



**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

TB 43-PS-617, 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.

**ISSUE 617 APRIL 2004**

	<b>COMBAT VEHICLES</b>	<b>2</b>		<b>AVIATION</b>	<b>35</b>
M1-Series Tank Hoffman Device		2	HH-60/L, UH-60A/L Stabilator Amplifier		35
M1-Series Tank Desiccant Bags		3	UH-60A/L/Q Drive Shaft Storage Rack		36-37
M1-Series Tank Recoil System Bleeding		4-5	UH-60 Antenna Tightening		38-39
M2/M3 Bradley, MLRS Carrier Fuel Pumps		5	UH-60 Step Cautions		39
M113 FOV Personnel Carrier Ramp Coating		6			
M577 Command Post Carrier Fuel Strainer		7		<b>COMMUNICATIONS</b>	<b>40</b>
M109 Howitzers, M992 Engine Grille Pin		8-9	F18H-MPI AC Unit Condenser Protection		40-41
M109A6 Paladin Hydraulics Caution		9	AB-1373/TRC Antenna Winch PM		42
			SINGARS Loudspeaker		43
	<b>WHEELED VEHICLES</b>	<b>10</b>	S-805/G Shelter Door Sealing		44
HEMTT Tanker Gauge Replacement		10	NVG Neck Cord NSN		45
M977, M985 HEMTT Outrigger Arms		11			
M870/M870A1 Semitrailer Decking		12		<b>NBC</b>	<b>46</b>
HMMWV Precleaner		13	M17-Series Decon Belt Tightening		46-47
			M40/M42-Series Masks Skin Selection		47
	<b>MISSILES</b>	<b>14</b>	JSLIST Size Charts		48-49
Avenger Remote Control Unit		14-15		<b>LOGISTICS MANAGEMENT</b>	<b>50</b>
	<b>SMALL ARMS</b>	<b>16</b>	Price Challenge Information		50-51
M16-Series Rifle, M4/M4A1 Carbine Bag		16-17	PMCS Worksheets and Guidelines		52-53
Small Arms Cleaning Caution		18	Supply Requisitions Clarification		54-55
Armorer's Tool Kit Update		19	New TMDE Equipment Authorized		55
			SMART Suggestion Program		56
	<b>COMBAT ENGINEERING</b>	<b>20</b>		<b>SOLDIER SUPPORT</b>	<b>57</b>
SEE Maintenance Tips		20-21	Large Area Maintenance Shelter		
D7G Tractor Painting		22	Parts and PM		57-60
600-GPH ROWPU Line Caps		23			
HYEX Undercarriage PM		24-26	<b>CONTINUITY</b>		<b>27-34</b>
			Connie's Post Scripts		<b>61</b>
<b>EDITORIAL</b>		<b>1</b>			

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

Just write to:

MSG Half-Mast  
PS, the Preventive Maintenance Monthly  
USAMC LOGSA (AMXLS-AM)  
5307 Sparkman Circle  
Redstone Arsenal, AL 35898-5000

Or e-mail to:

psmag@logsa.redstone.army.mil or  
half.mast@us.army.mil

Internet address:

<http://www.logsa.army.mil/psmag/pshome.html>

By order of the Secretary of the Army:

**PETER J. SCHOOMAKER**

General, United States Army Chief of Staff

Official:

*Joel B. Hudson*

**JOEL B. HUDSON**

Administrative Assistant to the Secretary of the Army  
0402902

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-5000. Periodical postage is paid at the Huntsville, AL post office and at additional mailing offices.

Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, USAMC LOGSA (AMXLS-AM), 5307 Sparkman Circle, Redstone Arsenal, AL 35898-5000.

Issue 617

**PS**

April  
2004

**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**

TB 43-PS-617

Approved for  
Public Release;  
Distribution is  
Unlimited

*I-I  
SAW  
IT...*

*...BEFORE  
IT  
HAPPENED!!*

*K. JOE  
KUBER*

**THE PM DEAD ZONE!  
SEE PAGE 27**



# PMCS, A VITAL LINK

**W**hy bother to perform preventive maintenance checks and services (PMCS) on your equipment?

After all, you have more urgent concerns. You're in a desert war far from home. Every day American soldiers come under fire. Some are wounded. Some die. Your mission and your survival demand all your energy and focus, all your strength and courage. You're already carrying a heavy load. How can anyone expect you to tackle more work, more duties? Why devote time and sweat to PMCS? That's a fair question, and it deserves a straight answer.

**PMCS strengthens your mission and saves lives. It's that simple.**

A direct link exists between pulling PMCS and your mission, your life and the lives of your buddies. By checking coolant levels in your HMMWV, you help your vehicle reach a field hospital. By cleaning a rifle bolt and bore, you make sure your weapon protects you in a fire-fight. By wiping sand and dirt from SINGGARS connectors, your radio stands ready when you need to call in support.

PMCS is a necessity, not a luxury, because each day you stake your life on the condition of your equipment. The success of your mission depends on it. American lives depend on it.



THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

ISSUE 617 APRIL 2004

 <b>COMBAT VEHICLES</b>	<b>2</b>	 <b>AVIATION</b>	<b>35</b>
M1-Series Tank Hoffman Device	2	ALSE AMSS Container Selection	35
M1-Series Tank Desiccant Bags	3	UH-60A/L/Q Drive Shaft Storage Rack	36-37
M1-Series Tank Recoil System Bleeding	4-5	UH-60 Antenna Tightening	38-39
M2/M3 Bradley, MLRS Carrier Fuel Pumps	5	UH-60 Step Cautions	39
M113 FOV Personnel Carrier Ramp Coating	6		
M577 Command Post Carrier Fuel Strainer	7	 <b>COMMUNICATIONS</b>	<b>40</b>
M109 Howitzers, M992 Engine Grille Pin	8-9	F18H-MPI AC Unit Condenser Protection	40-41
M109A6 Paladin Hydraulics Caution	9	AB-1373/TRC Antenna Winch PM	42
		SINGGARS Loudspeaker	43
 <b>WHEELED VEHICLES</b>	<b>10</b>	S-805/G Shelter Door Sealing	44
HEMTT Tanker Gauge Replacement	10	NVG Neck Cord NSN	45
M977, M985 HEMTT Outrigger Arms	11		
M870/M870A1 Semitrailer Decking	12	 <b>NBC</b>	<b>46</b>
HMMWV Precleaner	13	M17-Series Decon Belt Tightening	46-47
		M40/M42-Series Masks Skin Selection	47
 <b>MISSILES</b>	<b>14</b>	JSLIST Size Charts	48-49
Avenger Remote Control Unit	14-15		
		 <b>LOGISTICS MANAGEMENT</b>	<b>50</b>
 <b>SMALL ARMS</b>	<b>16</b>	Price Challenge Information	50-51
M16-Series Rifle, M4/M4A1 Carbine Bag	16-17	PMCS Worksheets and Guidelines	52-53
Small Arms Cleaning Caution	18	Supply Requisitions Clarification	54-55
Armorer's Tool Kit Update	19	New TMDE Equipment Authorized	55
		SMART Suggestion Program	56
 <b>COMBAT ENGINEERING</b>	<b>20</b>		
SEE Maintenance Tips	20-21	 <b>SOLDIER SUPPORT</b>	<b>57</b>
D7G Tractor Painting	22	Large Area Maintenance Shelter	
600-GPH ROWPU Line Caps	23	Parts and PM	57-60
HYEX Undercarriage PM	24-26		

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

Just write to:  
MSG Half-Mast  
PS, the Preventive Maintenance Monthly  
USAMC LOGSA (AMXLS-AM)  
5307 Sparkman Circle  
Redstone Arsenal, AL 35898-5000

Or e-mail to:  
psmag@logsa.redstone.army.mil or  
half.mast@us.army.mil  
Internet address:  
<http://www.logsa.army.mil/psmag/pshome.html>

By order of the Secretary of the Army:

**PETER J. SCHOOMAKER**  
General, United States Army Chief of Staff

Official:

*Joel B. Hudson*

**JOEL B. HUDSON**  
Administrative Assistant to the Secretary of the Army  
0402902

# NO RED DOT? USE IT NOT!

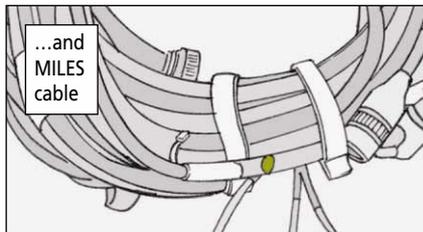
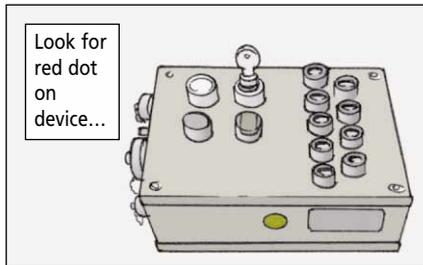


Tankers, don't use the tank gun fire device simulator (Hoffman device), NSN 6920-01-067-1667, on your M1-series tank unless the simulator has been modified. An unmodified Hoffman device can create an electrical spike that could damage your tank's electrical system or even cause the M21 pyrotechnic charges to fire prematurely.

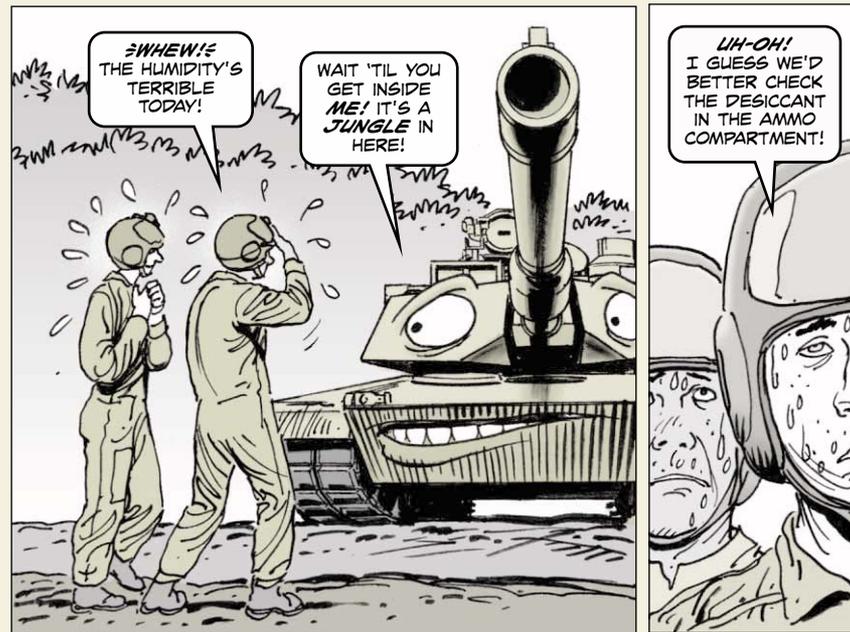
Modified simulators have a dime-sized red dot on the side. You'll also find a second, smaller red dot near the modified area of the MILES M1 kill indicator cable, NSN 6150-01-306-9431.

If your simulator or MILES cable doesn't have the markings, don't use them. Turn in the device to your Training Support Center or directly to DRMO using a Demil Code of D. That will ensure the device is destroyed and can't be used again.

Questions? Contact Conrad Ortega, PEOSTRI, at DSN 970-3766, (407) 384-3766, or send an email to: [conrad\\_ortega@peostri.army.mil](mailto:conrad_ortega@peostri.army.mil)



# The Drier the Better



Humidity in the ammo compartment means corrosion for onboard ammo, whether your tank stays uploaded all the time or only during exercises.

Sure, you can slow the damage by occasionally wiping out any condensation in the ammo compartment. But to really put the brakes to corrosion, you've got to stop moisture.

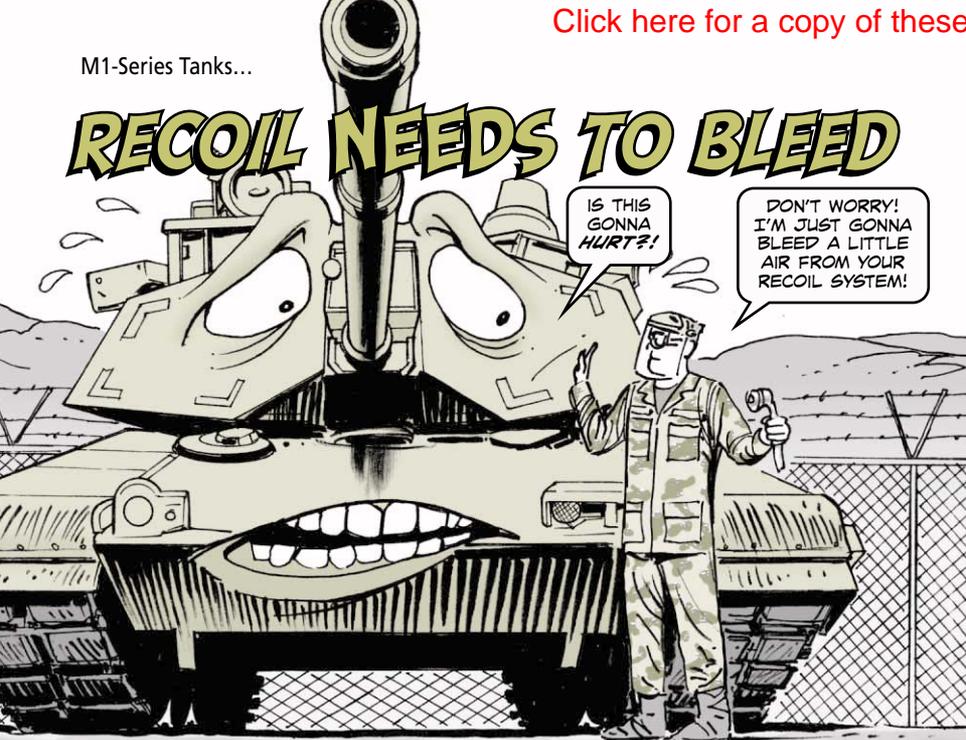
A few bags of desiccant will do the trick. Just open each ammo door and put a bag on the floor between the ammo tube and the compartment wall. NSN 6850-00-264-6571 gets a drum of 300 bags of desiccant.

When it's time to pull PMCS on the hull ammo compartment, check the desiccant bags. If they're moist to the touch or if the compartment walls are wet, it's time for new desiccant bags.



M1-Series Tanks...

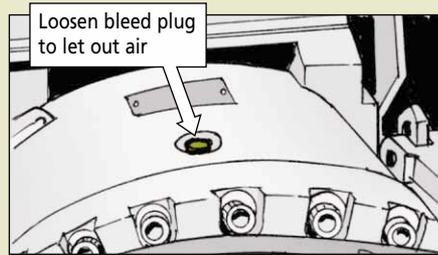
# RECOIL NEEDS TO BLEED



When's the best time to bleed your tank's recoil system, crewmen? Unless you like living dangerously, you'd better do it prior to firing exercises and every time the recoil system is drained and refilled.

If the FRH level is low it could be because of air bubbles or debris in the replenisher that stops the flow. This could cause the main gun to recoil too far. When that happens, the cannon shears its retaining bolts and slams into the ammo compartment. Bleed the recoil system like this:

1. Make sure you're wearing long sleeves, gloves, goggles and a face shield. FRH contains a chemical that can cause paralysis if it's ingested. FRH can also be absorbed through the skin, so wash thoroughly with soap and water if you get any on you.
2. Ensure replenisher is full.
3. With turret power off and the system hydraulic pressure reduced to zero, manually depress the gun tube below level.
4. Loosen, but don't remove, the bleed plug below the gun mount ID plate.



The -10-1 TMs tell you to use a 15mm socket, but that's not quite the right size. Use the 9/16 inch socket, NSN 5120-00-189-7932, listed in the BII instead. The 15mm socket will be removed from the BII during a future update.

5. Allow all the air to escape until you see FRH starting to flow from around the bleed plug.
6. Retighten the bleed plug. Wipe off any FRH with a rag and dispose of it properly. Recheck the replenisher level and refill if necessary.

## TM Note

The diagram on Page 2-496 of TM 9-2350-264-10-1 and Page 2-480 of TM 9-2350-367-10-1 shows the wrong location for the recoil system bleed plug. This will be corrected in a future update to the TMs.

M2/M3-Series Bradleys, MLRS Carrier...

# MATCH FUEL PUMP TO ENGINE



Some mechanics don't pay attention to the usable on codes (UOC) when ordering a new fuel pump for a Bradley or MLRS.

Since there are four different pumps available, they have only a one-in-four chance of picking the right one—not the best odds. Choose wrong and your vehicle has fuel flow problems.

Even if you think you've ordered the right pump, you should always double-check the engine configuration to make sure before installing it. Here's the correct match-up:

Vehicle	Engine	Pump NSN
MLRS A0, Bradley A0	500 HP	2910-01-217-8309
MLRS A1	500 HP Centry	2910-01-479-2471
Bradley A2, A2 ODS, Linebacker, BFIST	600 HP	2910-01-384-5304
Bradley A2, A2 ODS, A3, Linebacker, BFIST	600 HP WSR	2910-01-432-0373

# DON'T SLIP UP!



How fast you enter or exit the troop compartment of an M113-series personnel carrier can mean life or death on the battlefield. So it doesn't help if you go slipping and sliding down the ramp.

If the ramp's nonslip coating is worn, footing gets a little tricky. In wet weather, it's downright dangerous.

IF THE RAMP SURFACE ON YOUR CARRIER IS DOWN TO BARE METAL, FIX IT LIKE THIS...

1. Wash the surface thoroughly with soap and hot water. Use a nylon scrub brush to remove dirt, grease and loose paint. Rinse with hot water to further cut grease and oil.
2. Let the ramp dry completely.
3. Use a paint brush—such as NSN 8020-00-245-4516—to apply nonslip walkway compound to all the bare patches. NSN 8010-00-141-7838 gets a gallon of the olive drab walkway compound.
4. Allow the compound to dry for 24 hours before stepping on it.



Add nonslip walkway compound to bare spots



# Don't Fool Around With Fuel



Your M577's 4.2-KW generator needs clean fuel to run properly. So when sand and dirt get in the fuel tank, you need to get it out fast.

Since the fuel tank has a drain plug, it'll come out fast enough. But it usually ends up all over the generator, the ground and you.

Fix that problem by ordering and installing a drain cock, NSN 4820-00-752-9040, in place of the drain plug. That makes draining easier and a lot less messy.

## Fuel Strainer

While you're working on the fuel system, take a close look at the fuel strainer. Over time, the welds on the strainer's lip can break and let the strainer fall into the fuel tank.

Eyeball the strainer every time you fill the tank. If the welds show signs of cracking or breaking, get a new strainer with NSN 4730-00-981-4925.

Check welds under lip of strainer



# STOW THE PIN!

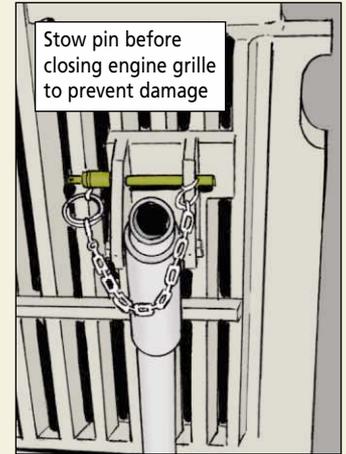


Crewmen, when closing the engine access grille on your howitzer or ammo carrier, make sure you stow the grille support arm's quick-release pin first.

If the pin, NSN 5315-00-419-0758, and chain hang free, they get broken or crushed when the grille is closed. The next time you open the grille, the support arm won't be able to safely hold it up.

The M109A6 Paladin and M992A2 now have an updated kit, NSN 2590-01-470-3665, that beefs up the sleeve that supports the grille in the open position. It includes a new pin that's increased in diameter from 0.25 to 0.375 inch. If your vehicle is equipped with the new kit, order a replacement pin with NSN 5315-00-878-5269.

Installation instructions for the new kit will be included in an upcoming EIR Digest. Ask your TACOM LAR for a copy.

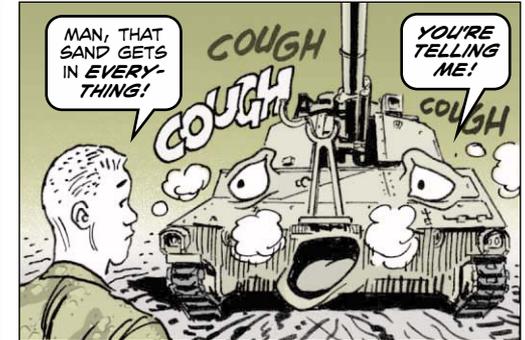


Stow pin before closing engine grille to prevent damage

M109A6 Paladin...

# Get the Sand

# Out...Now!



If you spent any time at all in Southwest Asia, you know that sand gets into everything. It gets into your hair, your clothes, even your food.

If your M109A6 saw action there, chances are your hydraulics fared no better. And that means you're probably facing an elevation cylinder failure.

As a precaution, have your mechanic drain the hydraulic fluid and change the filters. Instructions start on Page 18-3 of TM 9-2350-314-20-2-2.

Before he starts, though, make sure the cannon tube is elevated and depressed several times, the cab is traversed 360 degrees, and the rammer activated. That gets any settled sand flowing so that it can be drained along with the hydraulic fluid.

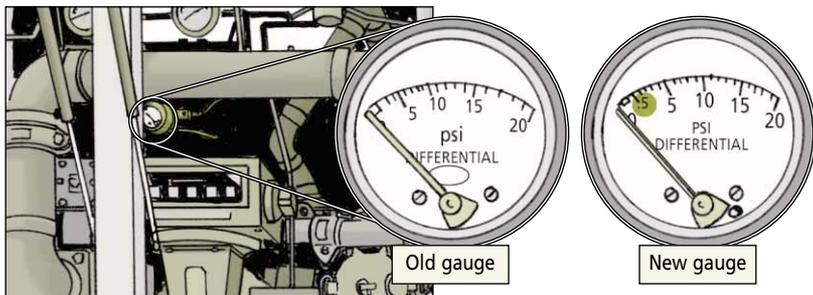
HEMTT Tankers...

# REPLACE OLD GAUGES

Operators, many M978 fuel tankers are still equipped with old-style differential fuel pressure gauges. They're not as reliable as the newer, more durable gauges that come with NSN 6685-01-362-4272.

The old gauges start at 5 psi; the new gauges start at .5 psi. That lets you better keep up with the amount of dirt in the fuel filters.

I'M OLD, WORN OUT, AND ABOUT TO BE REPLACED!

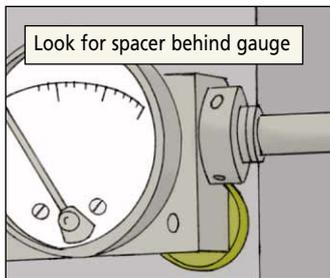


As the filters get dirty, the pressure differential should slowly increase. That's normal. A differential of more than 15 psi indicates filters dirty enough to require replacement.

If an old gauge still works well, use it. But at the first sign of poor performance, have your mechanic replace it. A reading of less than 0 is one sign of poor performance (or a burst filter). Another is a sudden decrease or return to 0 pressure during operation.

While you're checking the gauge, make sure it has non-magnetic spacers, NSN 5310-01-501-5197, installed. Without the spacers, the gauge is mounted directly to the steel surface. That interferes with the gauge's magnetic movement and can give you a wrong reading.

Notify your mechanic if the spacers are missing. He'll install them between the gauge and the mounting bracket.

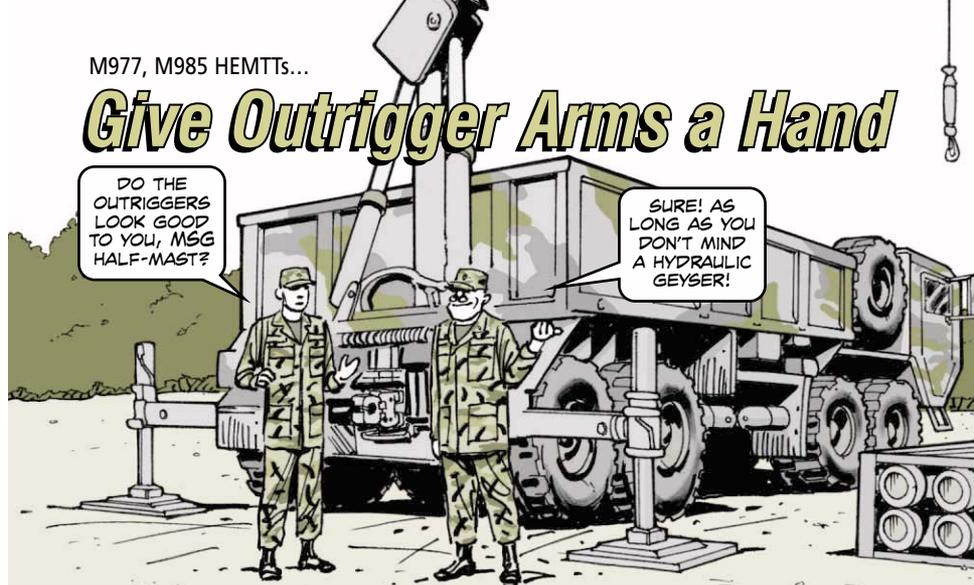


M977, M985 HEMTTs...

# Give Outrigger Arms a Hand

DO THE OUTRIGGERS LOOK GOOD TO YOU, MSG HALF-MAST?

SURE! AS LONG AS YOU DON'T MIND A HYDRAULIC GEYSER!



The outrigger arms on your M977 and M985 HEMTT are there to steady the truck when using the crane to lift a heavy load. But they can't do their job if you don't give 'em a hand.

## Weighty Problem

Some operators want to make sure there's **no** slippage. They lower the outrigger arms so far that the back end of the HEMTT is raised slightly.

Problem is, the hydraulics can't take the strain of the crane's load plus the weight of the HEMTT itself. The lines blow and you aren't lifting anything.

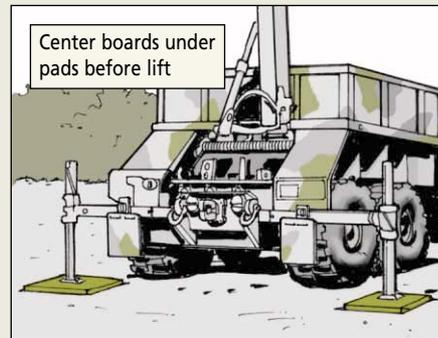
Lower the outrigger arms so that the rear tires have firm contact with the ground, but do not bulge from the weight. Any more—or less—won't get the job done.

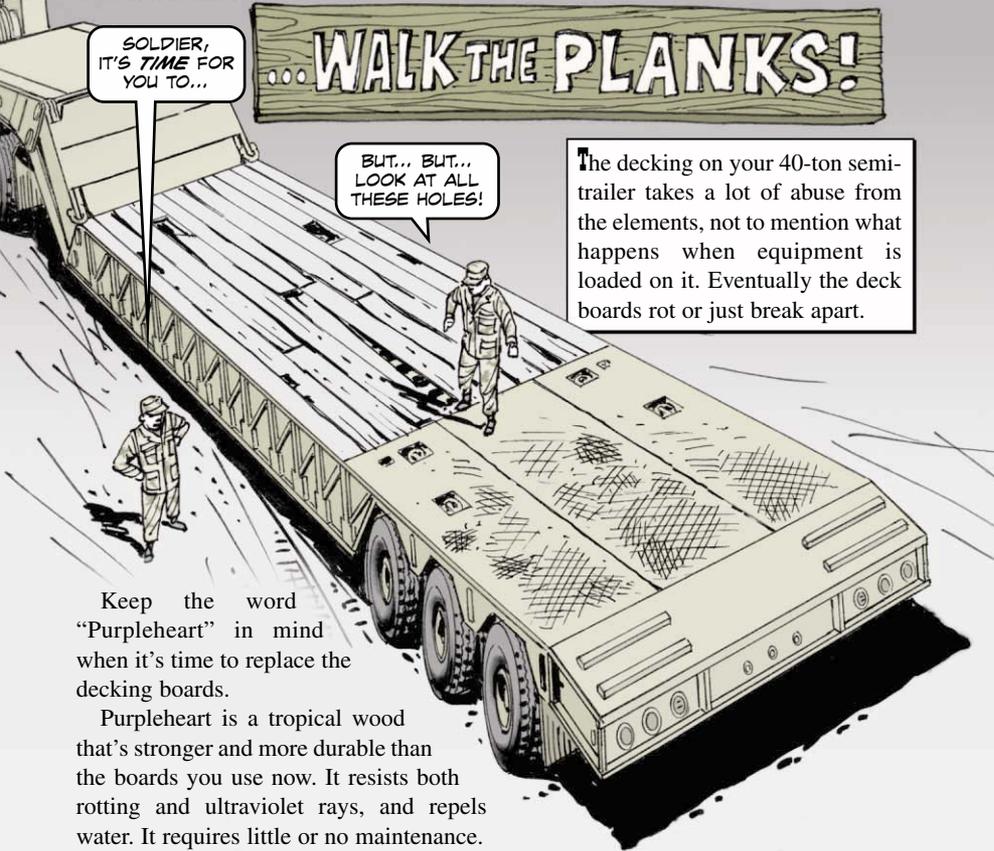
## Sandy Lifts

Soft or sandy soil lets the outrigger pads sink while you load or unload with the crane. If you're lifting something heavy, like an MLRS rocket pod or ammo pallet, the truck could roll over!

So before emplacing the outrigger arms, stick a couple of 2x12x24 inch boards under each pad. Semitrailer ground jack boards, NSN 2510-00-741-7585, work well, too. The boards spread out the weight and keep your truck nice and steady.

Center the boards before lowering the outriggers. When you're not using the boards, stow them in the cargo bed.





Keep the word "Purpleheart" in mind when it's time to replace the decking boards.

Purpleheart is a tropical wood that's stronger and more durable than the boards you use now. It resists both rotting and ultraviolet rays, and repels water. It requires little or no maintenance.

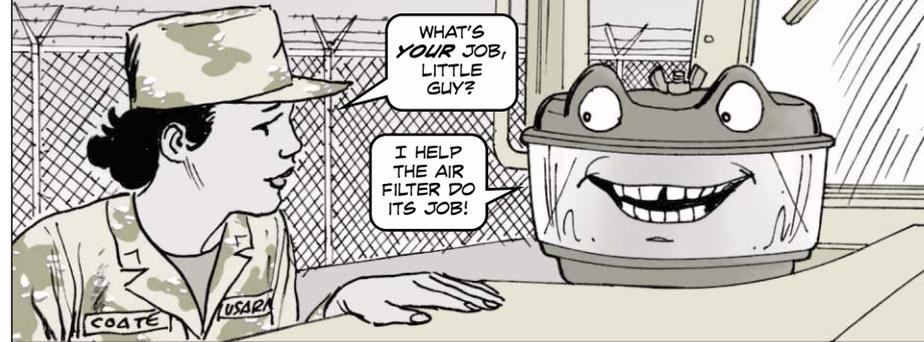
Purpleheart is a hard wood, so you'll need a carbide-tipped blade to cut it. Same goes for drilling holes. Drill bits will need carbide tips.

Order purpleheart with NSN 5510-01-454-8568. The unit of issue is board feet (BF). Each board that you get will measure 16 feet 4 inches long x 9 7/8 inches wide x 1 7/8 inches thick. So, each board equals 27.21 BF.

The minimum order under this NSN is 250 BF. You need 325 BF to completely re-deck one trailer. Here are the boards you need to do the job:

Number of boards	Width (inches)	Length
4	7 3/8	7 feet 1/2 inch
2	5	7 feet 1/2 inch
4	7 3/8	16 feet 3/8 inch
2	5 1/2	16 feet 3/8 inch
2	5 3/4	13 feet 7 inches
2	4 15/16	13 feet 7 inches
4	4 15/16	16 feet 3/8 inch
2	4 15/16	2 feet 9 inches

# Breathe Easier with Precleaner



**A** HMMWV's engine needs clean air, and lots of it, to run smoothly. So when the air filter element gets clogged, the vehicle runs rough, uses more fuel and loses power.

You can help stop clogged filter elements on most HMMWVs by adding a precleaner, NSN 2940-00-875-9574. The precleaner catches dust and other fine dirt particles that by-pass the original air cleaner cap. But the precleaner won't work on the XM1114. It's 6.5-liter turbocharged engine won't run right on the reduced airflow.

When the precleaner gets dirty, remove its lid and use a clean rag to wipe out dust and dirt.

Make sure you get your commander's OK before ordering a precleaner.



Remove precleaner lid by unscrewing wingnut



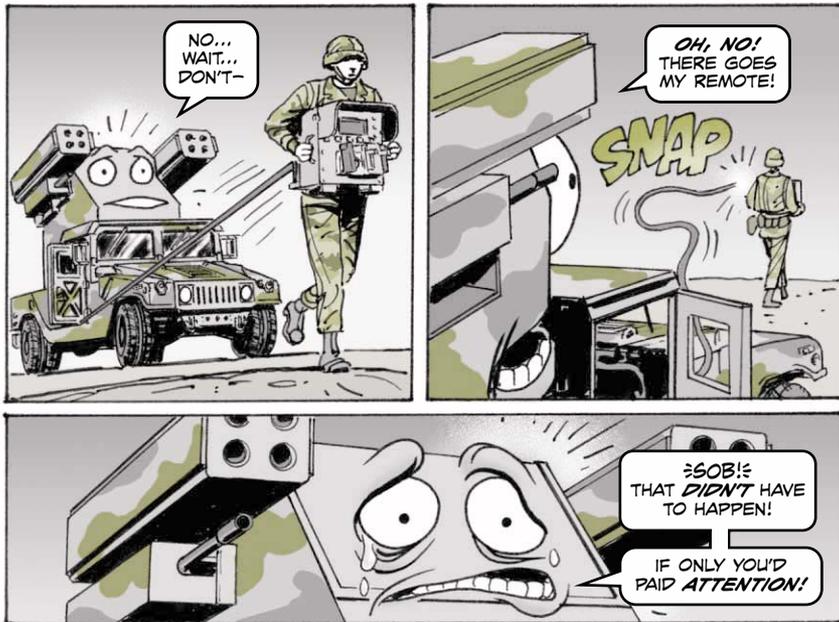
Use a clean rag to wipe out dust and dirt particles that collect inside precleaner

## Hood Reminder

With the precleaner in place, make sure you open and close the hood carefully. The precleaner is bigger than the air cleaner cap it replaced. The hood will catch on it going up or down.

So open the hood slowly and get a buddy to push the hood away from the pre-cleaner. Reverse the process when you close the hood.

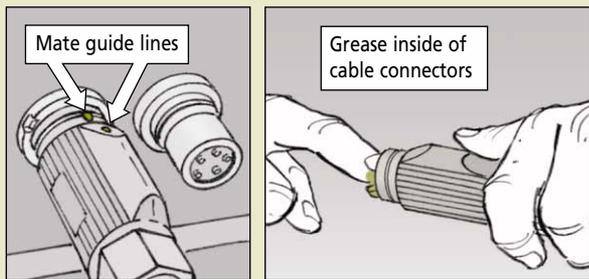
# KEEPING CONTROL REMOTELY



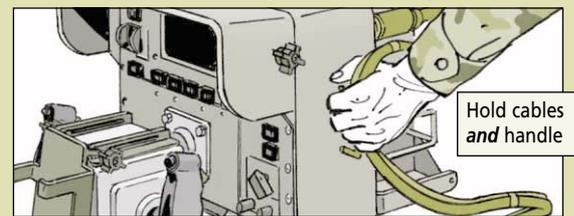
You won't have even a remote chance of firing the Avenger if you don't protect the cables for the remote control unit (RCU). Just a hard tug or a moment's carelessness can ruin RCU cables. Here's how to control RCU damage:

**Carefully line up the RCU commo cable connector and connector receptacle guide lines before you lock them together.** If you don't, you destroy connector pins.

If a connector refuses to turn, put a light coat of silicone grease, NSN 6850-00-880-7616, around the inside. If no grease is handy, wet your finger with saliva and run it around the edge of the RCU connector.



**Tie off the cables to the RCU brackets.** That prevents the cables from being torn at the connectors. But even if you tie off the cables, hold the cables and the RCU handle in the same hand as you walk the RCU out to position. That gives the cables even more protection against jerks.



**Keep lube away from the auto slew.** If the auto slew is hard to turn, it needs adjustment, not lube. Lube gets inside the RCU and causes electrical problems. If the slew won't turn or is so loose it won't stay aligned, your repairman needs to adjust it.

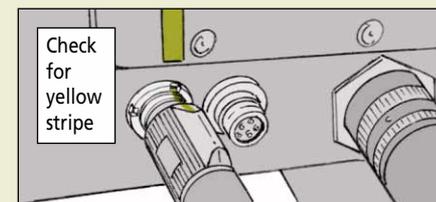


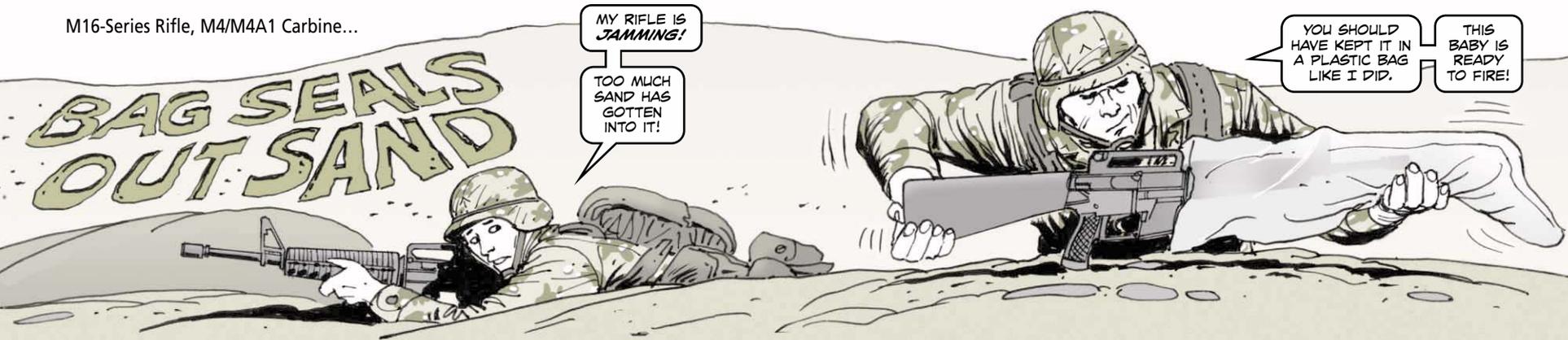
**Take the cables out of the truck before you remove the RCU.** That makes it easier to remove the RCU without twisting and jerking the cables. As you walk the RCU out to where you will operate, try not to jerk or twist the cables. If they get hung up, walk back and free them. Don't jerk them free.



**When you won't be operating the RCU again for at least 30 minutes, put it and its cables back in the truck.** If you leave cables lying on the ground, they can be run over and ruined.

**Get the right commo cable to the right connector receptacle.** If you connect the cables wrong, commo is jammed. Just remember the yellow-banded cable connector goes to the RCU connector receptacle with the yellow stripe above it.





Dear Editor,

When I read about the soldiers in Iraq who weren't able to defend themselves because sand caused their M16s to jam, I remembered an article from an old PS about keeping your rifle in a bag. Maybe it would help soldiers serving in the desert if you ran that article again.

COL Robert Korpanty  
USAR  
Newport News, VA

Dear Colonel Korpanty,

**You have an incredible memory, Sir. That article was printed in 1969—35 years ago! Here it is, pretty much unchanged:**

Now that you've got a plastic coverall bag, NSN 1005-00-809-2190, to protect your M16 rifle against dust, sand, mud, water and such, here's how to use it in good health—yours and your weapon's.

First, make sure your rifle's cleaned and lubed before you bag it. This cover's an aid to PM, but it'll never replace the cleaning and lubing you'll always have to do regularly. In fact, with a rubber band closing—not to mention rips and tears—the bag's not guaranteed to be watertight, so-o-o-o...

Second, if you're going to keep it bagged more than 24 hours, be sure you eyeball the weapon every day for signs of corrosion from any moisture or condensation that might form in the bag.



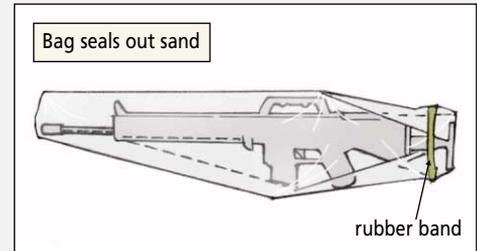
**Putting it on**—stick the rifle in the cover muzzle end first. Then fold the cover end over the butt-stock and slip the rubber band on.

**Taking it off**—Slip the rubber band off and unfold the cover end. Then slide the rifle out. Put it on and take it off gently and you can use the cover several times.

**In a firefight**—Comes a sudden opportunity to bag an enemy, here're two ways you can work it:  
1. Quick-rip the bag off with one steady yank. The bag'll come apart at the tear-line.  
2. If absolutely necessary, you can fire right through the bag.

You can operate the selector lever and trigger easy with the bag on. But, remember this: Ejected cases will be trapped in the bag and could cause a malfunction after the first round. So get it off as quick as you can.

Course, after "emergency" use, you'll need a new bag.



# NO CLEANING TANKS!



CLEANING TANKS

THIS WILL GET YOU REALLY CLEAN!

NO! PLEASE! NOT THE CLEANING TANKS! THEY CAN RUIN ME!

Dear Half-Mast,  
 We have one of those high-tech ultrasonic cleaning tanks and we were wondering if it would be good for cleaning our pistols, machine guns, and rifles.  
 D.M.

Dear Mr. D.M.,

It would definitely not be a good idea for two reasons:

- The tanks use cleaning solutions that are often water-based. They can cause corrosion in the long run. The cleaning solutions may also contain chemicals that are harmful to the weapon or you.
- Cleaning tanks, including ultrasonic tanks, remove all lubricants from the weapon, which means it must be completely disassembled and relubed. For most weapons, only direct support is authorized to do that.

Ultrasonic tanks can also damage adhesives, synthetic fibers, and protective finishes, and loosen pressure-fitted components. That can mean a ruined weapon.

So any cleaning tank in the long run can harm your weapon or force you to send it to support for disassembly and lubing. Not much advantage in that.

Your best bet is to clean your weapon the way the operator's TM shows. Use the cleaning materials like CLP or LSA that the TM recommends.

*Half-Mast*

[Click here for a copy of this page to email to a friend](#)

# UP-TO-DATE ARMORER'S TOOL KIT



I KNOW IT'S HERE!

I REMEMBER SEEING IT-

IT'S THE ONE WITH THE FUNNY COVER!

AH-HAH! THE PS WITH THE ARMORER'S TOOL KIT!

HOLD ON! THAT ARTICLE IS OUTDATED!

Some soldiers with long memories are still writing to PS for copies of an article from more than 10 years ago that gave a breakdown of the small arms tool kit, NSN 5180-00-357-7770.

That's ancient history. The article is out-dated and the some of the tools in the kit have changed since then. So you definitely don't want to use that article for inventorying your tool kit.

What you do want to use is component list (CL) 5180-95-A07. It has the current listing for what's in the small arms tool kit. You can find the CL in two places:

- on EM 0074, *Consolidated Publication of Component Lists*, which contains the CLs for most Army tool kits. Your library, supply shop, or logistics assistance office should have a copy or you can order one for yourself with IDN 212093 and PIN 075815
  - on the Internet at <http://weblog.logsa.army.mil/sko/index.cfm>
- Just print out the hand receipt for the CL and you can use that for your inventory.

[Click here for a copy of this page to email to a friend](#)

SEE...

# WHAT'S DOWN UNDER?



**C**onstruction operations in heavy brush and rocky terrain can do a lot of damage to the excavator's undercarriage.

That means you have to get down on your hands and knees before the day's run and take a look at what's down under.



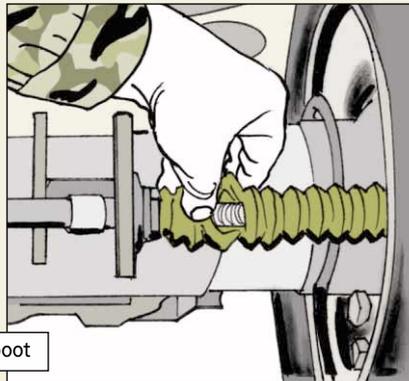
HERE ARE **TWO HOT SPOTS** TO KEEP IN MIND...

## Parking Brake Cable

The parking brake cable mounts right behind the excavator's rear axle.

Bouncing around in the rough stuff can rip or tear off the cable's rubber boot. The boot protects the cable's threaded adjustment rod from mud, dirt, flying stones and corrosion.

Grab the boot and look for any tears. A torn or damaged boot means it needs to be replaced by your mechanic. He'll order a new boot on a DD Form 1348-6 with CAGE 64678 and PN 000 427 02 96 using RIC S9C.



Check for tears in rubber boot

## Brake Pad Sensor Wire

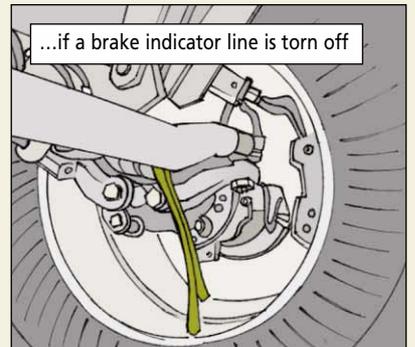
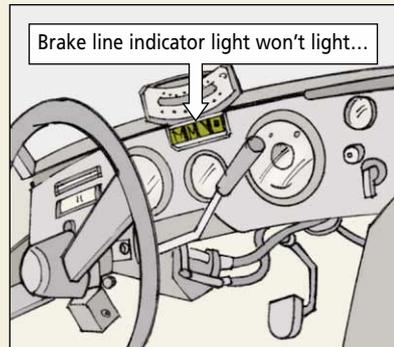
The brake indicator light on the excavator's dashboard lets you know when:

- brake fluid in the reservoir is low.
- the parking brake is ON.
- the vehicle's front brake pads are worn.

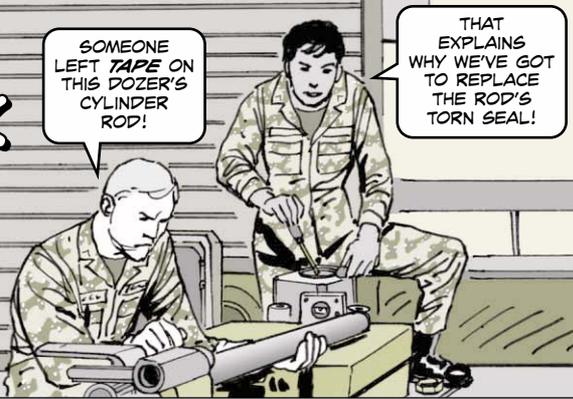
Problem is, the pads can be worn down dangerously close to the brake disks and you won't even know it.

That's because the brake pad sensor wire may get damaged or torn off where it mounts into the brake pad. A busted wire means there's a disconnect between the sensor and the indicator light. Now the indicator can't tell the brake pads are worn. You're in the dark if the brake pads are worn out—and that's no good!

So eyeball the brake pad sensor wiring where it mounts into the brake pad. If the line looks damaged, torn or dangling, report it.



# CHECK THE PAINT JOB

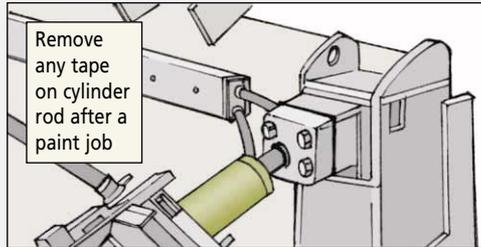


Your dozer came back from the paint shop and it looks great—just like new! Now you're ready to get in the driver's seat and start work. Before you do, though, walk around the vehicle and look at the areas that were covered by tape in the paint booth.

## Cylinder Rods

Any tape left on the cylinder rods will scrape or cut the rod's seals when the rod is extended or retracted. A damaged seal leads to fluid leaks, which leads to NMC equipment.

If you see any tape on the rods, remove it before starting the vehicle.

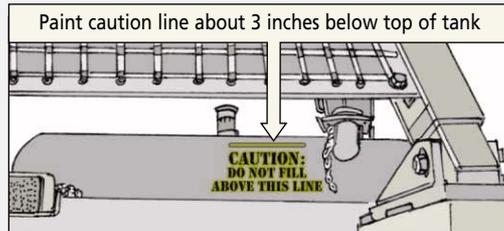


## Fuel Fill Line Reminder

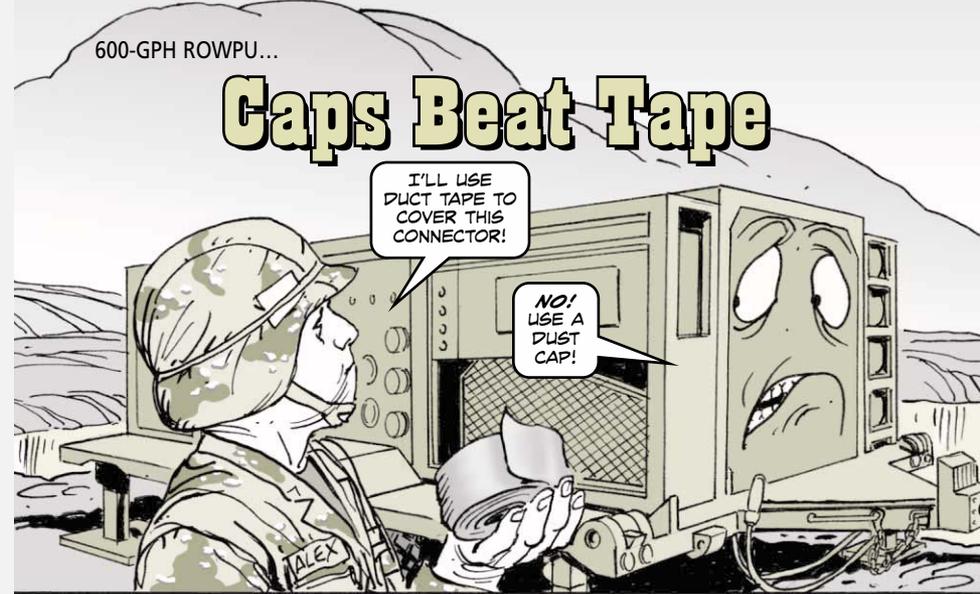
While walking around the vehicle, look at the back end of the dozer's fuel tank. Some paint shops spray over the fuel tank's fill line. Without that line, you no longer have a quick reminder to allow for fuel expansion.

If the line gets covered up, have your mechanic use black CARC paint to stencil a new fill line marking the bottom of the fill neck—about 3 inches below the top of the fuel tank.

Below the fill line stencil, paint CAUTION—DO NOT FILL ABOVE THIS LINE TO ALLOW FOR EXPANSION. The stencils are part of the No. 1 and No. 2 Common shop sets.



# Caps Beat Tape



Dust caps aren't much good if you don't use 'em. And speaking of no good, duct tape is no good if you use it instead of dust caps.

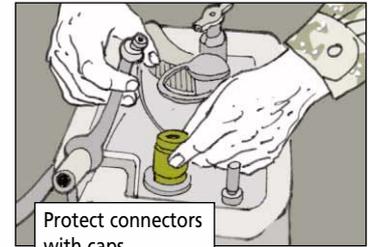
Keep that in mind when you disconnect the chemical lines from the cans on your 600-GPH reverse osmosis water purification unit (ROWPU).

If you leave those lines uncovered, dirt and sand get inside the chemical connectors, making them difficult to operate, and damaging them.

Use NSN 5340-01-506-3696 and NSN 5340-01-307-5989 to get the caps and plugs for ROWPU's polymer, sodium-hex and citric acid cans and the can hoses.

Your ROWPU's chlorine cans and hoses use larger connectors. You'll need NSN 5340-01-307-4394 for the caps and NSN 5340-01-307-2679 for the plugs. By the way, these newer caps fit better than the old ones.

But whatever you do, do not use tape for a missing connector cap. It leaves a sticky residue that attracts even more dirt and sand. So play it safe and use the caps and plugs.

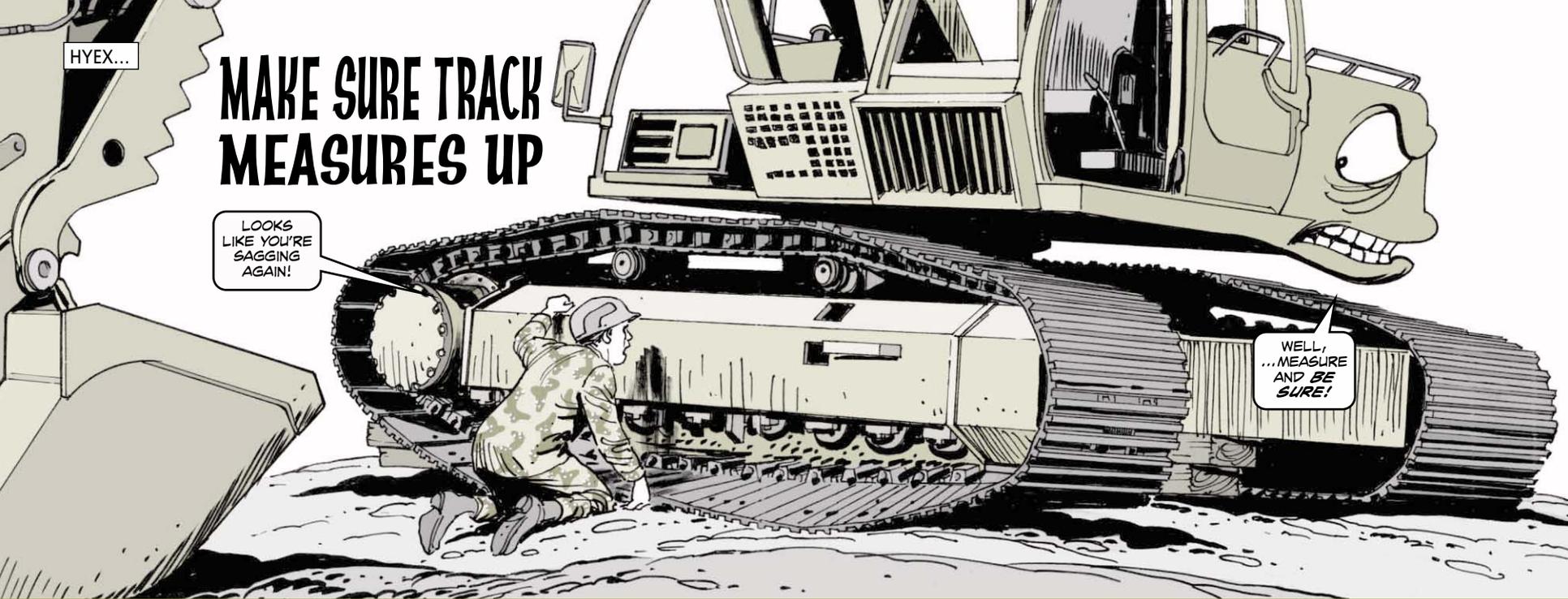


HYEX...

# MAKE SURE TRACK MEASURES UP

LOOKS LIKE YOU'RE SAGGING AGAIN!

WELL, ...MEASURE AND BE SURE!



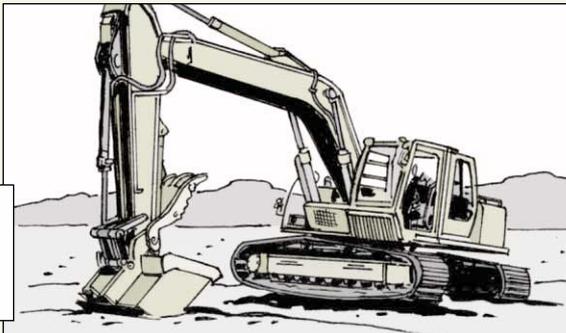
**W**orking from the bottom up is where undercarriage PM starts on your hydraulic excavator.

The well-being of the excavator's undercarriage components hinges on good track adjustment. If the track's too tight, it puts a lot of stress on undercarriage and drive train components. If it's too loose, the track flaps, wearing out roller flanges and sprocket teeth.

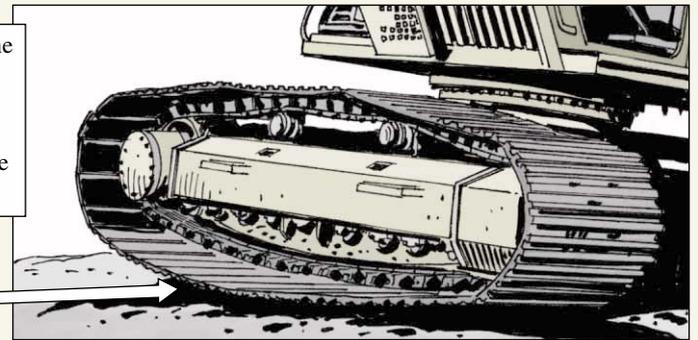
## How to Measure

The amount of sag in your track tells you when to adjust. Here's what you need to do before taking a measurement:

**1.** Swing the upperstructure 90° to the side of the vehicle.



**2.** Lower the excavator's bucket to raise the track off the ground.

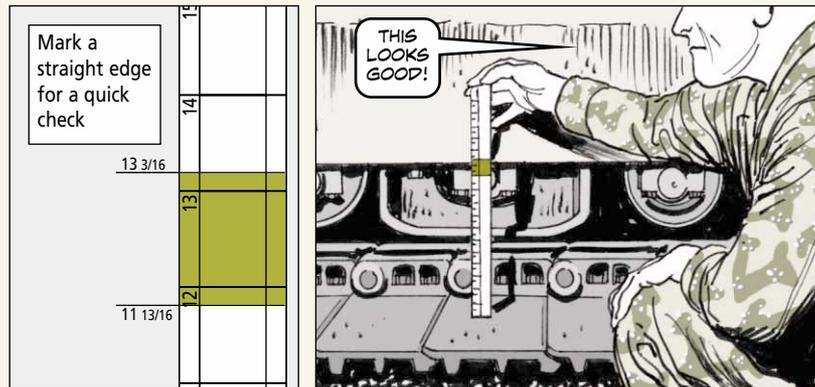


**3.** Put blocks or shop stands under the vehicle's frame. The Type I excavator weighs approximately 57,440 pounds. The Type II weighs 65,280 pounds and the Type III Hyex tips the scales at 73,140 pounds.

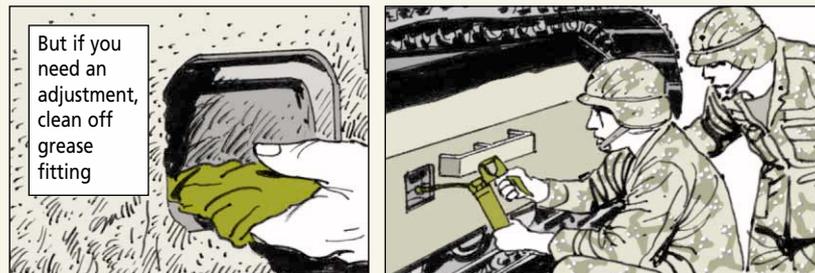
**4.** Slowly turn the track forward, then in reverse (two revolutions both ways). Stop the track while it's moving in the reverse direction.



5. Measure track sag at the middle track roller. Lay a straight edge from the bottom of the track frame rail to the top surface of the track shoe. On a Type I or II, the track should measure between 11 13/16 and 13 3/16 inches on the straight edge. On a Type III, it should measure between 13 3/8 and 15 inches.



If track sag is beyond these measurements, tighten the track by pumping grease into the track's adjustment cylinder. You'll find the cylinder's grease fitting inside the access hole in the excavator's track frame.



FOR THE LOW-DOWN ON TRACK MEASUREMENT AND ADJUSTMENT ON ALL THREE TYPES, TAKE A LOOK AT PAGES 11-5 AND 11-6 OF TM 5-3805-280-10.



PS 617

### Other Track Tidbits

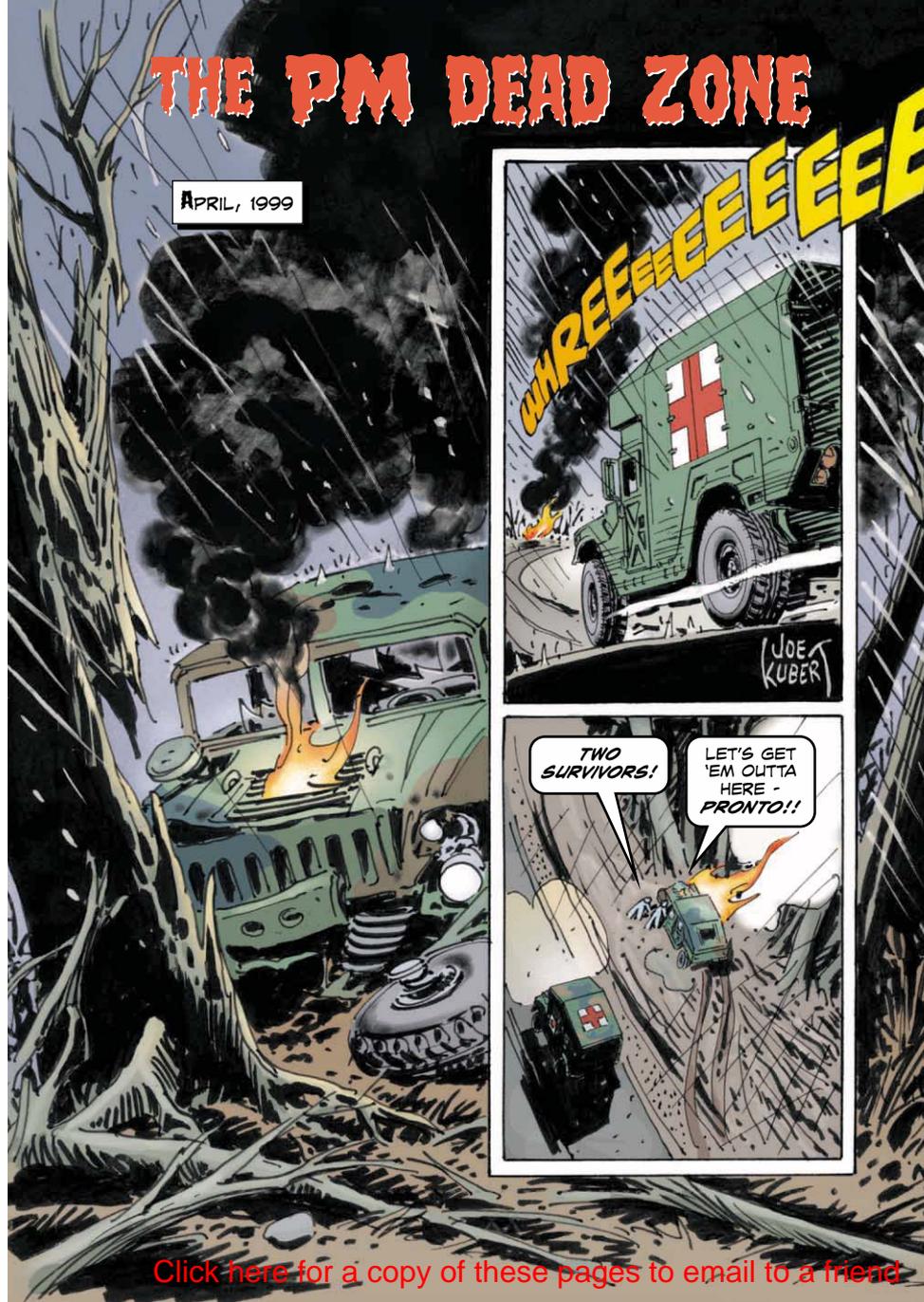
Once your hydraulic excavator is back on the job, follow this checklist for a healthy undercarriage:

- Slow down, especially in reverse.
- Clean mud and debris from the undercarriage.
- Never spin the track.
- Check for loose or missing hardware. Make sure all hardware is torqued.

PS END

# THE PM DEAD ZONE

APRIL, 1999



[Click here for a copy of these pages to email to a friend](#)



WALKER'S GONNA BE OK. BUT, WILLIAMS... I DUNNO... HE'S OUT COLD.

IT DOESN'T LOOK GOOD.



FIVE YEARS LATER...

SGT. BLADE!  
COME TO THE HOSPITAL.  
PRIVATE WILLIAMS IS WAKING UP!



WH-WHERE AM I? WHAT HAPPENED-?



WE WERE IN A HMMWV ACCIDENT...

...FIVE YEARS AGO!

WHAT!? YOU'RE KIDDING!



IT'S NO JOKE, PRIVATE WILLIAMS... YOU'VE BEEN IN A COMA FOR FIVE YEARS.

I'M STILL A PRIVATE!?

YEP.



A COMA?  
I - I CAN'T BELIEVE IT.

BELIEVE IT.



IT - IT WAS THE TIRE. THAT'S HOW IT HAPPENED!

HE SOUNDS DELIRIOUS.

HE WENT OFF WHEN I TOUCHED HIS HAND.

WHAT'S HE SAYING NOW?



THE MECHANICS WEREN'T PAYING ATTENTION TO THE GAUGE WHEN THEY FILLED THE TIRE WITH AIR...

...THE TIRE WAS OVER-INFLATED... AND IT BLEW!



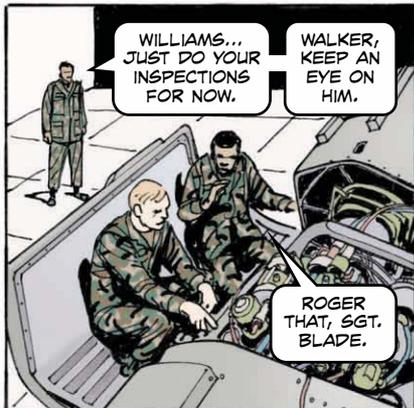
AN OVER-INFLATED TIRE CAUSED THE ACCIDENT?

DO YOU KNOW WHAT HE'S TALKING ABOUT, WALKER?

HEY... IT WAS OVER FIVE YEARS AGO, SGT. BLADE. I HAVE NO IDEA. HE'S PROBABLY HALLUCINATING!



A WEEK LATER, WILLIAMS IS BACK AT HIS UNIT...



WILLIAMS... JUST DO YOUR INSPECTIONS FOR NOW.

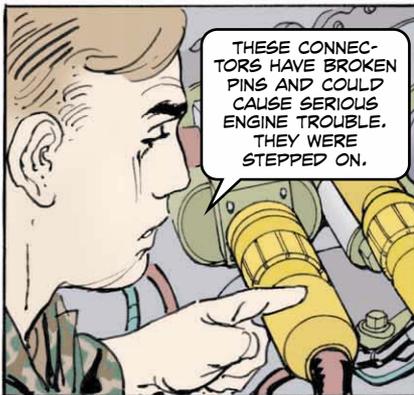
WALKER, KEEP AN EYE ON HIM.

ROGER THAT, SGT. BLADE.

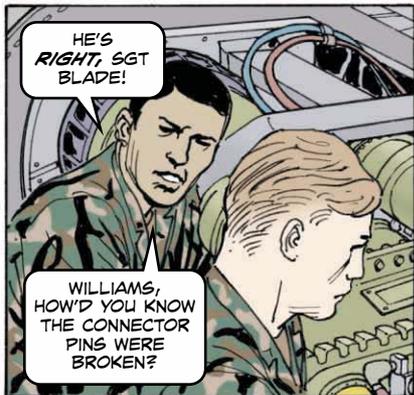


SGT BLADE! WILLIAMS IS SPACED OUT AGAIN!

GET HIM DOWN FROM THERE BEFORE HE HURTS HIMSELF!



THESE CONNECTORS HAVE BROKEN PINS AND COULD CAUSE SERIOUS ENGINE TROUBLE. THEY WERE STEPPED ON.



HE'S RIGHT, SGT BLADE!

WILLIAMS, HOW'D YOU KNOW THE CONNECTOR PINS WERE BROKEN?



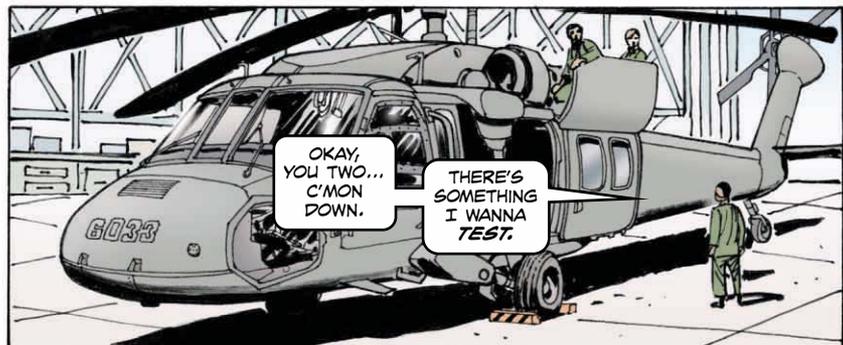
SOMETHING HAPPENED TO MY BRAIN IN THAT ACCIDENT!



WHEN I TOUCH OBJECTS OR PEOPLE ... BAM!



I SEE WHAT HAPPENS IN THE PAST OR FUTURE!



OKAY, YOU TWO... C'MON DOWN.

THERE'S SOMETHING I WANNA TEST.



HERE... CATCH!

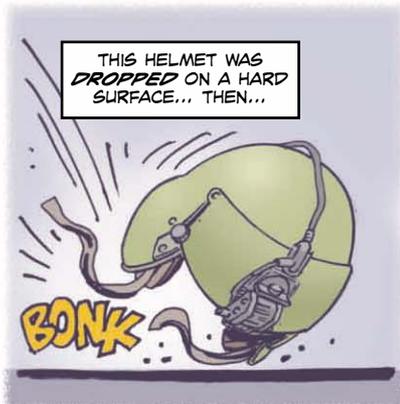
HEY--



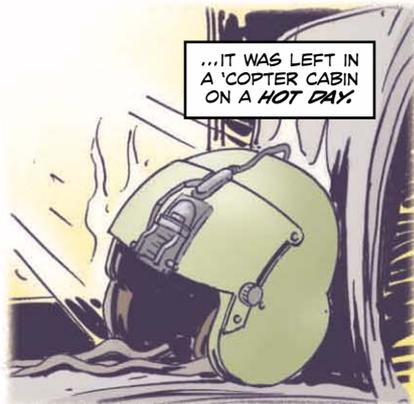
OH, MY!



WILLIAMS! WHAT'RE YOU SEEING?



THIS HELMET WAS DROPPED ON A HARD SURFACE... THEN...



...IT WAS LEFT IN A 'COPTER CABIN ON A HOT DAY



AFTERWARDS, IT WAS TOSSED INTO THE BACK...



...AND USED AS AN EXTRA SEAT.



WOW! IF WHAT YOU SAID IS TRUE, THIS HELMET WOULDN'T PROTECT A BOWLING BALL...

...MUCH LESS A HEAD!



IS THAT A NEW ANTENNA, SGT BLADE?

LOOKS LIKE IT, WILLIAMS.



I WONDER IF ANY-ONE'S BEEN ZAPPED YET?



SOMEONE DIDN'T KNOW TO STAND AT LEAST 3 FEET AWAY FROM THE ANTENNA WHEN THE ARC-220 RADIO WAS TRANSMITTING.



OKAY, GUYS... I THINK THAT'S ENOUGH FOR **ONE** DAY. I'VE GOT TO GET BACK TO THE OFFICE.

YOU GET SOME REST, WILLIAMS. YOU'RE SPOOKING ME OUT!



HI, BONNIE.

HI, ROTOR. HOW ARE THINGS WITH WILLIAMS?



IS HE STILL HAVING VISIONS?

YES. TOO BAD MORE SOLDIERS DON'T HAVE VISIONS OF WHAT HAPPENS WHEN PM IS IGNORED.



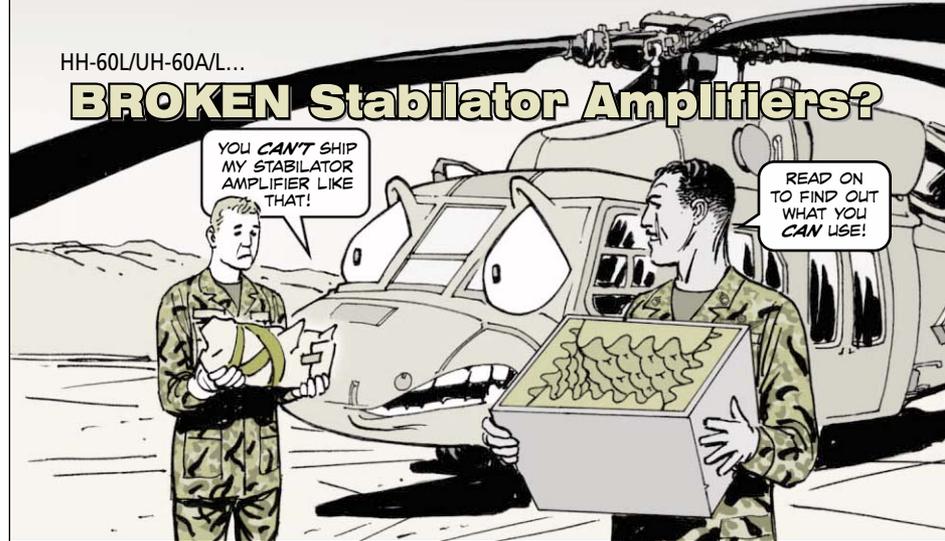
HIS VISIONS REMIND US OF THE NEED TO TAKE PM **SERIOUSLY!**



PM SHOULD **NOT** BE A VISION. IT ALWAYS NEEDS TO BE A **REALITY.**

YOU'RE **RIGHT, BONNIE.** WITHOUT PM, EQUIPMENT FAILS AND SOLDIERS END UP PERMANENTLY IN THE **DEAD ZONE.**

# BROKEN Stabilator Amplifiers?



YOU **CAN'T** SHIP MY STABILATOR AMPLIFIER LIKE THAT!

READ ON TO FIND OUT WHAT YOU **CAN** USE!

Mechanics, removing, replacing and testing your Black Hawk's AM-7106E/A stabilator amplifiers, NSN 5895-01-316-2763, may not rank high on your "things to do list."

But when it's time for shipping, packaging, handling or maintaining of the amplifier, it does matter what you do. A little TLC goes further than you think. Rough handling of the amplifiers after you remove them can damage the internal gyros. If that happens, the entire amplifier has to go to depot for repair.

And packaging components incorrectly can damage the external vents, fuse holders and internal gyros.

Always ship the amplifiers in their original container. If the original container is not available, use the container received with a new serviceable stabilator amplifier.

The correct shipping container comes with NSN 8115-00-550-3558.

A NOTE will be added to Chapter 15 of TM 11-1520-237-23-2 to help you avoid damage during and after maintenance, even for a defective component before shipping. That reduces shipping damage and maintenance costs.

The bottom line? 100 mile-an-hour tape, some 550 cord, gum, string, and a wing and prayer will not provide adequate protection for shipping stabilator amplifiers to depot.



Incorrect packaging means broken fuses...



Correct packaging means **no** broken fuses

# RACK 'EM AND STACK 'EM



Dear Rotor,  
Drive shaft storage space becomes a problem when more than one Black Hawk is in phase maintenance.

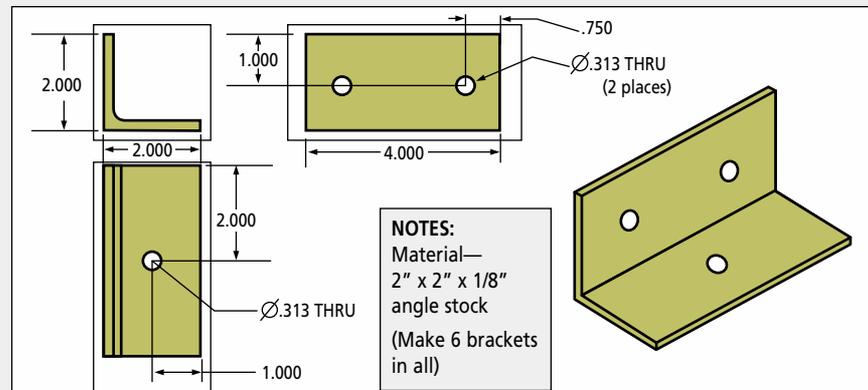
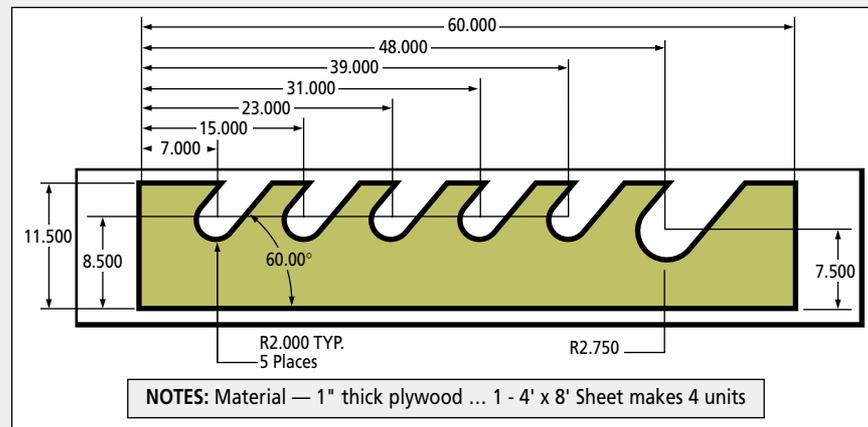
The drive and tail rotor shafts are expensive and laying them on tables can put them in harm's way. If they roll off the table, **BAM**—that's the end of a shaft! Leaving them on the floor is not an option, either. It's an accident waiting to happen.

We've come up with a wall-mounted rack made of 1-in thick plywood that can be installed on any wall. Mechanics can store removed shafts on the rack to protect them from damage.

Also, remember the top rack opening is for the larger tail rotor diameter drive shaft.

Here's the rack plan we use. Any maintenance shop can make it.

SGT Andres Chamorro, Jr  
MA ARNG



# Too Loose Is Not Right



WE'VE GOT A LOOSE ANTENNA!

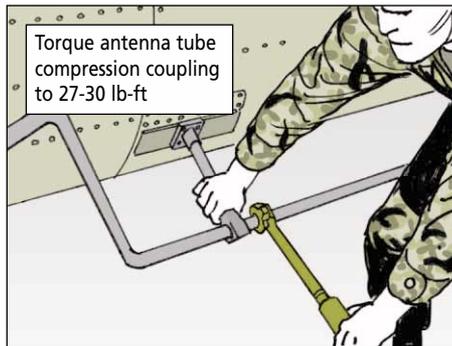
IT'S SNUG. THAT'S S'POSED TO BE GOOD ENOUGH.

A SNUG FIT ISN'T GOOD ENOUGH FOR THIS BIRD!

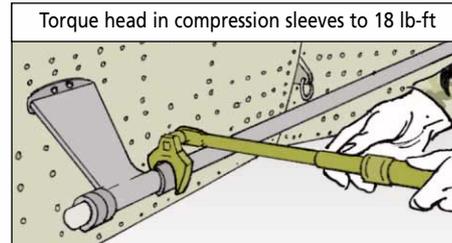
Mechanics, when MWO 1-1520-237-50-76 installed the AN/ARC-220 high frequency radio antenna, it told you that the mast compression sleeves and coupling nuts needed only a snug tightening with an adjustable wrench, NSN 5120-00-264-3796, or equivalent.

Well, snug won't cut the mustard because that's not tight enough. Right now, do a torque check of the compression coupling nuts to make sure they're 27-30 lb-ft. Then check that the lead-in and shorting mast compression sleeves are 18 lb-ft. When the torquing is complete, inspect the sealing compound, NSN 8030-00-009-5023, around the edges of the supports and add more as required.

Aircraft vibration after the antenna is installed can work the nuts loose and corrosion can develop if water gets into the antenna. This can cause transmit degradation, tune fail, and burn damage to the RF cable and the power amplifier coupler.



Torque antenna tube compression coupling to 27-30 lb-ft



Torque head in compression sleeves to 18 lb-ft

'Course, always make sure you're not within 3 feet of the high-powered antenna when the pilot or crew chief is self-testing the radio or transmitting. The farther away you are from the antenna, the better off you'll be. Stand too close too long and the high frequencies can cause heating of the body. Touching the antenna while the radio is transmitting can burn or electrocute you.

Make a note until the torque changes are updated in TM 11-1520-37-23-3 and MWO 1-1520-237-50-76.



ENGINE CHECKS OUT... I'M GOING TOPSIDE.

HEY! WATCH WHERE YOU PUT YOUR FEET.

## THE AGONY OF "DE-FEET"

Mechanics, defeat is what you'll feel every time "de feet" step on and break Black Hawk engine parts while doing rotor head maintenance.

Your bird's work platform and step areas are a good place for big feet, so keep them there.

The engine temperature bulb, the engine alternator connector, and the engine starter speed sensor wiring are the victims when you step on them to get to the rotor head.

For example, stepping on the engine starter speed sensor can damage the internal connections. Then the starter will not sense the engine speed and won't shut off after the engine gets up to speed. The pilot has to manually shut off the starter in the throttle quadrant. And you'll suffer the wrath of the AVIM electrician for an unnecessary broken starter switch.

Remember, "de feet" can break connectors and wires, bust lines and make your bird NMC. Use the authorized step zones.

# DON'T SCREW INTO THE CONDENSER!

HAND ME ONE OF THOSE AC COVER SCREWS, WOULDJA?

I LOST 'EM, BUT HERE'S ONE WE HAD SITTING AROUND.

FINE, FINE. LET'S GET THIS DONE AND GET OUTTA HERE!

AHHH! NO! DON'T USE THOSE SCREWS!

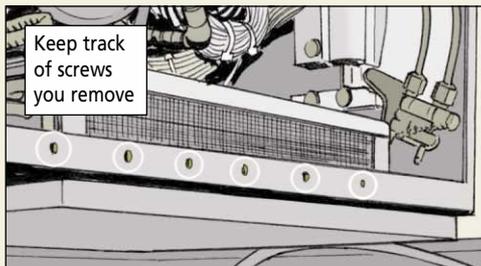
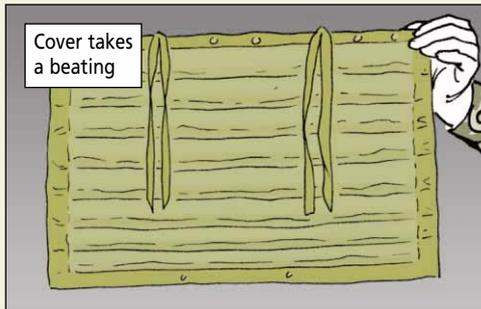


Dear Editor,

A lot of commo shelters use the 18,000 BTU horizontal air conditioner, NSN 4120-01-327-1316.

That air conditioner has a fabric cover, NSN 4130-01-268-2163, that rolls down to cover the condenser side of the unit. This cover takes a beating and since it is needed to protect the condenser, it often gets replaced. That's where the problem starts.

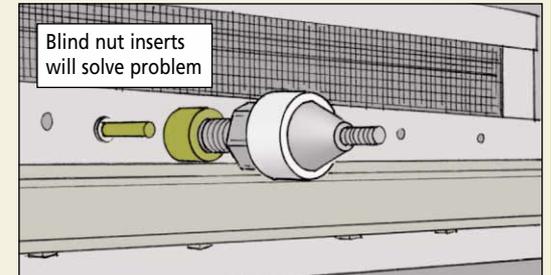
To replace the cover, six small screws, NSN 5305-00-984-6195, need to be removed. Unfortunately, during removal, a screw or two usually gets dropped or lost. Replacement screws are grabbed from the "extra" screw bucket kept in the shop. If these screws are longer than the originals (a good possibility), you're going to create a world of hurt for yourself and the AC unit!



There is *nothing* between the pointed tip of the screw and the top of your condenser coil but air. And not much of that! If the screw is too long, it will puncture the condenser. Not only will you ruin the condenser, but you just might get a face-full of coolant! Neither prospect is a good one.

To solve the problem, I put 8/32 blind nut inserts into each of the screw holes. These inserts bottom out a screw before it can reach the condenser coil. You'll have to use the right-size screw because the longer ones won't fit!

Jason Hannah, Ft Gordon, GA



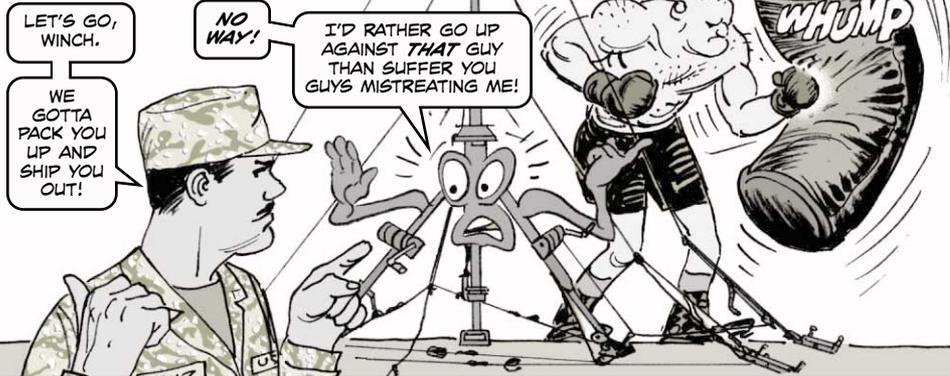
## From the desk of the Editor

Great job, Jason. We at PS support any effort to save equipment and in so doing, time and money.

Another solution is one that CECOM has recommended and that is to put a strip of metal between the condenser and the screw holes.

Here at PS, we recommend you keep track of the original screws and keep some right-size replacements on hand. Also, don't forget to wear goggles anytime you're working around the AC condenser. An eyeful of coolant could take your sight.

# A WINNING WAY WITH THE WINCH



The winch, NSN 3950-01-349-2445, used to raise the AB-1373/TRC antenna mast, is a victim of abuse.

If the winch were a boxer, most of you are treating it like a heavyweight, but it belongs in the lightweight division. A punch here and there and your winch is down for the count.

Chances are good that the winch you're using has a bent frame, squeezed together mounting brackets or a damaged drum. If bad enough, any of these things can knock out the winch and send it to depot for repairs.

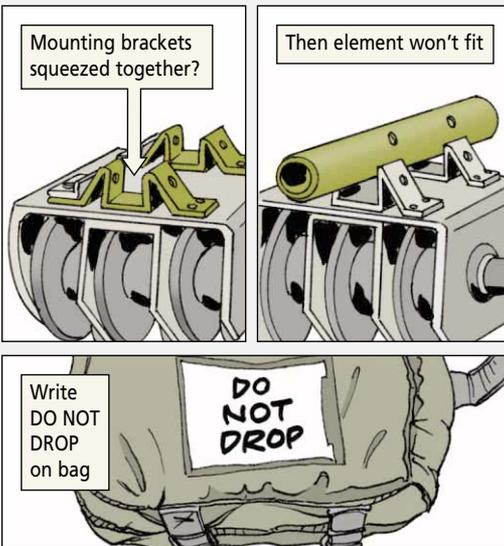
The winch takes its mightiest blows during packing and transport. Pallets are piled on it and soldiers do a smack-down when they toss it or drop it to the mat.

No need to put on the kid gloves when dealing with the winch, but do take a couple of precautions.

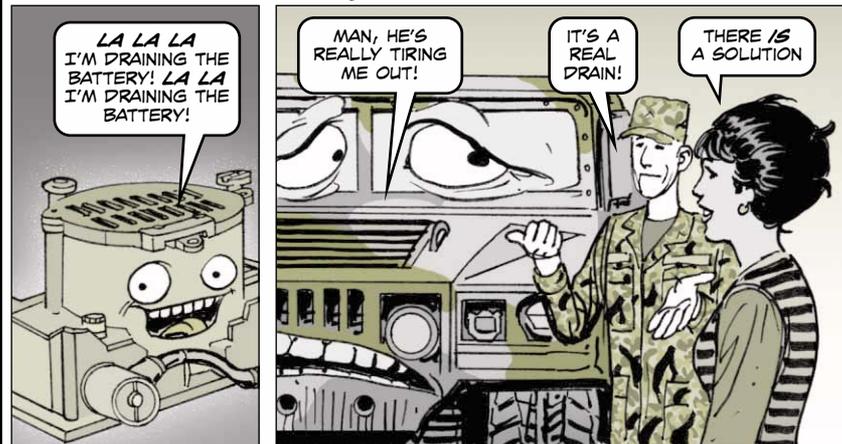
Label the winch carrying bag with DO NOT DROP!

When storing your antenna for movement, put the bag and the winch in your shelter, or on your trailer, last. Find a safe spot for it where there will be no piling on.

[Click here for a copy of this page to email to a friend](#)



# The Loudspeaker's a Drain



THE LS-671/VRC LOUDSPEAKER USED WITH YOUR SINGGARS VEHICULAR RADIO MIGHT BE DRAINING YOUR VEHICLE'S BATTERY.



Here's how it happens: the SINGGARS mounting base, MT-6352/VRC, branches vehicle battery power to both the vehicular amplifier adapter (VAA) and the loudspeaker. When you switch off the VAA power switch, you stop power from going to the VAA and the radio, but not to the loudspeaker!

The speaker is still on and draining your vehicle's battery. To stop power to the loudspeaker, you must switch it off, too!

So maybe you're a rebel and you don't want to turn both switches off. Okay. There's room for your rebellion. Just turn the loudspeaker switch off! That switch stops power to the VAA and the radio, too!

So remember, the loudspeaker switch gives you three for the price of one, but the VAA switch only gives you two!



[Click here for a copy of this page to email to a friend](#)

S-805/G Shelter...

# SEAL THE DOORS!

THUMP  
THUMP  
THUMP



MANALIVE!  
THAT'S A FIERCE  
STORM OUT THERE!

NOTHING TO  
WORRY ABOUT-  
WE CHECKED  
THE DOOR SEAL  
DURING PMCS  
AND IT'S FINE!

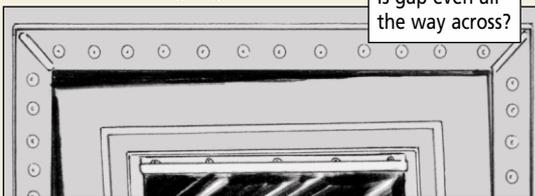


Your S-805/G non-expandible shelter, NSN 5411-01-387-4894, used as part of the AN/TRC-175B system might have a leaky door. If it does, the problem is probably that the lip at the top of the door is not making a good seal.

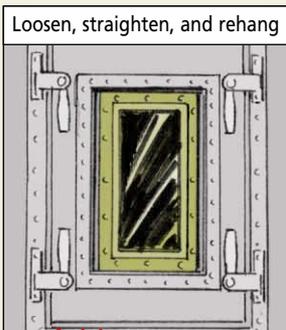
Take a look at the entrance door to your shelter and see if it is hanging off kilter. Some of the doors weren't hung right by the manufacturer. Others have started to sag.

Both problems break the seal at the top of the door. If you don't have water breaching the seal now, you soon will.

To get the seal back, loosen the door, straighten it, and screw it down tight. Make sure the door seals.



Is gap even all  
the way across?



Loosen, straighten, and rehang

ADD CHECKING THE  
DOOR FOR ALIGNMENT  
PROBLEMS TO YOUR  
REGULAR PMCS.

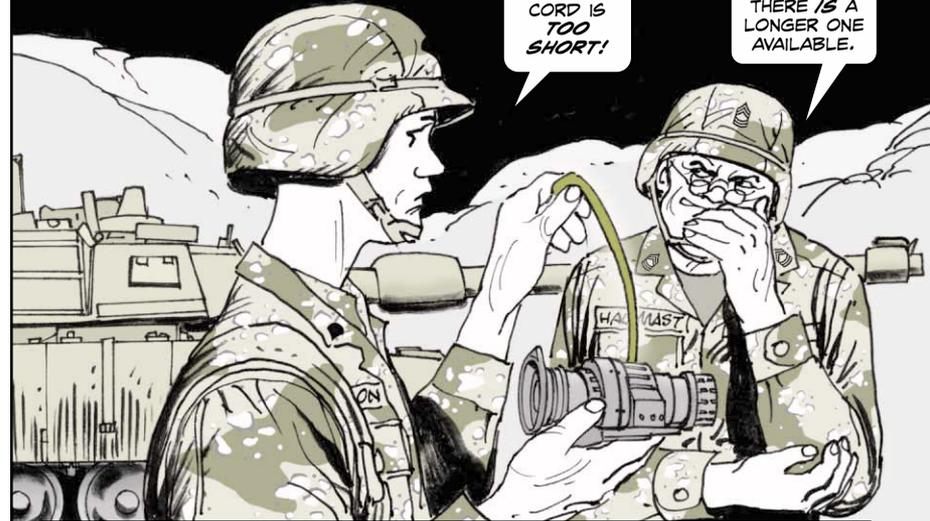


Night Vision Goggles...

# NVG Neck Cord Dilemma

THIS NECK  
CORD IS  
TOO  
SHORT!

YOU KNOW,  
THERE IS A  
LONGER ONE  
AVAILABLE.



Dear MSG Half-Mast,

I ordered PN A3144306, NSN 4020-01-023-6271, to get the neck cord for my AN/PVS-14 night vision goggles. That's the part number given in TM 11-5855-306-10. When the cord came, it was 6 inches shorter than the old cord. Is this the wrong cord?

SPC L.C.N.



Dear Specialist L.C.N.,

You actually have two problems. First, you have the correct part number, but the wrong NSN.

The neck cord you need for your NVG's is PN A3144306, NSN 4020-01-446-8097. It's used on the AN/PVS-7B/D, too

The second problem is your TM is not up-to-date. TM 11-5855-306-10 (Jun 02) has the right NSN.

Half-Mast

# TIGHTEN YOUR BELTS

I CAN'T DO ANY PUMPING UNTIL YOU DO SOMETHING ABOUT THESE LOOSE BELTS!



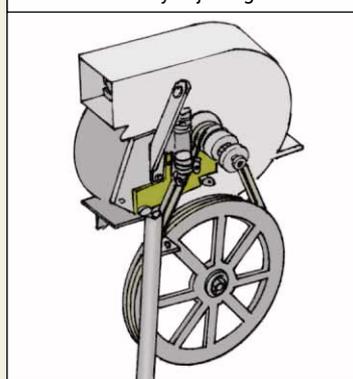
Loose belts make deconning difficult for your M17 decon.

Slipping belts keep water and fuel pumps from pumping. A loose belt eventually slips off and shuts down the M17 completely.

So check the water pump belts before you go on a mission. If they seem loose, the belts may have stretched and need to be adjusted. Loosen the two bolts holding the belt tensioner and slide tension until the roller touches the belts. Then slide the tensioner another 1/4 inch and tighten the bolts. If the belts are cracked, they have dry rot and should be replaced before they break.

Always remember to replace both belts. They are a matched set.

Fix loose belts by adjusting tensioner

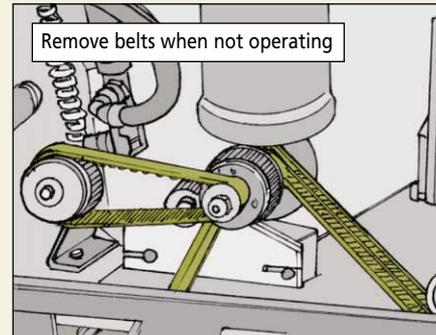


Belts last longer if you remove them when the M17 sits for long periods in the motor pool. When the belts are left exposed to the weather, they stretch and rot much faster. Loosen the belt tensioner and rotate the belts on and off their pulleys.

Do the same for the fuel pump belt by applying pressure to pivot the fuel pump, which loosens the belt and lets you take it off.

Store all belts in the M17 tool box.

Repairmen, the NSN for the engine drive/water pump belt (Item 2, Fig C-4 in TM 3-4230-228-23&P) has been changed to NSN 3030-01-238-2368.

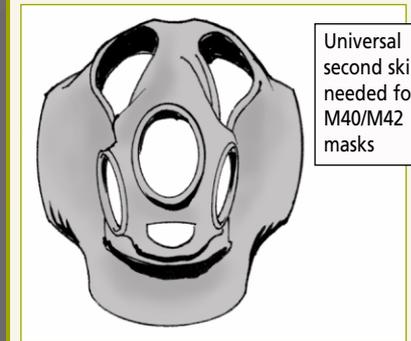


## Gimme Some Skin!

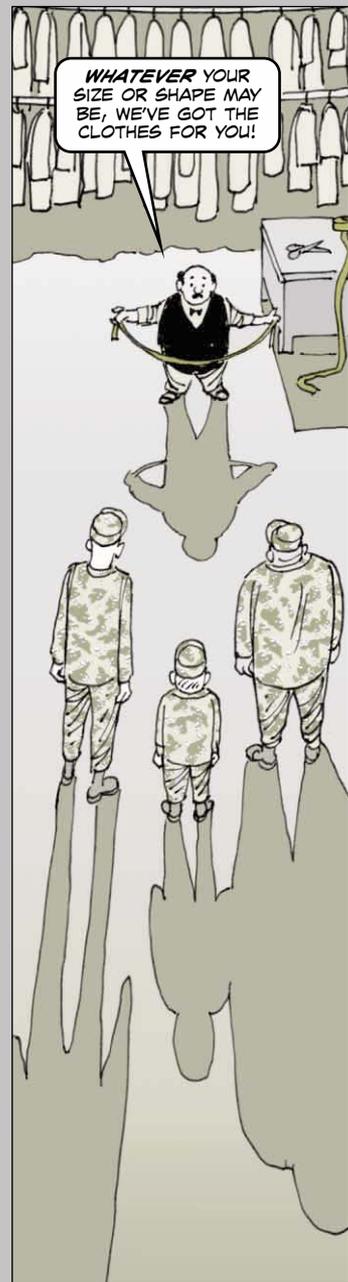


To use the M40/M42-series masks with either the quick doff hood or the joint service lightweight integrated suit (JSLIST), you need either the universal second skin (USS) or second skin (SS). Without a skin, you won't have complete head and neck protection against chemical agents.

The USS comes in 2 sizes: small, NSN 4240-01-413-1540, and medium/large, NSN 4240-01-413-1543. The SS is no longer produced. When you need a replacement, order the USS.



**WHAT SIZE YOU NEED?**



**JSLIST TROUSER SIZE SELECTION CHART (MIL-DTL-32012A)**

INSEAM (Inches)	38					
	37	M/L	L/L	XL/L	XXL/L	XXXL/L
	36					
	35					
	34					
	33	M/R	L/R	XL/R		
	32					
	31					
	30	S/S	M/S			
	29					
	28					
	27	S/XS				
	26					
	25					
	25 - 32	33 - 38	39 - 44	45 - 50	51 - 56	57 - 62
	WAIST CIRCUMFERENCE (Inches)					

**JSLIST COAT SIZE SELECTION CHART (MIL-DTL-32012)**

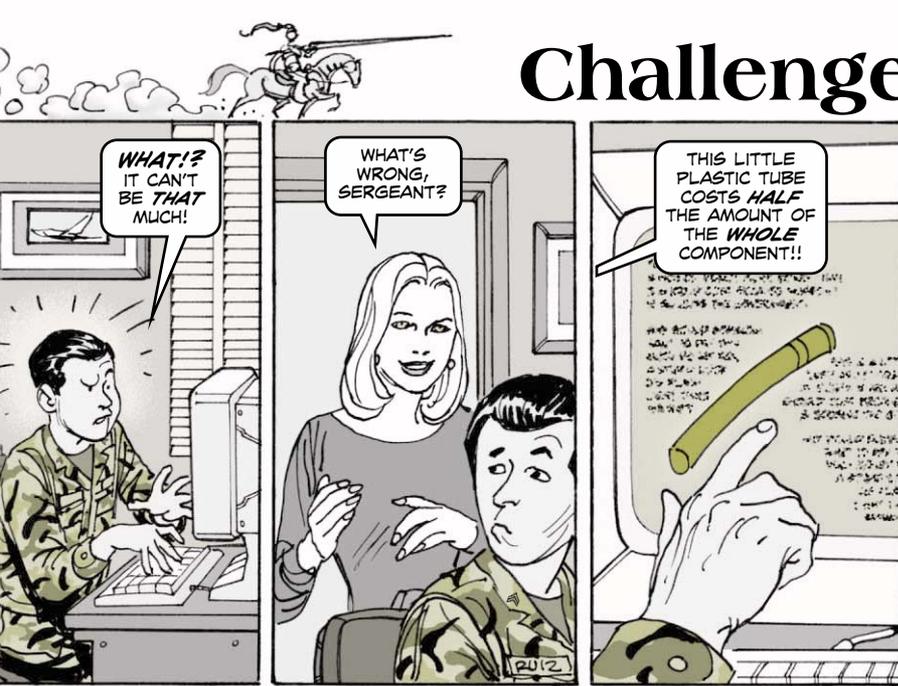
HEIGHT (Inches)	78				
	77				
	76	M/L	L/L	XL/L	XXL/L
	75				
	74				
	73				
	72				
	71	M/R	L/R	XL/R	
	70				
	69				
	68				
	67	S/S	M/S		
	66				
	65				
	64				
	63				
	62				
	61	S/XS			
	60				
	59				
	58				
	57				
	31 - 36	37 - 42	43 - 48	49 - 54	55 - 60
	CHEST CIRCUMFERENCE (Inches)				



**TYPE II SUITS (HOOD)**

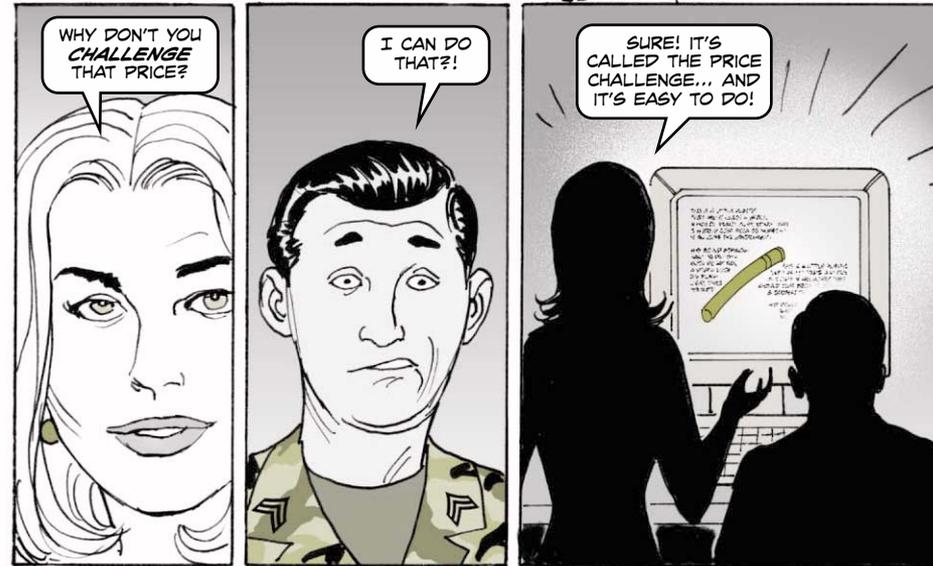
Size	Woodland Coat 8415-	Woodland Trousers 8415-	Size	Desert Coat 8415-	Desert Trousers 8415-
SM/X Short	01-444-1163	01-444-1435	SM/X Short	01-444-5902	01-444-5417
SM/Short	01-444-1169	01-444-1439	SM/Short	01-444-5905	01-444-5504
MD/Short	01-444-1200	01-444-1613	MD/Short	01-444-5913	01-444-5506
MD/Regular	01-444-1238	01-444-2310	MD/Regular	01-444-5926	01-444-5893
MD/Long	01-444-1249	01-444-2308	MD/Long	01-444-6116	01-444-5892
LG/Regular	01-444-1265	01-444-2325	LG/Regular	01-444-6138	01-444-5898
LG/Long	01-444-1270	01-444-2338	LG/Long	01-444-6131	01-444-5900
XL/Regular	01-509-8296	01-509-8265	XL/Regular	01-509-8314	01-509-8269
XL/Long	01-505-1241	01-505-1274	XL/Long	01-505-1616	01-505-1567
2X Large/Long	01-505-1245	01-505-1277	2X Large/Long	01-505-1622	01-505-1591
3X Large/Long	01-506-7546	01-506-7698	3X Large/Long	01-506-7710	01-506-7713

# Challenge



# Odd Prices

\$27<sup>35</sup> \$53<sup>69</sup> \$26<sup>50</sup> \$179<sup>63</sup> \$14<sup>95</sup>



If you think a spare or repair part is priced too high, DoD and the Army want you to challenge it.

At worst, the price will stay the same. But you might be able to save your unit and lots of others a fair heap of change.

Price challenges can be submitted online through either the Logistics Support Activity's Logistics Integrated Data Base (LIDB) or its Weblog website.

To use the price challenge form in LIDB, you must have a 128-bit encryption enabled browser such as Netscape Communicator or Internet Explorer v. 5.5 or 6.0. A LOGONID and password are required for LIDB and Weblog.

You can download either browser by going to the LOGSA web site at:

[http://weblog.logsa.army.mil/browser\\_requr.htm](http://weblog.logsa.army.mil/browser_requr.htm)

To get a LOGONID and password, go to the System Access Request (SAR) located at the top of the screen on the LOGSA Weblog web site and follow the instructions. Be sure to request access to both LIDB and Weblog.

SAR registration for LIDB gets you the CD needed to gain access.

You can access Price Challenge through the Item section of Weblog at:

<http://weblog.logsa.army.mil>

Select the Price Challenge Form under the Logistics Data Management Section. Complete the form and submit it.

## A GUIDE FOR SOLDIERS

### PRICE CHALLENGE

- Used to report unrealistic prices for spare or repair parts
- Review Source of Supply responses
- Available to soldiers and DA civilians
- Intended to reduce waste and fraud in acquisitions

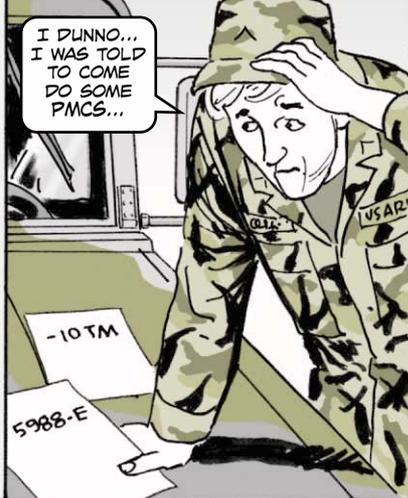
If you use LIDB to submit a price challenge, you need to periodically return to LIDB's Price Challenge to get the source of supply response to your challenge.

The LOGSA help desk is ready to help if you have problems getting into the system. Call them at DSN 645-7716 or (256) 955-7716 or email:

[help.desk@logsa.army.mil](mailto:help.desk@logsa.army.mil)

Maintenance...

# PMCS PROTECTS VEHICLE AND OPERATOR



“Okay,” you grumble. You’ve just been appointed the vehicle operator for your section’s HMMWV. You’ve never been a mechanic and now you’re supposed to pull PMCS, whatever that is. Where do you start?

What makes PMCS more than just a walk-around-the-vehicle-and-kick-the-tires chore?

You, your PMCS worksheet, and your vehicle’s technical manual guidelines for doing PMCS.

No one is more important to your vehicle working properly than you. Doing regular PMCS will prevent major breakdowns and possibly save lives, even your own.

DATE: 26-APR-93 EQUIPMENT MAINTENANCE AND INSPECTION WORKSHEET DA FORM 5988-E  
 WK4WRC B CO, 783 INF BN

EQUIPMENT DATA

ADMIN NUM: 812 EQUIP SERIAL NUM: 050493  
 EQUIP MODEL: M998 REGISTRATION NUM: N638NA  
 EQUIP AOUN: TRK UTL C60 L 2ST 4X4 TYPE INSPECTION: W  
 EQUIP NSN: 2320011077155 CURRENT READING: M 018987

PUBLICATION: NUMBER DATE CHANGE NUMBER  
 PUBLICATION: TM 9-2320-280-10 06/91 02  
 PUBLICATION: TM 9-2320-280-10-HR 05/98 08

SIGNATURE: *[Signature]* TIME: SIGNATURE: *[Signature]* TIME:

PARTS REQUESTED

FAULT	DOC NUM	NIIN	QTY	STATUS	DATE	PRI	DLG
			DU/REC	DATE	COMP		
0001	3116 0001	000705961	0002	----		0	13 N
0002	3110 0002	000000001	0002	----		0	13 N

ITEM NUM FAULT DATE FAULT STAT

0001 26-APR-93 /  
 0002 26-APR-93 X  
 0003 26-APR-93 X

28 APR 93 JPW

Depending on your unit, you'll use either the DA Form 5988-E, *Equipment Maintenance and Inspection Worksheet*, or DA Form 2404, *Equipment Inspection and Maintenance Worksheet*

## The -10 Technical Manuals PMCS Charts

**Operator**  
 By following the TM's PMCS guidelines, you can find minor maintenance items you can fix, like filling the radiator. These minor fixes don't need to be entered on the 5988-E/2404 if you correct them on the spot. If you defer minor fixes, they must be entered on the 5988-E/2404.

Table 2.2. Preventive Maintenance Checks and Services (Cont'd)

Item No.	Interval	Location	Crewmember Procedure	Not Fully Mission Capable If:
		Item to Check/Service		
7.1	Before	Power Steering Reservoir (Cont'd)	Check fluid in power steering reservoir. Fluid should be between "HOT" and "COLD" marks. Add fluid if level is below "COLD" mark.	
8	Before	Cooling System	<p><b>DRIVER</b></p> <p><b>WARNING</b></p> <p>If engine has been recently operated, do not remove radiator cap to check coolant level. Cooling system is under pressure, and escaping steam or coolant can cause burns.</p> <p><b>CAUTION</b></p> <p>Overheating, caused by lack of coolant, will cause engine damage.</p> <p>Check coolant level in coolant tank. Level should be at or</p>	

TM 9-2320-280-10

Table 2.2. Preventive Maintenance Checks and Services (Cont'd)

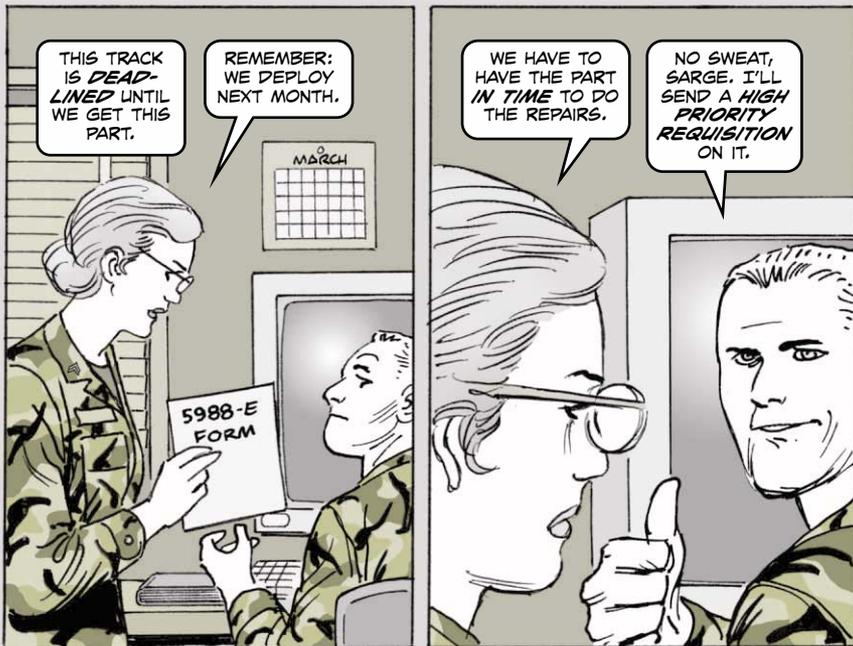
Item No.	Interval	Location	Crewmember Procedure	Not Fully Mission Capable If:
		Item to Check/Service		
10	Before	Fire Extinguisher	<p><b>DRIVER</b></p> <p>a. Check for missing or damaged fire extinguisher.</p> <p>b. Check gauge for proper pressure of about 150 psi (1034 kPa).</p> <p>c. Check for damaged or missing seal.</p>	<p>a. Fire extinguisher missing or damaged.</p> <p>b. Pressure gauge needle in recharge area.</p> <p>c. Seal broken or missing.</p>

**Unit Maintenance**  
 Your inspection can also find items that need service you aren't authorized to do. These items are entered on the 5988-E/2404. Conditions that make the equipment NOT FULLY MISSION CAPABLE should be immediately reported to your maintenance supervisor. These items also are entered on the 5988-E/2404.



Supply Requisitions...

# HIGH PRIORITY OR LO-O-ONG WAIT?



Dear Editor:

As an inventory management specialist for SBCCOM (now TACOM-RI), I've seen evidence that some supply types in the field don't understand the required delivery date (RDD) when submitting requisitions.

Some unit supply people I've talked to think an RDD of "001" is the highest priority RDD. They didn't know an RDD of 001 is the Julian calendar date for Jan 1. I believe a lot of supply personnel think the same thing.

I get numerous requisitions with a Priority 02 and an RDD of 001, and these are requisitions that are submitted after Jan 1.

When our CCSS supply system gets a Pri 02/RDD 001 requisition, CCSS shows that the requisitioned item is not needed until Jan 1, 2005. If a unit put in a 02/001 requisition in February 2004, they are telling me and the distribution depot that they do not need it until January 2005.

Units could be hurting their supply availability when they think that RDD 001 is a high priority designator. Requisitions should indicate an RDD for the date the item is needed or they should use the applicable NMCS RDD designator.

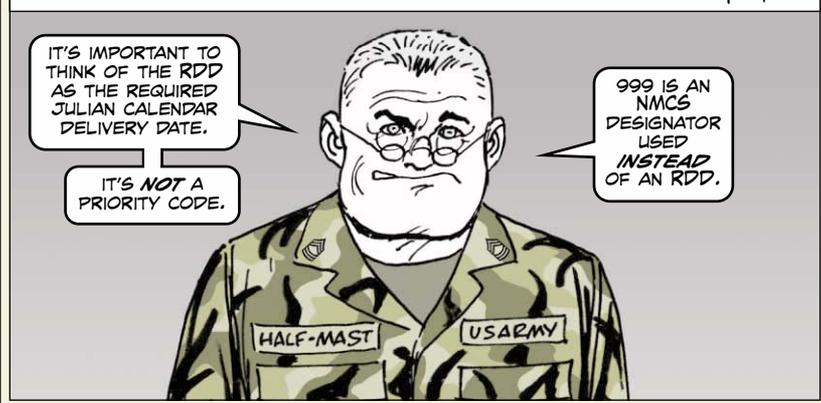
Thanks,

Doug Vanatta  
Chemical & Biological Defense Support  
TACOM-RI (Rock Island Arsenal, IL)  
DSN 793-3053/ (309) 782-3053  
website: <https://aeps2.ria.army.mil/sbccom/index.cfm>

Mr. Vanatta:

You're right! RDDs should only be used when standard delivery dates (SDDs) do not meet mission requirements. A description of SDDs is given in AR 725-50, Table 2-6. Info about using RDDs follows in Paragraph 2-12. For info on using code 999 instead of the Julian calendar RDD, see Paragraph 3-48.

*Half-Mast*

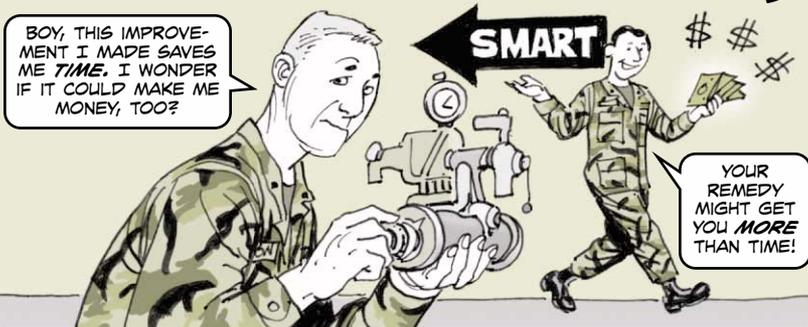


## New TMDE Equipment Authorized

The PM, TMDE is fielding the AN/USM- 677 spectrum analyzer, NSN 6625-01-470-7545, and the new OS-303/G oscilloscope, NSN 6625-01-470-7541. But, unit MTOEs haven't been updated to authorize them. So, Property Book and Force Modernization officers should note that the DA Letter of Authority (LOA) is required to be in the PBO's possession until unit authorization documents are updated by the Force Management Support Agency. Contact your MACOM Force Modernization Office if you don't have a copy of the LOA and supply has asked you to pick up your assets from an installation supply point. Get more info from Randy Gibbs, DSN 897-2942, email at:

[randy.gibbs@us.army.mil](mailto:randy.gibbs@us.army.mil)

# SMART Ideas Do Pay

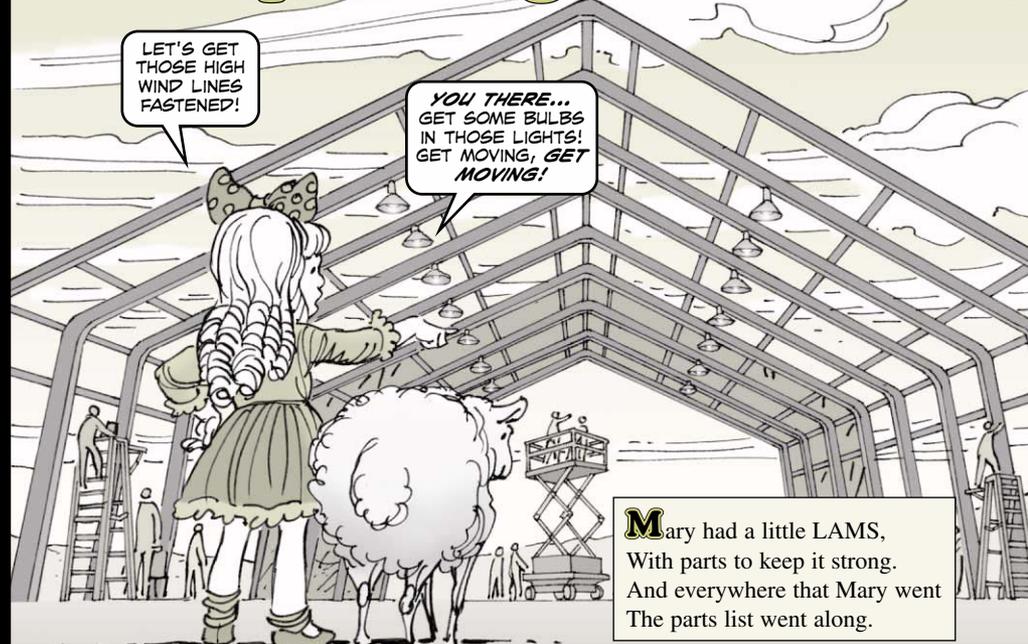


Name / Location	Approved Suggestion	Recommended Award
W01 Bernabe Guerra, Jr. Ft Hood, TX	Install shutoff valves on Rough Terrain Container Handler	\$500
CW5 Roger West Johnston, IA	Improvement to National Maintenance Work Requirements for the M939A2 engine	\$500
SSG Angel Mallari & SPC Nathaniel Muller Ft Campbell, KY	Improvement to the feedcone internal assembly of antenna group OE-254/GRC	\$1000
Gary Huffman Washington, IA	Add O-Ring as a separate item of supply to next TM update	\$250



Large Area Maintenance Shelter...

# Shepherding Your LAMS



The large area maintenance shelter (LAMS) for aviation, NSN 5410-01-334-3158, sets up quick and gets you out of the sand and working on aircraft.

TO MAKE SURE YOU STAY OUT OF THE SAND, KEEP THIS LAMS PARTS LIST CLOSE BY...

Part #	NSN	Item
50-3161	4020-01-463-7339	Bungee cord, 16 inches
50-3004	5315-01-326-1274	Small snapper pin
50-3003	5315-01-326-1275	Large snapper pin
50-3001	5315-01-326-1276	Spirol pin
50-0626	5340-01-463-9371	Clam clip
51-0239	5410-01-468-5728	Bay panel, 103 feet, 8 inches long
51-0143G	5410-01-468-5730	Bay panel, 96 feet, 3 inches long
53-1269G	5410-01-468-5731	C/S door panel
50-0156	5410-01-468-5733	Door panel
50-0564	5410-01-468-5734	Personnel door panel
50-1042	5410-01-468-5737	Load center
50-0016	5410-01-468-5738	External beam cover, 11 inches

Chart continues on next page

YOU WON'T FIND THIS PARTS LIST IN ANY TM...

Part #	NSN	Item
50-0011	5410-01-468-5741	End rain gutter
59-0003	5410-01-468-5743	Type 2 personnel door
50-0055	5410-01-468-5746	Personnel door, flap pair
50-3603	5410-01-468-5751	Pull through rope, 3/8 inches
50-0835	5410-01-468-5752	Winch upgrade kit
55-1251G	5410-01-468-5755	Door ground seal
50-0064	5410-01-468-5758	Door spacer, 18 inches
50-0065	5410-01-468-5761	Door spacer, 27 inches
150-0001	5410-01-468-5777	Wall fan
50-0435	5410-01-468-5779	Exit light
500744	5330-01-463-9821	Rain seal
50-0345	5340-01-464-0529	Angled anti-rotator plate
50-0373	5340-01-464-0530	Center anti-rotator plate
50-0544	5410-01-469-1941	Hurricane kit bracket
50-0090	5410-01-469-2180	Terminator bracket
50-0037	5410-01-469-2181	Roller assembly
50-0032	5410-01-469-2182	Pulley assembly
50-0082	5410-01-473-0388	Hand operated winch
50-3215	5410-01-476-8651	Button end cable, 110' x 1/4"



...SO CLIP IT AND KEEP IT HANDY.

Part #	NSN	Item
50-0639	5340-01-463-7337	Tiedown strap
50-0002	5340-01-327-2912	Mounting bracket, shear cable
50-0059	5410-01-476-8655	Safety cable, 119.75 inches long
50-0061	5410-01-476-8660	Safety cable, 178.25 inches long
50-0087	5340-01-326-4870	Purlin hinge assembly
50-0205	5410-01-477-0168	Light fixture
50-0040	5410-01-476-8662	Rain gutter
50-3294	5410-01-476-8675	Button end cable, 170' x 1/4"
50-0027	5315-01-326-1278	Pivot pin
50-0437	5410-01-476-8663	External beam cover, 6 inches
50-0054	9330-01-316-9929	Internal beam cover
50-0251	5306-01-463-9360	Beam nut with eye bolt
50-2019	5340-01-463-7340	Valve plug
50-0248	5360-01-463-9372	Helical extension spring
50-0093	5410-01-476-8667	Rain gutter bracket
50-0237	5410-01-476-8672	Terminator cable with eye
50-0060	5410-01-476-8659	Safety cable, 149 inches long
50-0021	5340-01-326-5135	Baseplate
50-0228	8340-01-463-9858	High wind line assy



### Some LAMS Pointers

HERE'S A COLLECTION OF TIPS FOR SETTING UP AND USING YOUR LAMS...

- When setting up on concrete surfaces, use the Hilti Kwik Bolt II for installing mounting plates, NSN 5340-01-326-5135, and hurricane kit brackets, NSN 5410-01-469-1941. The Kwik Bolt II is a long thread bolt that measures 3/4" x 5 1/2". Order them from Hilti, Inc. with their Item Number 00331961. You'll get a box of 20 bolts. To order, call 1-800-950-6119. Or you can send an email to:

[usgovt@us.hilti.com](mailto:usgovt@us.hilti.com)



Kwik Bolt II

- Winds can lift an open shelter and send it sailing like a kite. To help your LAMS survive high winds, make sure all high wind lines, NSN 8340-01-463-9858, are fastened. And close the end doors and secure them with tiedown straps, NSN 5340-01-463-7337. In fact, it's a good idea to always secure closed doors with tiedown straps.
- Zippers are put on fabric panels to help with installation. They aren't meant to be opened and used as an exit. That's why the zippers on end door panels should remain closed at all times.
- Use bungee cords, NSN 4020-01-463-7339, to secure end door fabric panels.

DON'T LET GO!



• The electric winch, part number 50-0203, and the low-voltage control boxes, part numbers 50-0043A and 50-0043B, shown on Pages 3-67 and 3-68 of TM 10-5410-232-14&P, have been replaced with the double drum winch upgrade kit, NSN 5410-01-468-5752.

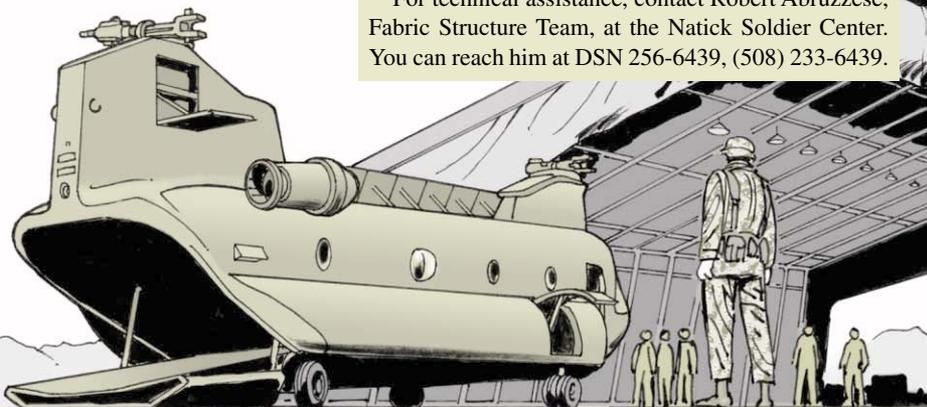


• When using the double drum electric winch, keep tension on the cables. That way you won't wind loose cable off the winch drum and get it tangled. When you lower the end door, stop the door about two or three inches above ground before the cables go slack. Then secure the door with six tiedown straps. Always remember to release the straps before raising the door.

• Never replace just one cable on the double drum winch. Instead, replace both cables at the same time. And make sure both cables are the same diameter. NSN 5410-01-476-8675 brings a button end cable 170 feet long and 1/4 inch in diameter.



For technical assistance, contact Robert Abruzzese, Fabric Structure Team, at the Natick Soldier Center. You can reach him at DSN 256-6439, (508) 233-6439.



# IT MAY BE EXCESS TO YOU...

SO, YOU'RE GETTING READY TO REDEPLOY HOME. SPARE PARTS AND OTHER EXCESS ITEMS ARE BEGINNING TO PILE UP AND YOU DON'T KNOW IF THERE'S TIME TO TURN THEM IN. DON'T DO THE WRONG THING AND THROW THEM AWAY.

WORK WITH YOUR SUPPLY SUPPORT ACTIVITY TO FIND OUT HOW THEY NEED THE EXCESS TURNED IN TO THEM. FIND OUT WHAT NEEDS TO BE DONE TO TURN IN PARTS AND MATERIALS AT COLLECTION POINTS LIKE THE "FOUR CORNERS."

THERE'S STILL A WAR GOING ON AND THE UNITS THAT ARE REPLACING YOURS WILL NEED THOSE PARTS AND MATERIALS.

WHAT YOU HAVE LEFT OVER MAY BE JUST ENOUGH FOR SOMEONE UP NORTH!



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

☆ U.S. GOVERNMENT PRINTING OFFICE: 2004 — 650-122/80017

For sale by the Superintendent of Documents, U.S. Government Printing Office  
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800  
Fax: (202) 512-2250 Mail: Stop 550P, Washington DC 20402-0001

**First aid kits and  
combat lifesaver aid bags**

**SAVE LIVES**



**KEEP THEM  
WELL STOCKED**

Click here for a copy of this page to email to a friend