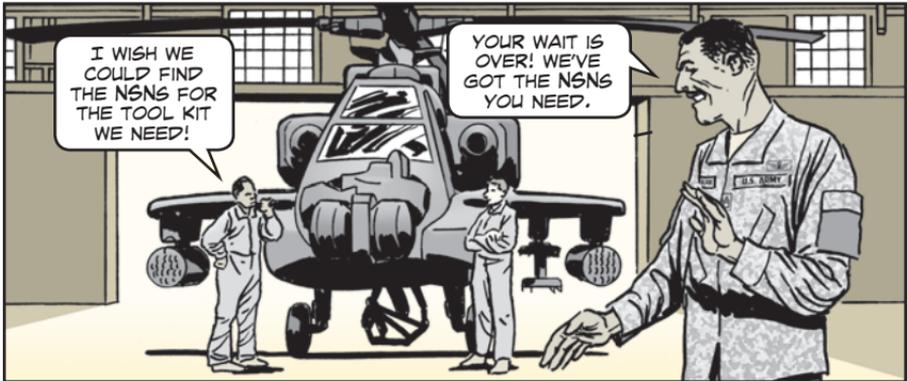
KEEP THESE  
NSNs HANDY  
WHEN YOU  
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NSN 3439-	Electrode, welding	Wire diameter, inches	Qty in spool
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01-012-6661	aluminum alloy	0.030	10 lbs



# AIRCRAFT SETS, KITS & OUTFITS



**N**o matter what type of aircraft you maintain, you'll always need the right tools for the right job to keep it flying high.

From the list below, order and use the right tool kit for the maintenance task you are working on.

Item	P/N	NSN 5180-01-587-
Hydraulic repair tool kit (HRTK)	PEOAVN-A03 GSA	8134
Technical inspection tool kit (TITK)	PEOAVN-A09 GSA	8152
General mechanics tool kit (GMTK)	PEOAVN-B01 GSA	8129
Sheet metal tool kit (SMTK)	PEOAVN-B02 GSA	8127
Electrical repairer tool kit (ERTK)	PEOAVN-B06 GSA	8128
Power plant tool kit (PPTK)	PEOAVN-B07 GSA	8136
Power train tool kit (PTTK)	PEOAVN-B13 GSA	8171
Aviation footlocker	PEOAVN-B90	7981
Portable tool box	NSN 5140-01-556-9111	



# Only One Hood Needed



Dear Half-Mast,

In PS 700 (Mar 11), you said in the article "What Every CBRN Room Needs" that CBRN specialists should keep two quick-doff hoods on hand per Soldier. I think only one hood is needed per M40/M42 mask, especially since the hood isn't needed when worn with JSLIST. Am I wrong?

MAJ K.G.

Dear Major K.G.,

No, we were wrong. According to the M40/M42's TM 3-4240-346-23&P, the quick-doff hood is an AAL item for the M40 mask. That means no hood is required when you turn in the M40 and you don't need to keep the hood if you're using JSLIST. But for the M42, the hood is required and must be turned in with the M42.

So, CBRN specialists should always keep on hand one quick-doff hood per M42 mask. For the M40, they should keep on hand either one quick-doff hood or one JSLIST. It's a good idea for CBRN specialists to store the hoods in the CBRN room when they're not needed.

Half-Mast

# Battery Acid NSNs



NOW THAT WE'RE GETTING BATTERIES WITHOUT ACID FOR THIS EQUIPMENT...

...WE NEED A GOOD BATTERY ACID CONNECTION!

Dear Half-Mast,

Our unit in Afghanistan is now receiving batteries without acid for Caterpillar engineering equipment.

Can you assist me in finding a good NSN for battery acid?

Mr. J.L.D.

Dear Mr. J.L.D.,

You bet, Sir!

Here are the NSNs to use for battery acid:

*Half-Mast*

NSN 6810-00-	Qty
249-9354	1-gal
843-1640	5-gal
893-8138	15-gal

Construction Equipment...

## BATTERY BOX LINER

**M**echanics, use battery box liner for absorbing battery acid in your construction equipment's battery box. Matter of fact, the liner not only absorbs acid, but neutralizes it as well.

Get a roll of ¼-in thick liner with NSN 6160-01-389-1966. Cut it to the dimensions you need to line the battery box. This NSN brings a 100-ft roll of liner. That's enough to take care of all the vehicles in your motor pool and then some.



NSN 6160-01-389-1966 GETS A ROLL OF BATTERY BOX LINER!

# HIGH COSTS OF MISDIRECTED CARGO

SO WHERE'S THE COMSEC/CCI?

HECK IF I KNOW!

SOME UNITS ARE SHIPPING THE WRONG COMMO EQUIPMENT TO BUILDING 73 AT TOBYHANNA ARMY DEPOT (TYAD)...

**ONLY COMMUNICATIONS SECURITY/ CONTROLLED CRYPTOGRAPHIC ITEMS (COMSEC/ CCI) SHOULD GO TO BUILDING 73.**

...AND IT'S CREATING HEADACHES!

The problem is, some units regularly pack one or two excess COMSEC/CCI items in a box with many miscellaneous items.

Then they ship it all to Building 73 at the depot. Once the box arrives, depot workers have to sort out the items and transfer the non-COMSEC/CCI equipment to the rightful owners.

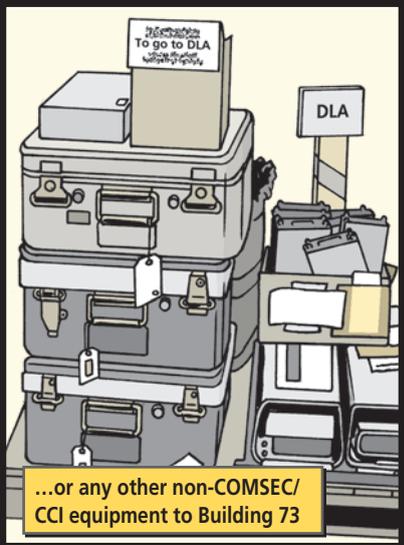
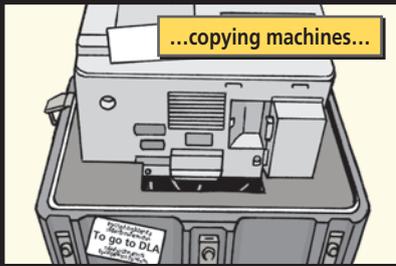
This work is time-consuming and uses up valuable man-hours. It also creates additional shipping costs. Handling and reshipping the misdirected cargo costs an estimated \$100K each year.

## Never ship:

Radios...



...copying machines...



...or any other non-COMSEC/ CCI equipment to Building 73

HERE'S THE COMPLETE ADDRESS FOR SHIPPING EXCESS COMSEC/ CCI...

**Tobyhanna Army Depot  
DoDAAC W81U11  
11 Hap Arnold Blvd  
Building 73  
Tobyhanna, PA 18466-5110**

## Do Your Disposition Homework

To prevent misdirected cargo shipments, organizational supply, maintenance activities (motor pools, for example), and unit property book officers must do their homework. They need to:

- Contact the proper item manager for all Federal Supply Class (FSC) 5810 items.
- Ask the item manager for disposition instructions for shipping excess COMSEC/CCI equipment.
- Contact the proper item manager for non-COMSEC/CCI item disposition instructions. That includes instructions for turning in items to the local Defense Logistics Agency (DLA) Disposition Services (formerly DRMO).

Ship only COMSEC/CCI to Building 73

## Finding an Item Manager

You can find item managers for **COMSEC/CCI** equipment only by going to the CECOM Communications Security Logistics Activity (CCSLA) National Inventory Control Point (NICP), located at Aberdeen Proving Ground, MD. Here are two POCs who will direct you to the item manager for your COMSEC/CCI equipment:

Shirley Hayden,  
DSN 648-6912, (443) 395-6912, or  
email: [shirley.a.hayden4.civ@mail.mil](mailto:shirley.a.hayden4.civ@mail.mil)

Natasha Henderson,  
DSN 648-6915, (443) 395-6915, or  
email: [natasha.t.henderson.civ@mail.mil](mailto:natasha.t.henderson.civ@mail.mil)

You can find item managers for **non-COMSEC/CCI** equipment by contacting DLA or the Life Cycle Management Command (LCMC) responsible for managing that equipment.

## Supply Support Activity

To ship COMSEC/CCI the right way, go through your supply support activity (SSA). Here's why:

1. Your SSA must fill out a **DD Form 1348-1A, Issue Release/Receipt Document**. There's an electronic version of the form on the DoD Forms Management Program website:

<http://www.dtic.mil/whs/directives/infomgt/forms/index.htm>

2. The SSA submits the form along with the COMSEC/CCI to TYAD.
3. To find out if TYAD received your shipment, you need to contact the item manager.

FOR MORE SHIPPING GUIDANCE, CONTACT THE ITEM MANAGERS FOR **COMSEC/CCI** EQUIPMENT.



DD FORM 1348-1A, JUL 91 (EO) ISSUE RELEASE/RECEIPT DOCUMENT

27. ADDITIONAL DATA	28. FISC (4-4) US (21-25) CITY (21-26) COMSEC CODE (21) CLASS (21-27) UP (14-62)	29. NATIONAL STOCK NO. & ADD (R-22)	34. DOCUMENT NUMBER & SUPPLY SHAW	35. C-10 36. C-11 37. C-12 38. C-13 39. C-14 40. C-15 41. C-16 42. C-17 43. C-18 44. C-19 45. C-20 46. C-21 47. C-22 48. C-23 49. C-24 50. C-25 51. C-26 52. C-27 53. C-28 54. C-29 55. C-30 56. C-31 57. C-32 58. C-33 59. C-34 60. C-35 61. C-36 62. C-37 63. C-38 64. C-39 65. C-40 66. C-41 67. C-42 68. C-43 69. C-44 70. C-45 71. C-46 72. C-47 73. C-48 74. C-49 75. C-50 76. C-51 77. C-52 78. C-53 79. C-54 80. C-55 81. C-56 82. C-57 83. C-58 84. C-59 85. C-60 86. C-61 87. C-62 88. C-63 89. C-64 90. C-65 91. C-66 92. C-67 93. C-68 94. C-69 95. C-70 96. C-71 97. C-72 98. C-73 99. C-74 100. C-75
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SSA must submit DD Form 1348-1A

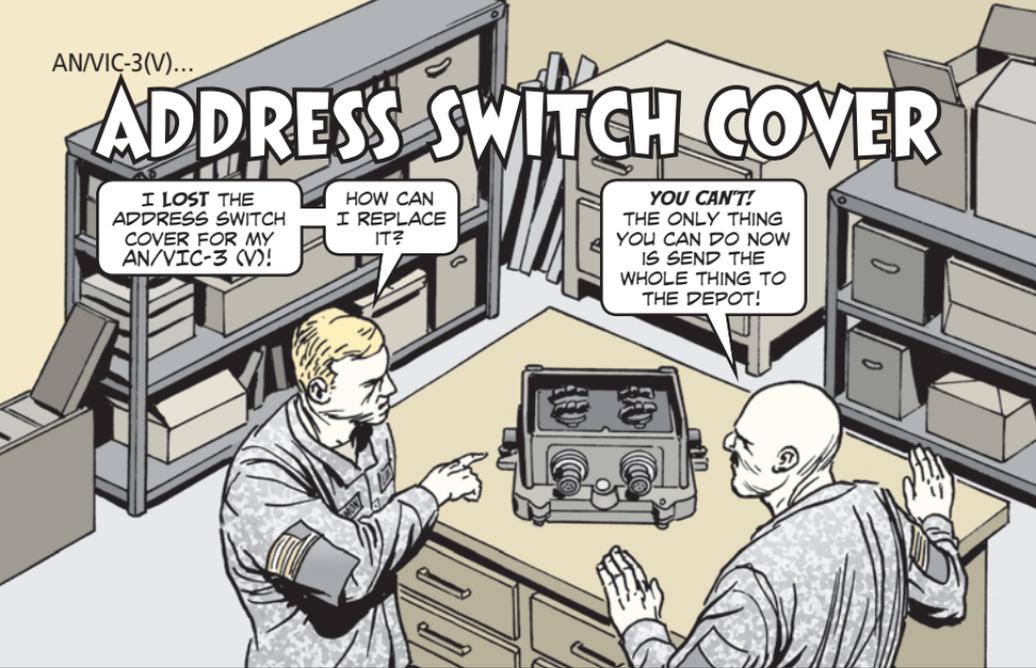
PREVIOUS EDITION MAY BE USED

# ADDRESS SWITCH COVER

I LOST THE ADDRESS SWITCH COVER FOR MY AN/VIC-3 (V)!

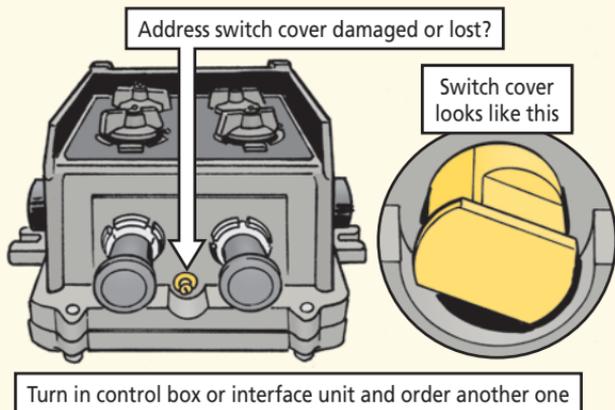
HOW CAN I REPLACE IT?

**YOU CAN'T!**  
THE ONLY THING YOU CAN DO NOW IS SEND THE WHOLE THING TO THE DEPOT!



There's something you should know about the address switch cover on the control boxes and interface units of your AN/VIC-3(V) vehicular intercommunications set:

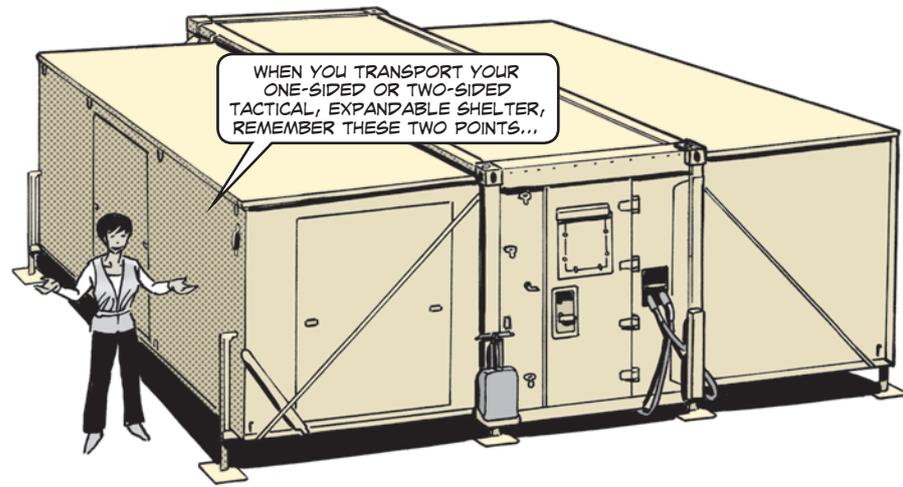
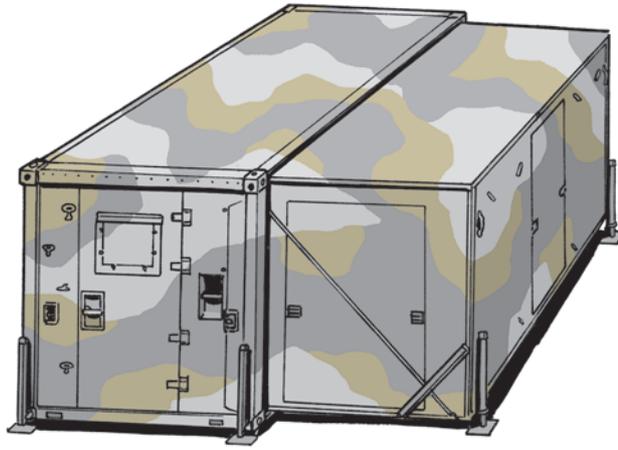
If that little cover gets damaged or goes missing, you can't order another one. That's because the control boxes and interface units are depot-level repairable items. Lower maintenance levels are not authorized to replace, repair or order parts. So, only the depot can get the address switch cover.



If you damage or lose a cover, you have no choice but to turn in the control box or interface unit and order another one through the supply system. CECOM Logistics and Readiness Center (LRC) gives you credit when you turn them in. They have plenty of replacement stock on hand.

For more information, contact Eric Krouse, inventory manager, at the CECOM LRC, DSN 648-1359, (443) 395-1359, or email: [eric.krouse2.civ@mail.mil](mailto:eric.krouse2.civ@mail.mil)

# All the Right Moves



1. Before you transport the shelter by flatbed truck or railroad car, make sure the shelter is secure. To ship by flatbed, attach chains and binders from the shelter's ISO fittings to the flatbed's retaining brackets. Make sure to wrap padding around the binders so they won't damage the shelter's doors.

Chains go from ISO fittings to retaining brackets



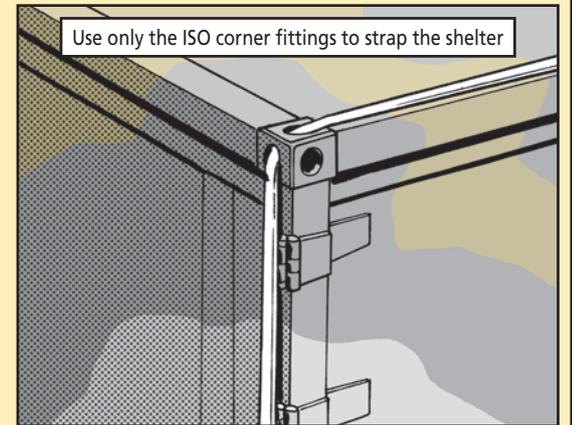
Use padding to protect the shelter's doors



To ship by rail, tie 1/2-in diameter wire rope from the shelter's ISO fittings to the railroad car's retaining brackets. Para 2-10 of TM 10-5411-200-14 and TM 10-5411-201-14 shows you how.

If you want the added security of ratchet straps, use them. Just make sure you strap the shelter through or over the ISO corner fittings. Never put a strap anywhere else over the shelter's roof; the strap will dent and mash the edge of the roof's seal. If the seal gets deformed, cut or punctured, the roof ends up leaking.

Use only the ISO corner fittings to strap the shelter



2. When the shelter arrives at the setup site, put some dunnage (4 inches x 4 inches x 10 feet) on the ground. Place the dunnage so they lie underneath each end of the container. Then maneuver the container into place with an M1022 or M1022A1 dolly set. The dunnage help make it easier to connect the dolly to the container next time you move out.

For more on transporting and setup of the two-sided shelter, see Chap 2 of TM 10-5411-200-14. For more on transporting and setup of the one-sided shelter, see Chap 2 of TM 10-5411-201-14.

For more on the M1022 dolly set, see TM 9-2330-379-14&P. TM 9-2330-390-14&P covers the M1022A1 dolly set.

Clothing...

# FR ACU-P ACTS AS INSECT ARMOR



GOT MY PERMETHRIN-TREATED TROUSERS...



...PERMETHRIN-TREATED JACKET...



...AND SOME INSECT REPELLENT FOR MY EXPOSED SKIN.



NOW I'M READY TO DEPLOY!

WITH HIS NEW FLAME RESISTANT ARMY COMBAT UNIFORM-PERMETHRIN (FR ACU-P), MASTER SERGEANT HALF-MAST STANDS READY TO SHOW HIS FELLOW SOLDIERS THE WAYS OF INSECT DEFENSE!

DEPLOYMENT IS STRESSFUL, AND DURING STRESSFUL TIMES IT'S EVEN MORE IMPORTANT TO STAY STRONG AND HEALTHY.



MALARIA, LYME DISEASE, DENGUE FEVER, AND LEISHMANIASIS ARE EXAMPLES OF INSECT-BORNE DISEASES THAT CAN BE SERIOUS HEALTH THREATS TO YOU DURING TRAINING AND COMBAT MISSIONS.



FLY, TICK, MOSQUITO, FLEA, MITE OR ANT BITES CAN ALSO LEAD TO DERMATITIS, SECONDARY INFECTIONS OR SERIOUS ALLERGIC REACTIONS.



THAT'S WHY WEARING YOUR FR ACU-P AND APPLYING DEET INSECT REPELLENT TO ANY EXPOSED SKIN IS IMPORTANT.



WHEN WORN CORRECTLY AND IN COMBINATION, THESE TWO SIMPLE STEPS INCREASE YOUR PROTECTION AGAINST INSECT-BORNE DISEASES TO ALMOST 100 PERCENT!

HERE IS SOME  
ADDITIONAL  
INFORMATION ABOUT  
THE FR ACU-P...



- Soldiers have worn permethrin-treated uniforms since the early 1990s with no adverse effects. Permethrin is a synthetic insect repellent.

1990s

2011



- The FR ACU-P also includes flame-resistant fabric. The permethrin does not reduce the uniform's flame-resistant properties.
- The FR ACU-P will protect you against insect bites for the uniform's lifetime.
- Weather and water will not affect the repellent properties of the FR ACU-P.

All newly deploying Soldiers issued uniforms through the Rapid Fielding Initiative process should receive the FR ACU-P.

There may be a small number of deployed Soldiers who do not have the FR ACU-P yet, but they can order the FR ACU-P through Central Issue Facilities (CIFs) in theater, or Army Direct Ordering (ADO) online:

<https://army.kyloc.com/>

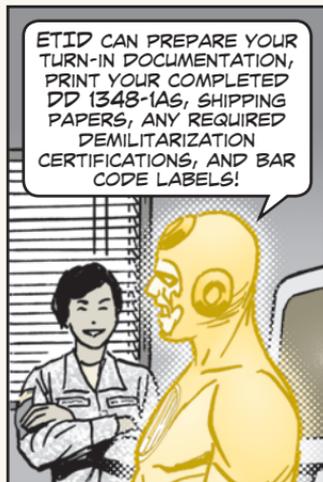
### How to Wash Your FR ACU-P

- Machine wash FR ACU-P shirt and pants inside-out on the permanent press cycle, or hand wash in cold water using a mild detergent that does not contain bleach. Cold water doesn't fade or wear out the FR ACU-P as fast as hot water.
- Rinse completely, but do not wring or twist.
- Hang dry or machine dry on low to medium setting only (between 140-160°F).
- DO NOT dry clean, starch, use chlorine bleach or have the FR ACU-P commercially pressed. All will cause permanent damage.
- DO NOT apply heat or a hot iron to any hook-and-loop fastener or to the infrared tab. That will cause permanent damage.

PS END

Supply...

# ETID Simplifies Turn-ins



**T**ake a leap into the future with the Defense Logistics Agency (DLA) Disposition Service's (formerly DRMO) Electronic Turn-in Document (ETID) system. ETID makes preparing disposal turn-in documents (DD Form 1348-1As) a snap.

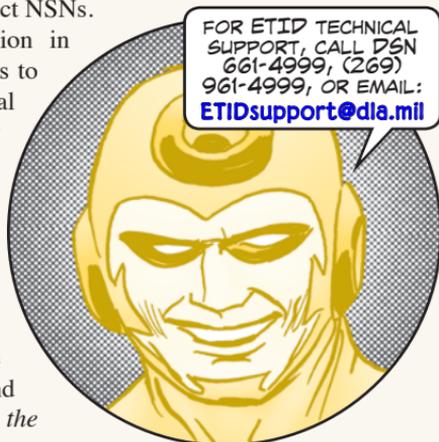
Unit personnel who used to manually prepare turn-in documents will find the electronic process easier. ETID automatically fills in many of the required fields for national stock number (NSN) items, such as nomenclatures and prices. This saves time and effort looking up codes and details about items being turned in.

In turn, the ETID electronic system produces more accurate documents, which reduces common entry errors like incorrect NSNs.

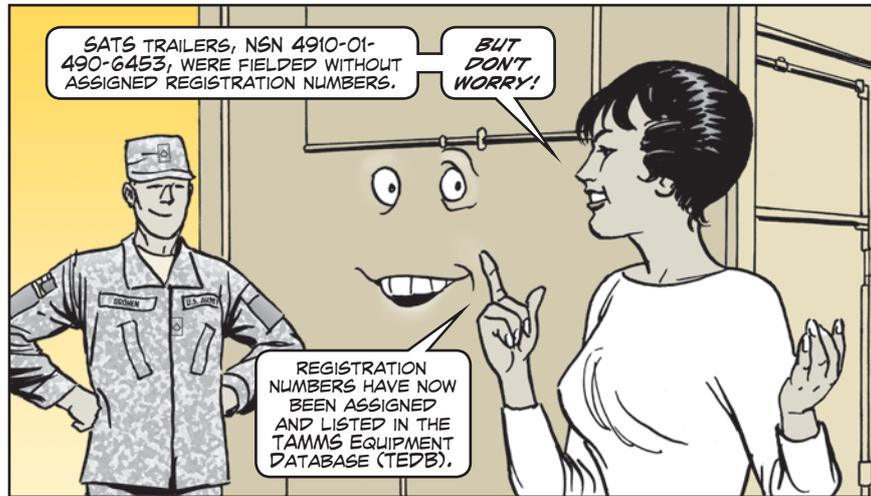
DLA can review property information in advance on ETID, and contact customers to resolve any discrepancies prior to actual turn-ins. This helps reduce property rejections. Check out:

<http://www.dispositionservices.dla.mil/etid.html>

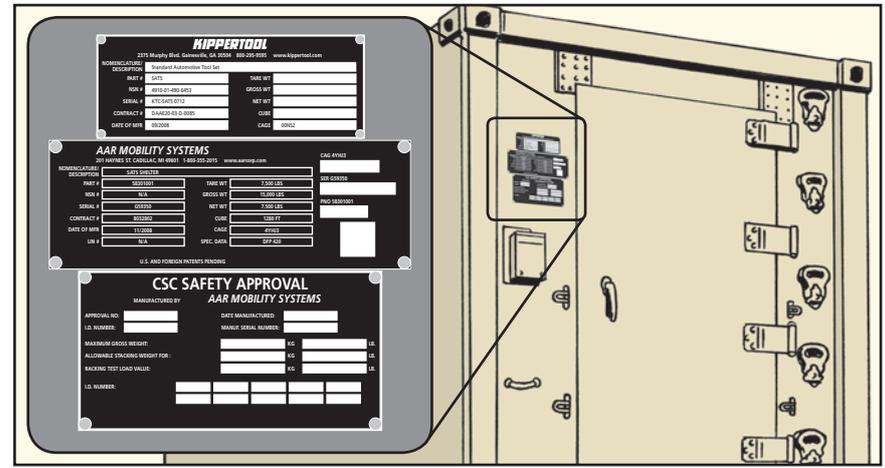
Remember, units are not authorized to turn in items directly to DLA Disposition Services without first going through their supply support activity (SSA) accountable officers. Complete regulations are outlined in Chaps 3-18 and 4-17 in AR 710-2, *Supply Policy Below the National Level*.



# Trailers Need Registration Numbers



To the left of the trailer's entrance door are three data plates—one above the other. The top "KIPPERTOOL" data plate has the trailer's reportable serial number that needs to be updated. The correct serial number begins with "KTC-SATS-" followed by a 4-digit number. (NOTE: TEDB strips off all special characters such as the hyphen.)



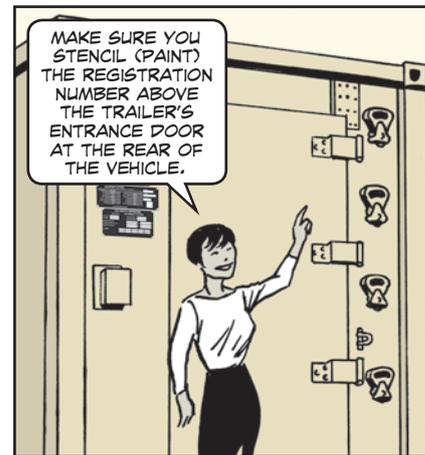
To find the correct registration number for each trailer with its serial number, units need to access the vehicle registration records in LOGSA's Logistics Information Warehouse: [https://weblog.logsa.army.mil/Veh\\_reg/main\\_input.cfm](https://weblog.logsa.army.mil/Veh_reg/main_input.cfm)

Enter the NIIN, 014906453, click on ALL RECORDS, then click on SUBMIT. Scroll down the serial number column to locate the associated registration number.

Make sure your unit's property book is updated accordingly.

Update the existing top "KIPPERTOOL" data plate as follows:

Find the line that reads NOMENCLATURE/DESCRIPTION. Imprinted on that line is "Standard Automotive Tool Set." In the unused area to the right of the imprint, use a die set to stamp the trailer's registration number on the right side of that line.



DA Form 2028...

CONNIE, HERE'S A BRAND-NEW TM, BUT I SEE THE SAME OLD MISTAKES IN THE PART NUMBERS.

I THOUGHT SOMEBODY WOULD HAVE FIXED THAT BY NOW!

IT'S A GOOD IDEA TO FILL OUT A DA FORM 2028 WHEN YOU SPOT THESE KINDS OF MISTAKES, SERGEANT.

TAKING A FEW MINUTES NOW CAN SAVE YOUR FELLOW SOLDIERS SOME REAL HEADACHES DOWN THE ROAD.



## Fixing Publication Problems

Your unit's equipment isn't the only thing that needs PM. Ever found a mistake in an Army pub or form? Yep, we thought so.

Suppose you find a part number is wrong in a particular TM. First, you may jot down a correction in your own copy. Then you might shrug off the mistake and assume someone will find the error and fix it before the TM is revised or changed.

But imagine getting the "new and improved" TM a few years later, and seeing the same old error in it. Gah!

Assuming someone else will find or fix a problem is usually a mistake, whether it involves vehicle engines or ETMs.

The best fix to help out everyone is to tell the life cycle management command (LCMC) about any errors in its equipment pubs or forms.

Feedback doesn't have to be just about mistakes. You can also use 2028s to make suggestions for improvements.

For example, if maintenance steps skip over something important, instructions aren't clear or you know that a procedure can be done better, easier or faster, you should submit your ideas for consideration.

## How to Have Your Say

FILL OUT AND SUBMIT A DA FORM 2028, RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS, TO THE LCMC RESPONSIBLE FOR THE EQUIPMENT.

YOU'LL FIND PAPER 2028s IN THE BACK OF MOST MANUALS.

BUT YOU CAN ALSO SUBMIT UNCLASSIFIED 2028s ELECTRONICALLY, ONLINE OR BY FAX, EMAIL OR LETTER.

HERE'S HOW TO GET THEM TO THE RIGHT PLACE...

**AMCOM LCMC**  
 Online: <https://amcom2028.redstone.army.mil>  
 Email: [2028@redstone.army.mil](mailto:2028@redstone.army.mil)  
 Fax: DSN 788-6546 or (256) 842-6546  
 Letter: Commander  
 US Army Aviation and Missile Command  
 ATTN: AMSAM-MMA-NP  
 Redstone Arsenal, AL 35898-5000  
**Note:** When you submit an AMCOM 2028 online, you'll get a control number so you can check the status of your submission.

**TACOM LCMC**  
 Online: <https://tulsa.tacom.army.mil/da2028/da2028.cfm>  
 Email: [TACOMLCMC.DAForm2028@us.army.mil](mailto:TACOMLCMC.DAForm2028@us.army.mil)  
 Fax: DSN 786-1856 or (586) 282-1856  
 Letter: ATTN: AMSTA-LCL-MPP  
 MS #727  
 6501 E. Eleven Mile Road,  
 Warren, MI 48397-5000  
**Note:** The TACOM info is good for all TACOM-supported vehicles, armament, CBRN and Soldier support systems.

**CECOM LCMC**  
 Online: <https://edm.apg.army.mil/pubs/2028.html>  
 Email: [MONM-AMSELLEOPUBSCHG@conus.army.mil](mailto:MONM-AMSELLEOPUBSCHG@conus.army.mil)  
 Fax: DSN 848-5521 or (443) 861-5521  
 Letter: Commander, US Army CECOM LCMC,  
 6001 Combat Drive,  
 Attn: AMSEL-LCL-ECM,  
 Aberdeen Proving Ground, MD 21005-1846



REMEMBER, WHETHER YOU'RE A SOLDIER, CIVILIAN, OR CONTRACTOR, YOU'LL SEE PLENTY OF TMS, FMS, TBS, SCS AND MWOS AND FORMS OVER THE SPAN OF YOUR CAREER.

HELP IMPROVE THEM. JOT DOWN YOUR SUGGESTIONS AND SEND THEM IN.





## TURN IN SMOKE GRENADE LAUNCHERS NOW

The Reset/repair program for smoke grenade launchers has halted because they have run out of launchers. Any of the following launchers that are not being used or are not working should be turned in immediately:

- M239, NSN 1055-01-015-0874, LIN L44612
- M243, NSN 1055-01-059-0560, LIN L67021
- M250, NSN 1055-00-000-0138, LIN L44680
- M257, NSN 1055-01-070-1213, LIN L44031
- M259, NSN 1055-01-107-7501, LIN L44748

Smoke grenade launchers in condition codes F or H should be sent to:

RIC: AD1  
DODAAC: W41CE8  
XU WOK4 USA OSC Pine Bluff Arsenal  
Army Non-ammo Field Service  
Account 53990  
507th Str  
Pine Bluff AR 71602-9500

For launchers in all other condition codes, contact Ramon Perez for mailing instructions at DSN 786-1553, (586) 282-1553, or email:

[ramon.j.perez.civ@mail.mil](mailto:ramon.j.perez.civ@mail.mil)

Units should send the launchers via military shipping at their own cost. No credit will be given for the launchers to the units.

## M1117 ASV Training Materials

Hunting for training info on the M1117 Armored Security Vehicle? You can get Operator New Equipment Training (OPNET) and Field Level Maintenance New Equipment Training (FLMNET) at the Library of TACOM Training Information Site (LOTTIS). Go to <https://utap.army.mil>, click on the Army tab, and type in ASV in the "Keyword Search" block. Click Get Details on the first selection. These are large files, and cover 80 hours of OPNET and FLMNET instruction.

## M109A6 Paladin Firing Pin

Get a firing pin for your M109A6 Paladin by ordering NSN 1025-01-361-1349. NSN 1025-00-361-1349, which is listed as Item 4 on Page B-3 of TM 9-2350-314-10 (Feb 99, w/Ch 7, Feb 10), is incorrect.

## POC List for CIFs

If you need to locate and contact an installation Central Issue Facility, you can download the 2011 POC list from AKO:

<https://www.us.army.mil/suite/doc/29911516>

## UPDATED MAINTENANCE PUBLICATION RELEASED

Army Tactics, Techniques, and Procedures (ATTP) 4-33, *Maintenance Operations*, was released in March 2011. It supersedes FM 4-30.3, *Maintenance Operations and Procedures* (July 2004). ATTP 4-33 discusses maintenance at all Army levels. Its primary focus is maintenance fundamentals (including an updated definition of two-level maintenance), organizations, and maintenance management. Other topics include repair parts operations; test, measurement and diagnostic equipment; and signal, missile and watercraft maintenance. Download the new publication:

[https://armypubs.us.army.mil/doctrine/DR\\_pubs/dr\\_aa/pdf/attp4\\_33.pdf](https://armypubs.us.army.mil/doctrine/DR_pubs/dr_aa/pdf/attp4_33.pdf)

## M1A1 Tank Improved Azimuth and Elevation Servo NSNs

The new revision to TM 9-2350-264-24P-2 (May 11) contains some wrong parts information. So until the next TM update, make these two pen and ink changes. For the improved azimuth servo, listed as Item 27 in WP 0026, change the NSN from 4810-01-076-6739 to NSN 4810-01-391-8454 and the PN from 12283412 to PN 9377768. For the improved elevation servo, listed as Item 13 in WP 0027, change the NSN from 1015-01-122-9401 to NSN 1015-01-391-8457 and the PN from 12283102 to PN 9377770.

## M1A1 Tank 2W301 Wiring Harness Connector Plug

Get a new connector plug for the M1A1 tank's 2W301 wiring harness by ordering NSN 5935-01-173-7301 (PN M83723/75W0803N). It replaces NSN 5935-01-168-3288, which is shown as Item 2 in Fig 201 of TM 9-2350-264-24P-1 (Mar 03, w/Ch 6, Jun 09). Also, note that the description info for Items 3 and 6 are reversed. Item 3 is the P1 connector adapter and Item 6 is the P2 connector adapter.

## M105A3 Trailer Stabilizer

Use NSN 2590-01-564-2028 to get a stabilizer support arm for the back end of the 1½-ton cargo trailer. This NSN replaces the parts info shown as Item 1 in Fig 15 of TM 9-2330-324-14&P.

## Forward Repair System NSN Correction

Get out your pencil if you use the Forward Repair System (FRS). The 3-valve manifold (Item 1 in Fig 216 of TM 9-4940-568-24P) should have an NSN of 4820-01-559-5984. NSN 4820-01-559-5983 is actually for the 5-valve manifold, which is Item 1 in Fig 217. The TM has been updated on the ETM site with the correct info

## How to Find SOUMs

HQDA G-4 is setting up a system to host Safety of Use Messages (SOUMs) now that Army Electronic Product Support (AEPS) has retired. Until the new website launches, units can find SOUMs at the following URLs:

**AMCOM SOUMs**  
(aviation and missiles)  
<https://asmprd.redstone.army.mil/>

**JM&L SOUM**  
(ammunition)  
<https://mhp.redstone.army.mil/>

**CECOM SOUMs**  
(electronics and communications)  
<https://cecomsafety.agp.army.mil/>

**TACOM SOUMs**  
(wheeled and tracked vehicles,  
small arms, many others)  
<https://tulsa.tacom.army.mil/safety/serviced.cfm>

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>right now</sup> on  
the Condition of Your Equipment?

# PM *PLUS* TM = *SUCCESS*



# PM *MINUS* TM = *FAILURE*

