

Issue 440

PS

July
1989

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-440

DID
YOU REPORT
THAT FUEL LEAK
AND CABLE
CUT?

I MEANT
TO DO IT
YESTERDAY!

MAIT CAN HELP

THEY HAVE
THE LATEST ON THE
NEW UNIT LEVEL
MAINTENANCE
STANDARDS!

The Maintenance Assistance Instruction Team (MAIT) is the first place to turn with your maintenance problems. MAIT is right on post and ready to help solve problems with:

- ★ Maintenance
- ★ Publications
- ★ TAMMS records
- ★ Property Books
- ★ Prescribed Load Lists

Team members will not only offer one-on-one help, but will come to your unit and teach classes on subjects like PMCS or the Army Oil Analysis Program.

But they can't help if you don't call. See your base phone directory for the number of your MAIT.

PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-440, 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 440 JULY 1989

FIREPOWER

M1-Series Tanks	2, 3	M60 Machine Gun	15
M992 Ammo Carriers	4, 5	Machine Gun Rack	
M548 Cargo Carriers	6	Plans	16
M163A1/M167A1		Ammo Holders	16
Vulcan	7, 8-9	CLP	17
Patriot Missile	10-14		

GROUND MOBILITY

CUCV	18	M978 Tankers	22
V-Belts	19	M131-Series Tankers	23
Seat Cover NSN	20	M149-Series	
Evaporator Bottle	21	Trailers	24-25
M915-Series Trucks	21	Expandable Vans	26

AIR MOBILITY

UH-60A Black Hawk	36-37	AH-1 Cobra	41
CH-47C, D Chinook	37	Refueling Tips	42-43
UH-1 Huey	38	Aviation Messages	43
OH-58 Kiowa	39	Aircraft Tools	44
OH-58D Kiowa	40	SPH-4 Helmet	45

COMMUNICATIONS

CVC Helmet PM	46-47	TK-90/G Tool Kit	50-51
Dry-Cell Batteries	48-49	Flashlight Filters	52

TROOP SUPPORT

The Turn-In Caper	27-34	10-KW Generator	55
New Pubs, SOU's	35	Chemical Protective	
Cat 130G Grader	53	Overgarments	56-57
5-Gal Gas Can	53	M17-Series Mask	58-59
ROWPU	54	Key Keeper	60
Baker Forklifts	55		

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:

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

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

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JUL 89

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M1-Series Tanks...

AVOID
THIS.
CHECK
THE
INFO
BELOW.



It is very much in your self-interest, tankers, to do all you can to prevent tank fires.

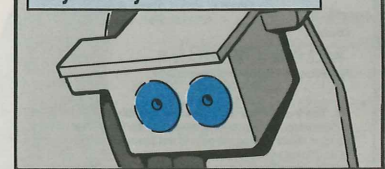
So why is it that most M1 tank fire sources are traced to overlooked or unreported electrical cable damage, fuel leaks and a general lack of good "housekeeping?"

Here's how to prevent most tank fires:

Keep the hull floor clean. Dust, dirt, sand and debris build up in hull floors over time. Mix in a little (or a lot) of diesel fuel spilled or leaked and you've got a fire waiting for a spark. Clean the hull every time the pack is removed.

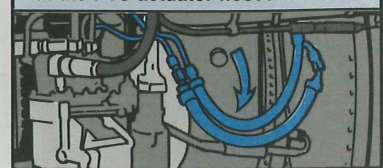
Also, clean off the fire sensors every day. They can't "see" a fire if they're dirty. Be careful not to scratch or gouge the sensor face during cleaning.

Clean off fire sensors every day or they won't "see" a fire



Report all fuel leaks as soon as you spot them—all of them, no matter how small. Look closely at fuel lines, fuel filter, quick disconnects and especially the PTS actuator hoses for leaks.

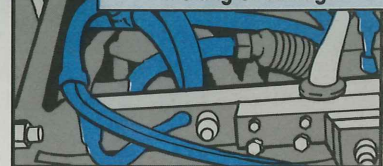
Report all fuel leaks. Look real close at the PTS actuator hoses for leaks



Eyeball all electrical cables for wear and damage. Arcing or shorting causes most of the fires to start. Two specific areas are worst for cable damage:

—The cables routed through the opening between the battery box and the engine compartment

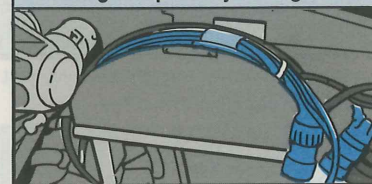
Check cables between battery and engine for wear, chafing, melting or damage



PREVENTION

—The cables routed along the upper side of the powerpack.

Check cables along the side of the powerpack for wear, chafing, melting or damage. Report any damage NOW!



Report any cables that show wear, chafing, melting or damage. Cables that are damaged so that braiding or shielding can be seen must be replaced.

Cables that show chafing, abrasion or wear on the outer cover, but no wire braiding or shielding can be seen, can be repaired with heat shrink sleeving.

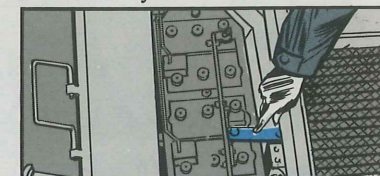
Diameter of cable	Heat shrink sleeving
Under 1/4"	5970-01-060-0974
1/4"—3/8"	5970-01-041-8403
3/8"—1/2"	5970-01-033-7824
1/2"—3/4"	5970-01-033-4960
Over 3/4"	5970-01-127-0650

Information is found in TACOM Safety-Of-Use Msg No. 88-54, AMSTA-M 141400Z Dec 88.

If a fire does occur, you have to react immediately. New procedures are being drawn up, but until they are printed, go by what's shown on Pages 2-103 through 2-109 of TM 9-2350-264-10-2 for M1A1 and Pages 2-93 through 2-99 of TM 9-2350-255-10-2 for M1 and

IPM1 as modified by TACOM Safety-Of-Use Msg No. 88-55, AMSTA-M 230900Z Dec 88.

Pay particular attention to the note which tells you to disconnect the negative emergency disconnect link located in the battery box.



Disconnect the negative emergency disconnect link in the battery box

Understand what the various warning lights mean. A first shot discharged light without a fire light means there

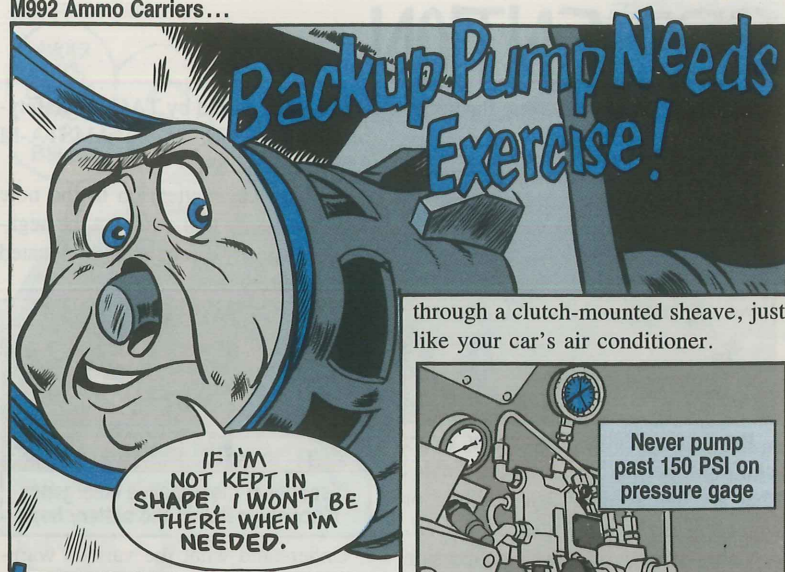
First shot discharged light without fire light? Disconnect battery emergency disconnect link to prevent re-ignition



was a fire, but the automatic fire extinguisher system put it out. Follow the emergency procedures and disconnect the battery emergency disconnect link to prevent re-ignition.

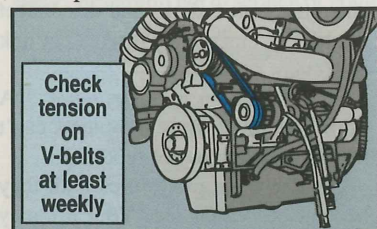
Finally, file an accident report DA Form 285 on all fires. Problems can't be fixed if they're not reported.

Practice these procedures until they become second nature. Your life may depend on how well you perform them in case of a fire.



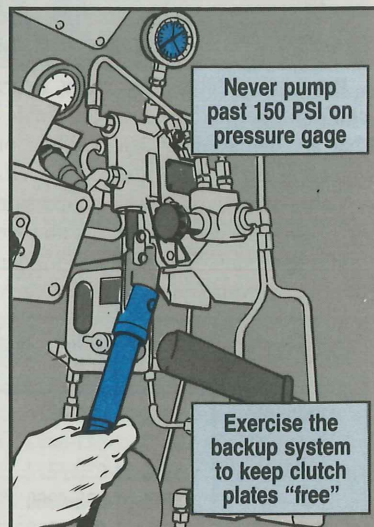
If the backup hydraulic pump on your M992 ammo carrier is not exercised at least weekly, there may be no backup hydraulic pressure when you most need it.

The V-belts powering the pump turn whenever the engine is operating, so they get plenty of exercise. But they need checking for the same reason your car's air conditioner belts need checking. If they're loose, you won't get much pressure.



The hydraulic pump, on the other hand, works only when engaged—

through a clutch-mounted sheave, just like your car's air conditioner.



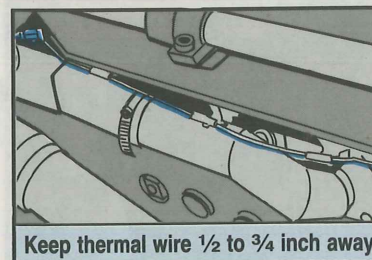
The pump needs exercising weekly because the clutch plates tend to "freeze". No exercise, no pressure.

Weekly exercise for the backup hydraulic pump will be a PMCS item in the next revision to TM 9-2350-267-10. You can use it now to prevent system failure.

Follow the procedures on Pages 2-245 through 2-247 to keep the pump in shape.

Thermal Wire Needs its Space

Give that automatic fire extinguisher system thermal wire at least $\frac{1}{2}$ to $\frac{3}{4}$ inch of space as it routes near the personnel heater exhaust tube.



If you get the thermal wire too close, the heat from the exhaust will cause the fire warning light to come on or cause the engine fire extinguisher to discharge.

You don't need that action—or the cleanup that comes afterward. Make the spacing generous and avoid the problem.

Slave Cable Too Short

Your NATO slave cable, part of Item 7 in the BII list of TM 9-2350-267-10, is not long enough to reach from the FAASV carrier's rear receptacle to a vehicle parked alongside the carrier.

You need power cable assembly, NSN 6150-01-248-9555. This 35-ft cable is long enough to be used at the rear receptacle and, when coiled up, short enough to be used at the battery box receptacle.

The long cable won't come with adapters. Use two adapters (NSN 5935-00-322-8959, Item 1 in your BII) as connectors for the new cable.



Cut Down Fire Risks



Leaving personal gear and cargo loose in the rear of an M548 shows a serious lack of respect for fire—something that can get you killed in a combat vehicle.

That loose stuff can shift forward during cross-country operation and cause a fire.

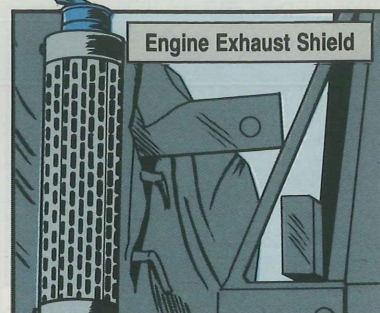
The canvas curtain surrounding the cargo area is not fireproof. When gear or cargo shifts forward, it pushes the curtain against the exhaust stack. The situation is worse if the curtain isn't tied down tight.

Be sure all cargo and personal gear is tied down so it won't shift. Be sure, too, that the curtains are tied down right.

As an extra source of heat protection for curtains and cargo, install shields over the engine exhaust, coolant heater exhaust and personnel heater exhaust.

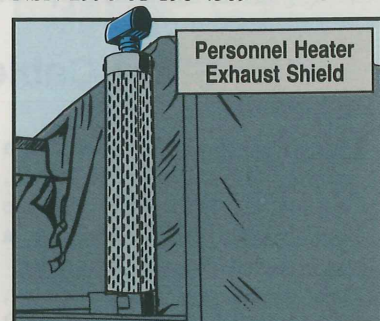
The shields are available in the supply system:

Engine exhaust shield—NSN 2990-01-198-4508



Coolant heater exhaust shield—NSN 2990-01-198-4511

Personnel heater exhaust shield—NSN 2990-01-198-4509



Installation instructions are in TB 43-0001-39-4 (Oct 88). Or write to:

**Commander
TACOM
ATTN: AMSTA-MBC
6501 E. 11 Mile Rd
Warren, MI 48397-5000**

They'll send you a copy.

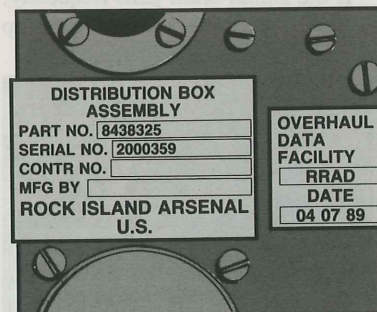
LOOK BEFORE YOU SWAP



Some Vulcan Air Defense Systems (VADS) are being upgraded to Product Improved VADS (PIVADS). That means there are two different versions of components like the distribution box and radar units 1, 2, 4 and 5.

If you use the PIVADS distribution box on a Vulcan, you not only burn out the distribution box but other components as well. The wrong radar unit keeps the radar unit from tracking.

You can't tell what component you've got by checking its shipping box, either. Some distribution boxes come in boxes marked "PIVADS," but are really the old distribution box.



There are no changes to the armament system itself.

FOOD FOR

FEEDING THOUGHT



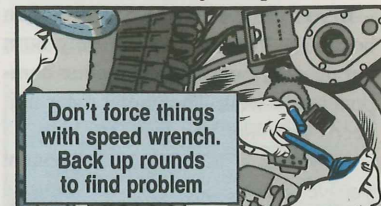
Never force things with the speed wrench. If a round jams, put the drum

A jammed Vulcan or a Vulcan with deaf radar is as useful as an umbrella that won't open. Keep your Vulcan firing on target with these tips.

Always hand feed rounds to the drum until the first round enters the exit unit and sprocket—the takeoff gear will turn slightly counterclockwise.



Some ammo links are on the rough side and require extra loading patience.

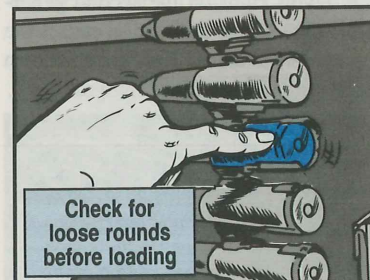


drive in neutral and back the rounds out. Then look for the problem.

If the ammo drum jams frequently, it may need a cleaning. Crud gums up the works. DS needs to clean it.



You can also cut down on jamming by looking for loose rounds before you load. If a round's loose, it's probably



too long or short or something's wrong with the links.

Once you're firing, don't stop in mid-burst. If you let go of the action switches in mid-burst, your Vulcan's



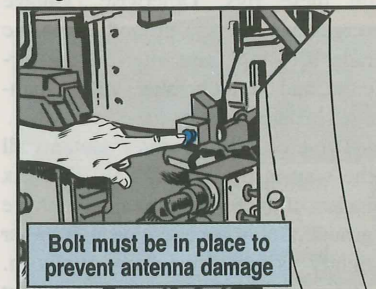
trying to fire and cease fire at the same time. That damages the DC feeder.

A Dish of Trouble

When you push the radar antenna into stow position, keep your hands off the dish. Pushing the dish will jam the gears and servo drive. Push on the base support arm instead.



Use the mounting bolt to lock the antenna in place. If you don't, the antenna will swing freely and bash into things like walls and trees.



In dusty areas, pull out and look at the filters for the Unit 5 and Unit 2, every day. If the filters are clogged, clean them.





The Patriot is one of the most powerful weapons in the Army arsenal. But something as little as a plugged air filter or cut cable can lay this Goliath low. Keep your Patriot standing tall with this PM.

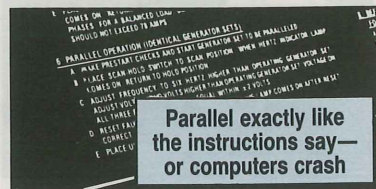
Electric Power Plant

You've got to have a good ground on these rigs. Otherwise, voltage surges can't run to ground. Then the radar set's input line filters, digital circuits, and circuit breakers will be damaged or someone may get electrocuted.

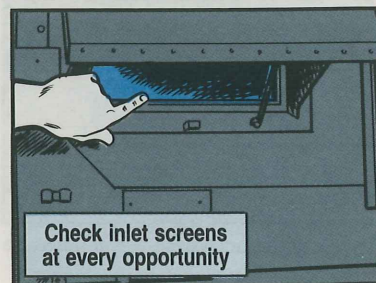
Drive each of the three sections all the way in the ground until only six inches of the last section are left above ground. Screw each section to the other tightly as you drive the sections in. Make sure the cable's connected tight to the ground rod.



Do the parallel operation exactly like it says on the generators' covers. If you don't bring up the frequency and voltage levels right on the second generator, the voltage fluctuation causes the computers to crash. The Patriot's down until the computers are reprogrammed.



Pay special attention to the air inlet screens. Sand clogs the screens and pits the turbine blades. During breaks in operations, eyeball the screens and clean the dirt off.

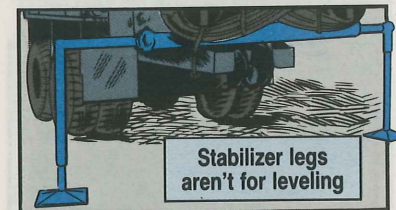


Don't forget the water-fuel separator. You've got to drain it daily or condensation—water—gets in the engine and lines. Then the EPP sputters to a stop. It's a big job to get all the water out.

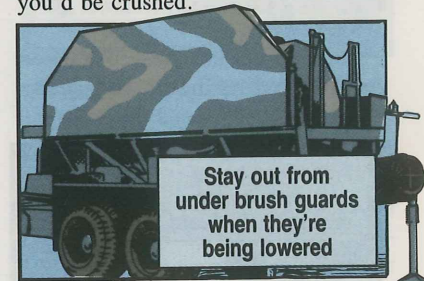


Antenna Mast Group

Never try to level the AMG with the stabilizer legs. It's too heavy and you'll bend the legs. If the AMG's not level,



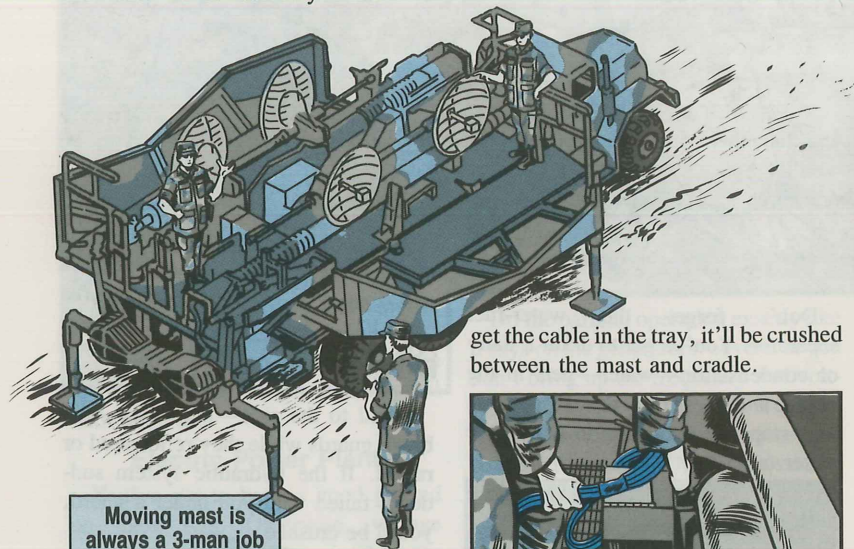
move it to a flatter spot—no more than a 10-degree slope.



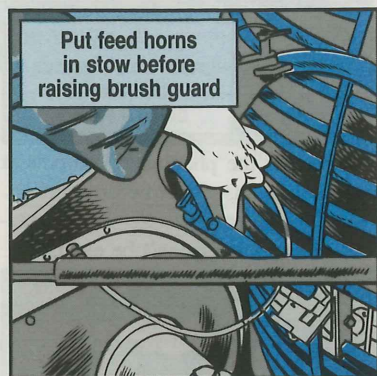
Take off the pneumatic component assembly's dust cover before start-up. The cover causes the assembly to over-heat and the mast can't be extended.



Raising and lowering the mast is always a three-man job. If you try it with two, you risk crushing equipment and crew. Always get a buddy to make sure the coast is clear before you move the mast.



Double check that the feed horns are in stow before raising the brush guards. Otherwise, you'll bend the horns.



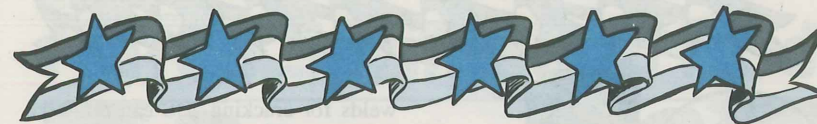
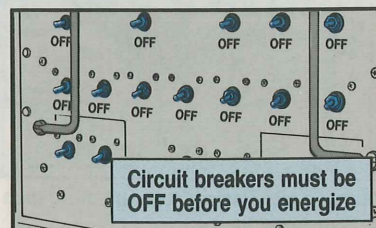
Stand beside the cradle while lowering each mast and carefully guide the cable into the cable tray. If you don't

get the cable in the tray, it'll be crushed between the mast and cradle.



Launching Station

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

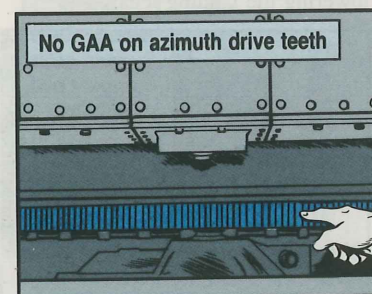


Be extra sure the stow travel locks on both sides are out before you raise the launcher. If you forget a lock, you'll freeze the launcher. It's a major job to get it free.



To align the launcher, turn off the motor control unit circuit breaker and manually rotate the turntable like it shows in Para 2-23 of TM 9-1440-600-10. The motor control unit will be damaged if you move the turntable electronically.

Lube the azimuth drive teeth only with solid film lubricant, MIL-L-46147, NSN 9150-00-168-2000, not GAA grease. GAA attracts much more



sand, which chews up the teeth. Use the same lubricant for the cranes on the Guided Missile Transporter and the Large Repair Parts Transporter.

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



Engagement Control Station

Check for dust caps on the ECS cable connections before you leave the motor pool. Uncapped connections quickly become plugged with sand and dirt. A plugged connection can't conduct current. Your mechanic can order new caps with NSN 5935-00-113-0352.





DO
YOUR
PATRIOTIC
DUTY
WITH
A CLOSE
SCRUTINY!



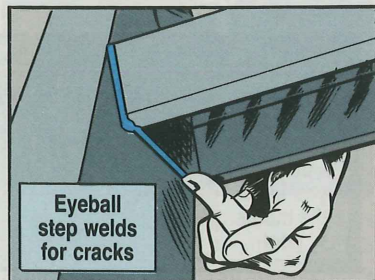
Never use the areas around the Weapons Control Computer intake filter and main shelter air filters as coat racks or places to put boxes. If the computer filter's blocked, the computer overheats... and crashes. Check the filters at least monthly for dirt, too.



Keep your
filter clean.
Don't stack
things in
front of
vent

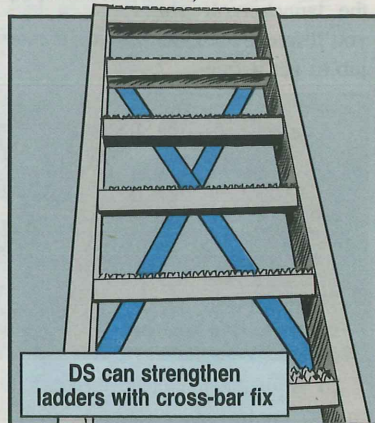
Ladder Matter

Ladders for the ECS and Radar Set break at the step welds. Eyeball step



Eyeball
step welds
for cracks

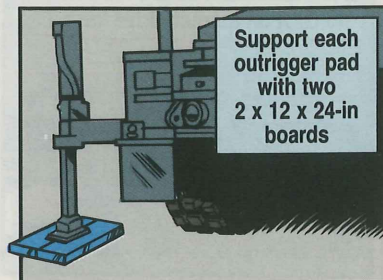
welds for cracking. DS can reinforce the steps with a cross-bar fix. That will hold you until your new ladder, NSN 2540-00-854-4445, arrives.



DS can strengthen
ladders with cross-bar fix

Landing Pads

The landing leg pads for the Battery Maintenance Center and Small Repair Parts Transporter sink in the sand. Stop sinking pads by putting two 2x12x24-in boards under each pad. Or use semi-trailer ground jack boards, NSN 2510-00-741-7585. Center the boards before lowering the landing legs.



Support each
outrigger pad
with two
2 x 12 x 24-in
boards

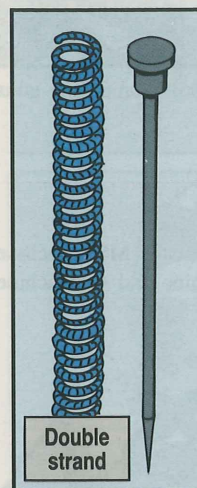
M60 Machine Gun...

Match Spring and Rod



WE
WERE
MADE
FOR
EACH
OTHER!

OLD ← Don't Mix → NEW



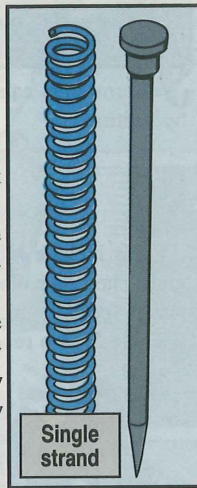
Double
strand

There are new guide rods and recoil springs in supply. If you mix the new with the old, you get problems, armorers.

Since the old guide rod fits loosely in the new spring, the spring will get flat spots and cause the M60 to jam.

The new guide rod is too big for the old spring. If you force it in, you damage the spring.

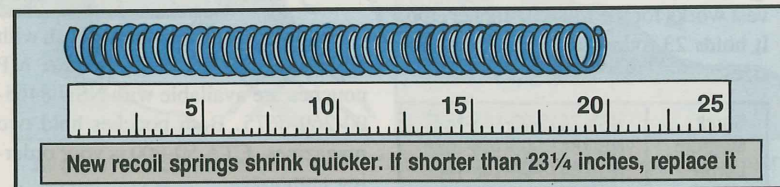
Match guide rods and springs. The guide rod should fit snugly—and easily in the spring. If it doesn't, order a new rod, NSN 1005-01-188-7877, or new spring, NSN 5360-01-203-2973.



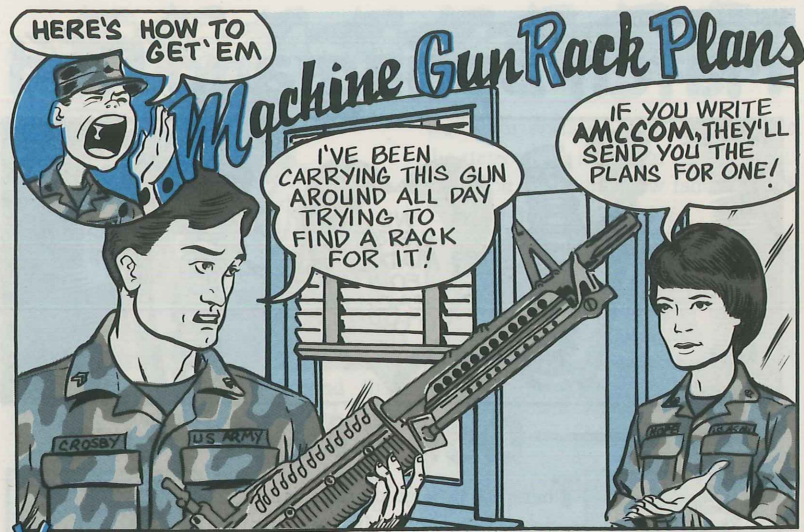
Single
strand

Sprung Spring

The new spring shrinks faster than the old spring. That leads to poor recoil, which causes double feeds and jamming. Measure springs often.



New recoil springs shrink quicker. If shorter than 23 1/4 inches, replace it

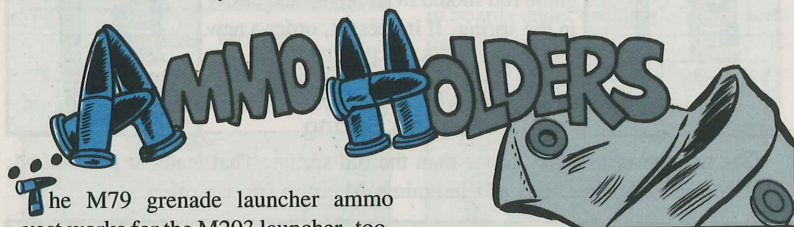


You armorers can get plans to make racks for machine and submachine guns by writing:

AMCCOM
ATTN: AMSMC-MAW-SS
Rock Island, IL 61299-6000

Plans include NSN's for material. One set of plans is for the M60 machine gun. The other plans can be adapted to fit the other machine and submachine guns. Specify which plans you need.

There are no ready-made racks in the supply system.

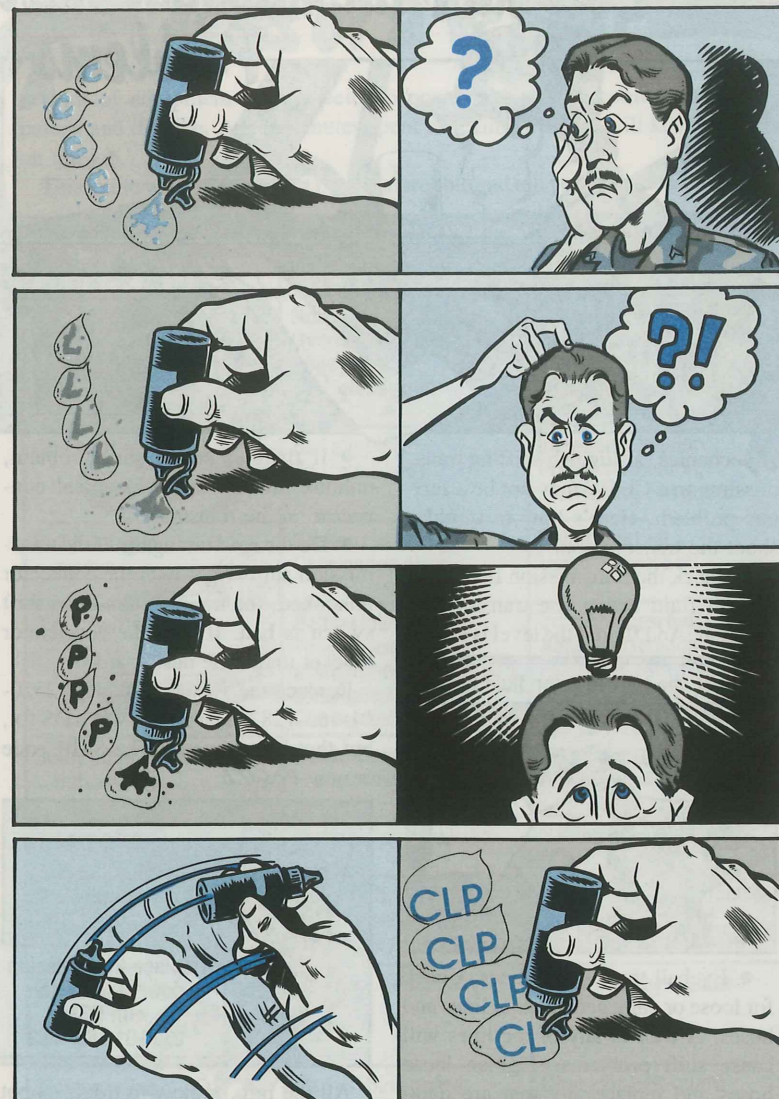


The M79 grenade launcher ammo vest works for the M203 launcher, too. It holds 23 rounds and comes in three sizes:

Small	NSN 8415-00-146-1667
Medium	NSN 8415-00-146-1668
Large	NSN 8415-00-146-1669

Get a .45 cal pistol ammo pouch with NSN 8465-00-782-2239. Leather MP pouches are available with NSN 8465-00-269-0675. Both pouches hold two magazines. CTA 50-900 is your ordering authority.

CLP... Whole Lot of Shaking Needed



In other words, shake CLP well before using to thoroughly mix the Cleaner, Lubricant and Preservative.

Solving Transmission Shift Problems



Mechanics, a sluggish shifting transmission on a CUCV may not be a serious problem. Here's how to troubleshoot the transmission:

- Check the transmission fluid. Not enough fluid makes the transmission sluggish. Add fluid if the level is low.

Check the transmission fluid level

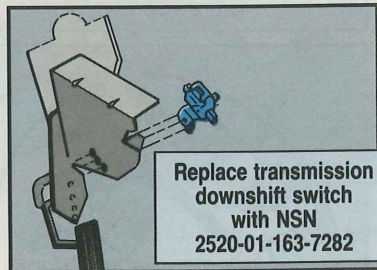


- Eyeball the vacuum lines. Check for loose or damaged vacuum lines and hoses. A leak in any of the lines will cause shift problems. Tighten loose hoses and replace any that are damaged. Then take the truck for a test drive.

- If there is still a shift problem, unhook the downshift electrical connector on the transmission.

- Do the road test again. If the transmission shifts right with the connector unhooked, the transmission downshift switch is bad. It's on the accelerator bracket under the dashboard.

Replace the switch with NSN 2520-01-163-7282. The switch was a DS fix, but that has changed. The SMR code is now PAOZZ.



Replace transmission
downshift switch
with NSN
2520-01-163-7282



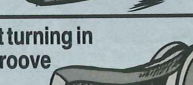



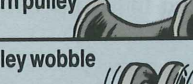


All the info on how to troubleshoot the switch is in Para 3-11 of TB 43-0001-39-3 (Jul 88).

Tales of a V-Belt

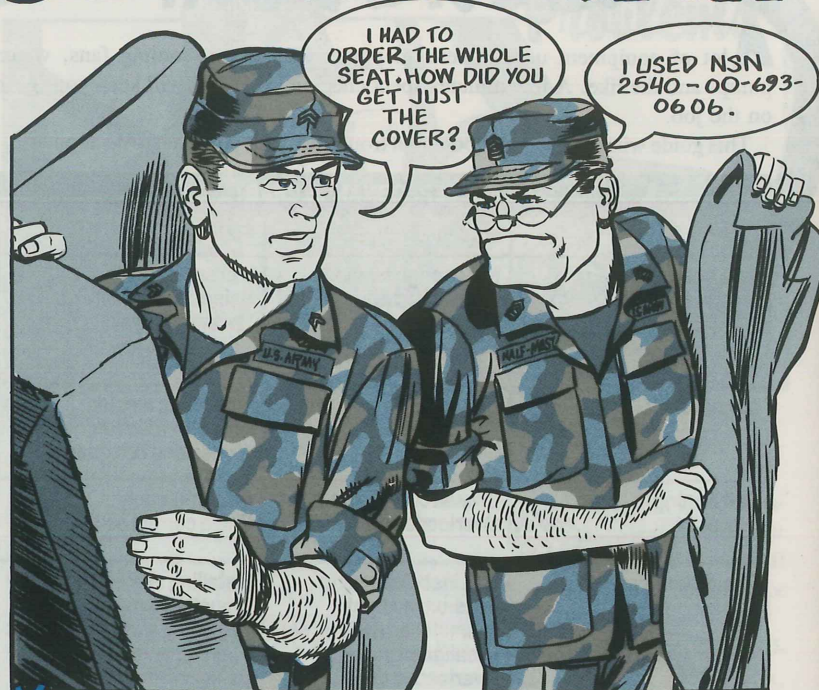
A lot of equipment uses V-belts to power alternators, cooling fans, water pumps and the like. A few minutes spent checking the belts will keep your gear on the job.

This guide will help you spot potential trouble and tell you what to do about it.

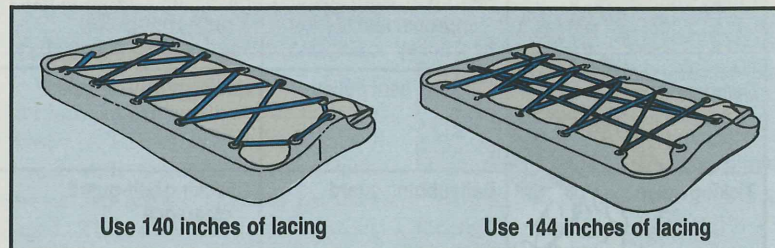
V-BELT PERFORMANCE CHART

Look for—	It's caused by—	Fix it by—
V-belt slipping, squealing 	Not enough tension Overloaded drive Pulleys worn Oily, greasy belt	Increasing tension Using correct belt Having pulleys replaced Replacing belt
Cracked belt 	Belt slipping Too much heat	Increasing tension Proper ventilation, checking belt guards
Belt turning in groove 	Broken cords in belt Overloaded drive	Using new belt Using correct belt
Rapid belt wear 	Belt installed wrong Tension too tight Mismatched belts (in set) Misaligned pulley Overloaded drive	Installing new belt correctly Adjusting tension Replacing with matched set Aligning or replacing pulley Using correct belt
Shiny pulley-groove bottom 	Belt bottoms in groove or worn pulley	Installing new belt, or having pulley replaced
Worn pulley 	Worn pulley sidewalls	Having pulley replaced
Pulley wobble 	Bent shaft, worn bushing improper installation Bent pulley	Having defects corrected, pulley reinstalled Having pulley replaced
Damaged pulley 	Chipped, bent pulley	Having pulley replaced
Ticking noise 	Belt rubbing guard	Checking belt-guard clearance

SEAT COVER NSN



You no longer need to order a complete passenger seat for the M44-, M39- or M809-series vehicles when the cover's torn. The cover comes with NSN 2540-00-693-0606. Use NSN 4020-00-270-5468 to get lacing to attach the cover to the seat cushion. It comes on a 1,000-yd spool. You'll need 140 to 144 inches for each cover.



Use 140 inches of lacing

Use 144 inches of lacing

Keep Evaporator Bottle Full



An alcohol evaporator bottle is added to the brake system on some 2½- and 5-ton trucks as part of the winterization kit. Keep it full, or the plastic evaporator bottle on a truck will melt. Big diesel engines get hot enough to soften, bend or crack an empty plastic bottle, even in cold weather. Eyeball the bottle everytime you open the hood to make sure it's at least two-thirds full of alcohol.



M915-Series...

Dry Air a Must

The transmission on these vehicles needs plenty of dry, compressed air to shift right. That's not a problem if the air dryer has a clean desiccant cartridge. But if it's dirty, the truck's a shiftless critter.



To keep air dry, change the desiccant in the air dryer cartridge semiannually instead of annually. Service it even more often in salty, wet or humid operating areas.

Use desiccant cartridge refill kit, NSN 4440-01-081-1391. All the instructions on how to remove and refill the cartridge come with the kit.

For more info, see TACOM Msg AMSTA-MTC 152000Z Nov 88, or contact your TACOM LAR.

Snap Pops Deadman Control Lines



Your HEMTT tanker's deadman control is a dead duck if you let it snap back on its own.

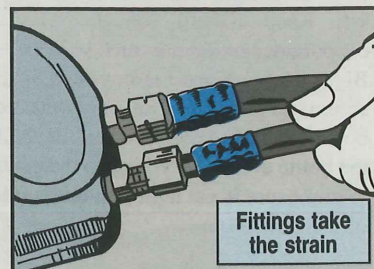
Hoses for the hand-actuated valve assembly (deadman control) rewind on a spring-loaded reel. Pull, and the hoses come out. Let go, and the spring takes over and pulls them back on the reel.

Everything works great until the control hits the guide. If it's horizontal, it'll go through the hole. If it's vertical, or a little off center, the control stops sharply at the guide.



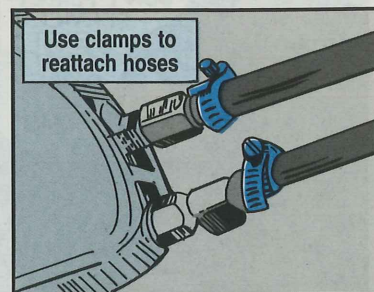
The stress and strain of the sudden stop is centered where the hoses fit on the control.

Always walk the control hose back on the reel. Then guide the control through the hole and back to the reel.



If a hose pulls away from the control fitting, here is a quick fix:

Cut off a couple of inches of each hose and push them back on the fittings. Then use screw-type hose clamps, NSN 4730-00-363-4102, to secure the hoses.



Exhaust Pipe Flip-Top



You'll get an exhaust pipe that won't fit your fuel tanker's engine if you order by the book. TM 9-2330-272-14&P shows the wrong Usable On Code for Item 9 in Fig 38.

HERE'S HOW THE TM SHOULD READ:

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO	(b) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						USABLE ON CODE		
						GROUP 2941—ENGINE EXHAUST SYSTEM		
38	1	PAOZZ	2990-00-764-6289	19207	10950325	PIPE, TAIL	EA	1
38	2	PAOZZ	5340-00-792-1616	19207	10950326-2	CLAMP, LOOP: EXHAUST PIPE	EA	1
38	3	PAOZZ	5305-00-269-3209	96906	MS90725-58	SCREW, CAP, HEXAGON: 3/8-16 UNC-2A x 3/4	EA	2
38	4	XBOZZ		19207	10950327	BRACKET: MUFFLER	EA	2
38	5	PAOZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK: 3/8 NOMINAL SIZE	EA	4
38	6	PAOZZ	5310-00-732-0558	96906	MS1967-8	NUT, PLAIN, HEXAGON: 3/8-16 UNC-2B	EA	4
38	7	PAOZZ	2990-00-759-3639	19207	10936691	MUFFLER, EXHAUST: ENGINE	EA	1
R 38	8	PAOZZ	5330-00-764-6291	19207	10936675	GASKET: EXHAUST PIPE	EA	1
38	9	PAOZZ	2990-00-763-2391	19207	10959863	PIPE, EXHAUST: ENGINE	EA	1
38	9	PAOZZ	2990-00-903-0359	19207	10950328	PIPE, EXHAUST: ENGINE	EA	1
38	9	PAOZZ	2990-00-134-8304	19207	11597573	PIPE, EXHAUST: ENGINE	EA	1
38	10	PAOZZ	5305-00-269-3212	96906	MS90725-61	SCREW, CAP, HEXAGON: 3/8-16 UNC-2A x 1 1/8	EA	2
C 38	11	PAOZZ	5340-00-792-1615	19207	10950326-1	CLAMP, LOOP	EA	1
N 38	12	PAOZZ	2990-00-168-2220	19207	11597520	SHROUD, MUFFLER	049 EA	1
N 38	13	PAOZZ	5305-00-068-0502	96906	MS90725-6	SCREW, CAP, HEXAGON: MUFFLER SHROUD	049 EA	6
N 38	14	PAOZZ	5310-00-582-5965	96906	MS35338-25	WASHER, LOCK: MUFFLER SHROUD	049 EA	6
N 38	9	PAOZZ	2990-01-291-9040	19207	11612093	PIPE, EXHAUST: ENGINE	049 EA	1

COFFEE



If your field coffee tastes like it was brewed in an old boot, hold on a second before you blame the cook. It might be your water trailer.

Eyeball the inside of the tank. If it's fiberglass, take a close look at the enamel coating. The coating cracks as the trailer bumps and water sloshes. Water gets in the cracks and touches the fiberglass hull. It's the fiberglass that gives your coffee that sweaty-foot flavor.

If a crack is big enough to see, it's big enough to make good water taste bad. Have your DS recoat the tank using the instructions in TM 9-2320-267-14&P.

Cleaning the tank also improves the taste of your coffee. The TM says clean it annually or when the medics say the tank is contaminated. But why wait—it's your coffee.

Rub-a-Scrub Tanks

Cleaning instructions for the fiberglass and stainless steel tanks are in Para 3-7 of the -14&P TM. Here's the short 'n' sweet version:

Fill the tank with warm water (120°F).

A LITTLE WARM WATER, DISHWASHING COMPOUND AND LAUNDRY BLEACH WORKS WONDERS.



FLAVOR SAVER PM

Add 1 gallon of dishwashing compound, NSN 7930-00-899-9534. Thoroughly scrub inside the tank with a long-handled brush.

Drain the tank. Rinse out all the dishwashing compound with warm water. Refill the tank until it's almost full.

Add 4 gallons of liquid laundry bleach, NSN 6810-00-900-6276, to sanitize the tank. Leave the solution in the tank for at least 8 hours.

Rinse the tank with clean, warm water to remove the bleach.

Odor Eater Disinfectant

Use chlorine-iodine disinfectant, NSN 6840-00-810-6396, between cleanings to keep the stink out of your

drink. It's the same disinfectant used in the mess hall to clean fresh fruits and vegetables.

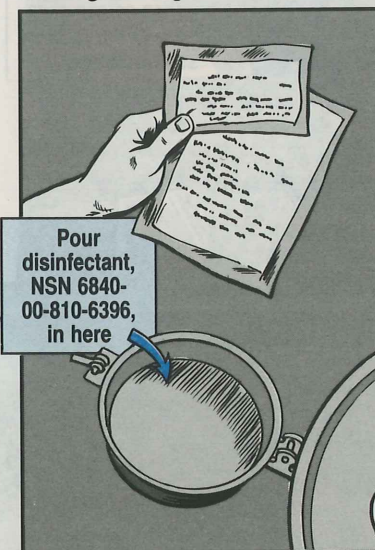
That NSN gets a 12-pack of the disinfectant. All the "how-to's" are on the package. Just be sure to rinse the tank after treatment. Use the disinfectant as often as your coffee stops tasting like coffee.

Rusty Stainless Steel

If the water from a stainless steel tank gives your coffee a rusty, metallic taste, check the weld joints in the tank for rust.

Scrub away rust with a solution of water and scouring powder, NSN 7930-00-205-0442. Be sure to use a nonmetallic, nylon brush.

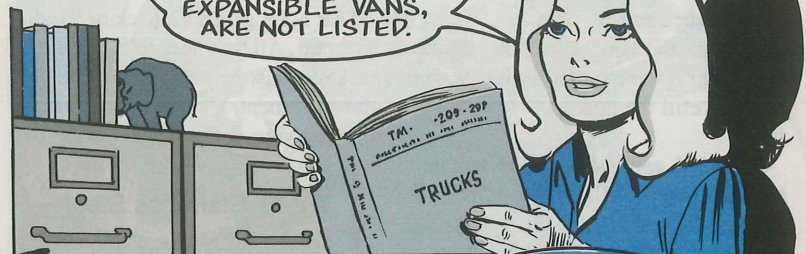
Flush the tank thoroughly with clean water. Scrub it again if you still see rust.



Expansible Vans...

Window Sash Assembly NSN

THE WINDOW ASSEMBLY NSN'S FOR EXPANSIBLE VANS, ARE NOT LISTED.

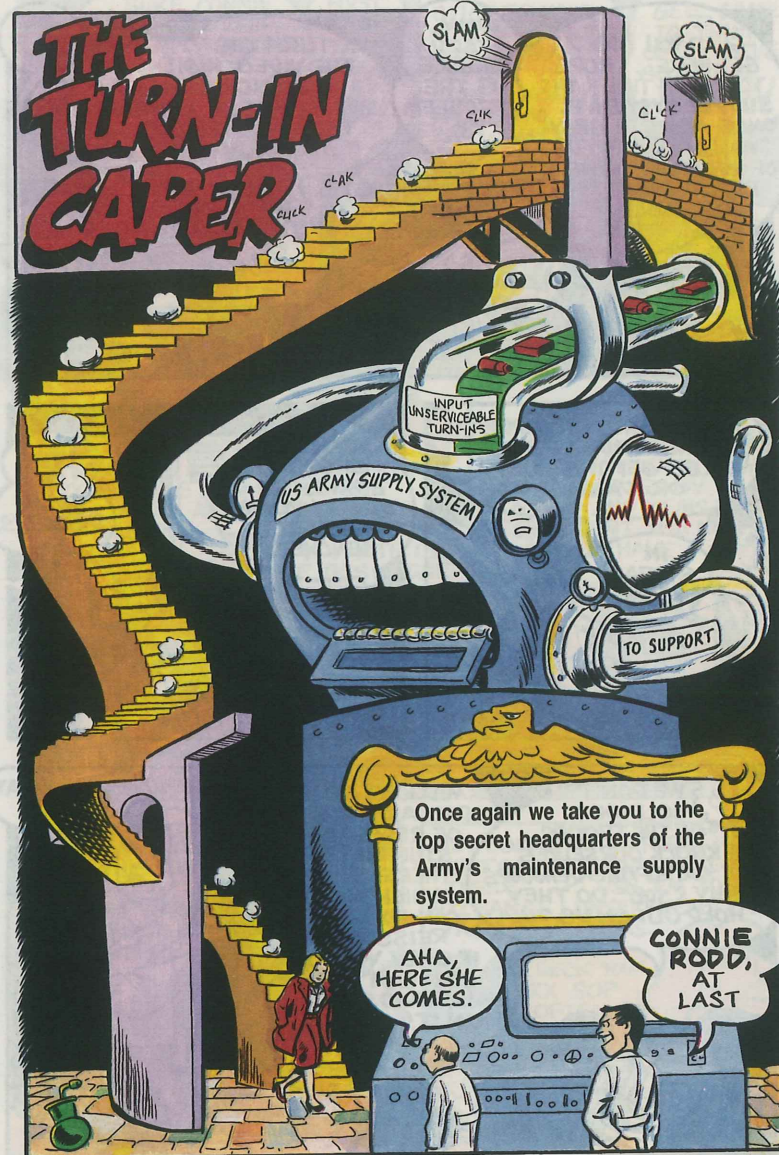
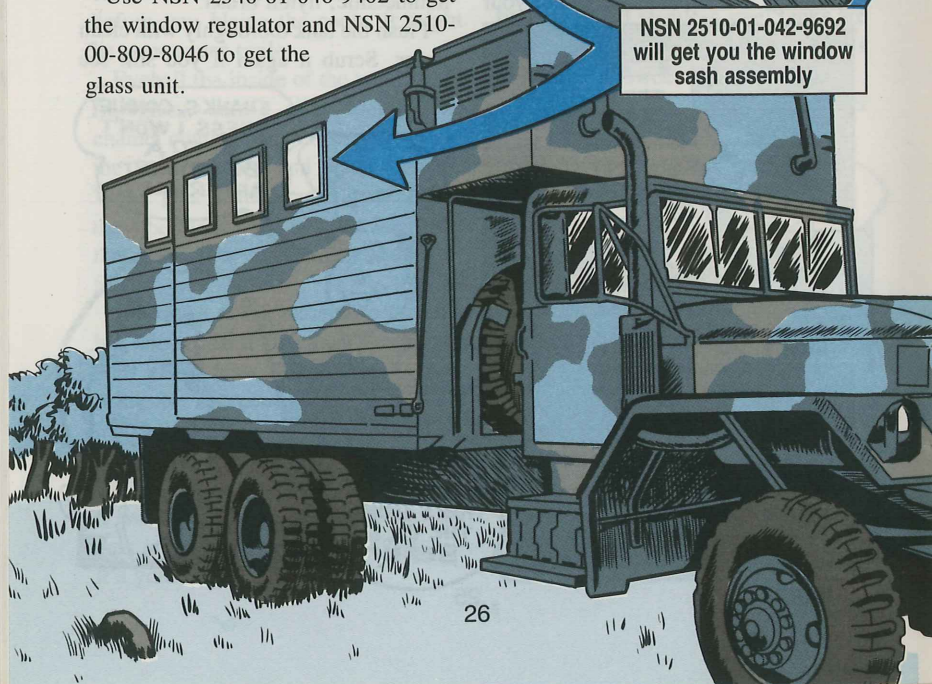


The NSN for the window sash assembly for 2½- and 5-ton truck-mounted expansible vans is not listed in the TM's. Order the assembly with NSN 2510-01-042-9692.

Use NSN 2540-01-046-9402 to get the window regulator and NSN 2510-00-809-8046 to get the glass unit.



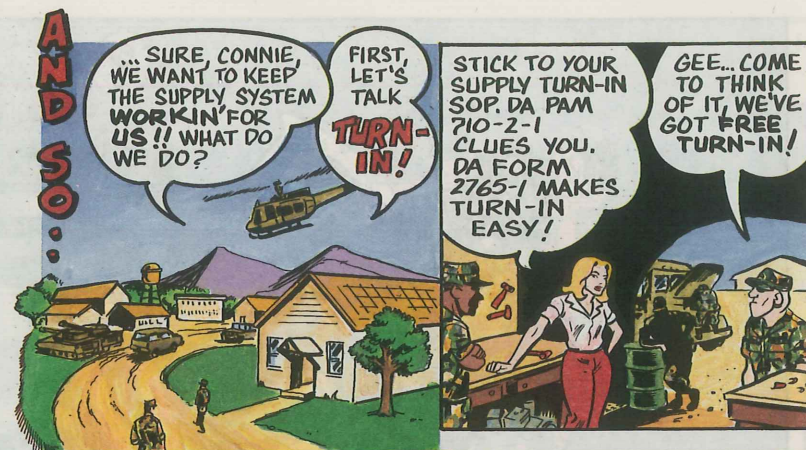
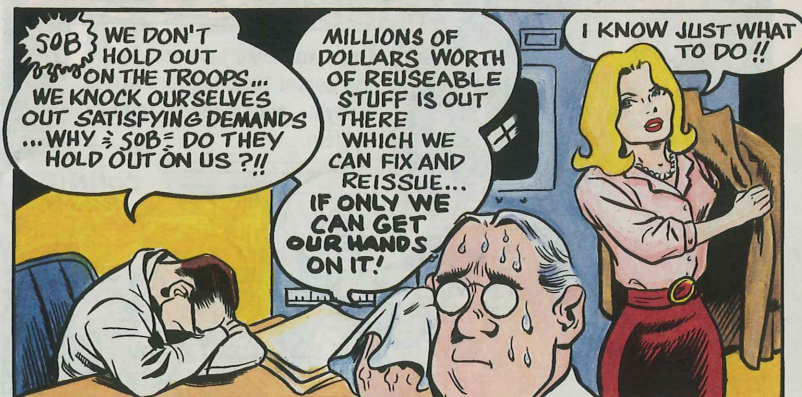
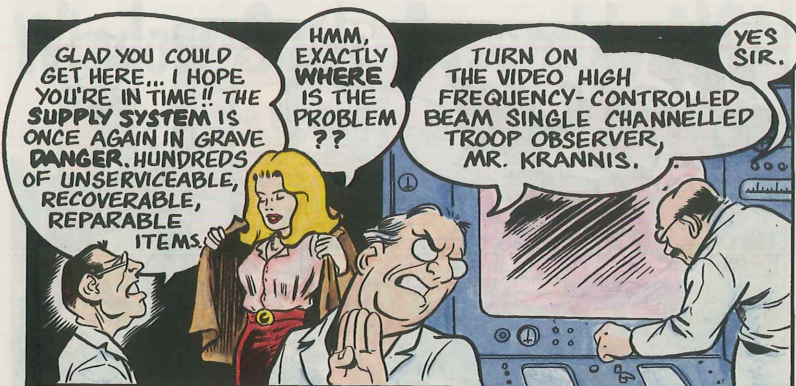
NSN 2510-01-042-9692 will get you the window sash assembly

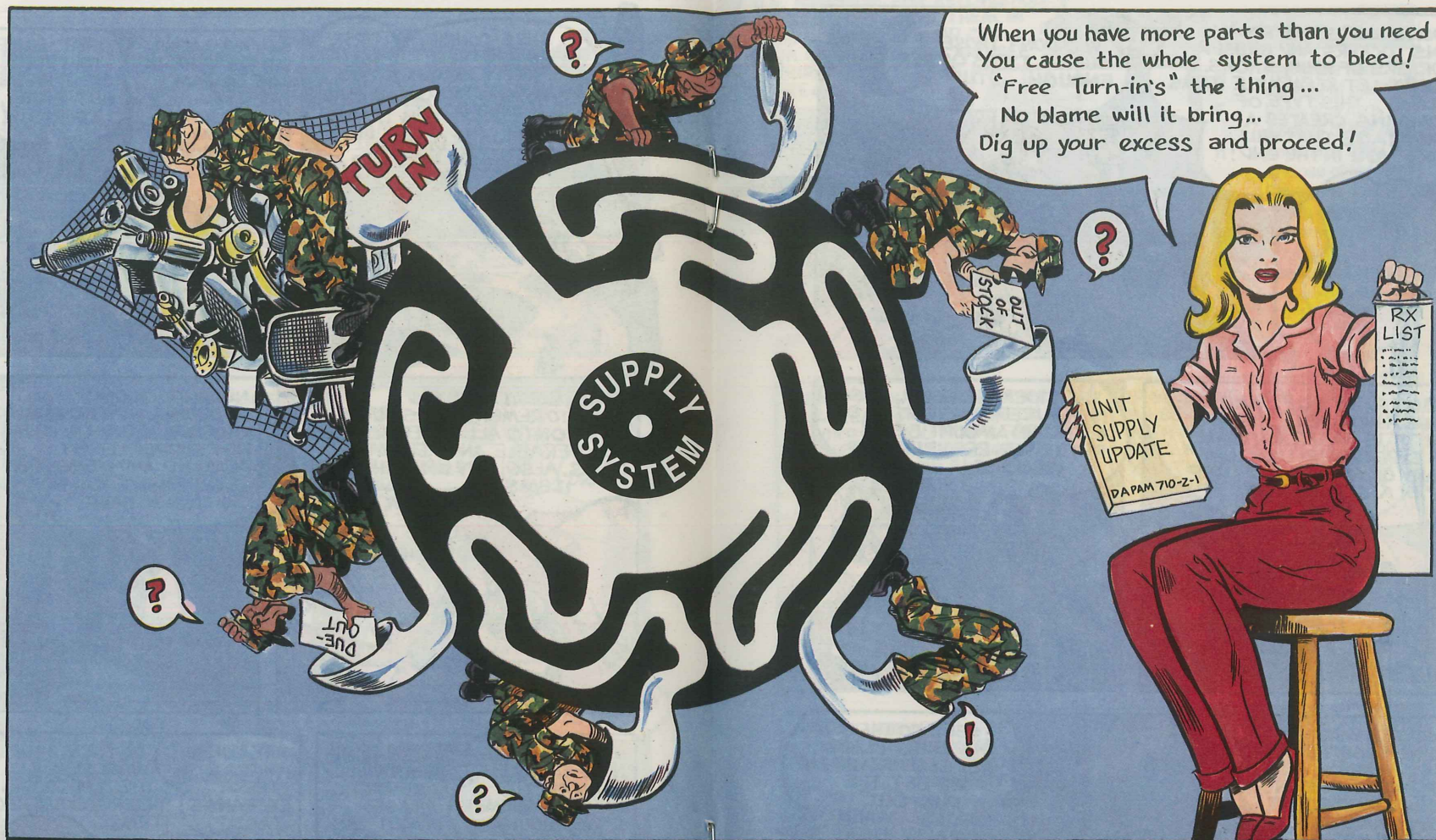


Once again we take you to the top secret headquarters of the Army's maintenance supply system.

AHA, HERE SHE COMES.

CONNIE RODD, AT LAST



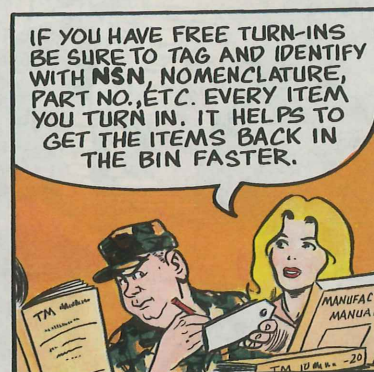
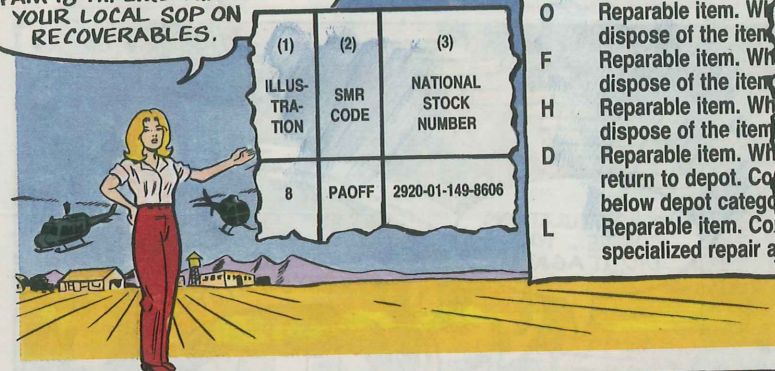


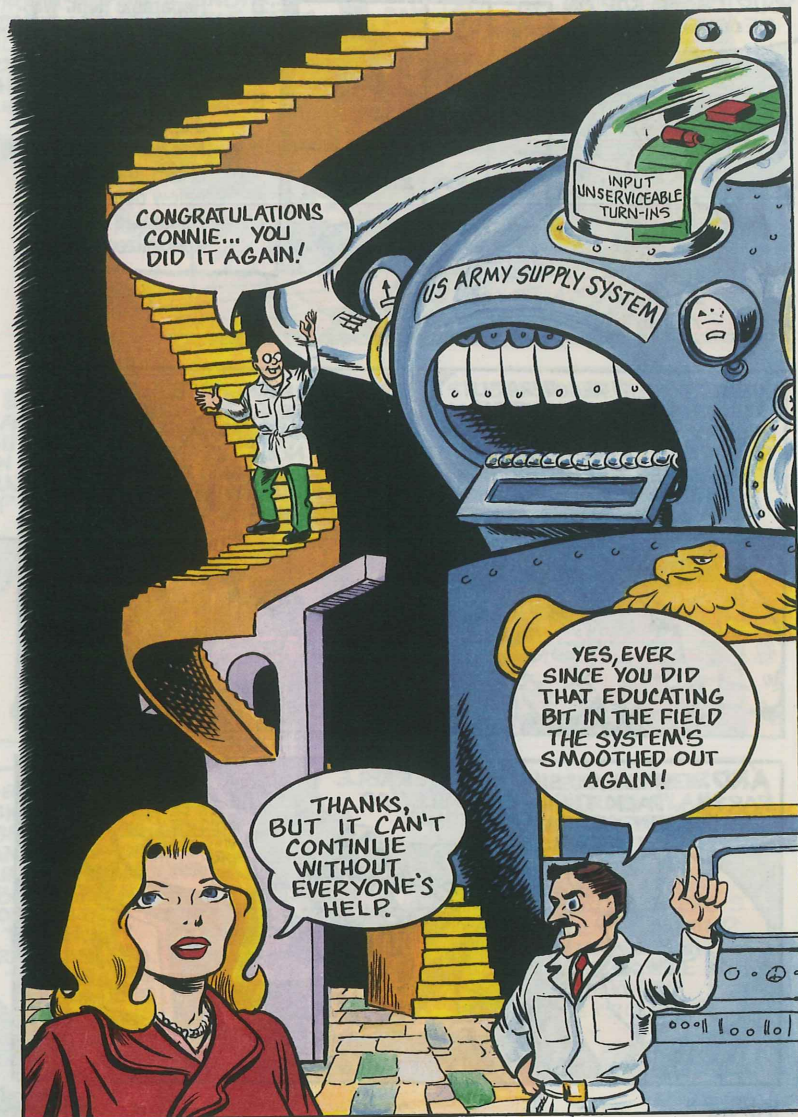
WE HAVE THE WORLD'S BEST EQUIPMENT... *Take care of it*

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.



THAT'S RIGHT, SO MEMORIZE THE **CODES** FOR RECOVERABLE ITEMS... YOU'LL FIND THEM IN EQUIPMENT TM'S AND CDA PAM 18-1... LIKE THIS AND SEE YOUR LOCAL SOP ON RECOVERABLES.





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

TM 5-3810-294-20P Dec 88 M320T2 20-ton crane w/clamshell dragline and backhoe attachments
 TM 5-3895-320-24P Dec 88 Barber-Greene model KA-60
 TM 9-1425-601-14 Apr Touch-up painting (Patriot missile)
 TM 9-1425-2525-12-1 Nov 88 System communications (HAWK Missile)
 TM 9-1430-2533-12-2 Nov 88 High-powered illuminator radar set AN/MPQ-61 (HAWK missile)
 TM 9-1430-2535-12-3 Nov 88 Platoon command post and battery command post (HAWK missile)
 TM 9-2320-218-10-HR Jul 88 Truck, utility: 1/4-ton

Maintenance & Safety-Of-Use Messages

USATSCH Safety MSG—External Air Transport, Msg 89-01, Safe load capacities for aerial delivery lines used in EAT operations, ATSP-TDD 212000Z Apr 89.

CECOM SOU-MSG-89-03-03—Advisory, Operational, Safety hazard of CX-13145/U cable, NSN 5995-01-086-3222, to charge primary LI-S02 batteries, AMSEL-SF-SEC 301800Z Mar 89.

CECOM SOU-MSG—Advisory, Operational, Correction to CECOM SOU-MSG-89-03-01, AMSEL-SF-REE 3117800Z Mar 89.

CECOM SOU-MSG-89-04-02—Operational, Safety hazard; multi-fuel heater in AN/GRC-122 radio teletypewriter assemblage, NSN 5815-01-142-3079, AMSEL-SF-SEC 101800Z Apr 89.

MICOM SOU-MSG-89-02—Advisory, Load test M22 sling beam-wire rope, AMSMI-LC-AM 241515Z Mar 89.

TACOM SOU-MSG-89-22—One-time inspection of M1/M1A1 tank main hydraulic pump quick disconnects, AMSTA-M 231715Z Mar 89.

TACOM SOU-MSG-89-27—Advisory, Operational, Third follow-up to SOU MSG 88-57, for M870A1 low bed semitrailer, NSN 2330-01-224-9245, from contract numbers DAAE07-85-C-J042 and DAAE07-C-86-J063, AMSTA-M 301700Z Mar 89.

TACOM SOU-MSG-89-19—Advisory, Technical/Maintenance, Fatal accident—M916 truck tractor and M172A1 semitrailer, AMSTA-M 311400Z Mar 89.

TACOM SOU-MSG-89-29—Advisory, Technical, Maintenance, Guidance on the brake problems for 4-16-K CBD forklifts, NSN's 3930-01-172-7891 and 3930-01-172-7892, AMSTA-M 191530Z Apr 89.

TACOM SOU-MSG-89-16—Advisory, Technical/Maintenance, rear axle spider bolts on the M936/M936A1, 5 ton wrecker, AMSTA-M 211500Z Apr 89.

TM 9-4935-476-13 Dec 88 Captive boresight harmonization kit (used on Army AH-64A helicopter)
 TM 9-4935-2544-24P Dec 88 AN/TSM-179 guided missile remote control system, supplementary equipment guided missile system test station AN/TSM-180 (HAWK missile)

TACOM SOU-MSG-89-21—One-time inspection of inner boom, NSN 3815-00-120-4804, procured from, A. Gunthard Co under contract number DAAE07-87-C-2725, AMSTA-M(NMP) 131330Z Apr 89.

TROSCOM SOU-MSG-10-89—Emergency, Do not use obsolete nylon climbing rope, NSN 4020-00-231-2537, AMSTR-MES 131410Z Apr 89.

TROSCOM SOU-MSG-09-89—Advisory, Electrical shorts in firefighting truck, Model 2500L, AMSTR-MES 251900Z Apr 89.

TROSCOM Maintenance Advisory MSG 89-16—Operation of washer/extractor, NSN 3510-00-933-7946, on the M-532 laundry units, NSN's 3510-00-782-5294 and 3510-00-169-4735, AMSTR-MES 271425Z Mar 89.

TROSCOM Maintenance Advisory MSG 89-18—Operating procedures for 35,000 lb extraction force transfer coupling (EFTC), NSN's 1670-00-434-5783, 1670-00-434-5785, 1670-00-434-5787 and 1670-00-434-5782 used on parachute operations, AMSTR-MES 311425Z Mar 89.

TROSCOM Maintenance Advisory MSG 89-19—Staking instructions for the latch pins on latch assembly on the 35,000 lb extraction force transfer coupling (EFTC), NSN's 1670-00-434-5783, 1670-00-434-5785, 1670-00-434-5787 and 1670-00-434-5782 used on parachute operations, AMSTR-MES 311500Z Mar 89.

TROSCOM Maintenance Advisory MSG 89-17—Problems with closed circuit refueling nozzle, NSN 4930-01-264-2067, Model number 125-10000, by Tube Alloy Corp, when used with OH-58A and OH-58C helicopters and auxiliary ground power unit (AGPU), AMSTR-MES 132100Z Apr 89.

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

TM 11-5820-540-20P Mar AN/GRC-103(V)1, 2, 3, 4 radio set, extension kit mast and MK-1184 cable kit
 TM 11-5855-214-10 Feb AN/TVS-5 night vision sight
 TM 11-6625-444-14-3 Jan Digital multimeter AN/GSM-64D
 TM 11-6625-444-24P-3 Nov 88 Digital multimeter AN/GSM-64D

PREVENT TAILWHEEL LOCKUP

HEY,
THIS BIRD
HAS BEEN
DOWN A
WHILE.
WE
SHOULD
LUBE THE
LOCKPIN.

I'M
ALREADY
ON IT!

Greasing your Black Hawk's tailwheel lockpin every 500 flight hours as required in Task 2 of TM 55-1520-237-23-4 may not be enough to keep it from locking up.

If you're operating in a wet or humid environment, or if your bird has been down for an extended period for whatever reason, you probably need more lube on the lockpin.

If you fail to lube the pin often enough, it may not lock or unlock on command. Then, when the bird's towed or taxied, the pin will shear in two.

You can prevent rust buildup on the lockpin by coating it with aircraft grease, MIL-G-81322. Move the pin up and down with the manual lever to make sure it moves freely.



If the pin won't move free and easy, put a drop or two of penetrating oil on it. NSN 6850-00-508-0076 gets a 1-oz can.

But keep oil and grease away from the landing gear wear plate on the fork assembly below the lockpin. The wear plate is Teflon-lined and will deteriorate fast if it's soaked with lube.



If you accidentally get oil or lube on the wear plate, remove the lube with a clean cloth and wash the plate with soap and water.

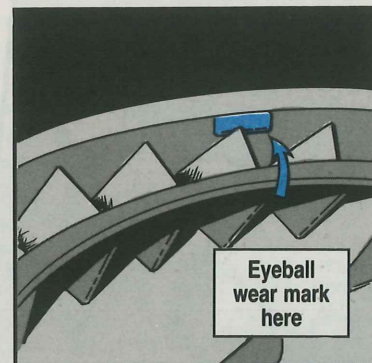
On Your Mark....

Failure of the Black Hawk's transmission oil cooler can be fatal.

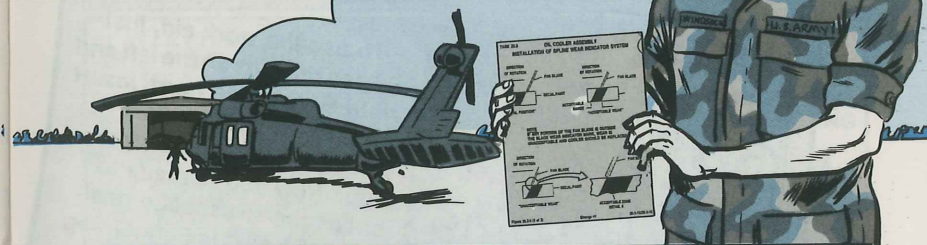
So take a close look at the cooler's splined shaft wear indicator every PMS inspection.

If any part of the fan blade is outside the black wear mark, you must replace the oil cooler before your bird flies again.

If the wear indicator marks are not legible, or if they're debonding, install new wear indicator marks. You can use paint or decals.



TASK
29.3 OF
TM 55-1520
237-23-7-
SHOWS
HOW.



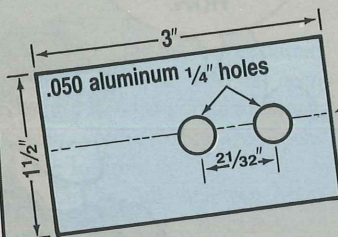
Chinook Anti-Ice System

If your CH-47C or D Chinook has a T55-L-712 engine with bypass FOD screens, the anti-ice system does not have to work. The system is being removed from C-models when they're converted to D models. It'll be removed from D models by MWO 55-1520-240-50-22 in FY 90.

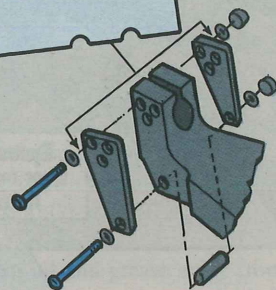
Work Aid Helps Adjust Swashplate

Dear Editor,
Any UH-1 mechanic who has tried to adjust his bird's swashplate to the dimensions listed in Fig 11-12 of TM 55-1520-210-23-2 knows what a trying experience it can be. But I've fabricated a work aid that helps some. You need a piece of .050-in thick aluminum, 3 x 1½ inches. Make it like so:

WORK AID CAN BE USED ON EITHER BOLT HEAD SIDE OR NUT SIDE



Cut here to make 2 work aids



Loosen nuts and slip work aid under washers

To use the work aid, just loosen the nuts on the left and right swashplate horn, insert the work aid under the washers and snug down the nuts. Now you're ready to check the swashplate position like it says in Para 11-55g of the TM.

Darrell S. Harrison
West Bend, WI

(Editor's note: Thanks for the tip.)

Enough's Enough

Some Kiowa mechanics are still overfilling the tail rotor gearbox with lube oil and overgreasing the bearing inside the pitch control mechanism.

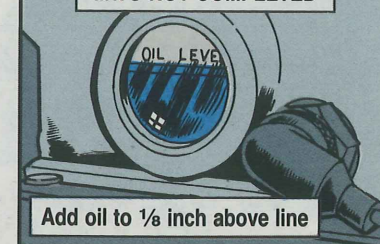
The results are all bad.

When you overfill the gearbox, excess oil runs down the output shaft during operation and gets into the trunnion and Teflon bearings.

So, when you add oil to the gearbox, allow a few seconds for the oil to stabilize before you read the sight glass. If MWO 55-1520-228-50-25 has

already been completed on your bird, add oil to the indicator line only. If the MWO has not been applied to your bird, add oil until it's 1/8 inch above the indicator line.

MWO NOT COMPLETED



Add oil to 1/8 inch above line

MWO COMPLETED?



Add oil to line

When you use too much grease on the pitch control mechanism bearing, Item 19 in Fig 5-48 of TM 55-1520-228-23-1, it gets into the boot, Item 18. The boot fills with grease and pumps it right into the gearbox and contaminates it.

So go easy with the grease. OK?

I'M LETTING THE OIL SETTLE BEFORE I READ THE SIGHT GLASS.



GREAT! THAT WILL PREVENT OVERFILLING THE GEARBOX.



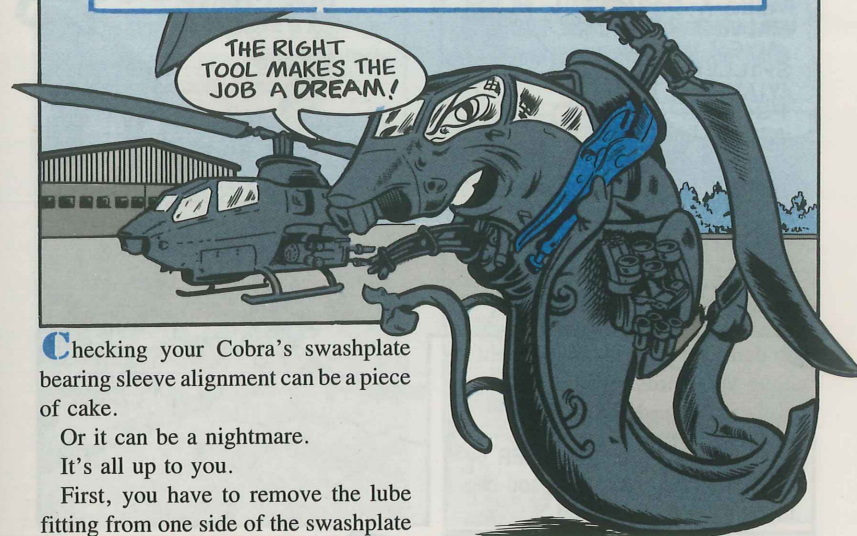
Dear Editor,
We had problems with oil and water getting into our D-model's lower anticollision light and shorting it out.
We solved part of the water problem by covering the lower exhaust port with plastic whenever we wash a bird.
Just remove the screen, put plastic over the opening and reattach the screen. After the wash job, remove the screen and plastic and reattach the screen.
To keep oil from washing into the light, we sealed the light with Proseal, NSN 8030-00-616-9191.
We've had no more lower anticollision light replacements since we started covering up.



PFC Donald Campbell
Ft Lewis, WA

(Editor's note: Sounds like a neat coverup!)

WANTED: PLIER WRENCH



Checking your Cobra's swashplate bearing sleeve alignment can be a piece of cake.

Or it can be a nightmare.

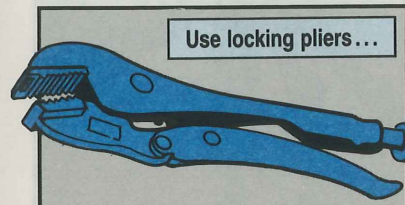
It's all up to you.

First, you have to remove the lube fitting from one side of the swashplate to insert the alignment tool.

If you don't get a firm grip on the fitting, or if you squeeze too hard with ordinary pliers, you'll mangle the tip of the fitting.

Then you won't be able to grip it to pull it out. So you have to remove the entire swashplate and ship it to depot for repair.

But you can avoid the nightmare by using a little extra care and the right tool. Always use plier wrench, NSN



5120-00-277-4243, to remove the fitting. It's in your AVUM No. 1 tool set.

Here's another trouble-saving tip: After you check the bearing sleeve alignment, lightly tap a new lube fitting into place.

If you tap too hard, you won't leave enough of the fitting sticking out to grip next time you have to check the sleeve alignment.



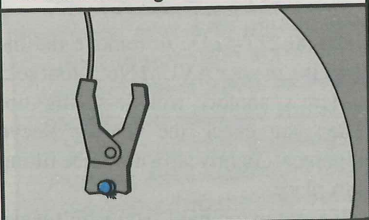
Rapid Refueling

STATIC ELECTRICITY PACKS A POWERFUL WALLOP WHEN IT'S MIXED WITH SPILLED AVIATION FUEL.

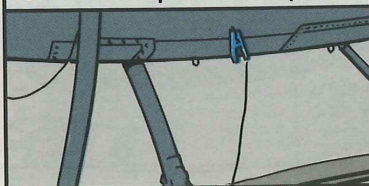


So don't get careless or impatient refueling your birds. Here's how to refuel them fast and safe:

1 GROUND THE REFUELER by attaching the ground rod clip to the nearest ground rod.



2 GROUND THE AIRCRAFT by attaching one end of a ground cable to the ground rod and the other end to a bare metal part of the bird. Use the axle of the landing gear or some other unpainted metal part.



3 BOND THE REFUELING NOZZLE to the bird before you take the dust cap off the nozzle and the cap off the fill port. It equalizes the electrical charges of the nozzle and the aircraft. If the bird has a receiver for the bond plug, use it. If not, clip it to a bare metal part of the bird.



Reminders

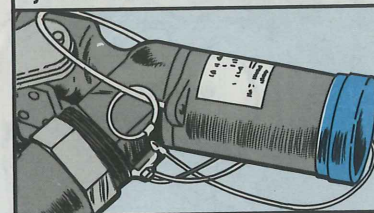
4 MATE THE NOZZLE and fill port. If they won't mate, look for dirt in the port. Wipe off the port and nozzle with a clean cloth.



5 PUT THE NOZZLE all the way into the fill port and lock it into place.

6 STOP THE FLOW of fuel completely before you unlock the nozzle from the port.

7 REPLACE THE NOZZLE'S dust cap and the fill port cap before you disconnect the nozzle bond.



Aviation Messages

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

GEN-89-01, SOF, Maint Mandatary, All aircraft, inspect and rtn of aerquip bulk fuel hose, 092230Z Mar 89.

GEN-89-02, SOF, Maint Mandatary, All aircraft, rev to GEN-89-01, inspect and rtn of aerquip bulk hose, 132130Z Mar 89.

OV-1-89-01, SOF, Maint Mandatary, Life extension of the MK-J5D ejection seat rocket motor NSN 1377-00-244-1578, 152130Z Mar 89.

AH-1-89-04, SOF, Operational, AH-1 series, restriction of specific flight maneuvers, 152230Z Mar 89.

AH-1-89-05, SOF, Maint Mandatary, AH-1 series, rev/chg of component lives, 192230Z Mar 89.

UH-1-89-03, SOF, Maint Mandatary, Replace PN AN320-5 and AN320-6 slotted nuts, 222400Z Mar 89.

C-12-89-02, SOF, Operational, Rev to op restrictions while using JP-8/JP-5 fuel, 282300Z Mar 89.

U-21-89-02, SOF, Operational, Rev to op restrictions while using JP-8/JP-5 fuel, 282300Z Mar 89.

AH-64-89-04, SOF, Maint Mandatary, Rev to SOF AH-64-89-02, inspect fuel hoses for premature aging, 301723Z Mar 89.

UH-60-89-03, SOF, Technical, Inspect all main rotor spindles, 302100Z Mar 89.

UH-60-89-04, SOF, Technical, Rev to inspect all main rotor spindles, 312200Z Mar 89.

CH-47-89-05, SOF, Maint Mandatary, PM for control components with Albi paint and firesleeves, 302300Z Mar 89.

OH-58-89-MIM-01, Repair procedures for anti-ice valves, 012300Z Mar 89.

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

OH-6-89-MIM-01, Repair procedures for anti-ice valves, 012300Z Mar 89.

CH-47-89-MIM-05, Weekly information update, 032030Z Mar 89.

CH-47-89-MIM-06, Weekly information update, 101500Z Mar 89.

CH-47-89-MIM-07, Weekly information update, 172230Z Mar 89.

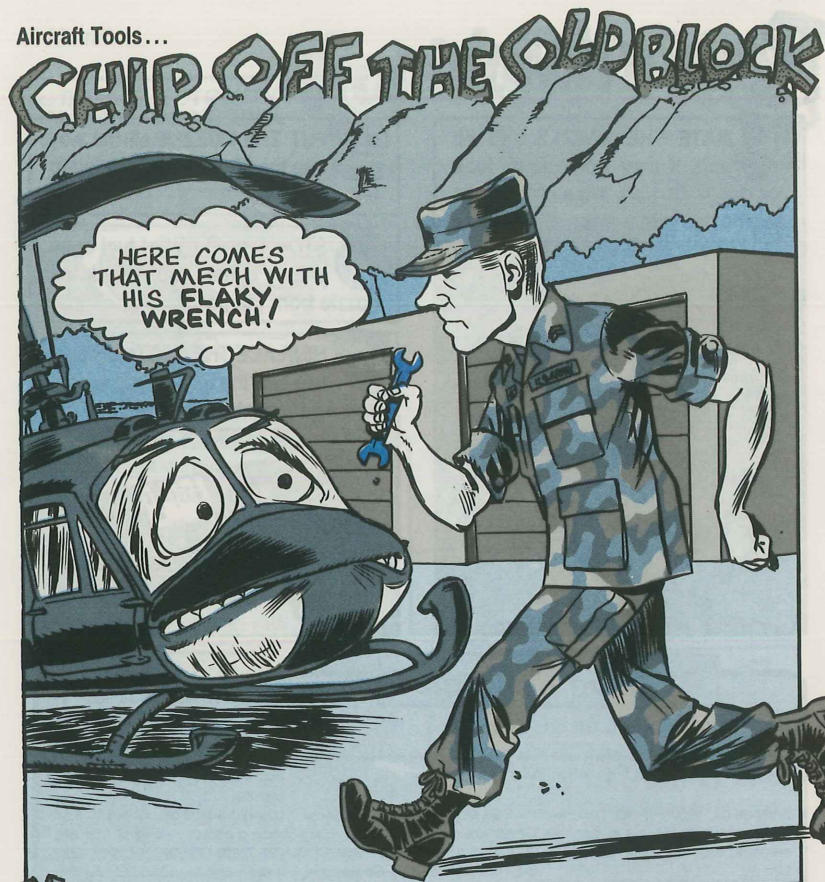
AH-64-89-MIM-03, Intumescent coating on titanium louvre assembly, 222330Z Mar 89.

GEN-89-MIM-04, All US Army aircraft and ground support equipment, closed circuit refueling nozzles, NSN 4930-01-264-2067, model No. 125-10000, 241400Z Mar 89.

CH-47-89-MIM-08, Weekly information update, 242000Z Mar 89.

UH-60-MIM-89-02, Inspection and cleaning of main rotor spindle sleeve bearing, 271800Z Mar 89.

UH-60-MIM-89-03, Advance notice of manual change concerning replacement bearings requirement, 282100Z Mar 89.



You mechanics and crew chiefs should never use cadmium- or zinc-plated tools on your birds. They could chip or flake and cause FOD.

Use nothing but chrome-plated and unplated steel tools. If a tool has a bright shiny finish, it's chrome-plated. If it has a dull finish, it's plated with cadmium or zinc.

Turn in all cadmium- and zinc-plated tools to your supply for replacement.

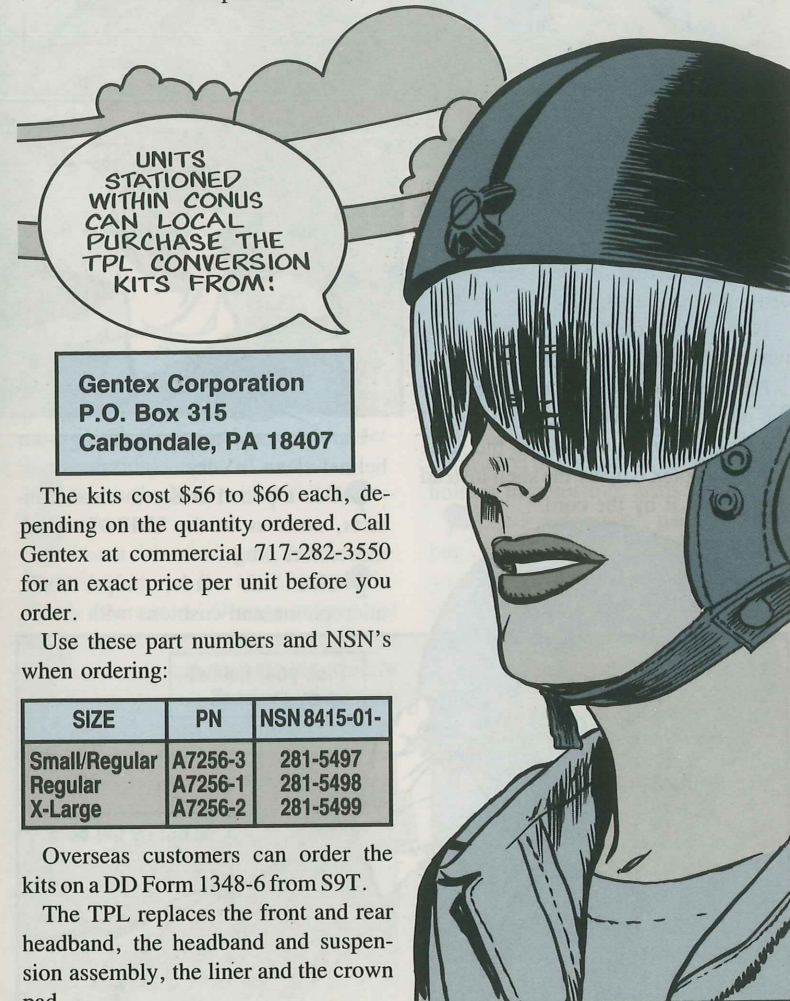
If you're issued new tools that are cadmium- or zinc-plated, don't use 'em. Instead, report it to the General Services Administration on the Tool Problem HOT-LINE, commercial 703-557-1368 or AUTOVON 286-2486.

Be prepared to give the manufacturer and part number or NSN when you call.

You should also send in a Quality Deficiency Report, SF 368. Fig 2-10 of DA Pam 738-751 shows how to prepare it.

SPELL RELIEF "TPL"

If you aviators are still getting headaches and hot spots from your SPH-4 helmet, here's good news. Your ALSE technician can replace the suspension assembly with the new thermoplastic liner (TPL) conversion kit.



Gentex Corporation
P.O. Box 315
Carbondale, PA 18407

The kits cost \$56 to \$66 each, depending on the quantity ordered. Call Gentex at commercial 717-282-3550 for an exact price per unit before you order.

Use these part numbers and NSN's when ordering:

SIZE	PN	NSN 8415-01-
Small/Regular	A7256-3	281-5497
Regular	A7256-1	281-5498
X-Large	A7256-2	281-5499

Overseas customers can order the kits on a DD Form 1348-6 from S9T.

The TPL replaces the front and rear headband, the headband and suspension assembly, the liner and the crown pad.

CVC HELMET

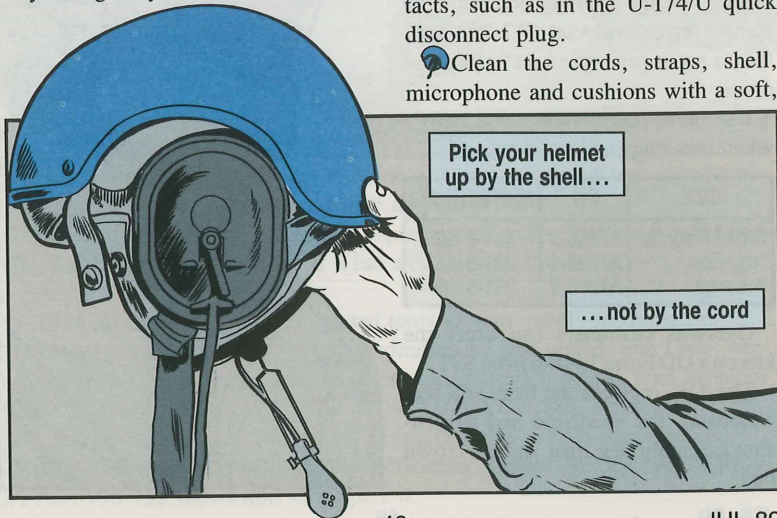
I'M NOT GOING ANYWHERE UNTIL YOU LEARN A LITTLE PM.

Leaving your helmet hanging from the intercom control box, rolling around on the floor of your vehicle, or stowed under the driver's seat gets it dirty, wet or damaged.

Always put your CVC in a safe place when you're not using it.

Never sit on it, and never put it under the adjustable driver's seat where it'll get cracked when you sit on the seat.

Always pick it up by the shell instead of yanking it by the cord.



Here're some tips on keeping your helmet clean 'n' dry:

- Use a pencil eraser to clean contacts, such as in the U-174/U quick disconnect plug.

- Clean the cords, straps, shell, microphone and cushions with a soft,

PM

BUT, BUT, BUT...

C'MON WHAT'S THE HOLDUP?

clean cloth dampened in a mild detergent solution.

- Wash the liner with a mild detergent and water.

- Use a dab of silicone, NSN 6850-00-880-7616, on the U-182/U and U-174/U connectors' O-rings to keep out moisture.

- Use your hand to tap the microphone, or blow on or wipe it to get out dirt. Never clean the microphone or



the earphone with sharp objects, like a knife or pencil point. You'll poke a hole in the moisture seals.

- Use a waterproof, padded, zipper bag, NSN 8415-00-782-2989, to stow your helmet. Your commander can OK one for each crewman's helmet. CTA 50-900 is the authority.



KEEP 'EM COOL AND DRY!



To keep dry-cell batteries ready to power your electronics and communications equipment, store batteries where it's cool and dry.

Keeping a battery cool in a refrigerator—at 35°F—lengthens its life by slowing down self-discharge.

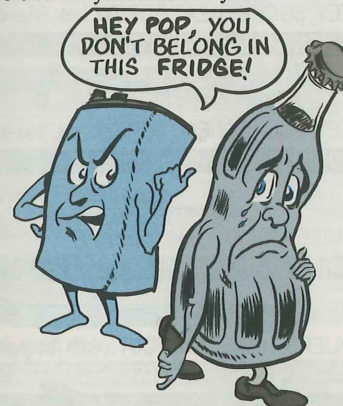


SB 11-30 (May 82) lets you know how long batteries will last in unrefrigerated storage after refrigeration.



A self-defrosting refrigerator helps to keep down moisture.

If your unit needs a refrigerator to store batteries, use Chap 21 of CTA 50-909 as your authority.



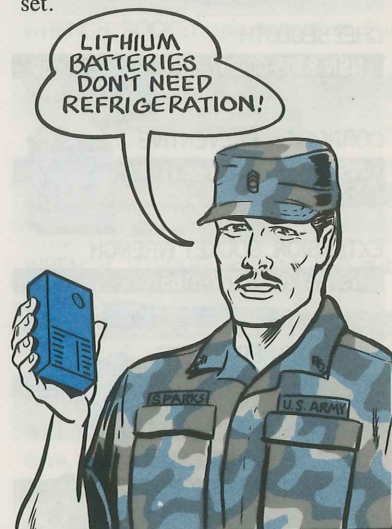
You wind up with condensation each time the refrigerator door is opened. Limit the cooling space to batteries. Leave out pop and snacks that might keep the refrigerator door opening and closing many times a day.

You can also store batteries in moisture-absorbent material, such as cardboard or desiccant packages, NSN 6850-00-935-9795, to cut down on dampness.

If you store a battery in a plastic bag, leave it in the bag when you take it out of the cooler. Instead of moisture forming on the battery, it'll form on the plastic bag.

If a battery has moisture on it, wipe it off with a clean, dry cloth before putting the battery in a radio or telephone set.

Leave the lithium battery out of the refrigerator and away from other batteries. It doesn't self discharge any appreciable amount for years. It goes into full action only when it's hooked into the electrical system, such as in a radio set.



Battery Service Tool Kit Checklist

Your TK-90/G battery service tool kit has everything you need to keep your nickel-cadmium batteries healthy.

Here's a checklist to keep those power packs up to snuff. The kit's from SC 5180-91-CL-R03 (Apr 84), which is on microfiche. You get one each, unless otherwise indicated.

APRON, IMPERMEABLE

NSN 8415-00-082-6108



BATTERY FILLER, BULB TYPE

NSN 6140-00-003-6096



BRUSH, ARTISTS

NSN 8020-00-224-8028



BRUSH, PAINT

NSN 8020-00-297-6657



CHEESECLOTH

NSN 8305-00-267-3015 3 Yds



CORROSION PREVENTIVE

NSN 8030-00-903-0931
1-pt cn

EXTENSION, SOCKET WRENCH

NSN 5120-00-227-8105



FACE, HAMMER, INSERT

NSN 5120-00-293-2999 2 Ea



FLASHLIGHT, TWO-CELL

NSN 6230-00-163-1856



GLOVES, RUBBER

NSN 8415-00-266-8675 1 Pr



GOGGLES, INDUSTRIAL

NSN 4240-00-190-6432



HOLDER, INSERTED HAMMER FACE

NSN 5120-00-903-8546



KEY, SOCKET HEAD SCREW: hex, 3/16-in

NSN 5120-00-198-5410



KEY, SOCKET HEAD SCREW: hex, 5/32-in

NSN 5120-00-198-5413



KNIFE, POCKET: electrician's

NSN 5110-00-240-5943



PLIERS, DIAGONAL CUT: with stripping notches, 6-in

NSN 5110-00-224-1532



PUNCH, DRIVE PIN: 1/8-in

NSN 5120-00-242-5966



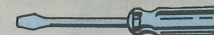
SCREWDRIVER, FLAT TIP: cabinet, 3/16 by 3-in

NSN 5120-00-236-2127



SCREWDRIVER, FLAT TIP: plain, 1/4 x 4-in

NSN 5120-00-222-8852



SOCKET WRENCH ATTACHMENT: 1/4-in sq dr, 1/8-in 6 point bit

NSN 5120-00-596-0934



SOCKET WRENCH ATTACHMENT: 1/4-in sq dr, 5/32-in 6 point bit

NSN 5120-00-596-0940



SOCKET, SOCKET WRENCH: 5/16-in 6 point, 1/4-in drive

NSN 5120-00-232-5703



SOCKET, SOCKET WRENCH: 1/4-in 6 point

NSN 5120-00-236-2264



SOCKET, SOCKET WRENCH: 1/2-in 12 point

NSN 5120-00-189-8610



SOCKET, SOCKET WRENCH: reg length, 1/4-in sq dr by 3/8-in

NSN 5120-00-241-3186



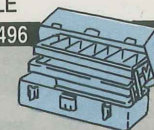
TOOTHBRUSH

NSN 8530-00-290-2920



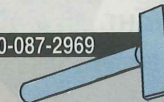
TOOL BOX, PORTABLE

NSN 5140-00-331-5496



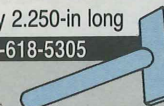
WRENCH, VENT PLUG: 1-in tee handle by 2 1/2-in long

NSN 5120-00-087-2969



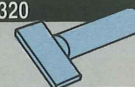
WRENCH, BATTERY FILLER CAP: rigid tee, 1-in wide by 2.250-in long

NSN 5120-00-618-5305



WRENCH, BATTERY FILLER CAP: rigid tee, 1.250-in wide by 2.250-in long

NSN 5120-00-618-5320



WRENCH, SOCKET: spin screwdriver, 1/2 in

NSN 5120-00-293-0375



WRENCH, SOCKET: spin screwdriver, 5/16 in

NSN 5120-00-224-2596



WRENCH, SOCKET: spin screwdriver, 1/4 in

NSN 5120-00-241-3188



WRENCH, TORQUE: indicating, 0-25 in-lb torque

NSN 5120-00-568-4742



WRENCH, TORQUE, 1/4-in square male drive, 0-60 in-lb torque range

NSN 5120-00-529-2552



Filter Facts

CONNIE,
THIS LENS
PUTS YOU
IN THE
SPOTLIGHT.



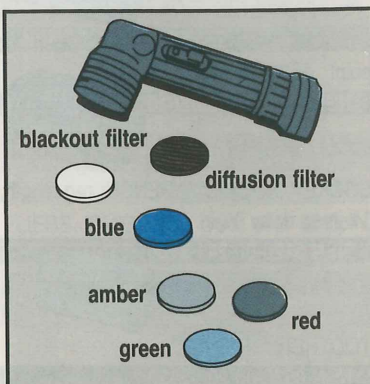
The best way to get filters for your MX-991, -992 or -212 flashlights is to get them from a bum light.

But if you can't get the filters that way, order them with these NSN's:

Filter	NSN 6230-
Red	00-111-0190
Opaque (Blackout)	00-128-2464
Diffusion	00-356-4825
Green	00-504-8341
Amber	00-504-8342
Blue*	01-189-1480

*Unit of issue for the blue filter is HD

Get the flashlight bulb with NSN 6240-00-155-8675. Order a replacement spotlight lens with NSN 6230-00-246-0699.



Cat 130G Grader...

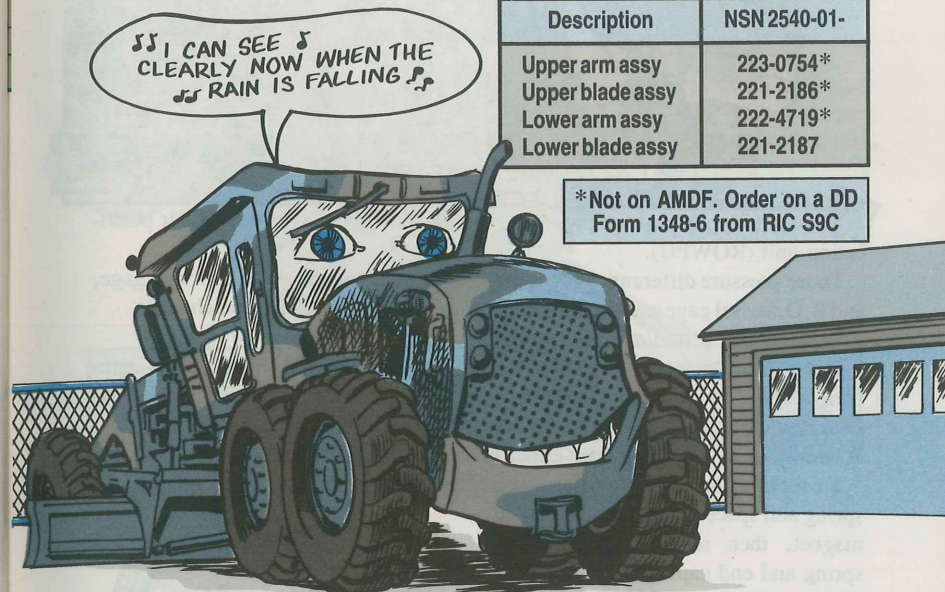
Wiper Group Change

There was a change in the windshield wipers on the 130G road graders during production. TM 5-3805-261-14&P-4 shows the wipers used on earlier graders, but the arms and wipers shown won't fit later graders.

Graders with serial numbers 7GB00464 and below and 7GB00585, use the wipers shown on Page 275 of the -14&P-4. For serial numbers 7GB00465 (except serial number 7GB00585) and higher, use the following parts:

Description	NSN 2540-01-
Upper arm assy	223-0754*
Upper blade assy	221-2186*
Lower arm assy	222-4719*
Lower blade assy	221-2187

*Not on AMDF. Order on a DD Form 1348-6 from RIC S9C



Other wiper group parts are shown on Pages 3-17 through 3-19 of TB 43-0001-39-2 (Apr 87). Check with your TACOM LAR or write to Half-Mast if you need the info.

5-Gal Can Gaskets

There are two gaskets available for the closure on the 5-gal military gas can. use gasket, NSN 5330-00-298-7165, for general use. It'll give you a good seal to about -40°F. For temperatures below that, use gasket, NSN 5330-01-271-7621. It costs more, but will give you a good seal in temperatures down to -60°F.

SAVE THAT GAGE!



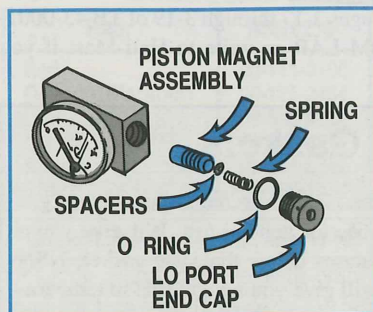
No need to replace a bum pressure gage on your reverse osmosis water purification unit (ROWPU).

Those pressure differential gages used for the multimedia gage, cartridge gage, and R.O. vessel gage use a piston/magnet assembly to sense pressure changes.

Replacement piston/magnet assemblies are available to fix the gages.

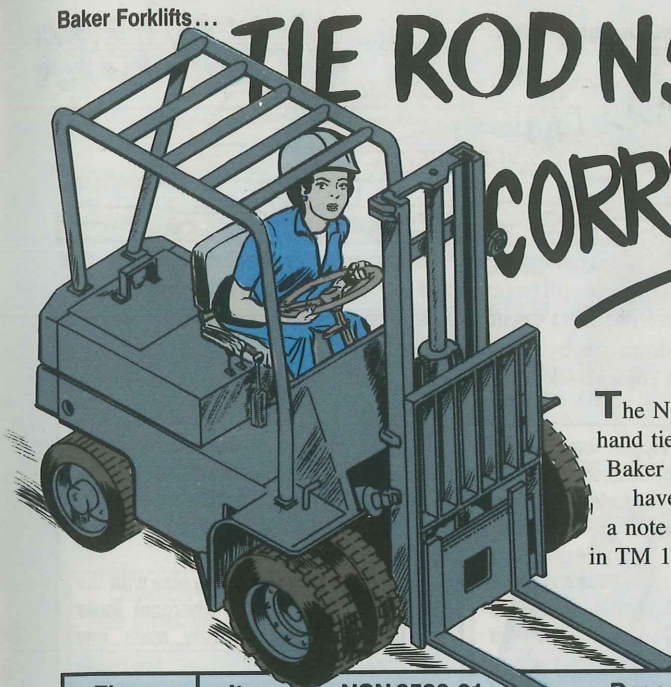
Order piston/magnet assembly PN SD12-3-A for ROWPU's with serial numbers under 1500. For serial number 1500 and up, get assembly, PN SD12-5-A. Order either using CAGE 30839 on a DD Form 1348-6 from RIC A12. Either assembly costs \$15.25. Order either one on a DD Form 1348-6.

To replace the piston/magnet assemblies, remove the low port end cap, the spring and spacers. Replace the piston/magnet, then reinstall the spacers, spring and end cap.



Baker Forklifts...

TIE ROD NSN'S CORRECTED



The NSNs for the right hand tie rod ends on the Baker FJF-040 forklifts have changed. Make a note of these changes in TM 10-3930-627-20P.

Figure	Item	NSN 2530-01-	Description
55	9	132-7492	Tie rod end, right hand
56	12	132-7492	Tie rod end, right hand

The SMR code for Fig 55, Item 9 is changing to PAOZZ, too.

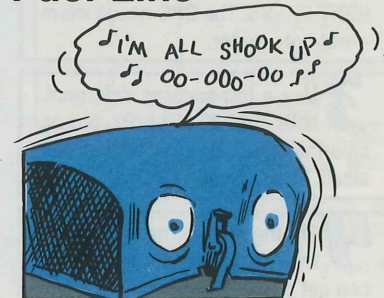
10-KW Generator...

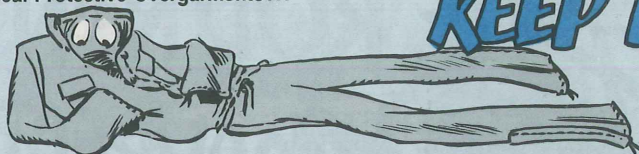
Save the Fuel Line

If your generator's shroud is too close to a fuel line, vibration during operation will wear a hole in the line.

So make sure the fuel lines are at least 1/8 inch away from the shroud.

If a fuel line and shroud are too close, widen the gap. Put washers, NSN 5310-00-809-3078, on the mounting flange bolts to lift the shroud away from the fuel line.



KEEP 'EM

Because the battle dress overgarment (BDO) is replacing the chemical protective overgarment (CPO), there will be fewer and fewer CPO's available for training.

That's why you NBC NCO's need to make your CPO's last as long as possible. And the way to do that is by keeping them clean.

After your unit comes back from training, wash CPO's in a washing machine like so:

1 Close the zipper, flaps and the hook and pile fasteners so they won't be damaged during washing.



2 Set the washer's dial to KNIT, DELICATE FABRIC, or PERMANENT PRESS. The CPO needs warm—not hot—water.

3 Use a low-sudsing detergent, NSN 7930-00-252-6797, but no chlorine bleach or soap with strong alkali. They damage CPO's.

4 Fill the washer no more than two-thirds full so the CPO's can get a good washing.

5 Dry them on hangers or tumble dry them for 25 minutes at the same setting you used to wash them. Don't load the dryer more than two-thirds full.

Never wash anything else with the CPO's. The CPO's charcoal inner layer will permanently stain any other clothing.

6 Wash the gloves by hand with soap and water. Let them dry outside thoroughly.

Turn the gloves inside-out to make sure they've dried completely. Dust the gloves with talcum powder before you store them. That keeps them from sticking and tearing.

Turn gloves inside-out to make sure they're dry

**CLEAN****How to Get CPO's**

Though the supply is dwindling, there are still CPO's available for training.

Order them on a DD Form 1348-6. Use a priority 15 and write "SO6" in card columns 62-64.

All sizes are currently available, except XXXS and XXS. When one size is used up, the next larger size will be substituted.

Here are the CPO NSN's:

Size	NSN 8415-00-
XS	407-1060
S	177-5007
M	177-5008
L	407-1062
XL	407-1063
XXL	407-1064

Chemical protective gloves and their liners are also available:

Glove Set	NSN 8415-01-	Liner
S	033-3517	8415-00-268-8354
XS	144-1862	(Same as Small)
M	033-3518	8415-00-268-8353
L	033-3519	(Same as Medium)
XL	033-3520	(Same as Medium)



ORDER
CPO'S
ON
DD FORM
1348-6.



Chemical protective boot covers are being replaced by green vinyl combat overshoes (GVO). Order them with these NSN's:

Size	NSN 8430-01-
3	048-6305
4	048-6306
5	049-0878
6	049-0879
7	049-0880
8	049-0881
9	049-0882
10	049-0883
11	049-0884
12	049-0885
13	049-0886
14	049-0887

Order chemical boot laces with NSN 8335-01-107-6998.

BDO's whose protective bags were punctured for more than 48 hours without being repaired can be used for training. These BDO's are no longer good for real chemical situations.

CARRIER

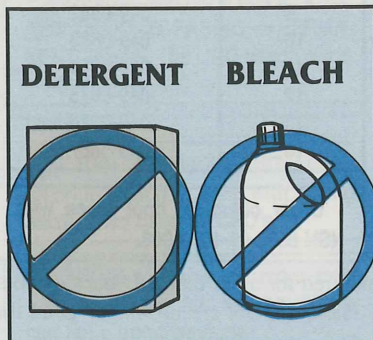
CARE

The M17's carrier can be quickly turned into a worthless piece of canvas if it's not cleaned right. Make your carriers last, NBC NCO's, with these DO's and DON'Ts:

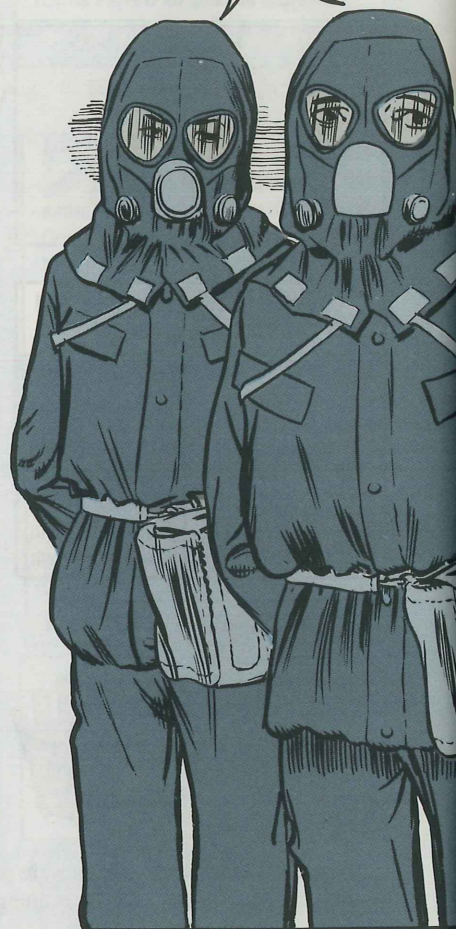
DO clean carriers like it says on Page 2-49 in TM 3-4240-279-20&P. Dip the scrub brush that comes with the M17 in cool water. Scrub the carrier inside and out until all dirt's gone.



DON'T use hot water, bleach, or detergent on the carrier or dunk it in water or stick it in the washing machine. They ruin the protective coating that seals out moisture. A washing machine



NO HOT WATER...
NO DETERGENT...
NO BLEACH...

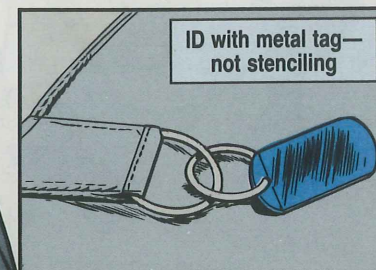


...OH MY...



will also rip off the carrier's snaps. Moisture will cause the M17 to mildew and rot.

DON't stencil ID numbers on the carrier. That ruins the protective coating. Get tags, NSN 8465-00-242-4804, for ID and attach them to the carriers' D-rings.



DON'T replace bum snaps with Velcro. There's not enough space on the carrier for enough Velcro to keep the flap sealed shut. In the field, the flap will flop open and the M17 will fall out or dirt and moisture will get in the carrier.



If something breaks on the carrier, order a new one, NSN 4240-00-933-2533. The carrier's no longer repairable since new ones are available.

Key Keeper



A HOLE
IN YOUR
EQUIPMENT
RECORD FOLDER
CAN PREVENT
LOST KEYS!

U.S. ARMY
EQUIPMENT RECORD FOLDER

Dear Editor,

To prevent lost vehicle keys on an extended dispatch, we punch a hole in the inside corner of the equipment record folder and put on a key tag with snaphook, NSN 9905-00-245-7826. These tags are GSA items that costs about \$8.00 for a box of 100.

This also keeps the outside equipment identification card pocket from being destroyed by drivers using it as a key storage pocket.

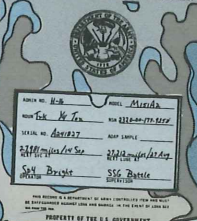
SFC Robert T. Boyd
USAR
Franklin, PA

I KNOW
THAT KEY
IS
SOMEWHERE!



(Editor's note—Sounds like you've found a good way to keep up with keys. Another item that might work is a shower curtain hook, NSN 7230-00-252-3394. These hooks cost \$2.25 for a box of 100. Or, you can get a keyring with NSN 5340-00-316-9392 for .07 each.)

U.S. ARMY
EQUIPMENT RECORD FOLDER



CUCV Headlight Switch Recall

The headlights on some trucks go out without warning because of a bum headlight switch. GM will replace the bum switches under Safety Recall #86C05(A). So, head your CUCV's and move 'em out to your nearest GM or Chevrolet dealer.

RC-292 Antenna Adapter

NSN 5935-00-823-0639 is for the UG-255 antenna adapter. Ignore the NSN for the adapter on Page 1-2 in Change 4 of TM 11-5820-348-15 and for Fig 1, Item 7 on Page 5 of TM 11-5820-348-24P. It's wrong.

M939-Series Truck Fix

The breather on the power steering pump has a nasty habit of vibrating loose, then falling off. During the next scheduled service, eyeball the breather to see if it's loose. If it is, take it out, wrap Teflon sealing tape, NSN 8030-00-889-3535, around the threads, and put it back in.

Tire Constrictor Correction

Forget changing M880 or CUCV tires with the bead constrictor listed on Page 61 in PS 437. Bead constrictor, NSN 4910-00-437-7215, only works on 13-, 14- and 15-in tires. Constrictor, NSN 4910-01-242-1370, is the one you want for the taller tires on the 1¼-ton trucks.

NSN for RT Knob Screw

If you need a knob screw for your RT-524 receiver-transmitter, get it with NSN 5305-01-133-0155. The screw is a PAOZZ item that will be added to the -20P TM.

Bradley Brake Torque Tube Fix

Keeping the pillow block collars in place on your M2/M3-series Bradley's brake linkage will be a lot easier now that you can get the setscrews that loosen and fall out. The setscrew, NSN 5305-00-723-9387, will be added to Fig 183 of TM 9-2350-252-24P-1 near Items 28, the pillow blocks.

Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-series.
☆ U.S. GOVERNMENT PRINTING OFFICE: 1989 — 648-004/00007

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

PREVENT M1 TANK FIRES!

KEEP THE HULL FLOOR AND
SENSORS CLEAN....
REPORT ALL FUEL LEAKS....
REPORT
ELECTRICAL CABLE
DAMAGE, ESPECIALLY
DAMAGE NEAR
THE POWER
PACK!



PIN: 06486-000