

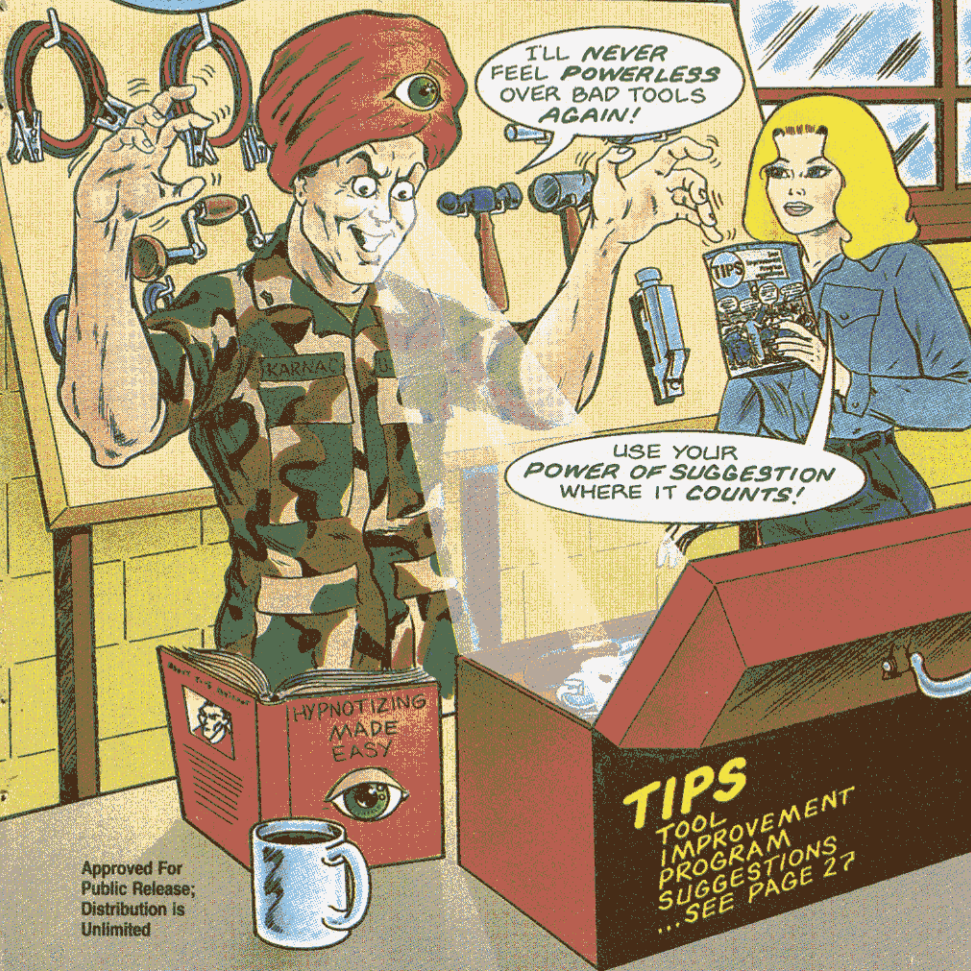
Issue 465

PS

August
1991

TB 43-PS-465

THE PREVENTIVE MAINTENANCE MONTHLY



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Keep Account Up-to-Date

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MONTHLY

TB 43-PS-465, 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.

ISSUE 465 AUGUST 1991

FIREPOWER			
Patrol	2-3, 4-5, 6	M1A1	11, 12
TOW 2		M2/M3-Series	
M136 Launcher	7	Bradleys	15, 16-17
Avenger	8-9	MLRS	16-17
M1-Series Tanks	10-11, 13, 14		
GROUND MOBILITY			
Tire PM	18-19	HEMTT	23
M539-Series Trucks	20	Windshield Wiper Kits	23
M939A2-Series Trucks	21	M149A2 Water Trailer	24
M916/M920 Trucks	21	Flexible Exhaust Extension	25
HMMWVs	22		
AIR MOBILITY			
Don't Over Lubricate	35	UH-1 Huey	41
Ni-Cad Batteries	36-39	SRU-21/P Survival Vest	42-43
Apache 30-MM Gun	40-41	Aviation Messages	43
COMMUNICATIONS			
AN/TRC-173 Radio Terminal Set	44	AN/VRC-12 Radio	45
AN/VSC-3 Radio Teletypewriter Set	45	AA-312 Telephone Set 30-KW Generator	46-47
TROOP SUPPORT			
Hazardous Waste	26	M22 Binoculars	57
New Pubs, SOUs	26	New Cleaning Compound	57
TIPS	27-34	DD Form 2026	58
4K/6K Forklifts	48	CARC	59
CARC	48	Generator Test Stand	59
55-Gal Oil Drums	49	10,000-Gal Collapsible Tank	59
Mobile Water Chiller	49	Chemical Protective Gear	60
Ice Chests	50-51		
Packaging Repairables	52-55		
Wet Weather Clothing Repair	56		

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

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The Preventive Maintenance Monthly
Lexington, KY 40511-5101

FAX: DSN 745-3855
or Comm 806-293-3855

By Order of the Secretary of the Army:

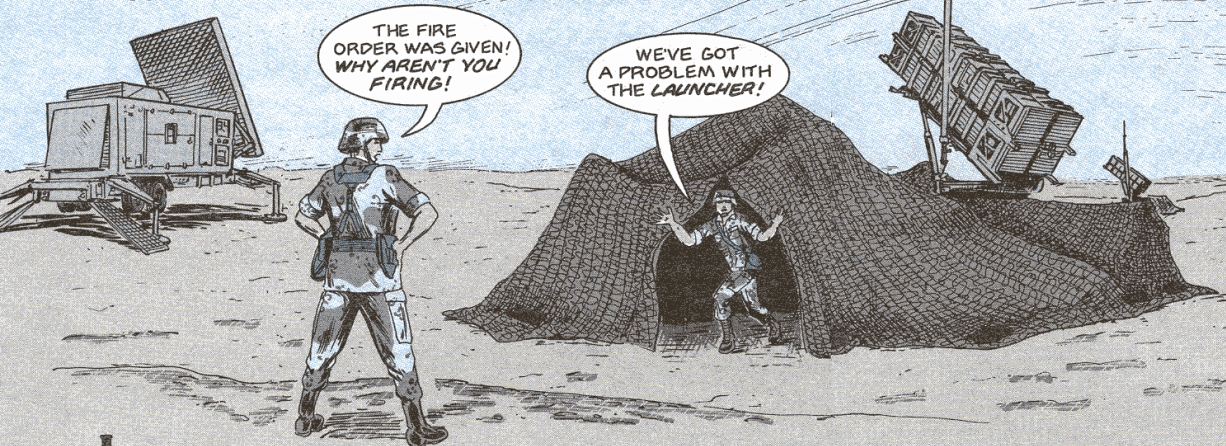
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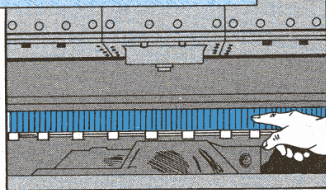
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Launching Station Lowdown



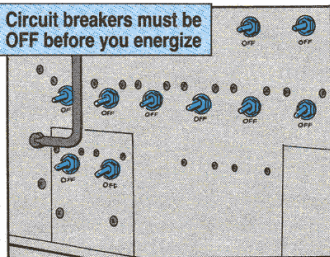
Lube the azimuth drive teeth only with solid film lubricant, MIL-L-46147, NSN 9150-00-754-0064, not GAA. GAA attracts much more sand in the desert, which chews up the teeth. Solid film lube is the same as that used on the cranes on the Guided Missile Transporter and Large Repair Parts Transporter.

No GAA on azimuth drive teeth



Before you energize the launcher, make sure the circuit breakers on the generator control panel, the power distribution panels, and the power control panel are all OFF. If one breaker's left

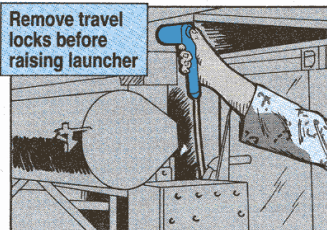
Circuit breakers must be OFF before you energize



on, the motor control unit will be damaged when you turn on power.

Make extra sure the roadside and curbside stow travel locks are pulled and stowed before you raise the launcher platform. If one lock's left in, the launcher's damaged.

Remove travel locks before raising launcher

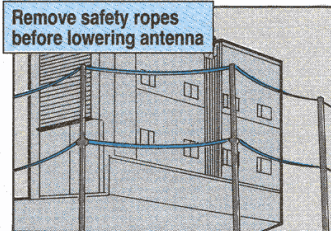


Align the launcher by turning off the motor control unit circuit breaker and manually rotating the turntable. If you

move the turntable electronically, the motor control unit can be damaged.

Before lowering the antenna, remove the safety rope poles around the generator. Otherwise, the ropes snap off the antenna.

Remove safety ropes before lowering antenna

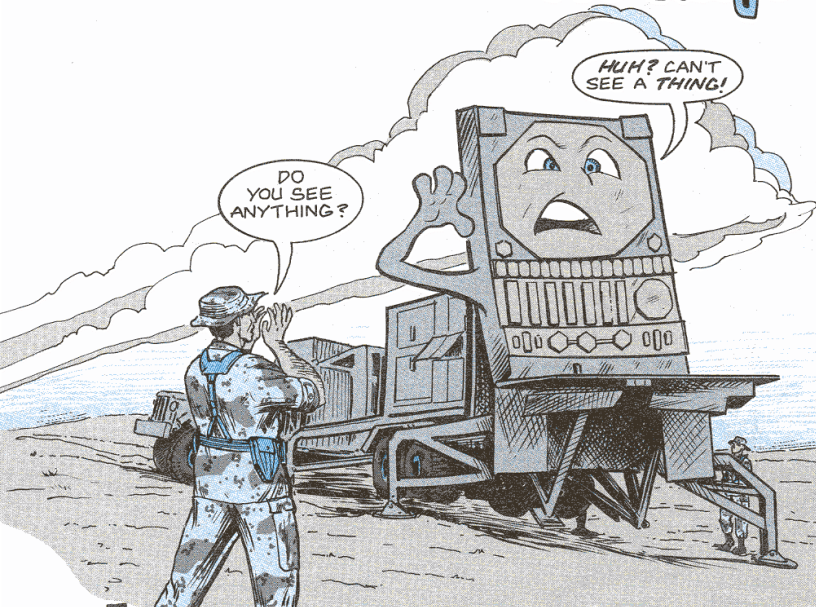


At shutdown, be sure to turn the RCVR-ZERO OFF and XMTR-ZERO OFF switches on the TSEC/KG-30-124 to ZERO OFF. Also disconnect the KOI-18 tape reader. This will extend the life of the batteries and can save firing codes.

If codes keep disappearing or are hard to load, it's probably weak batteries. Have your mech replace them.



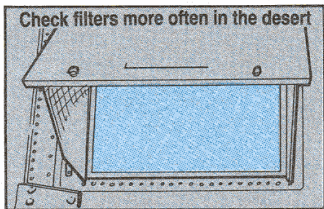
PM Keeps Radar Sensitive



The AN/MPQ-53 Radar is the Patriot's eyes. If it doesn't work, the Patriot's blind. It won't detect enemy aircraft or missiles. And the radar won't guide Patriot missiles to them.

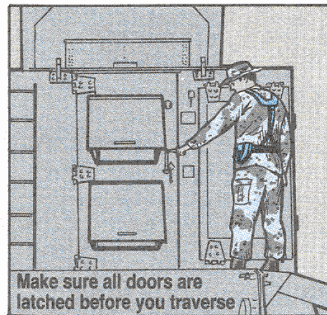
Keep your Patriot's eyes sensitive with these eye openers:

Pay close attention to the radar's filters in the desert. If filters clog with sand, electronic components overheat and blow circuit cards. Eyeball the filters frequently, much more often than what the TM says. Clean or change them if dirty.

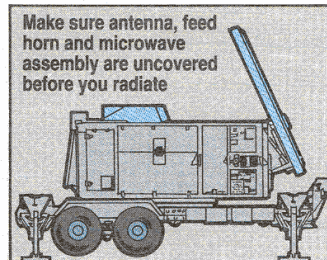


Make sure all the doors are shut and latched before you traverse. That's so simple to do. But if you forget, an open door catches as the radar rotates and is bent out of shape. That ruins

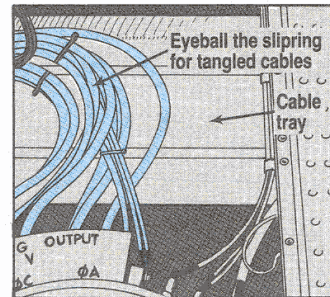
the electro-magneto pulse shield and the radar is out of business.



Before you radiate, doublecheck that the covers have been removed from the microwave assembly, the feed horn, and the antenna. If a cover's left on, it reflects the radio waves and the radar becomes like a microwave oven. The wave guide window and other components are destroyed.

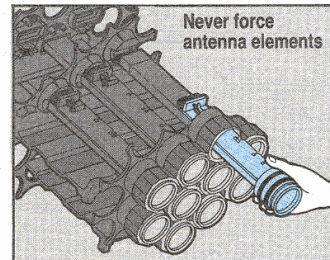


Anytime you're rotating the radar and lose power, don't power up until you eyeball the slipping for tangled ca-



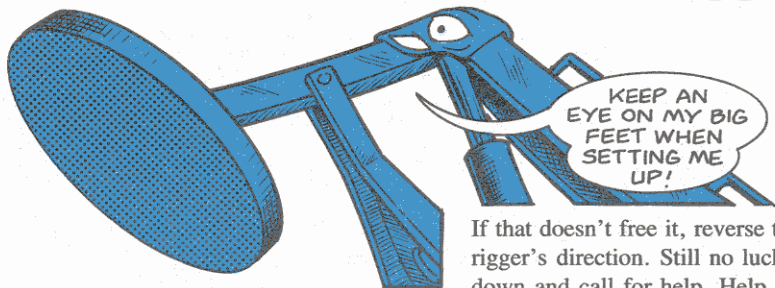
bles or arcing. Often a cable has fallen out of the cable tray or the tray has come loose. If you continue to operate, you could burn up the slipping or rip out cables. A good check is to manually rotate the radar to see if the slipping cables are clearing.

Do not muscle antenna elements in place. An element should go in with just slight pressure. If it doesn't, reposition the element and try again. Forcing an element bursts the antenna



element socket. The whole antenna has to be taken apart to fix the socket. Call for help if the element won't fit.

The Ins and Outs of Outriggers



Outriggers are your Patriot's feet. If they're damaged through neglect or bad handling, components like the launcher or radar won't have a leg to stand on. Keep your Patriot on its feet like this:

- Exercise the outriggers at least monthly. If the outriggers sit, the actuator oil seals dry out and start leaking. The ball screws also need to move in and out of the ball nuts or they don't get a coating of lube. Screws rust and this freezes the outriggers in place.

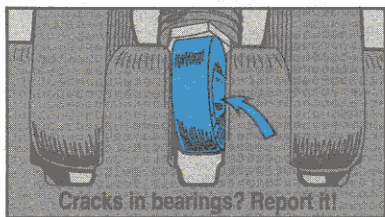
- Careful when you raise or lower the outriggers. If a pad snags, you'll break the strut welds. When a pad snags, bump it with your hand or foot.

BUMP THE PAD IF IT SNAGS.

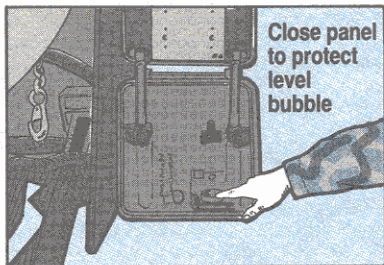


If that doesn't free it, reverse the outtrigger's direction. Still no luck? Shut down and call for help. Help prevent snags by cleaning sand or ice off the pads before you move them.

- Eyeball all the outriggers for cracks in their chrome bearings before you operate. If you see a cracked bearing, report it.



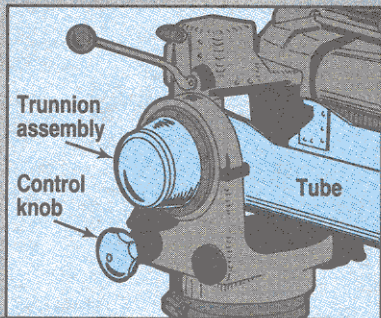
- Before moving the Patriot, shut and latch all outtrigger control panels. If you leave a panel open, the level bubble will crack. You'll have big problems leveling the launcher or radar.



Keep Missiles on Target

Bell crank screws on the TOW's traversing unit (TU) bell crank work loose. Then the launch tube won't fit as it should in the TU. A loose tube means the missile misses its target.

So before you fire, check for loose screws. After you lock the launch tube in the TU, move the launch tube up and down. If the tube and trunnion assembly move, but the TU control knobs don't, the bell crank screws are loose. Report it. Your support can tighten them.



If tube and trunnion move but control knobs don't, screws are loose

M136 Launcher...

Safety Pin Safety

If you just stick in the transport safety pin, the pin can easily fall out of the M136 launcher. It's no longer safe.

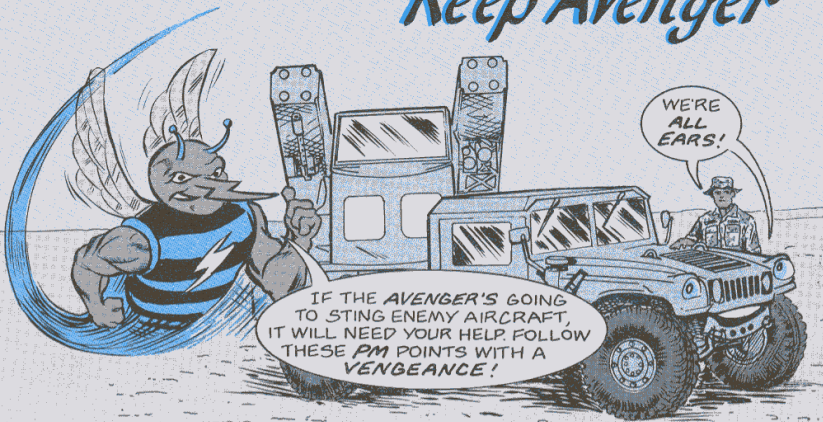
Keep the safety pin safe by wrapping the pin's elastic band clockwise around

WRAP THE LANYARD
CLOCKWISE TO
TAKE UP THE
SLACK...

THEN
INSERT THE
TRANSPORT SAFETY
PIN!

the launcher until there's just enough slack left to pull the pin over the firing mechanism. Insert the pin from the right side. The band's tension will hold the pin in place. If necessary, tie the cord to the rear sling swivel.

Keep Avenger

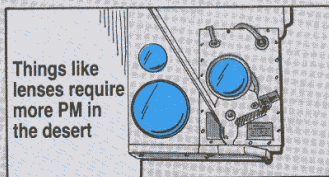


PM in the Desert

Certain components require more attention in the heat, high winds and blowing sand of the desert:

Look at the batteries' electrolyte level daily, not weekly like TM 9-1425-433-10 says. Add distilled water if necessary to bring the level up to the split rings.

Daily check the heater/ventilator intake filters for clogging and the optical sight, FLIR receiver lens, laser range

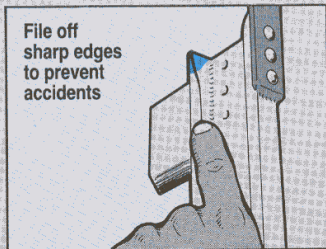


Things like lenses require more PM in the desert

finder, and IR window for dirt and grease. Clean if necessary.

Protection

One soldier already has lost a finger to the sharp edges of the Avenger's ladder. His ring caught on the ladder as he jumped down. Eliminate that danger by using a file to round off sharp corners. Info on taking care of sharp corners is in TB 43-0001-56-4 (Jan 91).



Keep tools off the HMMWV fender. There is very little clearance between the fender and the Avenger's turret. A

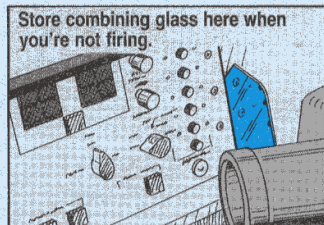
Avenging

wrench left on the fender tears up the turret's bottom and the HMMWV's fender when the turret's traversed.

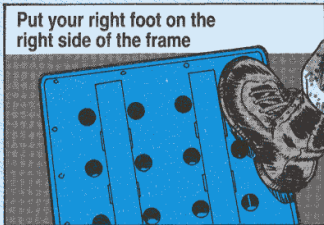


Make very sure everyone's clear before you traverse. The Avenger moves 60° per second and can easily cream someone in the way.

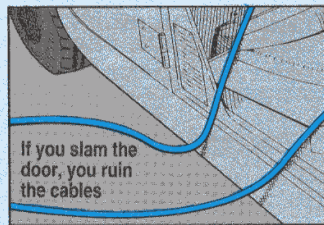
Stow the optical sight's combining glass when you're not firing. The best place is between the turret wall and the gunner's console. The glass is easily broken when you're climbing in and out of the turret.



Climbing in the turret, place your left foot on the fender tears up the turret's bottom and the HMMWV's fender when the turret's traversed. Climbing in the turret, place your left foot on the fold-down step on the left side of the turret and then your right foot on the right side of the seat frame. If you jump directly on the seat, your foot goes through the aluminum frame.



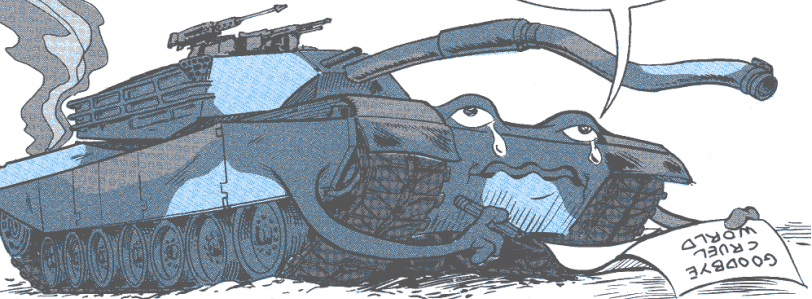
Be careful that you or the driver don't slam the passenger door when you're operating the remote control. That damages the control's cable and knocks it out.



Raw Deal with Torn Plenum Seal

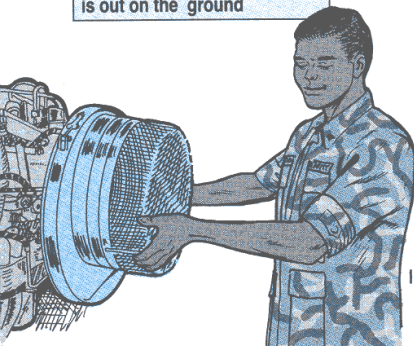
OPERATING YOUR M1 TANK WITH A LOOSE OR TORN AIR INDUCTION SYSTEM PLENUM SEAL KILLS YOUR ENGINE!

“GASP!—SOB—I COULD’A BEEN A “WHEEZE—CONTENDER IF MY TORN PLENUM SEAL HAD BEEN REPLACED!”

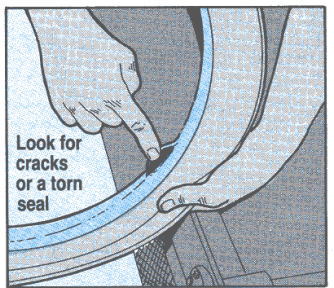


That turbine is going to get air somewhere, no matter whether it's clean or dirty. If the plenum seal is not installed right or is damaged, dirty air will kill your engine in just a few miles.

Be sure to eyeball the seal and its clamps when powerpack is out on the ground



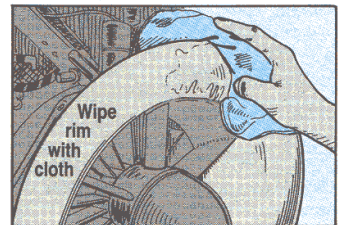
Here's what to do:
 Remove the seal to see if it's torn or cracked. If so, replace it.



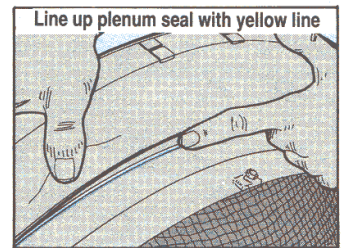
Look for cracks or a torn seal

Grab the seal in both hands and see if it's flexible. If it's not, it's time for a new seal.

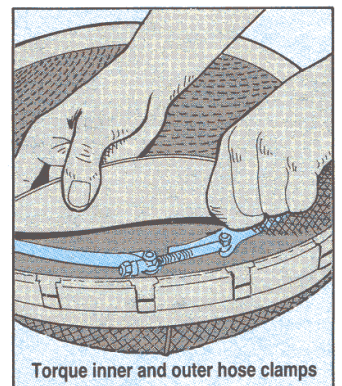
Wipe off the air intake rim before you put on a new plenum seal. Slide the seal, top side up, on the rim. Wipe the plenum seal, too. Make sure the outer edge of the seal lines up with the



yellow line, all the way around the rim.



Position the inner hose band clamp at 5 o'clock, then torque to 60-85 lb-in.



Once the pack's in place, torque the outer hose band clamp to 60-85 lb-in.

Someone must crawl under the hull to make sure the seal is completely pushed up against the air inlet. Check, too, that the clamp has not pulled the seal away.

M1A1 Tanks...

Cannon Cleaning TM Errors

TM 9-2350-264-10-2 for the M1A1 tank has a couple of errors you need to note. The 120MM bore brush assembly, Item 13 of the BII on Page B-7, should be NSN 1015-01-209-3483. The part number, 12529517, is correct.

The NSN for the cleaning brush section, Item 8 in the expendable items list on Page D-2, is wrong. There is no replacement available for the 120MM brush.

Lube Traverse Mechanism Struts



IF YOU HAVEN'T HEARD, MONTHLY LUBING IS THE LATEST WORD!

The two horizontal and one vertical traverse mechanism struts need to be lubed monthly. That's the latest word in changes to LO 9-2350-264-12 and TM 9-2350-264-10-1.

These struts hold the traverse mechanism in place against the race ring, but allow it to "float" a little during operations. The problem is the struts corrode without lube.

The corrosion causes the struts to bind, which means the traverse mechanism doesn't move as designed. Traversing accuracy suffers and, eventually, one or more of the struts breaks.

To keep your favorite crewmen traversing happily, clean and lube the struts monthly with PL-M. To get to the struts, traverse the turret so the main gun is over the front deck. Then elevate the gun to maximum. Apply the PL-M with an oil squirt can from the driver's compartment.

For the whole story, see AMCCOM Maintenance Advisory Msg 220026Z Oct 90. Your local AMCCOM Logistics Assistance Representative will have a copy.

Knee Switch Lever Fix



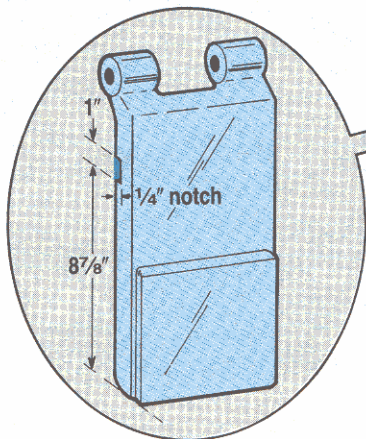
GOLL-EE!
I DON'T GET
IT...
... THE
SERGEANT SAID
A LITTLE "FILING"
WOULD FIX MY
SWITCH
LEVER.

Some replacement ammo door knee switch levers will not latch in the stow position unless you do a little filing first.

Because of a manufacturing error, the lever will not stow.

Here's how to modify the lever--

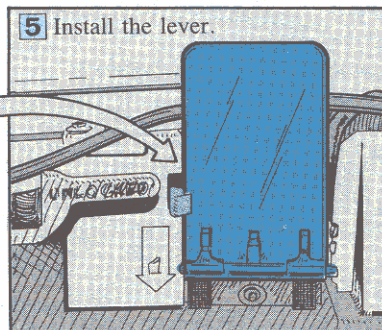
1 Orient the lever like so:



2 Measure 8 7/8 inches up from the lower left corner of the lever. Make a 1/4 inch deep hacksaw cut there.

3 Measure up one inch from the first cut and make a second 1/4 inch hacksaw cut.

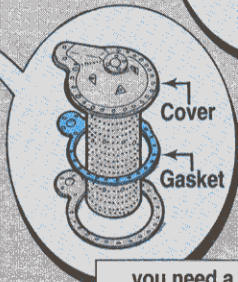
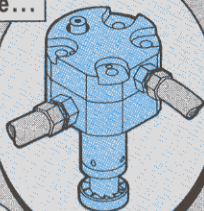
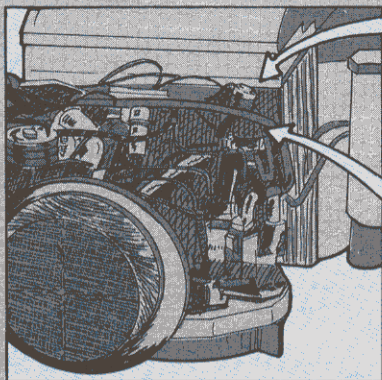
4 File away the metal between the cuts 1/4 inch deep.



No Gasket for Combustor Cover?

A gasket to be, or not to be? That is the question.

If your turbine has a 2-piece fuel nozzle...



... you need a gasket between the cover and chamber

Both M1 tank TMs say a gasket goes between the cover and combustion chamber. But that's not necessarily so. Here's the straight stuff:

① If your tank's turbine has a two-piece fuel nozzle, you need a gasket, NSN 5330-01-214-2654, between the cover and chamber. This fuel nozzle has two fittings on it and no filter.

② If your tank's turbine has a one-piece fuel nozzle, you don't need a gasket because the cover and chamber are made for a metal-to-metal fit.

Using a gasket in this version causes fuel spray problems, which means poor engine performance and early failure of the forward module.

Follow all the other maintenance instructions on Pages 5-43 through 5-47 in both TM 9-2350-255-20-1-3 (M1 and IPM1) and TM 9-2350-264-20-1-3 (M1A1). Just forget the gasket on the one-piece model.

Got a Question? Write PS

What you don't know can sometimes cost you more than just money. Use all the sources and resources available locally, but also remember that PS Magazine is ready to help, too. Write to:

MSG Half-Mast
The Preventive Maintenance Monthly
Lexington, KY 40511-5101

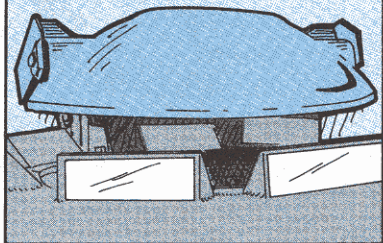
"Clamshell" Latch Needs Lube



It may not say so in the PMCS, but lubrication of the commander's hatch cover latch is a must if you want to keep overhead protection in open-hatch operation.

The hatch cover latch allows you to move the clamshell to the pop-up position—as long as the latch works.

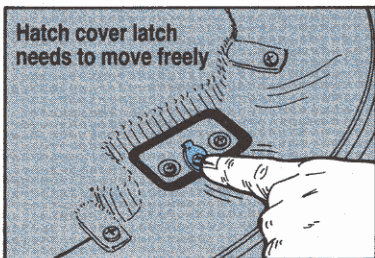
Commander's hatch in pop-up position showing overhead coverage



Desert sand and dirt have a way of getting into the slide pin and spring, though. Enough sand and dirt will "freeze" the pin.

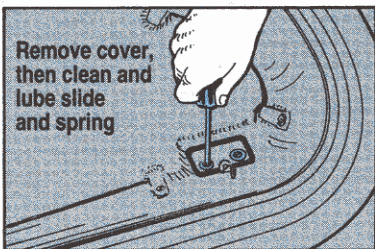
If your hatch cover latch still moves freely, keep it moving with a shot of

AUG 91

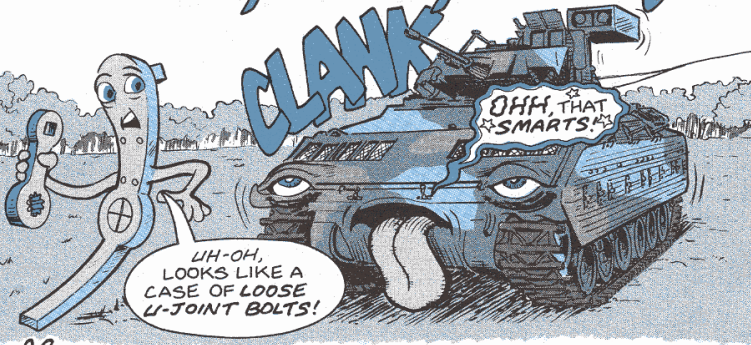


aerosol dry film lubricant, NSN 9150-01-260-2534.

If the latch is hard to move or won't budge, have your mechanic take the cover off and clean and lube the area around the slide and spring with the aerosol dry film lubricant.



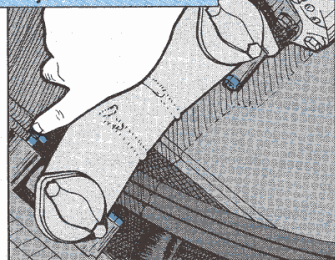
Keep Prop Shaft U-Joints Tight



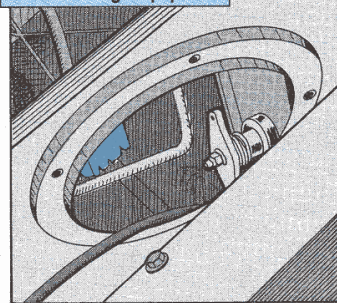
Mechs, be real sure you check all 16 prop shaft U-joint bolts with a torque wrench at least every six months.

That's because sooner or later those bolts are going to vibrate loose. Then the shafts can break loose, tearing up equipment and leaving Bradley or MLRS drivers with very little control.

Keep a close eye on the prop shaft U-joint bolts. They can vibrate loose...



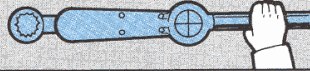
...and damage equipment



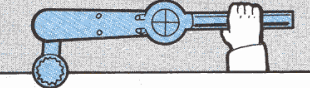
Torque the bolts to 86-94 lb-ft. Then, to make spotting loose bolts easier for everybody, paint or scribe a line down a side of each bolt to the prop shaft. When it loosens, the lines won't match and you and the crew can spot it easily.

Remember, if you use the 4-in adapter called for in the TM to torque the bolts, you'll need to convert the torque value. If you don't, you'll get more or less torque on the screw than what you read on the wrench.

If your set-up looks like this, using the 19-in torque wrench called for in the TM, you need to torque to 71-78 lb-ft.



If your set-up looks like this, torque to 86-94 lb-ft.



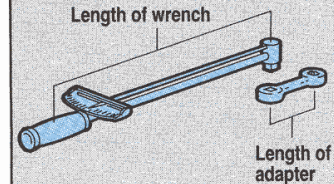
If your set-up looks like this, torque to 109-119 lb-ft.



In all three situations, you'll be putting 86-94 lb-ft on the bolts.

Use of any other torque wrench adapter means you'll need to calculate the torque.

Torque wrench and adapter



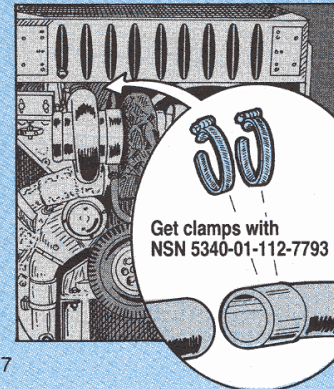
Measure the length of the wrench from the center of the handle to the center of the drive tip, or you'll get a wrong reading.

Turbo Clamp Replacement

Next time you order the turbocharger air outlet hose clamp for your Bradley or MLRS, use NSN 5340-01-112-7793.

That clamp, currently in use on 600-HP engines only, will also work on the 500-HP engines. This will help simplify stockage.

The old clamp, shown as Item 164 in Fig 33 of TM 9-1450-646-24P; Item 164 of Fig 87 in TM 9-2350-252-24P-1; and Item 164 in Fig 83 of TM 9-2350-284-24P-1, will not work on the 600-HP engine.





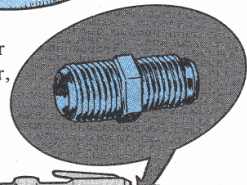
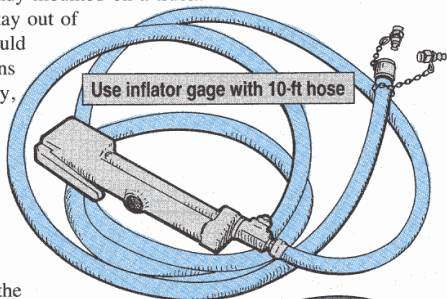
You always inflate demounted split rim tires in tire cages. But sometimes you have to add air to a tire already mounted on a truck.

Either way, you need to stay out of the trajectory a split ring would take if it flew off. That means standing at least 10 feet away, and to the side of the tire.

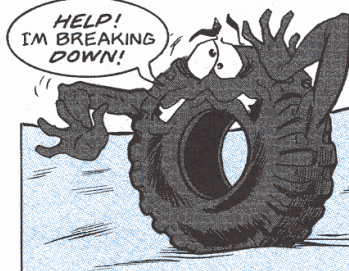
To give you that safety margin, use tire pressure gage, NSN 4910-00-441-8685. It comes with a 10-foot hose between the inflator gage and the tire. It uses adapters that screw on the valve stem and a quick-disconnect coupling.

Some gages short you on the adapter for regular valve stems. If you get a gage without the adapter, order an adapter with NSN 2640-00-758-6274.

Use a straight pipe-to-tube adapter, NSN 4730-00-391-3771, to connect the air supply hose to the gage. The adapter is in the brass fitting kit in the No. 1 Common shop set.

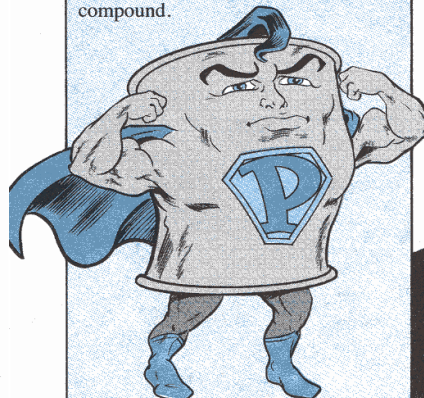


Tire Protection

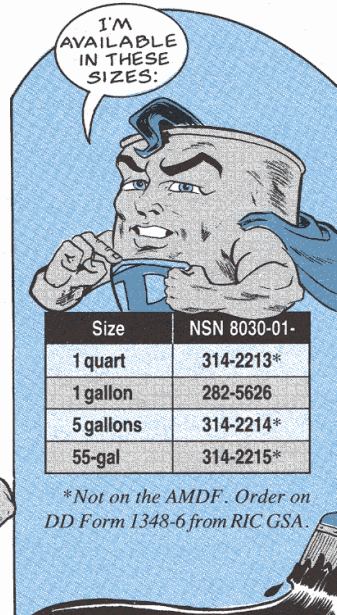


Tires and other black rubber products are tough, but bright sunlight, ozone and desert heat can break them down.

But there is something you can do to protect rubber and prevent ozone cracking. Use rubber preservative compound.



You can use the compound on natural or synthetic black rubber in tires, track pads, road wheels, gaskets, hoses and such.



Size	NSN 8030-01-
1 quart	314-2213*
1 gallon	282-5626
5 gallons	314-2214*
55-gal	314-2215*

*Not on the AMDF. Order on DD Form 1348-6 from RIC GSA.

Brush it on with a paint brush. You want to get a thin, even coating. Apply it outside or where you have adequate ventilation. Keep away from open flames because the solvent is flammable. Wear rubber gloves, face shield or goggles and a respirator, too, like the ones in the No. 1 Common shop set.

Draining by the Numbers


Dear Editor,

To make it easier for drivers to drain the air tanks on M939-series 5-ton trucks, I use tags with the sequence. NSN 9905-00-537-8955 gets you a bundle of 50 green plastic tags with a wire tie.

Mark four tags 1, 2, 3 and 4 with a permanent black marker, NSN 7520-00-043-3408.

Place tag No. 1 on drain cock No. 3, tag No. 2 on drain cock No. 4, tag No. 3 on drain cock No. 1 and tag No. 4 on drain cock No. 2. Then the driver can drain the tanks by the numbers.

SFC Kirtus B. Dolotina
Schofield Barracks, HI



DRAINING MY AIR TANKS IS AS EASY AS ONE TWO-THREE!

...AND DON'T FORGET FOUR!

Stencil numbers near valves

(Editor's note: You've done a number on that problem. Thanks for the idea. You can also stencil the numbers next to the toolbox near the valves. Use black CARC, NSN 8010-01-229-7540, and the 1-in stencil set from the No. 1 Common shop set.

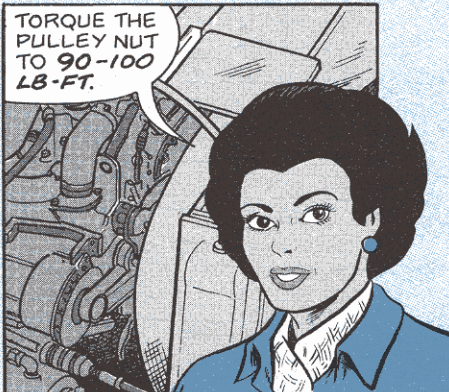
DRAIN AIR TANKS

3
4
1
2

Loose Alternator Nut Cure

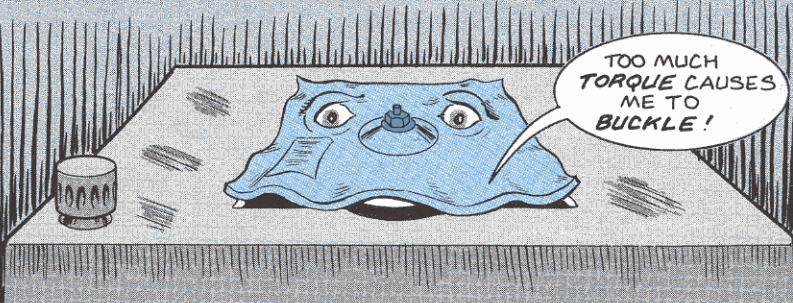
The alternator pulleys work loose on M939A2-series 5-ton trucks. Pulley nuts need more torque than put on at the factory. The torque called for on Page 3-140 of TM 9-2320-358-24&P is wrong, too!

You need to torque the pulley nut to 90-100 lb-ft. If you torque the nut with the alternator still on the engine, use a pipe strap wrench, NSN 5120-00-776-1840 or NSN 5120-00-262-8491, to hold the pulley.



TORQUE THE
PULLEY NUT
TO 90-100
LB-FT.

Hydraulic Reservoir Torque Talk



TOO MUCH
TORQUE CAUSES
ME TO
BUCKLE!

Oil leaking out around the winch reservoir access cover is a sure sign of trouble. You can't afford to lose too much fluid, so you tighten a cover nut.

But tightening the nut to stop an oil leak may cause a leak of another kind.

Too much torque causes the corner of the access cover to buckle up. Water seeps past the gasket into the hydraulic oil. Now the oil ends up like that good intention—SOUR!


Keep water out of the winch's hydraulic oil by tightening the access cover to 30 lb-ft and no more. Replace both access cover gaskets, NSN 5330-01-101-2674, if 30 lb-ft on the nut doesn't stop the oil leak.

Shelter Carrying Cautions


Commo shelters for the AN/GRC-122 and AN/GRC-142 RATT rigs are showing up on HMMWVs.

But the shelter may overload the truck by up to 500 pounds. Throw in the extra supplies and personal gear that are usually carried, and you're looking at a truck that can be a handful to drive on hardtop roads or cross-country.

Here are some guidelines for safer operation:



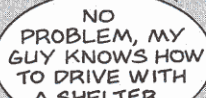
Keep speed down. Driving too fast cuts the time you have to react to emergencies.




Take more time to stop. Allow extra distance between vehicles in convoys.




THANKS FOR THE LIFT, HUMVEE!



NO PROBLEM, MY GUY KNOWS HOW TO DRIVE WITH A SHELTER.



Avoid sharp turns. Slow down before turning and turn wide. When going up or down hills, go straight up or down, not across the slope. The shelter raises the center of gravity of your truck and makes it more prone to rollovers.



Anticipate traffic. You don't want to make any quick maneuvers or lane changes.

Towing generators or other trailers will make your truck even harder to handle. Stay alert!

High winds make things worse. When driving in high winds, the wind on the shelter can push the truck out of control. Remember this and slo-o-ow down when the wind picks up.

HEMTT...

Dry Is Better

Remove all grease from the rotation gears on the crane for the M977, M984A1 and M985 HEMTTs in the desert.

Grease attracts sand like a magnet attracts iron filings.

Sand and grease—grit—make a grinding compound that eats up gear teeth.

So the best thing to do is run those gears dry. Remove all grease by steam cleaning, or use a rag with a cleaning solvent.

If the dry gears rust, coat 'em with auto wax. NSN 7930-00-985-6750 gets a 14-oz can.



Tactical Trucks...

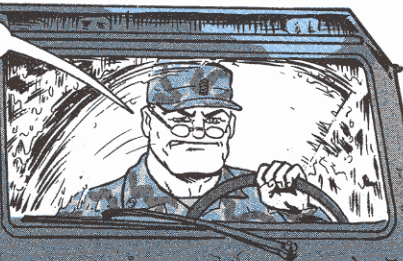
Windshield Wiper Kits

Trico windshield wiper and washer parts are no longer available.

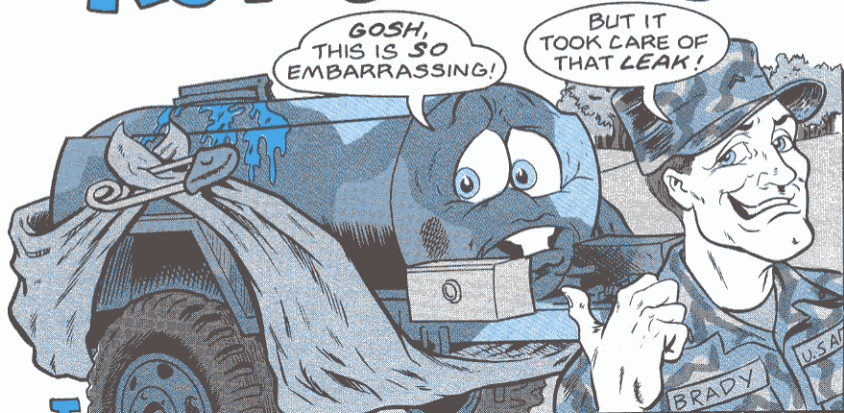
Now when you need parts for wipers and washers, you have to order a new setup.

HERE ARE THE KITS THAT ARE AVAILABLE:

Truck	Kit	NSN 2540-01-
HEMTT	wiper	313-4307
HEMTT	washer	313-4308
M915-series	wiper	312-4718
M915-series	washer	312-4719
M939-series	wiper	303-0600
M939-series	washer	101-0010



New Cover Seal



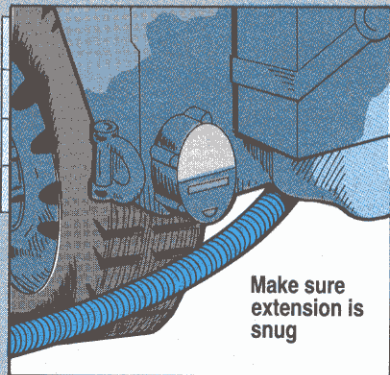
If the manhole cover seal leaks on your 400-gal water trailer, replace the old seal with a new, better seal, NSN 5330-01-317-9640.



- REMOVE THE MANHOLE COVER.
- SCRAPE OFF THE OLD GASKET AND TOSS IT.
- SAND THE OUTER 1/2 INCH OF THE UNDERSIDE OF THE COVER WITH EMERY PAPER.
- USE DENATURED ALCOHOL TO WASH THE SANDED AREA. CAREFUL NOT TO TOUCH THE SANDED AREA.
- LET DRY.
- PUT SILICONE SEALANT, NSN 8040-00-938-1535, FOR ABOUT 1 INCH ALL AROUND THE OUTSIDE EDGE OF THE COVER.
- SLIP THE SEAL ONTO THE COVER.
- PUT A LITTLE MORE SEALANT AROUND THE INSIDE OF THE SEAL.
- NOW LAY THE COVER WITH THE SEAL FACE DOWN ON A SMOOTH, FLAT SURFACE, SUCH AS A WORK BENCH. LET THE SEALANT CURE FOR 24 HOURS.
- RINSE THE COVER WITH WATER.
- REPLACE THE MANHOLE COVER ON THE TANK.

Gas Can Kill You!

When running your vehicle's engine indoors, always use a flexible exhaust extension to carry deadly carbon monoxide outside.



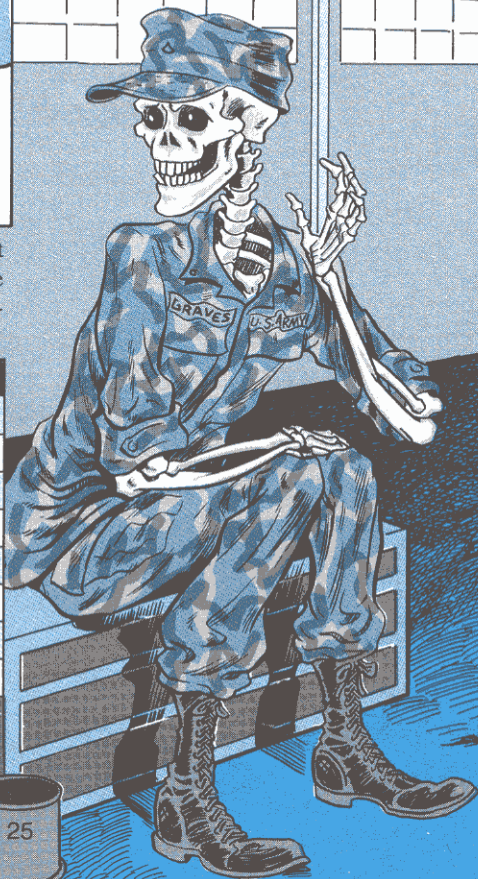
Make sure extension is snug

A snug fit over the tailpipe is a must to prevent a leak. Here are flexible tubes to fit some common-size tailpipes:

NSN 4720-00-	Inside Diameter
174-4668	1 inch
278-8030	1½ inches
278-8027	1¾ inches
278-8031	2 inches
174-6818	2½ inches
174-4664	3 inches
174-4671	4 inches

The unit of issue is feet.

I SHOULD HAVE CHECKED FOR LEAKS!



Hold the Solvent...

Give Oil a Second Chance

Hold one, mechanic. That used cleaning solvent doesn't go in the waste oil barrel.

Just a few ounces of solvent, anti-freeze or other hazardous waste, ruins every gallon of re-usable oil in the barrel. Not only that, but it means the contaminated oil will have to be treated as hazardous waste, also.

Protect that used oil. As long as it's free of hazardous waste, it can be used again.

It can be mixed—in small amounts—with good fuel and burned. That allows a like amount of good fuel to be used elsewhere.

To qualify for this second life, tho, the oil must be free of added toxic material. Experts test it before burning to make sure it is.

That's where you come in. You're the person "on the ground". Follow the rules and you can make sure Uncle Sam gets good value for all the oil he buys. Gets good value twice, in fact.

Pour hazardous waste in the containers set aside for it and dump waste oil in its place. Don't mix the two.

Most importantly, read the hazardous materials SOP in your unit.



This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer print-out provided by the Adjutant General.

- TM 5-5420-203-14** Jun Bridge, Armored-Vehicle-Launched
TM 9-1005-319-23&P May M16A2
TM 9-1090-208-23P Jul M230 30 millimeter automatic gun; M140 inventory-deployment rocket management subsystem
TM 9-2320-280-20-1 Jan 90 HMMWV: Unit maintenance manual for truck, utility; cargo/troop carrier
TM 9-2350-284-24P-1 May M2A2/M3A2 Bradley
TM 9-2805-258-14 Nov 90 Mil-Std 10-HP gasoline, engine, Models 2A042-2 and 2A402-3
TM 11-5855-264-14 Oct 90 Test set, aviator's night vision imaging system, TS-3895/UJ and test set, electronics system TS-3895A/UJ

- TM 55-1520-237-23-7** Apr Unit and intermediate maintenance for UH-60A, EH-60A, and UH-60L
TM 55-1520-237-23P-1,2,3,4,5 Apr RPSTL for UH-60A, EH-60A, UH-60L
TM 55-1520-238-23P-1,2,3,4,5 Mar Aviation unit and intermediate maintenance repair parts and special tools list for AH-64A

- TM 55-6930-215-10** Mar UH-60 flight simulator
TB 1-1520-237-20-125 Apr One time inspection of fire extinguishing system (UH-60A/L and EH-60A)
TB 1-1520-238-20-16 Jan Initial and recurring erosion inspection of main rotor blade tip caps on AH-64A aircraft for Operation Desert Shield

Maintenance & Safety-Of-Use Messages

- AMCCOM SOU Msg-11-91**—Operational, TM error on which simulator to use with the Remoted Target System (RETS) Gunfire Simulator (GUFS) Device, AMSMC-MA 102110Z May 91.
AMCCOM Maintenance Advisory 91-23—Replace crayon markers in M274 NBC marking set with china markers, AMSMC-MAR-EP(A) 231430Z May 91.
CECOM SOU Msg-91-05-01—Advisory, Potential RF shock/burn hazard with the AN/GRC-215 team terminal, AMSEL-SF-SEP 311800Z May 91.
TROSCOM SOU Msg-12-91—Emergency, Additional information about the Tent, Expendable, Modular, Personal (TEMPER) flys made

by Camel Manufacturing Company under contract DLA100-87-C-4233, AMSTR-MEPN 031600Z May 91.

TROSCOM SOU-Msg-13-91—Emergency, Conduct pull test of the ripcord handle on MK-J5D parachute assembly, AMSTR-M 231930Z May 91.

TROSCOM Maintenance Advisory Msg-91-16—Shaft/axle tolerance and part number correction on P-19 crash fire trucks, NSNs 4210-01-137-9943 and 4210-01-137-9944, AMSTR-MEPP 131500Z May 91.

Your Direct Support or Logistics Assistance Office (LAO) can provide you with more information.

TIPS

Tool Improvement Program Suggestions

OUCH! THE WRENCH BROKE! CUT MY HAND! PIECE OF JUNK!

YEAH! I DON'T KNOW WHY WE'RE NOT ISSUED BETTER TOOLS!

WHAT ABOUT THOSE TOOLS WE'RE ISSUED BUT NEVER HAVE A NEED FOR!

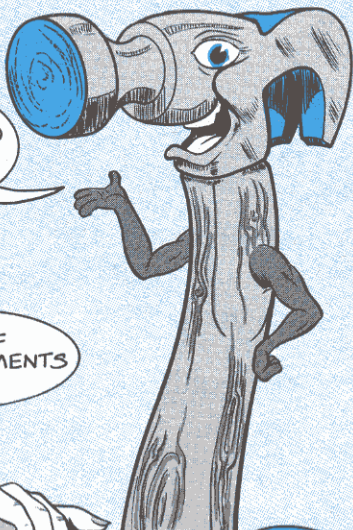
THE ARMY SHOULD GET THE NEW KINDS OF TOOLS LIKE I BOUGHT!

TELL IT WHERE IT COUNTS! SEND YOUR SUGGESTIONS TO TIPS!



THE ARMY WANTS YOUR SUGGESTIONS AND RECOMMENDATIONS ON TOOLS. **TIPS** IS A PROGRAM TO SEE THAT YOUR IDEAS GET THE ATTENTION THEY **DESERVE!**

THIS IS YOUR CHANCE TO HELP UPGRADE YOUR TOOLS!

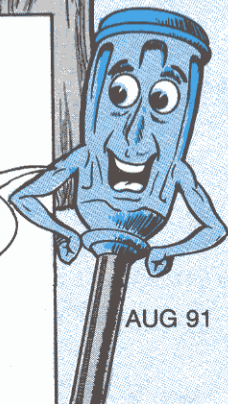


FIRE OFF YOUR COMMENTS TO:



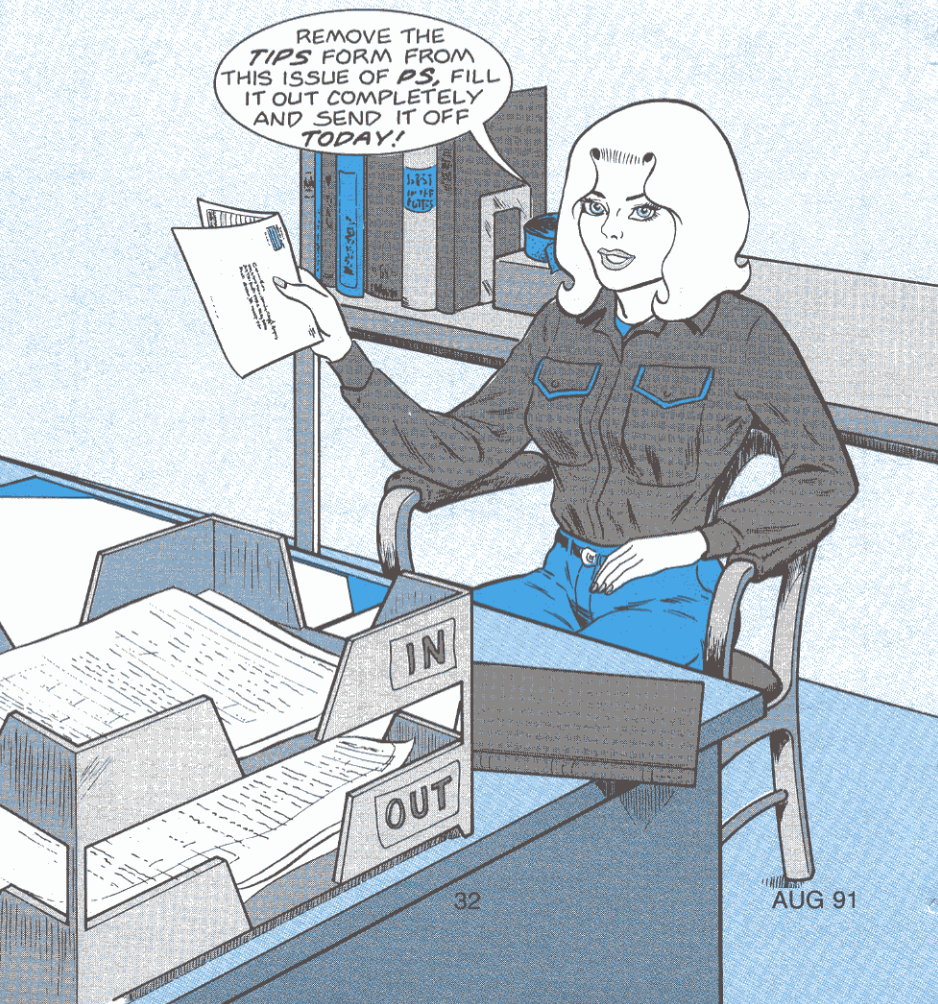
Commander
US Army Force Integration Support Agency
ATTN: MOFI-TED-E Bldg 2588
Fort Belvoir, VA 22060-5587

THE **TIPS** PEOPLE WILL SEE THAT YOU GET AN ANSWER... AND THAT APPROPRIATE ACTION IS TAKEN ON YOUR RECOMMENDATION!



Tips on TIPS

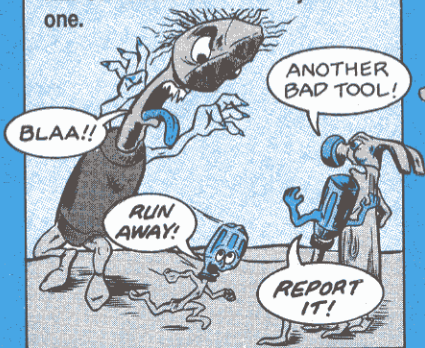
Different manufacturers may make the same design tool, so it helps a lot if you identify the manufacturer. Most items do show the manufacturer's name, code or part number. But even if you can't peg the manufacturer, send in your comments anyway. If several reports come in on an item, the tool people will be able to identify the manufacturer.





KEEP THESE TIPS IN MIND!

Report BAD TOOLS. If a tool breaks, fails to hold its calibration, quickly wears out or cannot take the rugged use it was intended to take... **REPORT IT** and a solution if you have one.



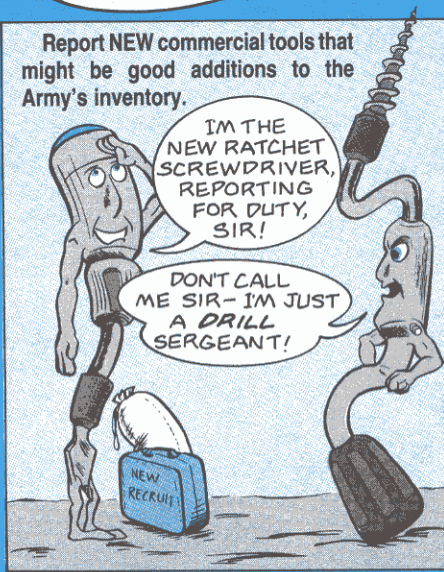
Report tools that should be **DELETED** from the system because they are never used or fail to do the job they were intended to do.



Report tools that should be **ADDED** to the system. If you know a tool that can do the job better, let the Army know, too.



Report **NEW** commercial tools that might be good additions to the Army's inventory.



Report tools that need MODIFICATION—
Share your good MOD IDEAS with the Army.

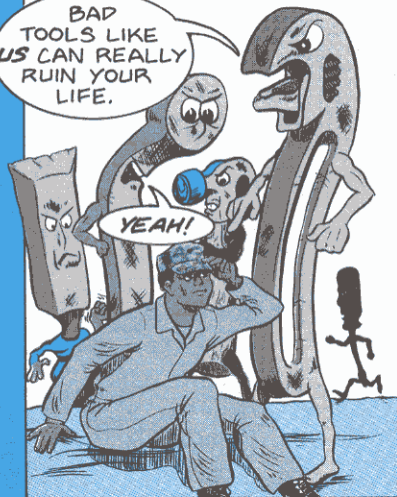


REPORTING
YOUR IDEAS FOR
MODIFICATIONS
SAVES DUPLICATION
OF EFFORT AND
GIVES OTHERS THE
BENEFIT OF YOUR
WISDOM.



Don't feel powerless over bad tools.

BAD
TOOLS LIKE
US CAN REALLY
RUIN YOUR
LIFE.



TIPS puts the control in your hands!

I FEEL
LIKE I'M IN
GOOD HANDS
NOW!



All Aircraft...

BATTLING GREASES AND GLOBS

COME ON,
SLIMEBALL,
MAKE MY
DAY!



Creeps and globs may sound like something out of a horror movie, but what they can do to your aircraft is strictly for real.

Some silicone and greases “creep.” Grease applied during morning maintenance may be softened by midday heat. The softened grease—goo—creeps to other surfaces. This greasy mess makes the surface a target for sand buildup. And by now, you know the destructive force of sand. Some mechanics “glob.” They apply grease and Proseal with a heavy hand, thinking that if a little works well, a lot will work even better. But that glob becomes like a magnet for sand and is a prime candidate for creep.

To battle the creeps and globs, you:

APPLY just the right amount of lube or sealant. Wipe away any excess.

CHECK all lube points in the heat of the day. Wipe away any creeps.

REMEMBER where creeps usually start. Check these areas often.

USE only sealants and lubes called for by the TM. Substitutes may seem to do the same job, but they may creep more easily.

No PM Shortcuts!

"YOU CAN..."



"...CUT THE MUSTARD..."



"...CUT A RUG..."

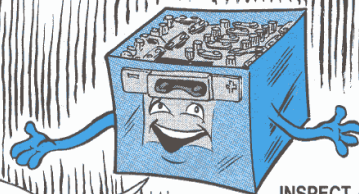


"...AND CUT IT OUT..."

...BUT YOU CAN'T CUT CORNERS WHEN IT COMES TO NICKEL-CADMIUM BATTERY PM. IT MUST BE DONE RIGHT... BY THE BOOK!

YEAH, LISTEN TO THE MAN!

THAT MEANS HAVING TM 11-6140-203-14-1 AND -14-2 NI-CAD BATTERIES CLOSE AT HAND.



INSPECT AND CLEAN

HERE ARE SOME AREAS YOU SHOULD PAY CLOSE ATTENTION TO:

Inspect and clean batteries every 30 days or 30 flight hours, whichever comes first, like it says in Table 4-1 of TM 11-6140-203-14-2. The exceptions are the BB-558/A in the OH-58D and the BB-716/A in the UH-60, which require Unit Level Maintenance every 30 days or 50 flight hours. In extreme temperature areas, like the desert, do it more often.

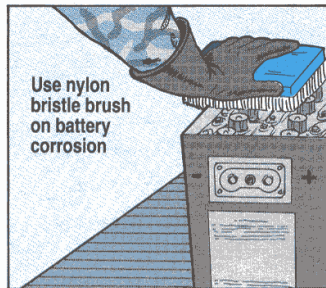
SAFETY

Carelessness can get you a face full of potassium hydroxide and, friend, that will ruin your day. Always wear rubber gloves, NSN 8415-00-266-8675, an apron, NSN 8415-00-082-6108, and a face shield, NSN 4240-00-202-9473, when you inspect, clean or service a battery.

Follow the cleaning instructions in Para 4-6. Before you clean the batteries, snug down the filler caps. Wash with a sponge or soft cloth using 1/4 cup of detergent in a gallon of water. Rinse with water. To clean stubborn



Always wear rubber gloves, apron and face shield

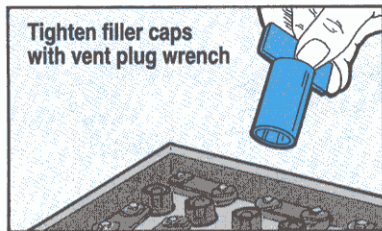


Use nylon bristle brush on battery corrosion

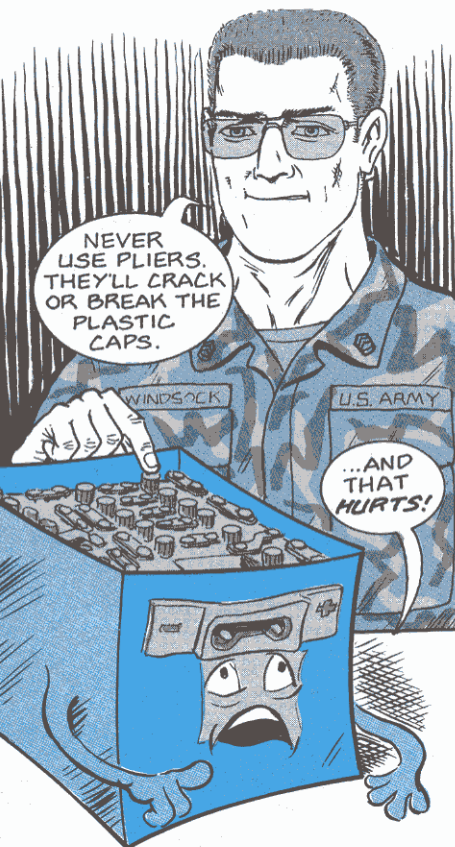
If your job requires charging batteries, monitor the operation. Charging at high temperatures requires lower charging voltages. Also, when the temperature's high, a charging Ni-Cad battery will give off more gas.

corrosion, use a nylon bristle brush, not a wire one. A wire brush could short out the battery. You can use a wire brush once the battery is removed to clean off the tray and the box if the corrosion is tough.

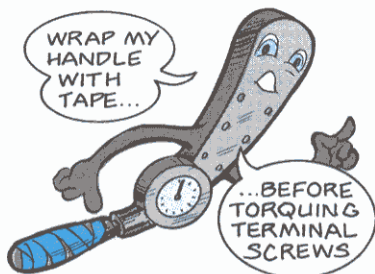
LOOSE FILLER CAPS



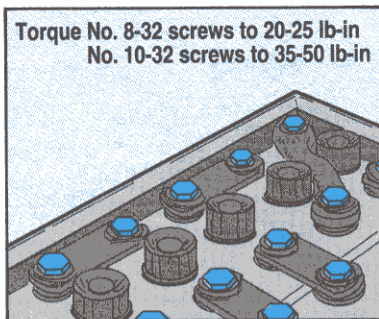
Tighten loose filler caps carefully with vent plug wrench, NSN 5120-00-087-2969, or battery fill wrench, NSN 4240-00-618-5305.



LOOSE TERMINAL SCREWS



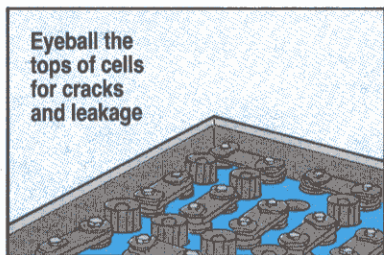
Use torque wrench, NSN 5120-00-117-4832, and the right adapter to tighten loose terminal screws. Torque the No. 8-32 screws to 20-25 lb-in and the No. 10-32 screws to 35-50 lb-in. Make sure they're in straight and not cross threaded. Be careful when you tighten positive terminal screws and studs. If a wrench touches metal and



causes a short circuit, you and your equipment will suffer. Wrap the wrench handle with tape. Coat the terminals after torquing with corrosion preventive compound, NSN 8030-00-903-0931. Some mechanics prefer silicone compound, NSN 6850-00-880-7616, and that's OK.

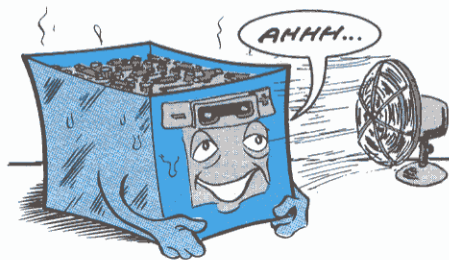
ELECTROLYTE LEAKAGE

Electrolyte spewed out of an over-filled or cracked cell forms a white



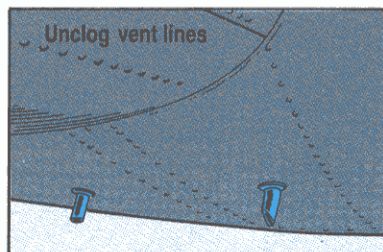
residue that clogs vents, short-circuits the battery and causes gassing and overheating. Use the AN/PSM-45 multimeter in your AVUM No. 2 tool kit to make the electrical leakage test spelled out in Para 4-9 of the battery pub. If you find or suspect leakage for any reason other than loose filler caps, remove the battery and get DS to check it out.

If your job is to check electrolyte levels, don't forget the rest time limitations. Check the TM for the times for the aircraft you're working on. The general rule is to wait at least 30 minutes for cool down, but no more than 2 hours.



CLOGGED VENT LINES

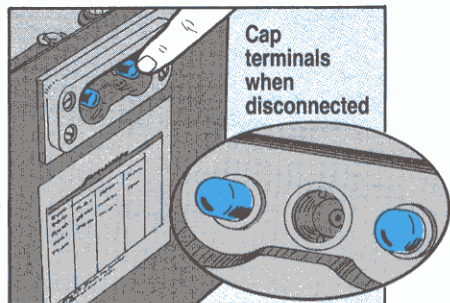
Vent lines ventilate the battery compartment during flight. They also make a convenient nesting place for many kinds of insects. If vent lines get plugged, battery fumes can't escape except through the cockpit. Disconnect



the vent hoses at the battery end and use low pressure air to make sure they're clear.

TWO LAST POINTS

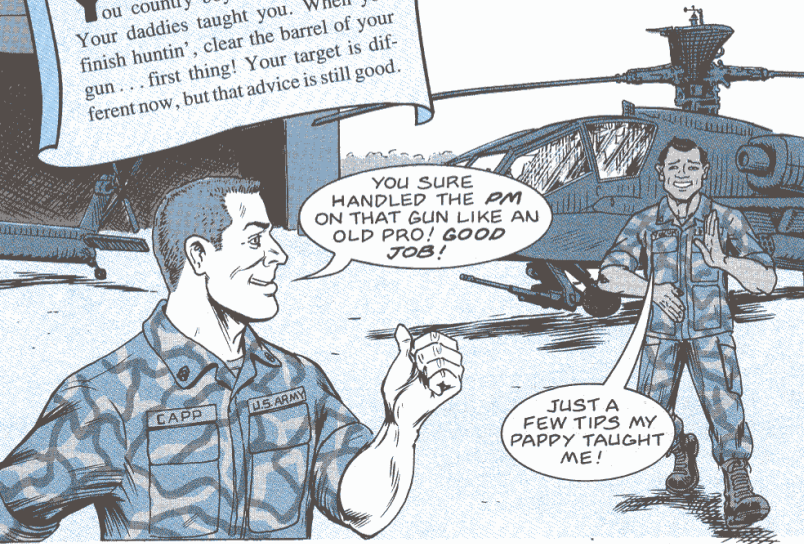
While the battery is disconnected, prevent shorting of the terminals of the



connector by using plastic caps from oil sample tubes, NSN 4710-00-933-4415. When reconnecting the battery cable, hold it level as you push it in the receptacle.

Barrel Basics

You country boys know the score. Your daddies taught you. When you finish huntin', clear the barrel of your gun... first thing! Your target is different now, but that advice is still good.

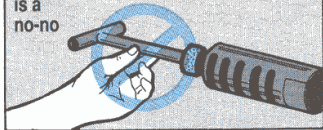


YOU SURE HANDLED THE PM ON THAT GUN LIKE AN OLD PRO! GOOD JOB!

JUST A FEW TIPS MY PAPPY TAUGHT ME!

Start the cleaning of the barrel of the 30-MM automatic gun by making sure the weapon is clear. Do this by the book, Para 4-7-1 of TM 9-1090-208-23-1 (Sep 85). Never ram something like a bore brush or broomstick down the barrel to probe for a round. You could cause a round to explode.

Using a bore brush or a broomstick as a probe is a no-no



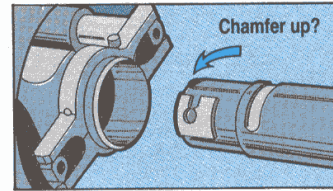
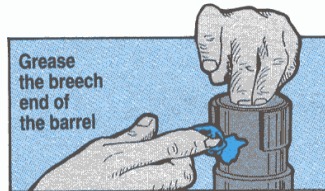
After you've cleared the barrel, follow the barrel removal info in Para 4-7-3 of the TM.

Once in hand, clean the barrel with the cleaning rod assembly and bore brush dampened with CLP, NSN 9150-01-053-6688. Then run a clean, white cloth through the barrel, using the bore brush. If the cloth comes through dirty, get a new cloth and try again. Repeat the process until the cloth comes out clean.

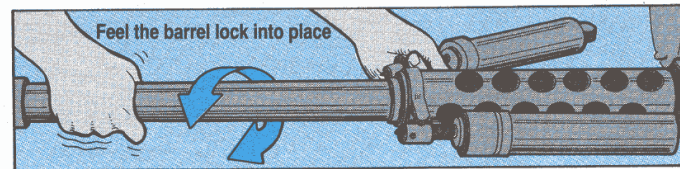
Lube the outside of the barrel with a light coat of CLP.

Now reinstall the barrel like it says in Para 4-7-3, but with this added lock-

ing tip. Dab a thin layer of grease, NSN 9150-00-223-4004, around the breech end of the barrel and around the flange. That reduces some of the friction between the barrel and the gun and makes it easier to slide the barrel into place. When you slide in the barrel, position it so the chamfer on the breech end faces up.



Grasp the barrel firmly and twist it clockwise until you feel the barrel lock release handle lock in place. Then try to twist the barrel in each direction. If it's locked, it won't move. If it moves, remove the barrel and start over.



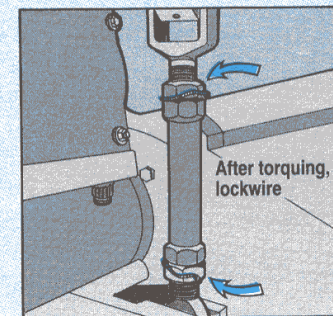
UH-1...

Same Sheet with Pitch Link

It's time everyone was on the same sheet of music concerning pitch link security.

A couple of years ago the bird head-shed said to forget about lockwiring the upper jam nut to the clevis when installing or adjusting the pitch chain links.

The current word is to follow Para 5-13.o.(5) of TM 55-1520-210-23-1. Lockwire the upper jam nut to both the barrel and the clevis and lockwire the lower jam nut to the barrel.



The Hole Truth

(and Nothing but the Truth)

A GUY LOST A THOUSAND-DOLLAR RADIO CALL-IN CONTEST ONE TIME WHEN HE KNEW THE ANSWER, BUT HE DIDN'T HAVE A QUARTER FOR THE PHONE. IT FELL THROUGH A HOLE IN HIS POCKET!

WHAT'S THAT GOT TO DO WITH ME?

Your SRU-21/P vest has 10 pockets. A hole in any of them could result in a loss that could cost you more than a thousand dollars. It could cost your life.

A hole could cost you

Right now, today, get your vest in shape.

Look for holes, cuts, tears and burns. Check for broken or loose stitching. Does the zipper work? Are all snaps

and fastener tape in place? Any of these problems? Turn your vest in to your Aviation Life Support Equipment (ALSE) technician. Your tech will repair your vest ASAP.

Your cleaning job is a dry-cleaning one. Brush away all dirt, dust and mud with a soft-bristle brush. If your vest is stained with lube oil, grease, hydrau-

lic fluid or fuel, it's lost its flame retardant properties. Turn it in for a thorough cleaning by your ALSE tech.

Your tech knows how to spot clean your vest with aromatic naphtha, NSN 6810-00-223-9067, and a soft-bristle brush.

Remove dirt, dust and mud with a soft bristle brush

THE MIDDLE NAME OF YOUR VEST, SURVIVAL, TELLS THE TALE. REMEMBER WHAT YOU CAN LOSE THROUGH A HOLE IN YOUR POCKET.

Aviation Messages

If your unit has not received a message you have an interest in, check with your next higher headquarters.

CAT 1 EIR Phone:
DSN 693-2066
(24 HOURS)

GEN-91-ASAM-04, Maint Mand, AGPU, Inspect welds on the rear axle mounting pads, 011800Z Apr 91.

CH-47-91-ASAM-04, Maint Mand, CH-47C, Inspect/removal of transmission shaft (cross shaft), PN 114D3247-1 containing transmission shafter adapter, PN 114D3244-1, 021830Z Apr 91.

AH-1-91-ASAM-07, Maint Mand, AH-1, UH-1M, Inspect/replace main rotor TT strap pins, TB 55-1520-243-20-15, 031745Z Apr 91.

UH-60 and AH-64, CCAD hot line/engine service center for T53, T55, T63 and T700 engines, 081700Z Apr 91.

OH-58-91-ASAM-10, Maint Mand, OH-58A/C with T-63-A-720 engine-replace particle separator nozzles, 082200Z Apr 91.

CH-47-91-ASAM-05, Maint Mand, CH-47D, Calculating fatigue life for aircraft ops at gross weights above 50,000 pounds, 092200Z Apr 91.

AH-1-91-ASAM-08, Maint Mand, AH-1, Revision to AH-1-91-ASAM-04 main rotor pitch horn bolt degreasing, 112000Z Apr 91.

UH-1-91-ASAM-07, Info, UH-1H/V and EH-1, Increase retirement life of stabilizer center frame,

121800Z Apr 91.

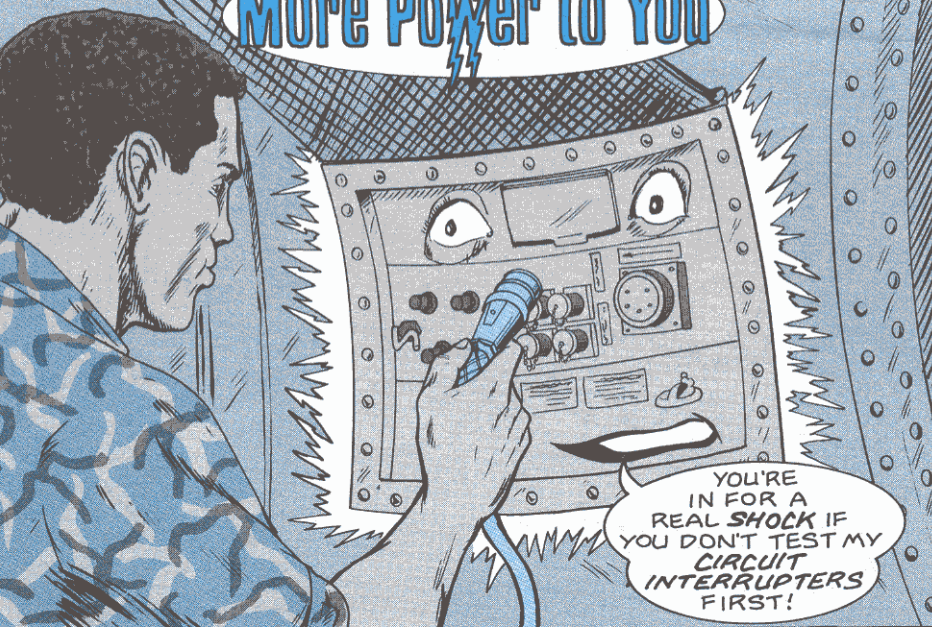
CH-47-91-ASAM-06, Maint Mand, CH-47D and MH-47D operating in SW Asia, install new forward transmission oil cooler air inlet duct, 251900Z Apr 91.

UH-1-91-ASAM-08, Info, UH-1, Alternate method of tracking tail rotor blades, 292000Z Apr 91.

AH-64-91-ASAM-07, Maint Mand, AH-64, Inspect pilot night vision sensor electronic units/TADS power supplies for electromagnetic relays, 292100Z Apr 91.

CH-47-91-01, SOF, Emergency, CH-47D, MH-47D, and MH-47E, Inspect/removal of combiner transmissions and engine transmissions containing suspect input pinions and gears, 022300Z Apr 91.

More Power to You



The convenience receptacles in the power entrance box of the AN/TRC-173 radio terminal set have ground fault circuit interrupters (GFCIs). They protect you from being shocked.

Bum circuit interrupters can't prevent electrical shocks, so here's an easy test to make sure that the GFCIs are on the job:

- (1) Connect an electrical load, such as a lamp or a radio, to the 115V AC outlet in the power entrance box.
- (2) Set the CONV BREAKER to ON and press the GFCI RESET button. The radio or lamp should work.
- (3) Press the GFCI TEST button. This interrupts the power to the load. The radio or lamp should quit working.
- (4) Press the GFCI RESET button and the load should have power again.

If steps 2, 3 or 4 fail, have your support folks replace the convenience receptacle.

Fuse NSNs

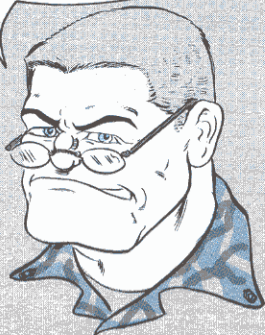


DEAR MSG HALF-MAST,
 IS THERE AN NSN FOR A FUSE KIT FOR THE AN/VSC-3 RADIO TELETYPEWRITER SET? OR CAN YOU GIVE ME A LIST OF FUSE NSNs FOR THE RADIO, MODEM AND TELETYPE?

SFC K.R.B

THERE'S NO NSN FOR AN AN/VSC-3 RADIO TELETYPEWRITER SET FUSE KIT. HOWEVER, HERE'S A LIST OF THE FUSES NEEDED FOR THE AN/GRC-106 (A) RADIO, MD-522A (MODEM), AND AN/JGC-74A(V)3 TELETYPE.

CAGE	Part Number	NSN 5920-
81349	F02A250V2A	00-280-4960
71400	MDX2	00-611-6679
81349	F02A250V1/4A	00-043-2641
81349	F02B250V1/16A	00-229-1312
81349	F02B250V2A	00-228-7882
81349	F03B250V2A	01-023-5878
81349	F03B250V1 1/2A	01-023-4822
81349	FM09A250V1-1/2A	01-126-9961
81349	FM09250V2A	01-112-0296
81349	F02A250V1/2A	00-280-8344
81349	F02A250V1-1/2A	00-050-4953
81349	FM04A125V 5A	00-221-8371
81349	F03B125V6-1/4A	00-529-0618
81349	F03B125V10A	00-758-7785

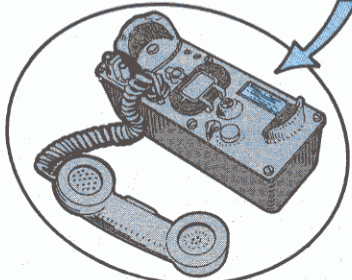


Installation Kit Substitution

The installation kit for the AN/VRC-12 radios, now contains the H-250/U handset, NSN 5965-00-043-3463, instead of the H-251A/U headset, NSN 5965-01-182-3384, and M-80C/U microphone, NSN 5965-00-179-7762. If you need the headset or microphone, you'll have to order them separately.

Data Plate Information

Dear Macom,
I've lost the data plate
from one of my TA-312
telephone sets. I haven't
been able to find the
NSN for a new one.
Can you tell me how
to order one?
SSG W.J.F.



Dear Sergeant W.J.F.,

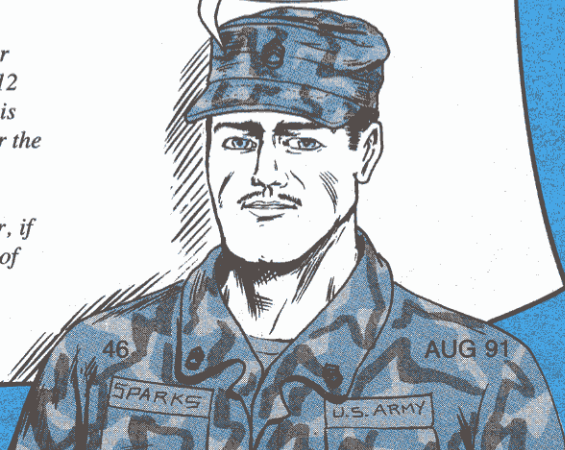
Commo equipment data plates have no NSNs. You can get them by following the words in SB 11-631 (Aug 88). Those words are basically to let your support order and replace them for you.

However, you have to tell them what goes on the plate. Here's what they need to request the data plate:

- Length, width and depth of plates.
- Type of equipment or component by type number or nomenclature, such as TA-312 telephone set. You can get this info from an old data plate or the unit's property book.
- Manufacturer's name, address and contract number, if available. Check your piece of equipment for this info.

- Procurement contract number, if known.
- Equipment or component serial number. This will be stamped on the equipment or recorded on the unit's property book.

IF YOU'RE REPLACING
A MUTILATED PLATE, SEND
IT ALONG WITH YOUR
REQUEST.



Get Right Fuel Filter Stud

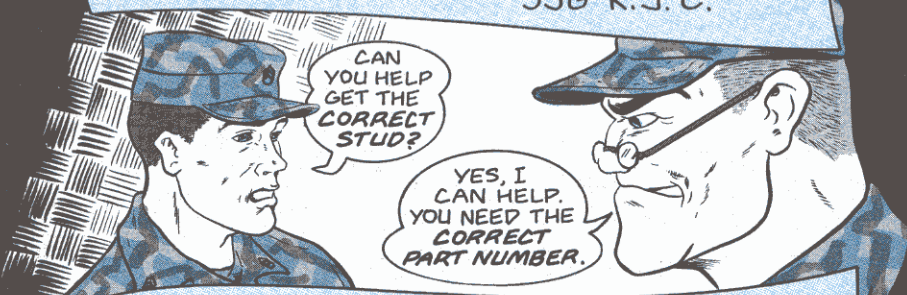
Dear Half-Mast,

We're having a problem getting the correct center stud for the primary fuel filter on our 30-KW DED generators.

When we order item 15 in Fig 46 of TM 5-6115-465-24P we receive a center stud that's 1/4 inch too short.

We also need an NSN for the electrical connector plug that plugs into the fuel float assembly.

SSG R. J. C.



Dear Sergeant R. J. C.,

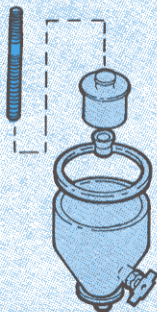
TM 5-6115-465-24P gives the wrong part number for the center stud.

To get the correct center stud for the primary fuel filter, order it on DD Form 1348-6 using CAGE 36024 and part number 30554-70-507-12-1 from A12.

NSN 5935-00-608-1876 gets the connector plug for the fuel float assembly.

Half-Mast

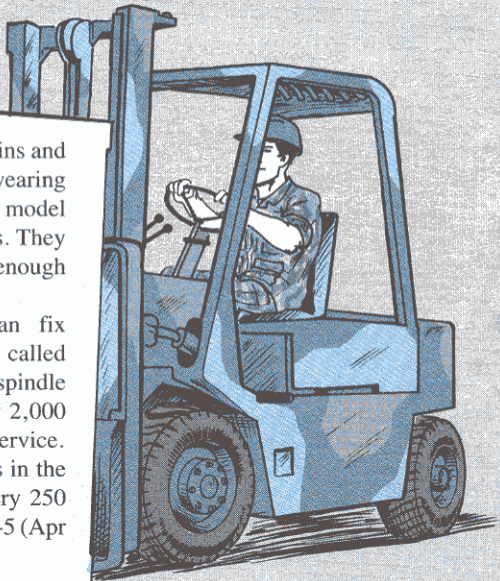
Primary fuel filter



More Lube Needed

Steering axle king pins and spindle bearings are wearing out quick-like on early model 4K/6K Hyster forklifts. They just aren't getting enough lube.

You mechanics can fix that, even if it's not called out in your LO. Lube spindle bearings during every 2,000 hours or at annual service. Or install lube fittings in the spindles and lube every 250 hours. TB 43-0001-39-5 (Apr 91) has the word.



CARC...

Touch Up Painting

CARC
PAINT ON
HYDRAULIC
CYLINDER
RODS
WILL
DESTROY
A GOOD
SEAL.

When you touch up paint, cover all polished rods and polished areas with paper and tape. That keeps paint off and cylinders clean.



Wrap rod with paper
to keep off paint

A close-up illustration showing a hydraulic rod wrapped in a piece of paper. The paper is secured with a piece of tape, demonstrating the technique for protecting the rod from paint.

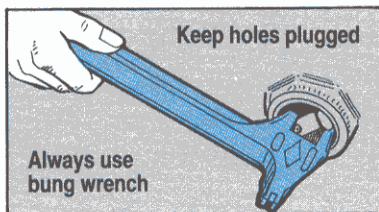
Bung Business

Keepest holes plugged. Otherwise, you invite sand, dust, dirt and water to come in and contaminate lubes and oils in those 55-gal drums. If you take bung plugs out, put them back when you're done.

Get replacement bungs with these NSNs:

Sizes	NSN 8110-00-132-	Different Types
2-in bung	9640	4
3/4-in vent bung	9639	2

Bungs are hard to remove with an ordinary wrench. Always use a bung wrench, NSN 5120-00-507-4886. It can remove all six types of bungs.



Appendix A of CTA 50-970 is your authorization to order the bung wrench.

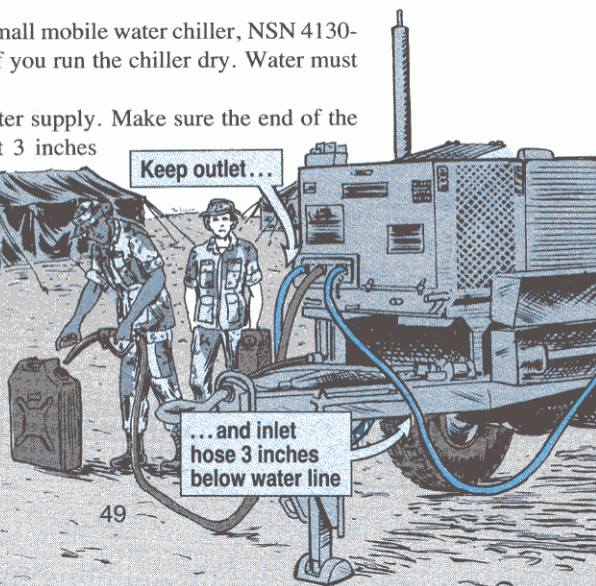
Mobile Water Chiller...

A Hot Tip for Cold Water

The water pump on your small mobile water chiller, NSN 4130-01-131-2685, will burn up if you run the chiller dry. Water must flow through the pump.

So keep an eye on the water supply. Make sure the end of the inlet hose is always at least 3 inches below the water level. That will keep the pump pumping and the chiller chilling.

If you need a longer inlet or return hose, make it from bulk hose, NSN 4720-01-282-9723.



Ice Chests...



Help your field ice chest, NSN 4110-00-142-2445 (200-lb capacity) or 4110-00-640-1941 (400-lb capacity), keep your food cold even in the desert by making repairs as soon as possible.

HERE'RE
THE
REPLACEMENT
PARTS!

COOL!

Item	NSN
Gasket, door seal	5330-00-672-8738
Handle, bail	5340-00-682-1502
Chain, safety	4010-00-720-4467
Stopper, drain	4510-00-242-4358
Item	PN
Hinge	5-13-2344-13
Nail, screw grip (11 gage x 7/8-in aluminum)	5-13-2341-37

Be sure to order enough nails, PN 5-13-2341-37, and as much gasket, NSN 5330-00-672-8738, as you need (the gasket comes by the foot). Order the hinge and nails by part number and CAGE 81337 on a DD Form 1348-6 from RIC S9G.

the Field



There are 6 manufacturers that make the 200-lb and 400-lb ice chests. The stay assembly plus the other ice chest parts are listed in each manufacturer's service manual. Order the parts you need on a DD Form 1348-6 by listing the CAGE and the part number. The RIC is S9G.

THAT'S
SOME
STAY
ASSEMBLY!

Manufacturer	Size Chest	TM-DGSC-4110-
Brenner Metal Products Corp	200/400-lb	554
Morton Manufacturing Co.	200/400-lb	681
Auto Skate Co., Inc.	200/400-lb	425
Taltech International, Inc.	200/400-lb	711
MGR Equipment Corp.	400-lb	508
R.S.P. Industries, Inc.	400-lb	522

REQUEST
THE MANUALS
FROM:

Defense General Supply Center
ATTN: DGSC-SDA
Richmond, VA 23297-5000

AIR DRY
THE CHEST WITH
THE TOP OPEN.

Clean the ice chest inside and out using a soft cloth and a solution of mild detergent and warm water. After washing, be sure to remove the drain plug from the inside and rinse the chest well with potable water to wash away detergent so it doesn't contaminate ice and food.

Packaging

Those repairables being shipped to and from the desert have a long, dusty trail to travel. They suffer more damage when they're not packaged right. That means extra work for somebody—and extra money from Uncle Sam for more repair parts.



WHERE CAN I FIND OUT HOW TO PROTECT REPAIRABLES DURING SHIPPING?

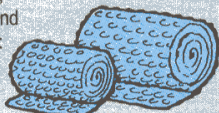


THESE PUBS SHOULD HELP!

- TM 746-10, General Packaging Instructions for Field Units
- TM 38-230-1, Preservation and Packing, Volume 1
- TM 38-230-2, Preservation and Packing, Volume 2
- MIL-STD-129, Marking for Shipment and Storage

YOU'LL NEED SOME OF THESE MATERIALS.

Bubble pack material
(for wrapping, cushioning, and immobilizing):



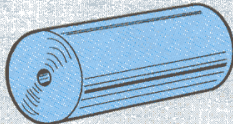
Roll Size **NSN 8135-00-**
 $\frac{3}{4}$ in \times 24 in \times 500 ft 142-9016
 $\frac{1}{2}$ in \times 24 in \times 250 ft 926-8991

Tape, pressure-sensitive
(for sealing and waterproofing):



Roll Size
 4 in \times 60 yd
NSN 7510-00-890-9875

Shrouding material, plastic
(skid-mounted and palletized items):

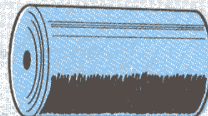


Roll Size
 12 \times 100 feet
NSN 8135-00-579-6489



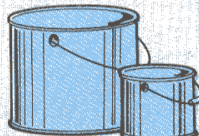
Points

Barrier material, grease/waterproof
(wrapping items covered by corrosion preventive):

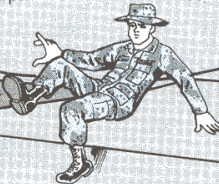


Roll Size
 36 in \times 100 yd
NSN 8135-00-753-4661

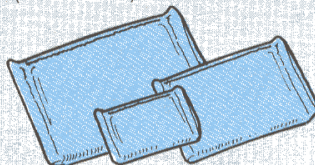
Corrosion preventive
(protects machined ferrous surfaces):



Container Size **NSN 8030-00-**
 1-gal can 244-1297
 5-gal pail 244-1298

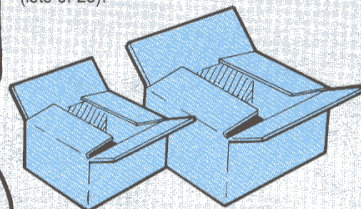


Shipping bags, padded
(for small items):



Size	Qty	NSN 8105-00-
6 \times 10 inches	250	290-0340
7 $\frac{1}{4}$ \times 12 inches	100	290-0342
9 $\frac{1}{2}$ \times 14 $\frac{1}{2}$ inches	100	281-1168

Fiberboard boxes
(lots of 25):



Size (inches)	NSN 8115-00-
8 \times 8 \times 10	183-9499
10 \times 8 \times 6	183-9497
12 \times 8 \times 8	183-9493
16 \times 12 \times 8	183-9487

FAST PACK Containers

YOU CAN GET LUSHIONED, REUSABLE, FIBERBOARD CONTAINERS -FAST PACK- TO PROTECT YOUR FRAGILE ITEMS.

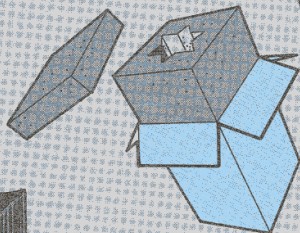
GET A FAST-PACK PAMPHLET BY WRITING TO:

USAMC-PSCC
ATTN: SDSTO-TP-P (FAST PACK)
Tobyhanna, PA 18466-5097

Choose from 4 basic styles (A, D, G, or B) of FAST PACK boxes:

1. Style A, Type I— Vertical star

(for delicate items like meter, gages and instruments):



Size (inches)

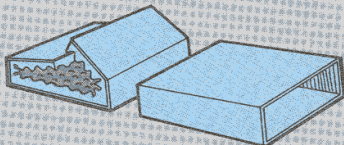
6 × 6 × 10
8 × 8 × 12
10 × 10 × 12
12 × 12 × 14
12 × 12 × 18
14 × 14 × 16

NSN 8115-00-

192-1603
192-1604
192-1605
134-3655
050-5237
134-3656

2. Style D, Type II— Folding convoluted

(protects flat items like circuit boards, modules and tubes):



Size (inches)

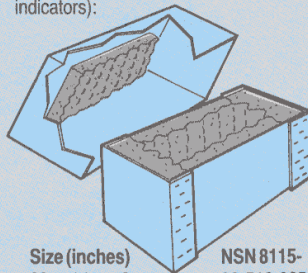
6 × 5 × 2½
6 × 5 × 3½
9 × 6 × 2½
9 × 6 × 3½
10 × 10 × 3½
12 × 8 × 2½
12 × 8 × 3½
13 × 13 × 3½
16 × 16 × 3½
18 × 12 × 2½
18 × 12 × 3½
24 × 16 × 3½

NSN 8115-

00-787-2142
00-787-2147
00-101-7647
00-101-7638
00-057-1244
00-787-2146
00-787-2148
01-057-1243
01-057-1245
01-019-4085
01-019-4084
01-093-3730

3. Style G, Type III— Telescoping encapsulated

(for bigger items, like receiver-transmitters, amplifiers, power supplies, and electronic indicators):



Size (inches)

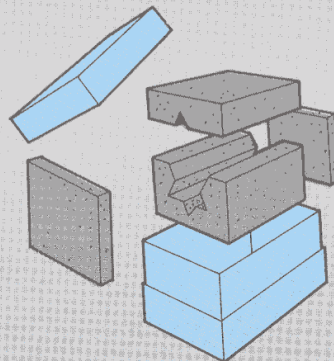
20 × 14 × 9
24 × 12 × 14
24 × 18 × 16
25 × 14 × 14
26 × 9 × 9
30 × 16 × 14
30 × 27 × 14
32 × 12 × 14
32 × 18 × 16
34 × 24 × 18

NSN 8115-

00-516-0251
00-550-3558
01-015-1312
00-550-3574
01-015-1313
00-516-0242
01-094-6520
00-519-1825
01-015-1315
01-015-1314

4. Style B, Type IV— Horizontal star

(for shipping long, rectangular or cylindrical items like regulators, transmitters and amplifiers):



Size (inches)

20 × 14 × 14
22 × 16 × 16

NSN 8115-01-

010-8956
006-7257

Open FAST PACKS with care. They're reusable. Instead of tearing the tape off, cut along the taped seams with a thin-bladed knife. (Only cut the tape along the end seam on Style D.)

When ready to reshipe just tape over the old tape with 2 strips of ¾-in tape, NSN 8135-00-802-8311. Overlap the tape 2 inches, top and bottom. Be careful not to tape over printing or mailing instructions.

Supply authority for FAST PACK items is Appendix A of CTA 50-970.


Wet Weather Maintenance Kit

Use NSN 8405-00-198-3747 to get a kit to repair wet weather parkas and trousers.

Get a pair of 10-in shears with NSN 5110-00-596-9703 to go with your kit. They come in handy when making repairs on wet weather clothing.

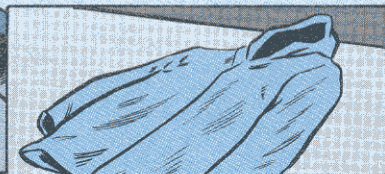
Repair procedures are found in Chapter 17 of TM 10-8400-201-23.



You should always use the repair kit, if you can. But if you're in a big hurry and have just a few small cuts or tears (each less than two inches in width or length), here's what to do:

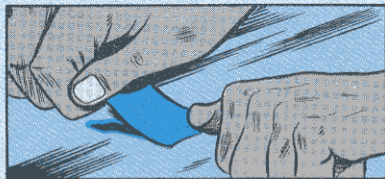
 Turn the item to be repaired inside out.


MAKE TEMPORARY REPAIRS
WITH PRESSURE SENSITIVE TAPE,
NSN 7510-01-246-1303.

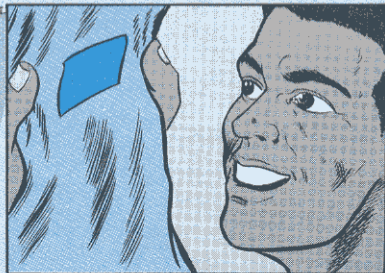
FOLLOW
THESE
STEPS...



 Lay it on a flat surface.
 Place the pressure sensitive tape over the cut or tear.



 Eyeball the repaired area to make sure the tape's well bonded.



M22 Binoculars...

Keep Up with Eyecups

The eyecups on the M22 binoculars are made for soldiers who wear glasses—and many soldiers wear glasses in the desert sun!

However, the eyecups are easily knocked off and have to be replaced. If you're tired of replacing eyecups, glue them on with adhesive, NSN 8040-00-118-2695.

Be careful not to get adhesive on the lens' protective coating. If you do get some on the lens, gently scrape it off. Never use solvent to remove adhesive. Solvent ruins the coated lens. Then the binoculars are no good.



New Cleaning Compound...

It's a Dilly



A new all-purpose cleaning compound makes cleaning jobs easier and faster.

Order this cleaning compound in these sizes:

Size	NSN/PN
55-gal drum	NSN 7930-01-319-5373
5-gal pail	PN TJ-00505
1-gal case (6)	PN TJ-00501
32 oz spray bottles (12)	NSN 7930-01-331-1507

Order a 5-gal pail or a case of six 1-gal cans from GSA on a DD Form 1348-6, using CAGE OA8KO and part number.

Sign DD Form 2026

Dear Editor,

Some units send in oil samples to the AOAP lab with incomplete DD Forms 2026. That slows down the oil sample process.

The only way the AOAP lab folks can get the needed information is to call the unit.

Since the instructions in DA Pam 738-750 don't require the sample taker to be identified on the DD Form 2026, the AOAP folks don't know who to talk to. If they talk to the wrong person, they might get some wrong information.

I suggest having the sample taker put his or her signature in the upper left hand corner of the Remarks block. That way the AOAP lab person knows who to go back to for additional information.

Richard J. Booth
Ft Lewis, WA

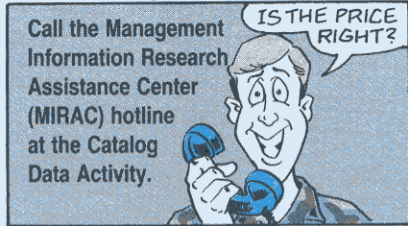
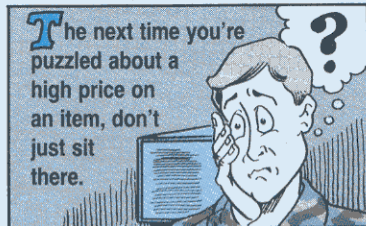
Drain	Doc	NO	OC
REMARKS			
J. Pelfrey J. PELFREY		MI 4761	
ONLY			
SAMPLE RESPONSE TIME	DD FORM 1 NOV 77 2026	39-40	

THIS IS THE AOAP LAB. WE HAVE A FEW QUESTIONS FOR PELFREY ON HER OIL SAMPLE.

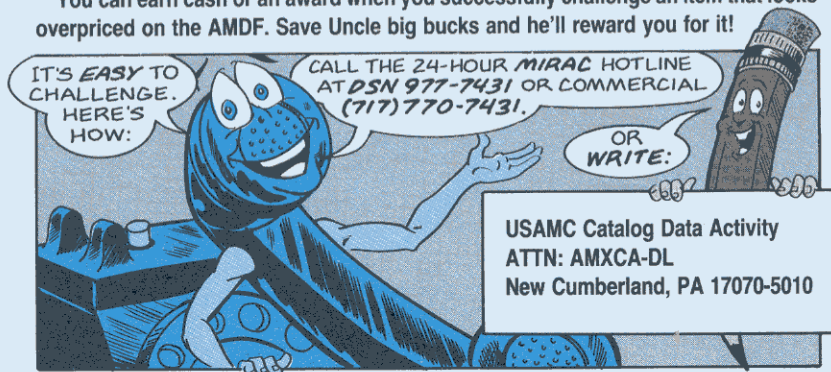
ONE MOMENT, I'LL GET HER.

(Editor's note: The Army thinks your idea is a good one. It will be included in a future issue of DA Pam 738-750.)

Price Advice



You can earn cash or an award when you successfully challenge an item that looks overpriced on the AMDF. Save Uncle big bucks and he'll reward you for it!



You get a recording that asks for your name, address and telephone number, the NSN for the item and why you think it's overpriced. The MIRAC folks will get back to you as soon as possible.

Generator Test Stand Lamp

The NSN is wrong for the POWER ON lamp in TM 9-4910-663-24P for the GASR-500 test stand. Use NSN 6240-00-473-6138 to be sure you get the correct screw base lamp.

10,000-Gal Collapsible Tank

Now you can get a chest to store the 10,000-gal fabric collapsible fuel tank. Order it with NSN 4930-00-106-8682. It's authorized by SC 5430-97-CL-E01.

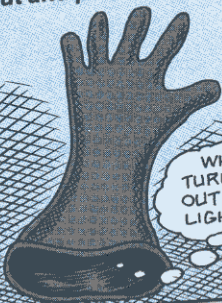
Hand-in-Glove Cleaning

Dear Editor,

The problem with chemical protective gloves is that after you train with them they become so sticky in storage it's almost impossible to put them back on.

Cleaning gloves like this stops stickiness:

1. Turn the gloves inside-out and put them back on.



2. Wash the gloves with soap and water like you would wash your hands.



3. Let the gloves air-dry.



4. Sprinkle them with talcum powder or corn starch. Rub the powder all over the gloves. Any place you miss will be sticky.



5. Turn them right-side out. Now they're ready for storage and will slip on easily next time you need them.

SFC John M. Duezabou
Dillon, MT

(Editor's note: Your idea goes hand-in-glove with good PM. Thanks.)



Battery NSN Correction

Use NSN 6135-00-100-0413 to get the lantern batteries to make the memory retention device for vehicles. The NSN on Page 16 of PS 462 is wrong.

M816 Data Plate NSNs

NSN 9905-01-108-1033 gets the rear throttle data plate for the M816 wrecker's winch crane. The hydraulic oil reservoir instruction plate comes with NSN 9905-00-197-1745. Neither is called out in TM 9-2320-260-20P.

OE-254 Cable Adapter NSN

If you need to connect two coax cables together when you install the OE-254 antenna, use UG-29C/U adapter, NSN 5935-01-035-5650.

T63 ADJUSTMENT Correction

The START/ACCELERATION ADJUSTMENT and the START DERICHMENT ADJUSTMENT positions are reversed in Fig 5-6.1 on Page 5-10.2 of Change 11 to TM 55-2840-241-23 and in Para 6-12 on Page 6-23 of Change 9 to TM 55-2840-231-23. The DERICHMENT ADJUSTMENT is on the top and the START/ ACCELERATION is on the bottom.

Landing Light Marker Change

The Emergency Landing Light Set Marker Kit, NSN 6230-00-542-6680, can no longer be ordered as a kit. You must order by component.

Qty	Item	NSN
8	light markers	6230-00-115-9996
8	batteries	6135-00-050-3280
1	bag	8105-00-592-0515

M809 Power Steering Valve NSN

The vent valve on the power steering pump is not listed in TM 9-2320-260-20P. You can order the valve with NSN 4820-00-726-4719.

OH-58A/C Duct Hose

To get air duct hose, Item 10 in Fig 64 of TM 55-1520-228-23P, use NSN 4720-00-165-9677. For Item 14 use NSN 4720-00-134-4364. The TM reversed 'em!

AN/PAQ-4A Training Video

There's a training videotape available for your AN/PAQ-4A infrared aiming light. The video shows how to attach the light to your M16A1/2 rifle and how to use the light with the night vision goggles. Request the tape from your local Training and Audiovisual Support Center using PIN 70-9543-DA.

Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-series.

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

REMOTE TERMINAL AMDF INQUIRY SYSTEM (RTAIS)...

... is as close as your PC or computer terminal. Fast access to all data, found in the AMDF, MCRL 1 and 2 (PN-NSN, NSN-PN cross references), H4/8 (CAGE code/manufacturer info), Automatic Return Items List, SB 700-20 and ILs.

Catalog Data Activity Pam 18-5 has info describing RTAIS and how CONUS/DCONUS users can apply.

TO GET CDA PAM 18-5, WRITE:

COMMANDER
USAMC CATALOG DATA ACTIVITY
ATTN: AMXCA-PP
NEW CUMBERLAND, PA 17070-5010

OR CALL:

DSN 977-7136/6643

COMMERCIAL
(717) 770-7136/6643

PIN: 064836-000