

Issue 544

PS

March
1998

THE
PREVENTIVE
MAINTENANCE
MONTHLY

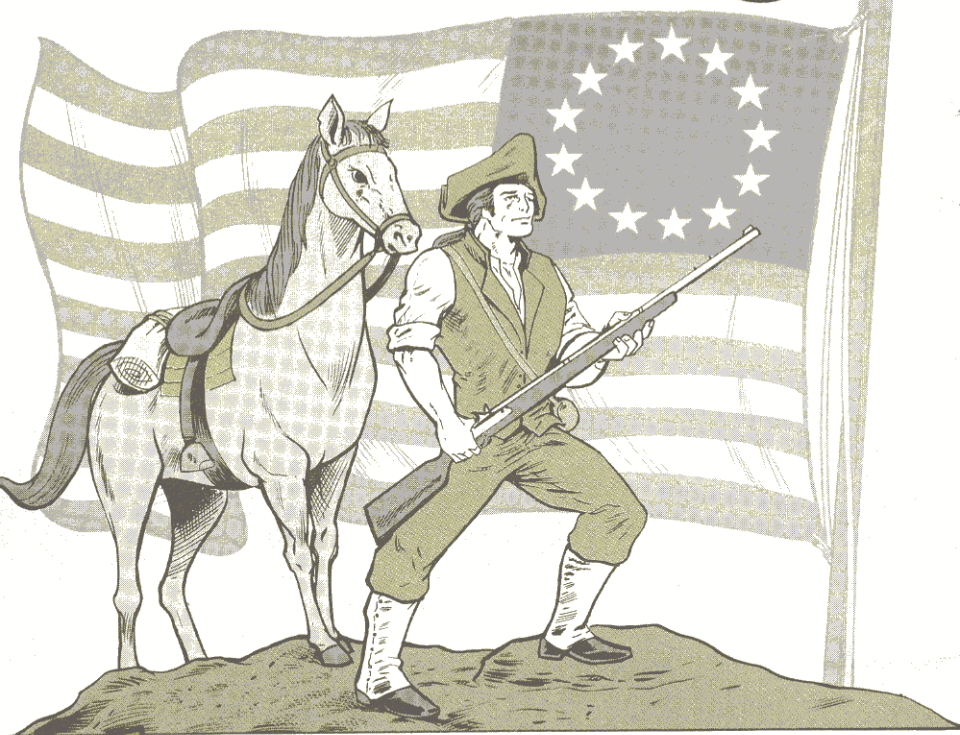
TB 43-PS-544

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THE PM FILES

The truth is in here.

Times Have Changed



Things were a lot simpler in the old days. It didn't take much know-how to care for your horse and flintlock.

Things are more complex now—especially when it comes to equipment. There are all kinds of new, high-tech stuff in use today—FMTVs, SP artillery, tanks, radios, missiles, generators, compressors, test equipment, and radar systems. Let's face it—maintaining today's equipment is a lot more complicated than caring for the horse and flintlock of old.

They do have one thing in common, though—preventive maintenance. It doesn't matter whether your equipment is sophisticated or simple, it takes PM to keep it working day in and day out.

You're in a modern army with modern equipment...the best in the world. So keep it that way with good preventive maintenance.

The time to start is now. If the balloon goes up, you won't get a second chance.



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-544, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

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

MSG Half-Mast
The Preventive Maintenance Monthly
LOGSA, Bldg. 5307
Redstone Arsenal, AL 35898-7466

Or E-mail to:

psmag@logsa.army.mil

Internet Address:

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

By Order of the Secretary of the Army:

DENNIS J. REIMER

General, United States Army Chief of Staff

Official:

Joel B. Hudson
JOEL B. HUDSON

Administrative Assistant to the Secretary of the Army
04364

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-7466. Periodical Postage is paid at the Huntsville, AL post office and at additional mailing offices.

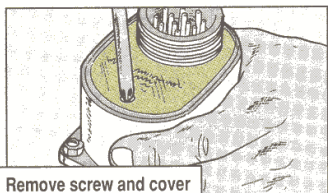
Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, LOGSA, Redstone Arsenal, AL 35898-7466.

Master Light Switch Repair

Even though the master light switch on most military vehicles is coded non-repairable, you can save it from the scrap pile if corroded contacts are the only problem.

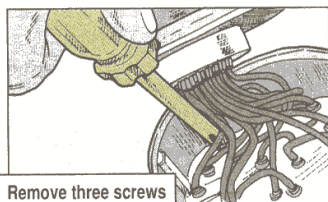
The corrosion can be removed easily, but there are several small parts to keep track of. Here's how to do the job right:

1. Remove the switch according to instructions in your vehicle's -20-series TM.
2. Remove the screw that holds the back cover in place, and remove the back cover.



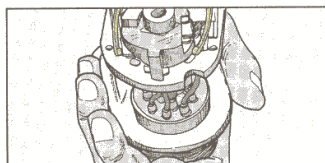
Remove screw and cover

3. Remove three screws and separate the control assembly from the housing.



Remove three screws

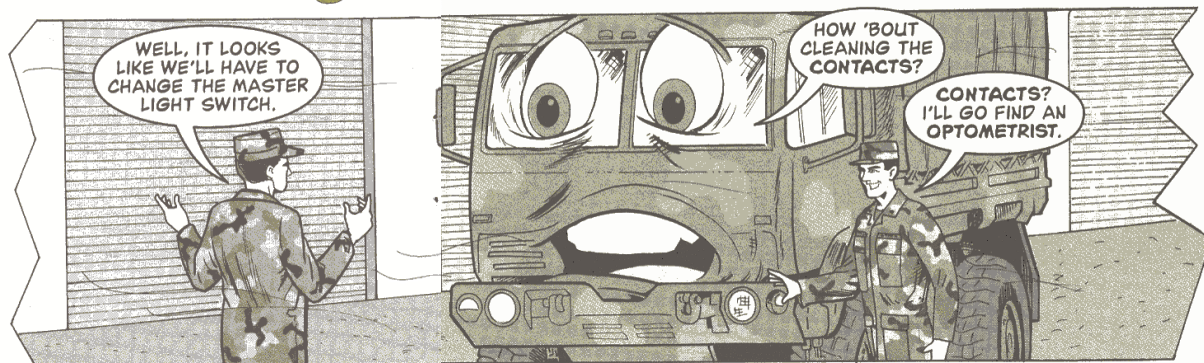
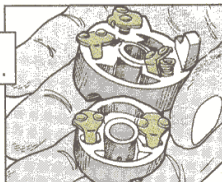
4. Rotate the disks to disengage the locking tabs and remove the locking clip.



Disengage locking tabs and remove clip

5. Taking care not to lose the electrical contacts, turn the control assembly over so the disks are on the bottom.
6. Rotate and remove each disk, one at a time.
7. Clean all contacts and the base with spray cleaner/lubricant, NSN 6850-00-245-0447.

Clean contacts...



...and base with cleaner/lubricant, NSN 6850-00-245-0447



8. Reinstall the disks and make sure the locking tabs and clips are in place.

9. Remove the lever stem from the housing and insert it in the disks.

10. Test the switch. If it doesn't work right, repeat steps 4 through 9. If it still doesn't work, discard the switch.

11. Reinstall the control assembly and three screws in the housing.

12. Reinstall the cover.

13. Install the assembly using instructions in the vehicle's -20-series TM.

Fuels and Lubes . . .

POL Guide Source Has Moved

The folks who provide the POL products guide and other fuels and lubricants information have moved.

The guide gives stock numbers, specification numbers and temperature ranges for fuels and lubes. To get the guide, or to get advice on fuels and lubes for ground systems, contact TARDEC.

Write: **TARDEC**
ATTN: AMSTA-TR-D/210
Warren, MI 48397-5000

Call: **DSN 786-4227**
(810) 574-4227

Fax: **DSN 786-4123**
(810) 574-4123

It's Only

Operators, a few grease fittings on M915/A1/A2 tractor trucks get overlooked because they're out of sight or hard to get to.

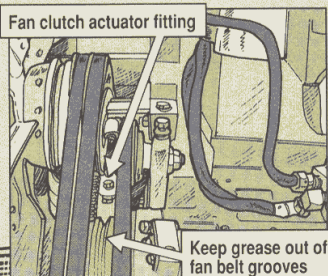
If they don't get lube, parts fail.

Fan Actuator

The fan clutch actuator's fitting is located right behind the top fan belt pulley.

Without lube, the actuator burns out. Then the fan isn't "told" to cool off the

engine and the engine overheats and the vehicle is down.

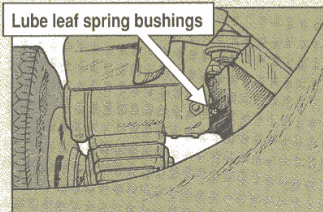


Fitting to Lube

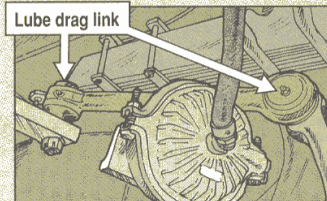
When pumping grease into the fitting, don't get any grease in the fan belt grooves. Just a dab of grease inside the grooves causes belts to slip.

Front and Rear Axle Springs

Your rig's leaf springs are connected to hanger brackets, which have bushings that need grease. Lubed bushings keep the springs riding freely up and down.



Give 'em four to five pumps of grease during scheduled services. And while you're at it, make sure the fittings for the drag link are lubed, too.



All these fittings help keep the suspension components lubed for a better ride.

Before you slip the grease gun end over these fittings, wipe them off carefully, so you don't shoot dirt into them. These fittings are usually coated with dirt and sand.

Tactical Trucks ...

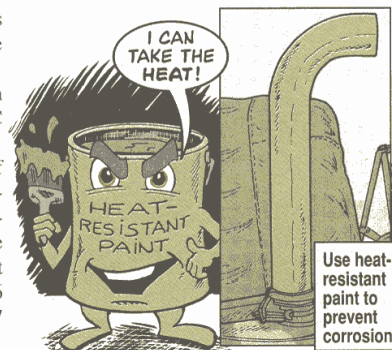
Exhaust Pipe Painting

Without protection, your truck's exhaust pipe is likely to corrode because of the heat it carries.

Once that corrosion produces an exhaust leak, your truck's NMC until it's fixed.

Protect the pipe and the rest of the exhaust system with heat-resistant paint. NSN 8010-00-616-4009 gets a 1-gal bucket of olive drab paint. Order a 1-gal bucket of tan paint on DD Form 1348-6 using CAGE 02388, PN N4717 and RIC GSA.

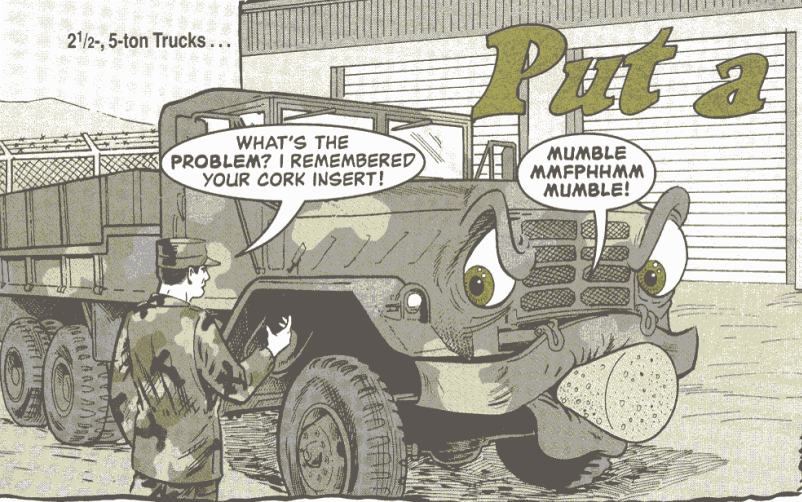
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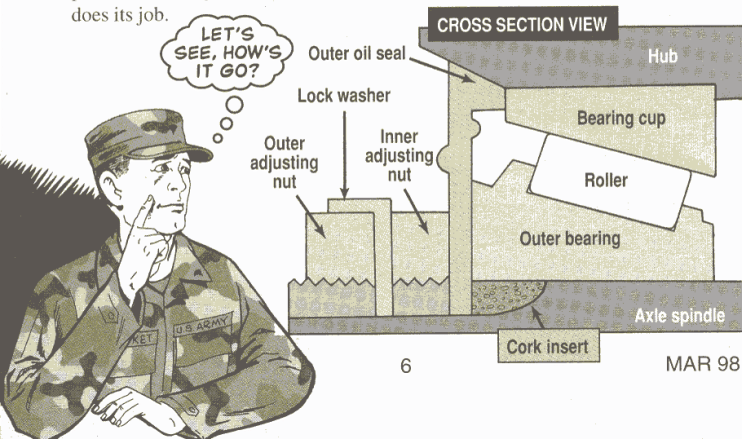


Put the cork in the spindle keyway on your 2 1/2- and 5-ton trucks so axle oil won't contaminate the hub and brake parts.

It's just a little piece of cork, but it keeps oil from washing grease out of the wheel bearings. Without grease, bearings burn up.

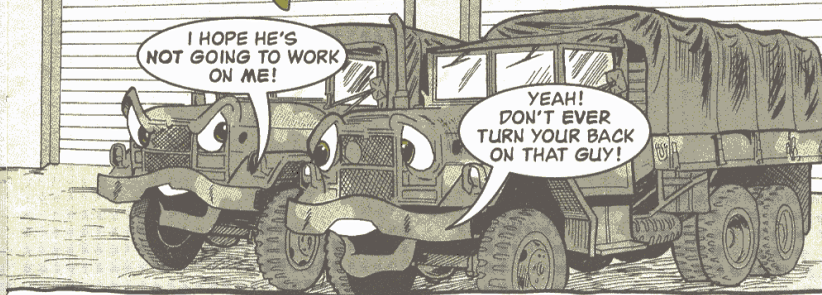
It also keeps oil from getting on the brake drum, lining and shoes. Oil and brakes don't mix.

Axle oil can't get past the outer axle seal except where the spindle keyway provides a handy channel under the outer bearing. That's where the cork insert does its job.



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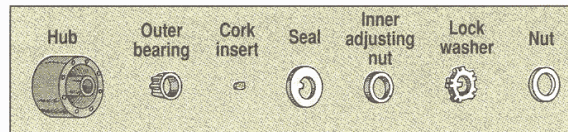
Put a Cork in It!



Install the cork in the keyway just before you install the outer oil seal. The tang on the seal will jam the cork under the outer bearing when you tighten the inner adjusting nut.

To get the cork insert needed for

2 1/2-ton trucks, use NSN 5330-00-712-1244. Insert, NSN 5330-01-133-7262, is used on all 5-ton trucks.



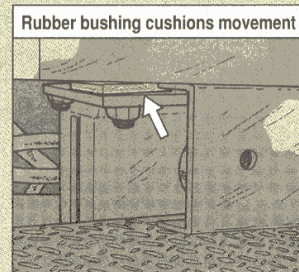
M931A1, M932A1 Tractors ...

Tire Mount Bushing

The spare tire mounting bracket on M931A1 and M932A1 tractors takes a real beating over rough ground, which often leads to a broken bracket.

Soften the blows and prevent the damage by adding a homemade rubber bushing.

Add a piece of mudflap rubber under the middle mount where the mount is poorly supported. The rubber cushions the movement and makes the bracket last longer.

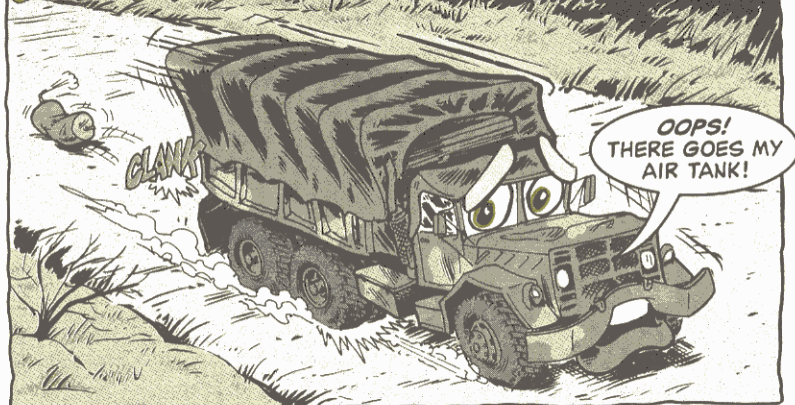


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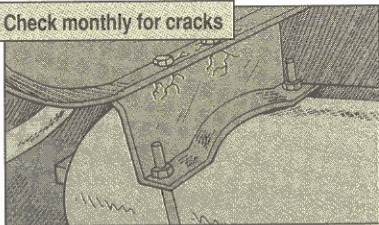
BROKEN BRACKET LOCKS BRAKES



Drivers, the air tank bracket on long wheelbase M939-series trucks has a history of cracking. When that happens, the air tank drops, the brake line snaps, and the spring brakes lock the wheels. Your vehicle is out of control.

The bracket cracks around the frame bolts on M927, M928, M934, M935 and M945 trucks. Vibration from the long frame, coupled with the weight of the air tank, puts a lot of stress on that area.

Check monthly for cracks



Don't take chances. Crawl under the truck and eyeball the brackets at least once a month. They're Item 11 in Fig 129 of TM 9-2320-272-20P.

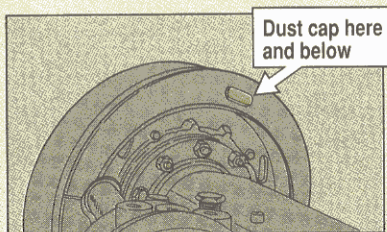
At the first sign of a crack, have your mechanic replace the bracket with NSN 5340-01-188-5088.

Brake Dust Caps

Get the "other" dust caps needed to close up the rear axle brake dust shields on M939-series 5-ton trucks with: NSN 2530-00-406-6785.

The caps cover the two holes on the outer edge of the shields and are a different size than the plugs shown as Item 14 in Fig 116 of TM 9-2320-272-20P.

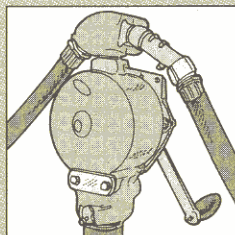
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Fuel Draining Made Easy

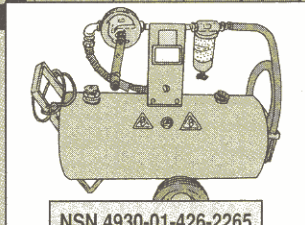
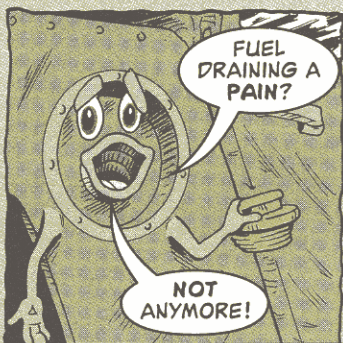
Up 'til now, one of the last maintenance tasks you wanted to perform was draining the fuel tank on a HMMWV. You knew it meant a lot of time and mess.

Finally, there's a quick and clean way to transfer fuel to and from the fuel tank using a hand-operated pump. You can get a hand pump to use with a 55-gal drum, or one that comes with its own receiving tank.



With a 55-gal drum, use
NSN 4930-01-179-5774

Details are found in TB 43-0001-62-1 (Apr 97) on Pages 9-9 through 9-12. If your unit or local TACOM logistics assistance rep doesn't have a copy, give Half-Mast your mailing address. He'll send you the info.



NSN 4930-01-426-2265
has its own tank

5,000-gal Tankers...

No Water in Junction Box!

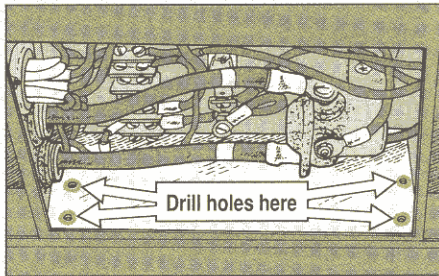
Malfunctions in your M900-series fuel tanker's junction box can be traced to corrosion if water is getting in but not getting out.

Drain those malfunctions away with a simple fix.

First, drill 1/4-in holes in one or more bottom corners of the box. That'll let out any water that accumulates.

Then, put silicone sealant, NSN 8040-00-833-9563, around the cables where they feed into the connectors on top of the box.

No water in the box equals no electrical problems caused by corrosion on M967/M967A1, M969/M969A1/M969A2 and M970/M970A1 tankers.



Dummies Need a Hand

Dummy couplings protect air line connectors and receptacles only when you use them.

If you don't use them, dirt and moisture have a clear shot at the lines that carry air to stop your vehicle. Grit can plug up a valve and moisture can rust it shut, leaving you brakeless.

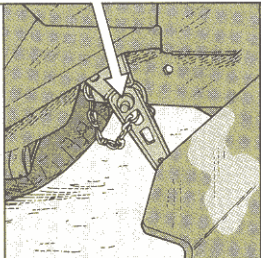
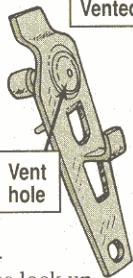
When you unhook the air lines, put the dummy couplings on the truck's half couplings. Hook the trailer's air lines to the dummy connectors on the trailer frame.

Make sure you use a vented dummy coupling, NSN 2530-00-740-9445, on the front service brake coupling of vehicles with air-hydraulic brake systems, such as M39- and M809-series 5-ton trucks.

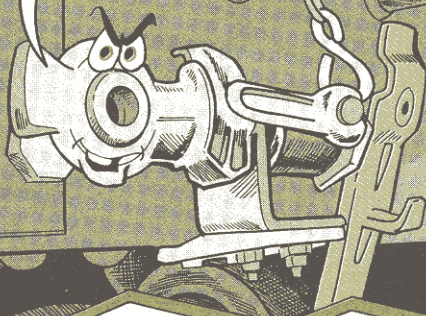
Without a vent, back pressure builds up in the air-hydraulic cylinder when you step on the brake pedal. The cylinder can't release air, so brakes lock up.

If you have a vented coupling, but brakes still lock up, make sure the vent is open. Blow into it. You should feel air coming through. If not, take it off and clean it in soapy water. Rinse and let it dry completely before putting it back on.

Vented dummy coupling must be used



UNTIL THE
DUMMY COUPLING
IS INSTALLED,
THE JOB'S NOT
FINISHED.



Keep Breather Valves Clean



A plugged breather valve is a death sentence for gearcases and axles on most medium and heavy trucks.

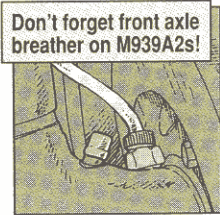
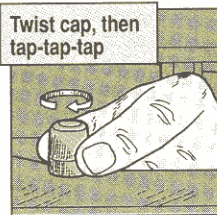
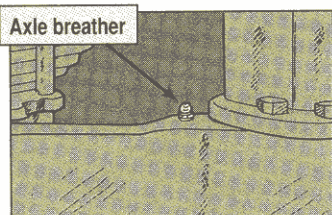
If the pressure that builds in those assemblies cannot escape, the seals blow. And when seals go, lube goes, too. No lube soon means no gears.

Keeping the breather valves clean is simple: Twist the valve's cap to loosen any dirt stuck inside.

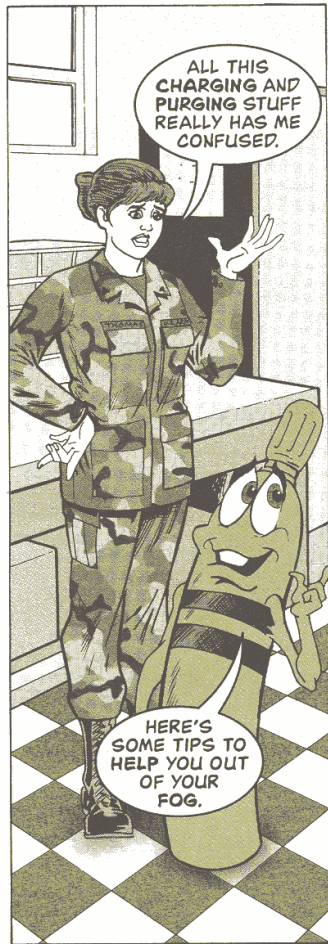
Then, pull up on the cap to make sure it's free. If the cap won't turn and pull up, get a new valve.

Make sure the new valve is good by blowing into the threaded end. If you can't easily blow through the breather, it won't do the job for your equipment. The cap on a good breather opens at a little under 1/2-lb psi—almost no pressure at all.

Then give all breather valves the twist-and-pull test after each operation in mud or heavy dust. Your gearcases and axles will live longer if you do. (Don't forget the breathers near the wheels on the front axles of M939A2s.)



Handling the



Fire control instruments that fog up or fill with moisture are useless. If you can't see, you sure can't hit the target.

Purging and charging every 180 days for tank fire control instruments and every 90 days for artillery is the norm, but in high humidity or tropical areas, you'll have to do it more often. If you don't, moisture builds up until it ruins expensive—and vital—equipment.

What You Need

TM 750-116 tells how to purge and charge most fire control instruments, but you'll still need the right stuff:

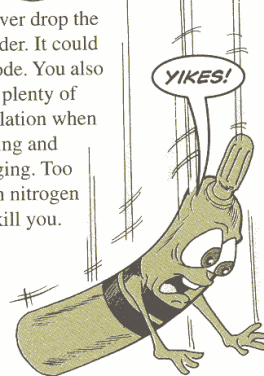
- Purging kit, NSN 4931-00-065-1110.
- Your vehicle or equipment TMs. Some have info on purging and charging gear and how to use it.
- SC 4931-95-CL-J54 lists equipment needed for purging and charging.
- Before accepting a cylinder for purging, make sure it's the right one. The right cylinder has a CGA 580-series valve which has right-hand internal threads. In addition, the right cylinder is gray with two black bands.

Use only nitrogen cylinders with two black bands



Urge to Purge

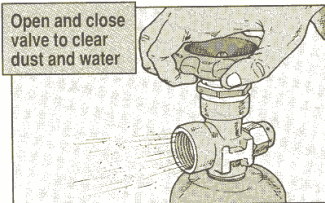
Never drop the cylinder. It could explode. You also need plenty of ventilation when purging and charging. Too much nitrogen can kill you.



Set Up the Gear

Line up your purging and charging gear and check it out before you begin.

Take the valve protection cap off the cylinder and quickly open and close the valve. That gets rid of dust or water in the valve seat.



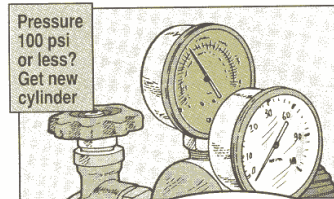
If you don't hear a hissing sound, either the cylinder's empty or the valve stem is stuck closed. If you smell something, you've got the wrong cylinder, because nitrogen has no odor. Either way, get a new cylinder.

Make sure you use regulator, NSN 4931-01-135-5064, with the 0-60 psi output gauge. Using other regulators can overpressurize and damage your fire control equipment. See TM 750-116 for more information.

Mount the regulator on the cylinder and the hose on the regulator. Don't overtighten. The brass threads can't take it. Both gauges on the regulator should read zero.

Close the regulator valve by turning it counterclockwise. Then, open the cylinder valve slowly until the high-pressure gauge needle stops moving and the valve is wide open. Where the needle stops is the psi of the cylinder.

If the reading is 100 psi or less, get another cylinder from supply. You can't do a good job at low pressure. Never drain the cylinder below 100 psi either. The pressure helps keep dirt and water out of the cylinder until it can be refilled.



If you've got good pressure, slowly open the regulator valve until the low-pressure gauge reads 10 psi. That blows water, dust, insects, and other unwanted elements out of the hose so they don't get pushed into your instrument. Now, turn off the regulator valve.

Are You Really Ready?

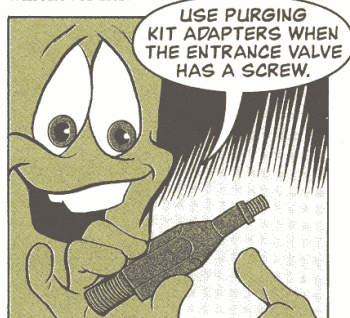
Look up the particular instrument you're purging in TM 750-116 or the instrument TM. It'll tell you what adapter to use (if any) and show where the entrance and exhaust ports are.



Entrance ports are usually circled in gray paint and outlet ports in yellow.

Take off the outlet port caps (or unscrew the screws) before you start. If you don't open the outlet port, pressure can build up inside the instrument and blow things apart. That's especially dangerous when dealing with radioactive fire control instruments.

Do not lose the port caps or screws. You'll need them after charging. If the entrance valve has a screw instead of a cap, you'll need one of the adapters in the purging kit. Use 8-32 UNC-2A, 10-24 UNC-2A or 10-32 UNC-2A, whichever fits.



Purge by the Book

TM 750-116 or the vehicle or instrument TM has the purging formula for the instrument you're working on. For example, in the case of an M1A1 collimator, NSN 1240-00-332-1780, you would open the regulator valve until the pressure reads 5 psi on the low-pressure gauge.

Once the instrument has been purged for the required time (five minutes for a collimator), shut off the regulator valve and replace the outlet port cap or screw.

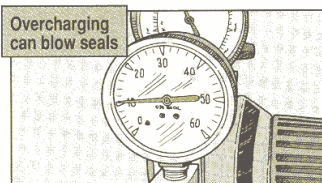
If an outlet port doesn't have a gasket or seal, put a little sealing compound, NSN 8030-00-275-8110, on the screw and reinstall it.

Nitrogen leaks are bad news, so if you need replacement gaskets, screws, or caps, order them from TM 750-116.

Charge It, Please!

If you don't charge the device after purging, dust and water will get inside.

Charging, as with purging, is done with nitrogen. Never overcharge. You can blow seals.



Set the regulator valve to the correct pressure and charge for the time specified in TM 750-116 or your equipment TM. For example, the M1A1 collimator should be charged at 5 psi for 10 seconds.



That's Not All

You're not finished until you shut off the nitrogen. Completely close the valve on the cylinder. Open the valve on the low-pressure side of the regulator just a little to bleed off pressure and then close it.

If you don't bleed off the pressure, the rubber diaphragm in the regulator stays under strain.



For your own safety, read up on compressed gases in AR 700-68, Storage and Handling of Compressed Gases and Gas Cylinders. Working with a high-pressure nitrogen cylinder and its accessories can be dangerous unless you know what you're doing.

Make sure the cylinder is correctly marked and has all the right safety devices—dust plug and/or valve protection cap.

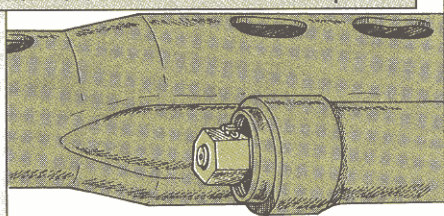
Damper Fluid Change

The next time you need to add damper fluid to the recoil mechanism of your Bradley's M242 machine gun, don't use the stuff called for in your TM, NSN 9150-01-056-9047.

That damper fluid has been replaced with NSN 9150-01-056-7346. The new fluid costs a bit more, but lasts longer and does a better job.

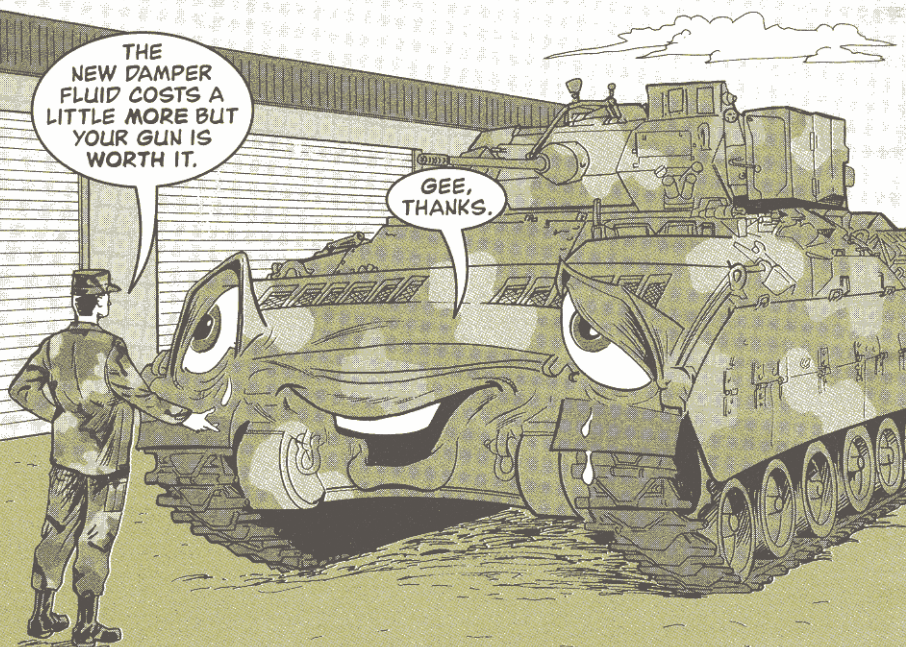
Do not mix the old and new damper fluid. Mixing the two reduces the performance of the damper fluid. Make sure you completely drain the recoil mechanism before filling it with the new fluid. Filling instructions start on Page 2-241 of TM 9-1005-200-20&P.

Refill recoil mechanism with new damper fluid



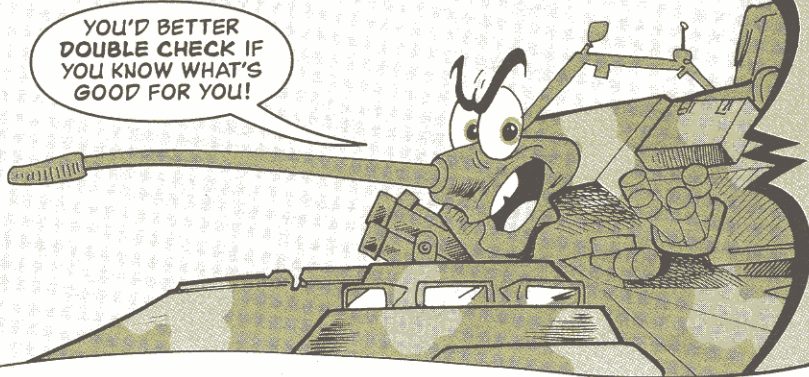
THE
NEW DAMPER
FLUID COSTS A
LITTLE MORE BUT
YOUR GUN IS
WORTH IT.

GEE,
THANKS.



Double Check M242 Double Spring

YOU'D BETTER
DOUBLE CHECK IF
YOU KNOW WHAT'S
GOOD FOR YOU!

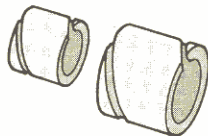


Dear Editor,

We recently completed an inspection of our Bradleys that showed worn out inner springs for all the M242 guns' double spring clutch assemblies. None of these M242s had fired more than 400 rounds.

Check inside inner springs for wear

I suggest that all M242 repairmen immediately inspect the inner springs for excessive wear. Look particularly for grooves worn inside the spring.



Replace the inner spring, NSN 5360-01-230-5828, if you find grooves.

SFC Martin Roberts, Jr
3/15th Inf
Ft Stewart, GA

FROM THE DESK OF THE Editor

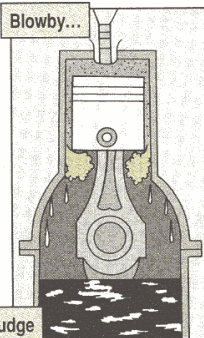


ACALA is investigating possible manufacturing problems with the inner spring. In the meantime, repairmen should check the springs after every visit to the range. A worn spring will cause feeding problems.

Low Idle Spells Trouble

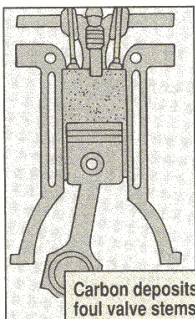
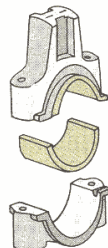
BLECH!

★ Condensation and unburned fuel—blowby—slip around the pistons and into the crankcase. There they mix with oil to make acid and sludge.



★ Engine oil breaks down. Poor lubrication burns up bearings.

Heat scorches bearings

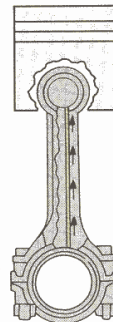


HEY, DRIVER! HAVEN'T YOU EVER HEARD OF HIGH IDLE?



★ Sludge blocks lube passages. Oil can't get through to do its job, so heat and friction tear up your engine.

Sludge blocks lube passages



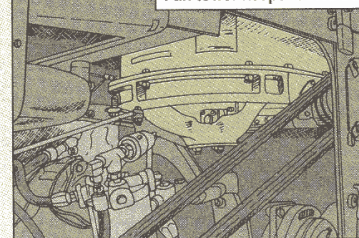
High-speed idling prevents this kind of trouble. Get the idle speed between 1,000 and 1,200 rpm. Idle the engine no longer than five to 10 minutes to warm it up in the morning.

Keep your idle high and avoid stop-and-start driving. That's the way to keep your engine performing at its best.

Fan Tower Saves the Day

All of the -10 TMs for the M113-series FOV say a bent engine access cover, or one with torn seals, makes the vehicle NMC because of the exhaust danger.

Fan tower keeps fumes out



TACOM says the TMs are wrong! When the vehicle is running, the fan tower assembly exhausts all fumes that collect in the engine compartment. That keeps the troop compartment safe and secure.

MAKE A NOTE UNTIL THE -10 TMS ARE UPDATED.



The Long and Short of Plug

THAT
OUGHT TO
SAVE MY
CIRCUIT
CARDS.

GLAD
TO
HELP.

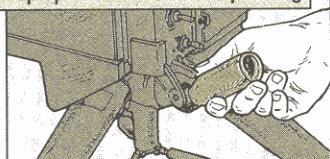
Dear Editor,

If you plug in the G/VLLD's shorting plug without first turning off the power, you damage either the wiring harness or circuit cards.

We plugged that problem by taping a sign next to the shorting plug connector that says: CAUTION—TURN OFF POWER BEFORE INSTALLING SHORTING PLUG.

Another good tip is to flip up the trigger grip handle anytime you step more than a few feet away from the G/VLLD. That turns off the G/VLLD, prevents accidental lasing, and saves batteries.

Flip up handle when not operating



SGT David Limbaugh
1/320th FA
Ft Campbell, KY



Soldier Support Network

TACOM- and ACALA-related maintenance, safety, and supply information is now available on the Internet. Access the Soldier Support Network (SSN) web site at: <http://www-ssn.ria.army.mil>

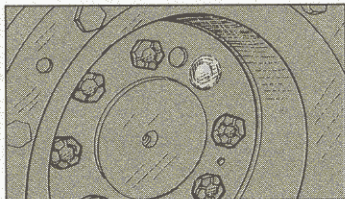
To get a login ID and password, click on "Password". An interactive form will pop up. Complete the form and click on "Submit Request". You'll get your login ID (user name) and password by e-mail within two business days.

Sprocket Bolt Dilemma

Dear Half-Mast,

Item 44 in TM 9-2350-311-10's PMCS says any loose or missing drive sprocket bolts make your M109A2-A5 howitzer NMC.

Problem is, the figure indicates only the **outer** bolts. Does the same NMC info apply to **inner** drive sprocket bolts?



SGT R.R.W.

Dear Sergeant R.R.W.,

Any loose or missing bolts—regardless of their location on the drive sprocket—make your howitzer NMC.

Make a note until the TM can be updated.

Half-Mast

Paint ID Markings Right

Dear Half-Mast,

We're having a hard time figuring out the right way to paint unit ID markings on our combat and tactical vehicles.

Some units paint a tan or green patch, then add the numbers in black. The markings are easy to see, but they stand out like a bulls-eye on the battlefield.

Other units use black letters over the existing camouflage. Black numbers on a black background are unreadable. Any ideas?

SFC J.W.B.

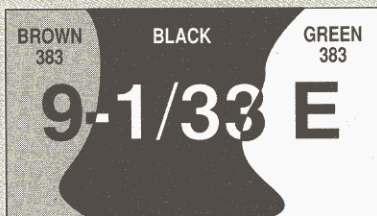
Dear Sergeant J.W.B.,

Para 4-9 and Fig 4-2 of TM 43-0139 have the answers you're looking for.

Use black over brown or green, green over black, and brown over white or tan. Here's an example:

Always use CARC paint to add any markings to a CARC-painted vehicle.

Half-Mast



Operators, make a note of these 130G grader maintenance checks until they're either changed or added to the PMCS in TM 5-3805-261- 10.

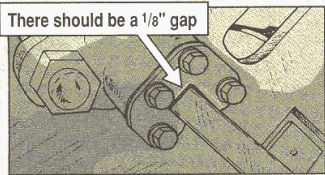
Moldboard Slide Bushing

There is no wear limit criteria or PMCS check in the TMs for the moldboard's slide bushing. When the bushing wears out, the moldboard's slide cylinder starts to shift and drop. Eventually, the weight of the grader's blade puts too much strain on the cylinder. That damages the cylinder seal and causes it to leak.

To head off this damage, eyeball the brackets that hold the moldboard in place. The brackets are located at both ends of the blade.

There should be at least 1/8 inch between the moldboard and bracket. Less than that means the slide bushing is shot. Your unit mechanic must replace it—**pronto**. Make this a quarterly check until it's added to the TM.

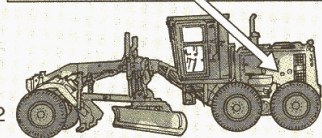
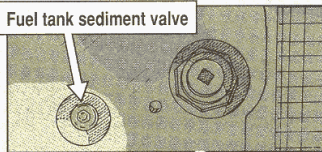
There should be a 1/8" gap



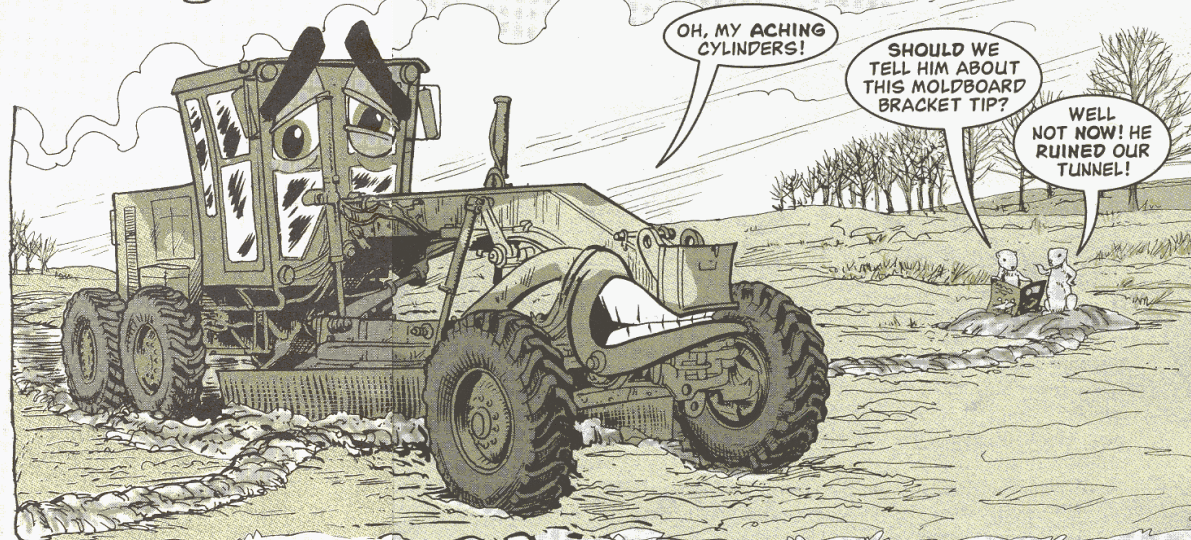
Fuel Sediment Valve

On the bottom of Page 2-28 of the -10 TM, you're told it says to open the fuel tank's sediment drain valve to remove moisture from the tank. Problem is, the callout for that PMCS check (#8) points to the drain valve for the hydraulic tank. Open that valve and you're in for a big surprise. Several gallons of hydraulic fluid will drain out quick-like!

Fuel tank sediment valve



Cutting the Grade



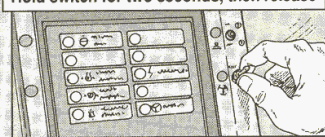
Supplemental Steering Check

The supplemental steering check shown on Page 2-6 and Page 2-40 tells you to move the indicator switch on the electronic monitoring system (EMS) to the MANUAL position. Held in that position, the indicator's light goes on to show you the supplemental steering system is working.

When you push the switch to the MANUAL position, leave it there for just two seconds, then let it return to the AUTO position. If the switch is held in MANUAL too long, the supplemental steering motor inside the

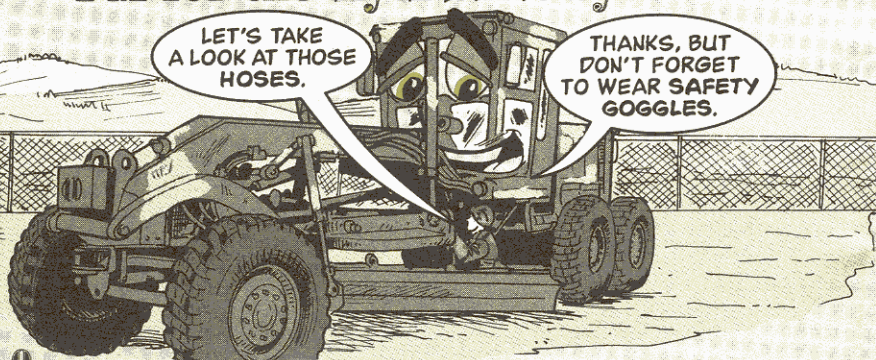
console tower burns out. A bum motor means there's no manual steering in case the grader goes down.

Hold switch for two seconds, then release



One more important fact to remember, operators: Before you **any** PMCS, make sure the engine's off, the blade's down and the parking brake is applied. That way, nobody gets hurt.

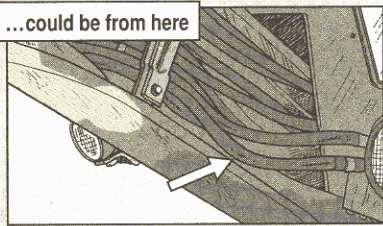
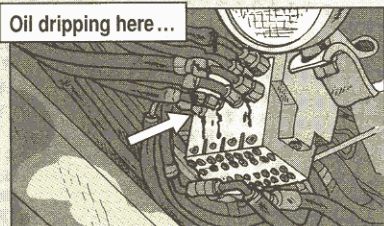
PM for the Hydraulic System



Operators, the right amount of clean hydraulic fluid will lubricate the 130G grader's components and keep them operating smoothly. That is, if the hydraulic hoses are in good shape.

The grader's hydraulic hoses get brittle from constant exposure to the elements. The biggest trouble spot is where the hoses are routed through the mainframe to the hydraulic control box. You'll find the box underneath the front of the cab (roadside).

Hydraulic fluid leaking from the control box doesn't necessarily mean the internal valves are shot. Most likely, the leak is coming from the hydraulic hoses routed along the mainframe—several feet away from the box.



Rubbing against other hoses, or the mainframe, wears on the hose cover and wire reinforcement. Eyeball each hose, especially the ones tucked behind other hoses. You're looking for oil stains behind or along the bottom of the hoses.

Look for stains along the mainframe where the hoses are mounted, too.

Always wear safety goggles when tracking down a leak. Pinhole leaks in a high-pressure system can penetrate both skin and clothing. Use a piece of cardboard—not your hand—to find the leak.

If you find a leaking or damaged hose, call in your mechanic. Depending on the damage, he'll either replace or re-route the hose.

SEE...

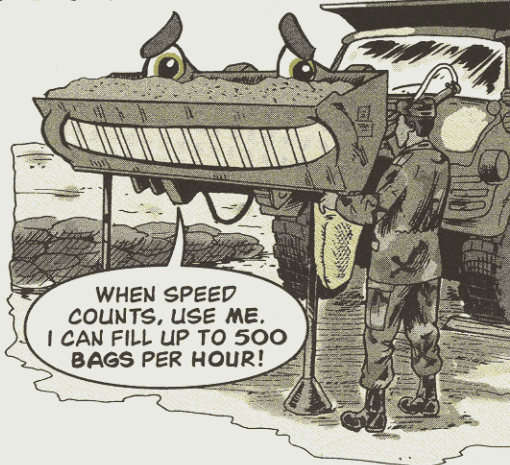
Bagging Made Easier

Engineer companies will dig this!

TACOM has approved an automated sandbag-filling attachment (ASFA) for the SEE. The ASFA can fill up to 500 sandbags an hour.

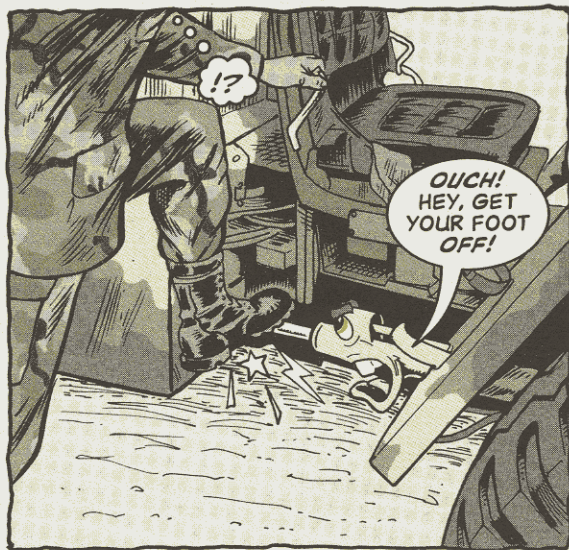
The \$10,000 attachment is being added to the additional authorization list in TM 5-2420-224-10.

Order the ASFA on a DD Form 1348-6 with CAGE 3Y949 and PN 6613024. Installation instructions, an operator's manual and a video come with the attachment.



M4K Forklifts...

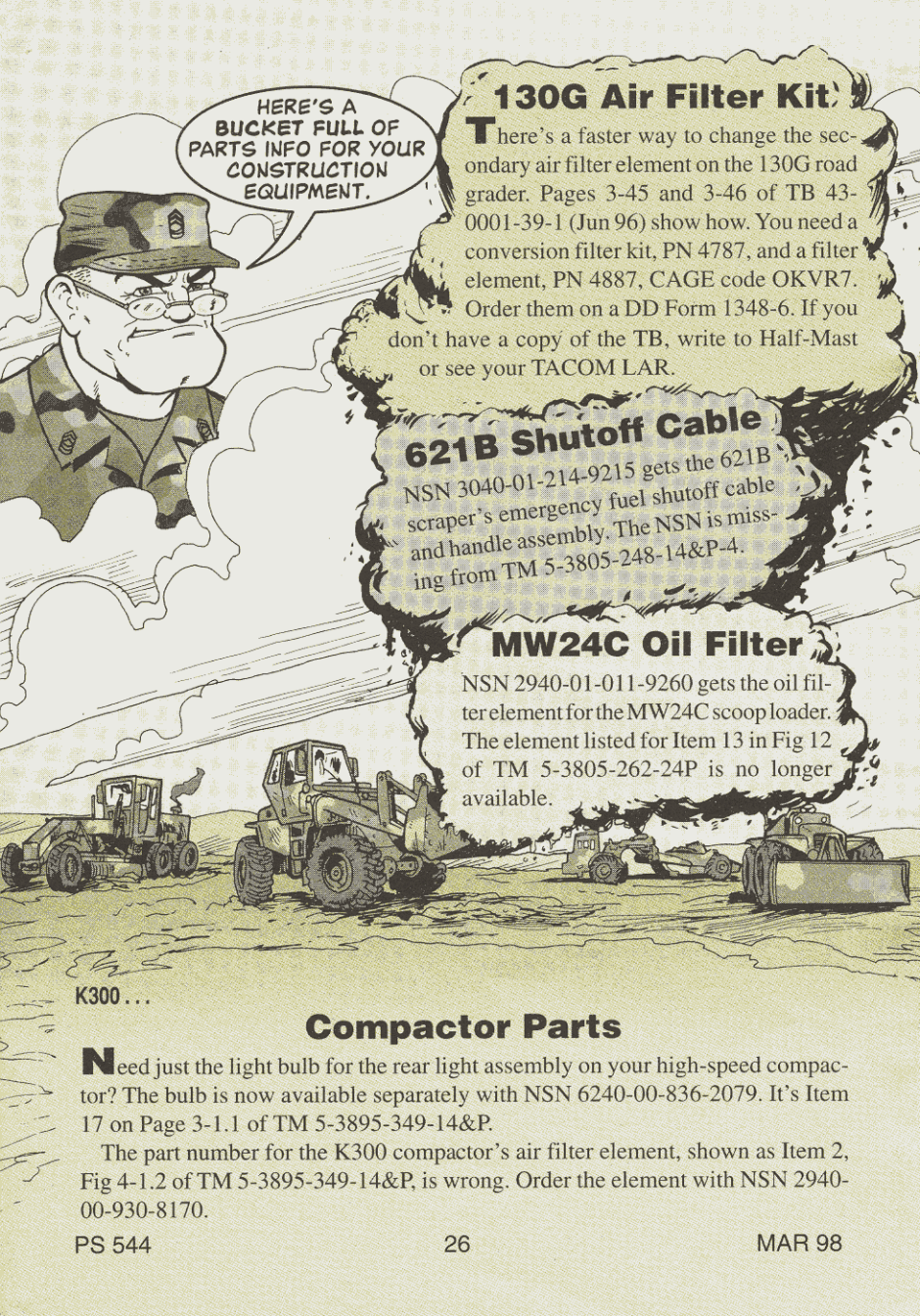
Rod's No Step



Operators, the cylinder rod for the M4K forklift's steering arm makes a handy step when you hop into the cab from the curbside.

Problem is, your boot can scratch the cylinder rod. A scarred rod ruins the wiper seal, causing a hydraulic fluid leak.

To save costly repairs and downtime, get into the forklift from the roadside.



HERE'S A
BUCKET FULL OF
PARTS INFO FOR YOUR
CONSTRUCTION
EQUIPMENT.

130G Air Filter Kit

There's a faster way to change the secondary air filter element on the 130G road grader. Pages 3-45 and 3-46 of TB 43-0001-39-1 (Jun 96) show how. You need a conversion filter kit, PN 4787, and a filter element, PN 4887, CAGE code OKVR7. Order them on a DD Form 1348-6. If you don't have a copy of the TB, write to Half-Mast or see your TACOM LAR.

621B Shutoff Cable

NSN 3040-01-214-9215 gets the 621B scraper's emergency fuel shutoff cable and handle assembly. The NSN is missing from TM 5-3805-248-14&P-4.

MW24C Oil Filter

NSN 2940-01-011-9260 gets the oil filter element for the MW24C scoop loader. The element listed for Item 13 in Fig 12 of TM 5-3805-262-24P is no longer available.

K300...

Compactor Parts

Need just the light bulb for the rear light assembly on your high-speed compactor? The bulb is now available separately with NSN 6240-00-836-2079. It's Item 17 on Page 3-1.1 of TM 5-3895-349-14&P.

The part number for the K300 compactor's air filter element, shown as Item 2, Fig 4-1.2 of TM 5-3895-349-14&P, is wrong. Order the element with NSN 2940-00-930-8170.

THE

PM

FILES

PM FILES

YOU
WANTED
TO SEE US,
GENERAL
SCHWARZ?

YES.
SKULKY, MOLDER,
COME IN.

SOMETHING STRANGE HAS BEEN HAPPENING
AT FORT NOWHERE. THEIR READINESS
RATE HAS GONE WAY UP.

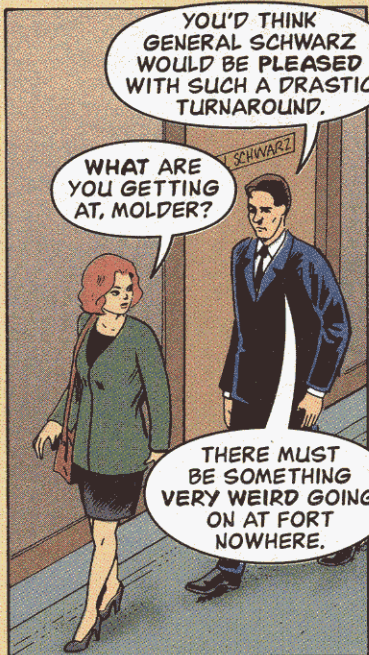
BUT, SIR,
FORT NOWHERE IS
KNOWN FOR ITS POOR
READINESS RATE AND
ALMOST NON-EXISTENT PM!

IN FACT, FORT
NOWHERE HAS BEEN
THE BUTT OF JOKES
THROUGHOUT
THE ARMY.

DO YOU
SUSPECT SOMETHING
SUPERNATURAL,
SIR?



I DON'T
KNOW, MOLDER.
THAT'S WHAT I WANT
YOU TWO TO
FIND OUT.

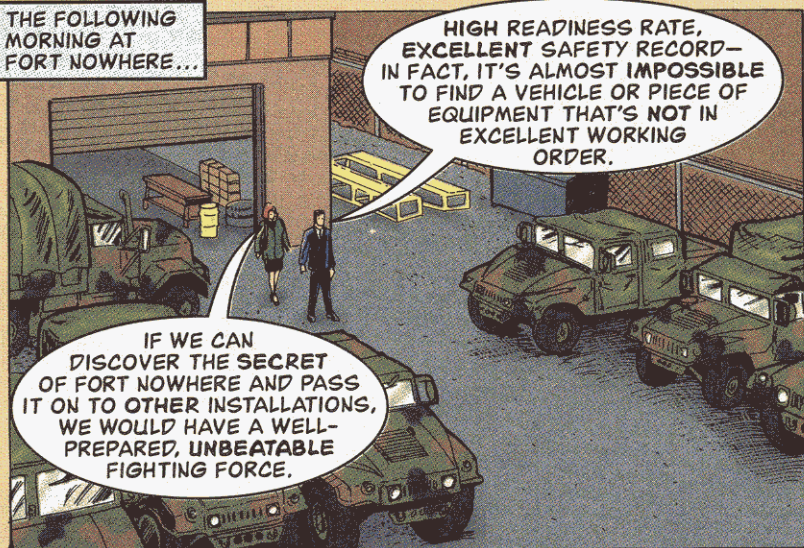


YOU'D THINK
GENERAL SCHWARZ
WOULD BE PLEASED
WITH SUCH A DRASTIC
TURNAROUND.

WHAT ARE
YOU GETTING
AT, MOLDER?

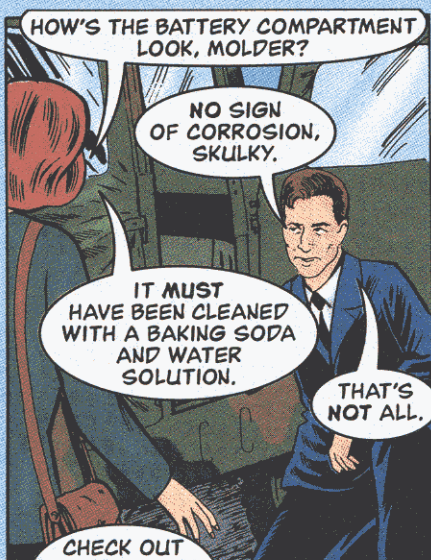
THERE MUST
BE SOMETHING
VERY WEIRD GOING
ON AT FORT
NOWHERE.

THE FOLLOWING
MORNING AT
FORT NOWHERE...



HIGH READINESS RATE,
EXCELLENT SAFETY RECORD—
IN FACT, IT'S ALMOST IMPOSSIBLE
TO FIND A VEHICLE OR PIECE OF
EQUIPMENT THAT'S NOT IN
EXCELLENT WORKING
ORDER.

IF WE CAN
DISCOVER THE SECRET
OF FORT NOWHERE AND PASS
IT ON TO OTHER INSTALLATIONS,
WE WOULD HAVE A WELL-
PREPARED, UNBEATABLE
FIGHTING FORCE.




HOW'S THE BATTERY COMPARTMENT
LOOK, MOLDER?

NO SIGN
OF CORROSION,
SKULKY.

IT MUST
HAVE BEEN CLEANED
WITH A BAKING SODA
AND WATER
SOLUTION.


THAT'S
NOT ALL.



THE HOLDDOWNS ARE TIGHT,
THE CLAMPS ARE TIGHT AND
PROTECTED WITH COVERS,
THE BOX IS FRESHLY
PAINTED, AND THE
ELECTROLYTE
LEVELS ARE
PERFECT.




CHECK OUT
THAT SOLDIER
INFLATING THE
TRUCK TIRE.



HE'S USING A
COMMERCIAL INFLATION
CAGE AND MAINTAINING THE
PROPER DISTANCE, THAT PREVENTS
THE CHANCE OF INJURY FROM
AN EXPLODING TIRE.

EXACTLY!



MAYBE THE
SOLDIERS WERE
INFECTED BY AN ALIEN
VIRUS FROM A
METEOR.

I THINK WE NEED
MORE DATA BEFORE
WE CAN DRAW ANY
CONCLUSIONS.



EVERYTHING
SEEMS NORMAL
HERE.

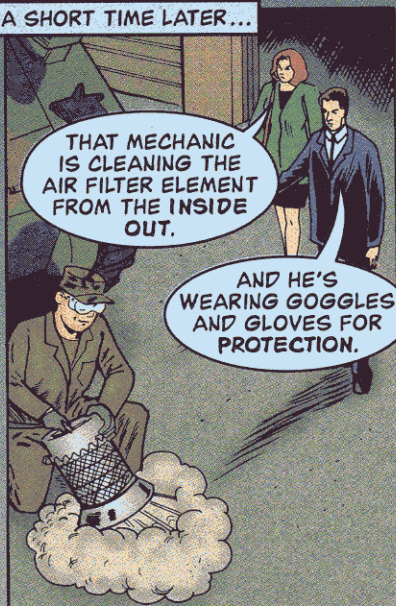
NO RUNAWAY GUNS,
NO FAILURES, EVERY
GUN FIRING SMOOTHLY
AND RAPIDLY.



THEY
MUST BE
PAYING CLOSE
ATTENTION
TO THE
GAS SYSTEM
ON THEIR
MACHINE
GUNS.

PERHAPS
THEY'RE NOT
SOLDIERS
AT ALL,
BUT ALIEN
CREATURES
THAT HAVE
TAKEN THEIR
PLACE.

A SHORT TIME LATER...



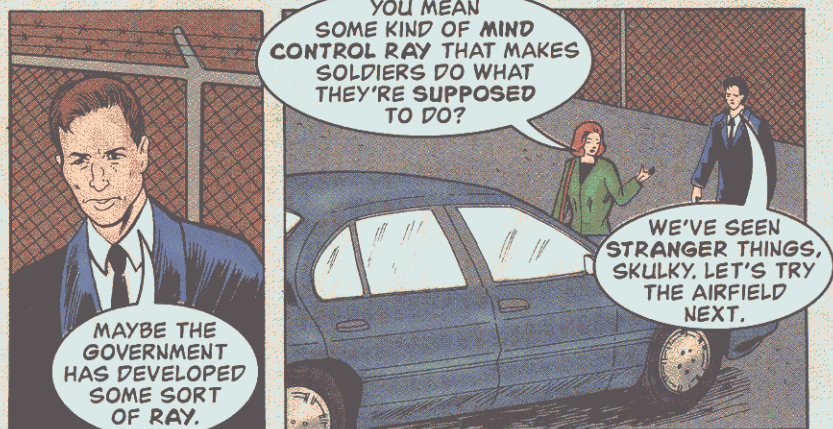
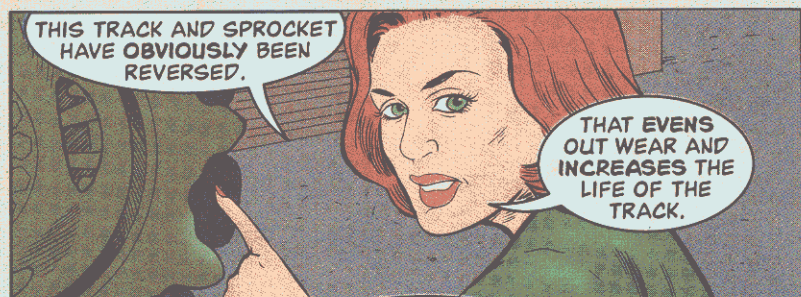
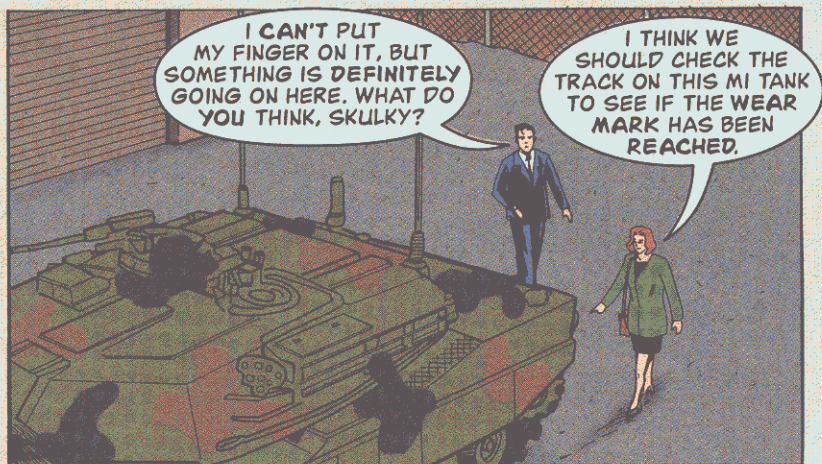
THAT MECHANIC
IS CLEANING THE
AIR FILTER ELEMENT
FROM THE INSIDE
OUT.

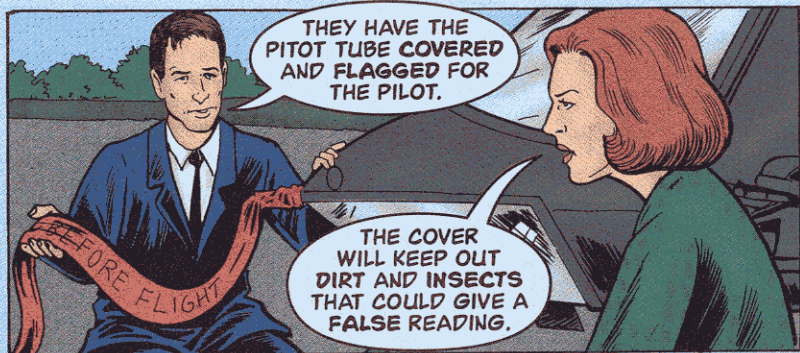
AND HE'S
WEARING GOGGLES
AND GLOVES FOR
PROTECTION.

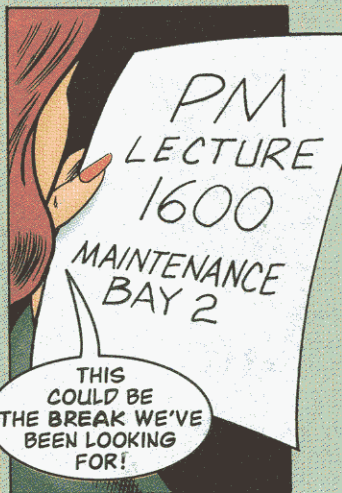
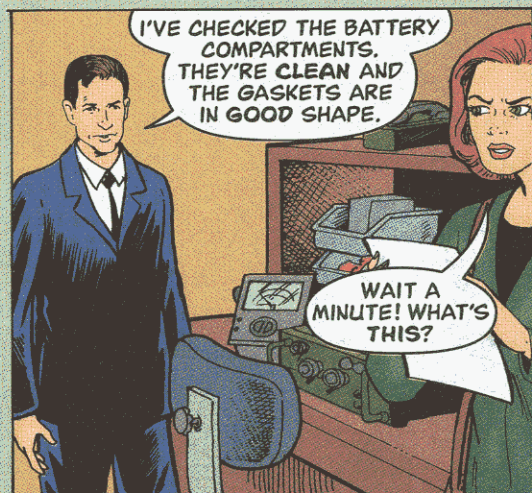


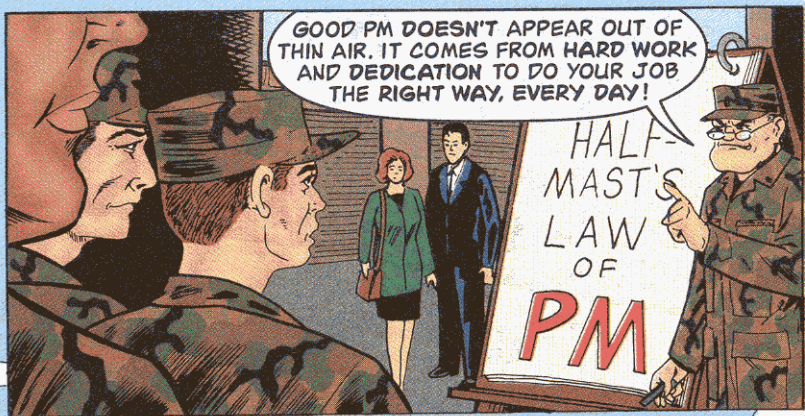
EXCUSE ME, SOLDIER.
HOW MUCH AIR PRESSURE
ARE YOU USING?

WE NEVER
USE MORE THAN
30 PSI FOR THIS
JOB, SIR.









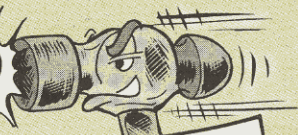
coming next month...
What Really Happened at Roswell



MOLDER!

OH, WELL,
SKULKY, THERE'S
NOTHING BIZARRE GOING
ON HERE—JUST GOOD OLD-
FASHIONED, PREVENTIVE
MAINTENANCE.

Tap, Tap, Tap



Dear Editor,

The rollers for the Avenger ammo box exit stick, especially if the M3P machine gun hasn't been fired recently. Then the ammo stops feeding and you can't fire.

We've found that you can unstick stuck rollers by tapping lightly with a ball peen hammer on each side of the ammo box just above the bolts that hold the rollers in place. Put a piece of wood where you tap so you don't dent the ammo box.

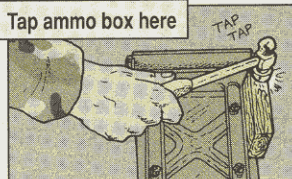
Lubing the ends of the rollers with TW25B will keep them from sticking.

Just be sure not to get the lube on the rollers themselves.

SPC Anthony Harding
2/44th ADA
Ft Campbell, KY



Tap ammo box here



MLRS . . .

Azimuth Drive Service Blunder

The procedure for annual service on the MLRS azimuth drive speed reducer on Pages 2-17 through 2-18.1 in Change 1 to TM 9-1425-646-20 is wrong. Repeat, **wrong!**

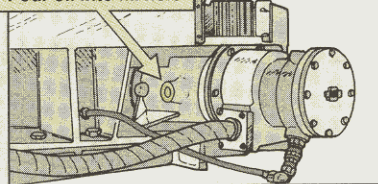
If you remove the bleed valve and pour oil in the bleed valve hole, you mix oil and hydraulic fluid.

So, pour the oil in the fill hole on the side of the speed reducer with a funnel and plastic tubing.

Mixing oil and hydraulic fluid can cause the reducer to lock up and the launcher can't move or to not lock at all and the launcher can't be stopped.

If you think you've mixed oil and hydraulic fluid, have support bleed the entire hydraulic system.

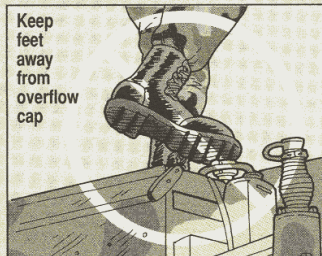
Pour oil into fill hole



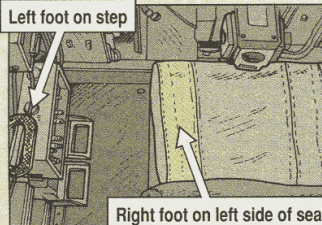
WATCH YOUR STEP!

Believe it or not, most Avenger damage happens not during firing, but when crews climb in and out of the turret. One misplaced foot can break a component worth six months pay.

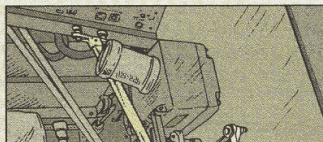
So, when you climb up the turret ladder, keep your feet away from the overflow cap for the environmental control unit (ECU). A busted cap lets the ECU antifreeze leak out.



The best way to climb in the turret is to put your left foot on the step on the left side of the turret, and then put your right foot on the left side of the seat. If you put your foot in the middle of the seat, it could go through the seat. Climb out by reversing those steps.



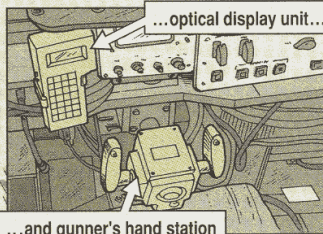
❖ Watch out for the sight mount. You don't want to know how much that costs.



Keep feet away from sight mount, ...

❖ Watch out for the switches on the gunner's hand station. One damaged switch can stop you from firing.

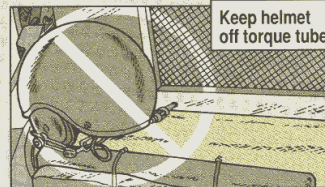
❖ Watch out for the optical display unit. If it's broken, you have no way to monitor Avenger components.



Other Cautions

The same reasons for watching your feet also apply to storing items in the turret. Less is better. Duffle bags and rifles bounce around and break items like the sight mount.

Be especially careful not to leave stuff like your CVC helmet sitting on the torque tube behind your seat. A helmet in that position can rip the sight mount out of the wall when the launcher's elevated.



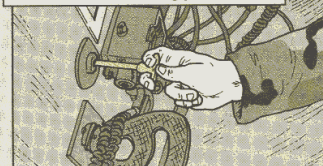
When you remove the radio, put all the screws back in the console cover. Without all the screws in place,

the cover flaps around and tears up the screw holes with installed screws. Then, you can't securely mount the radio. If you're missing screws, order more with NSN 5305-00-925-9716.

Check the position of the battery box lid before rotating the turret. If it's up, the lid gets bent. Then, you can't close the lid or keep the batteries dry.

Before you move out, insert the launcher locking pin and the turret floor pin and set the azimuth motor brake. If you forget, the turret spins around on its own during travel. That's dangerous.

Insert launcher locking pin for travel

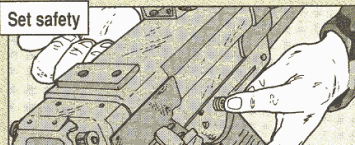


Form Follows Function

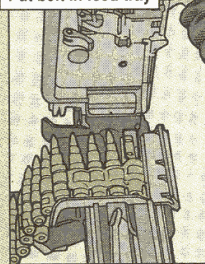
If your M249 machine gun functions poorly, then of course it will fire poorly. Keep your M249 in good form with this function test:

- ▶ Push the safety to the left (RED BAND visible) and lock the bolt to the rear.
- ▶ Push the cocking handle forward until it clicks.
- ▶ Slide the safety to the right (RED BAND not visible).

Set safety



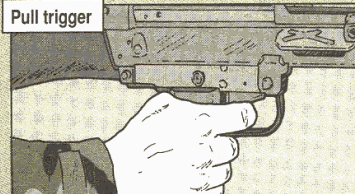
Put belt in feed tray



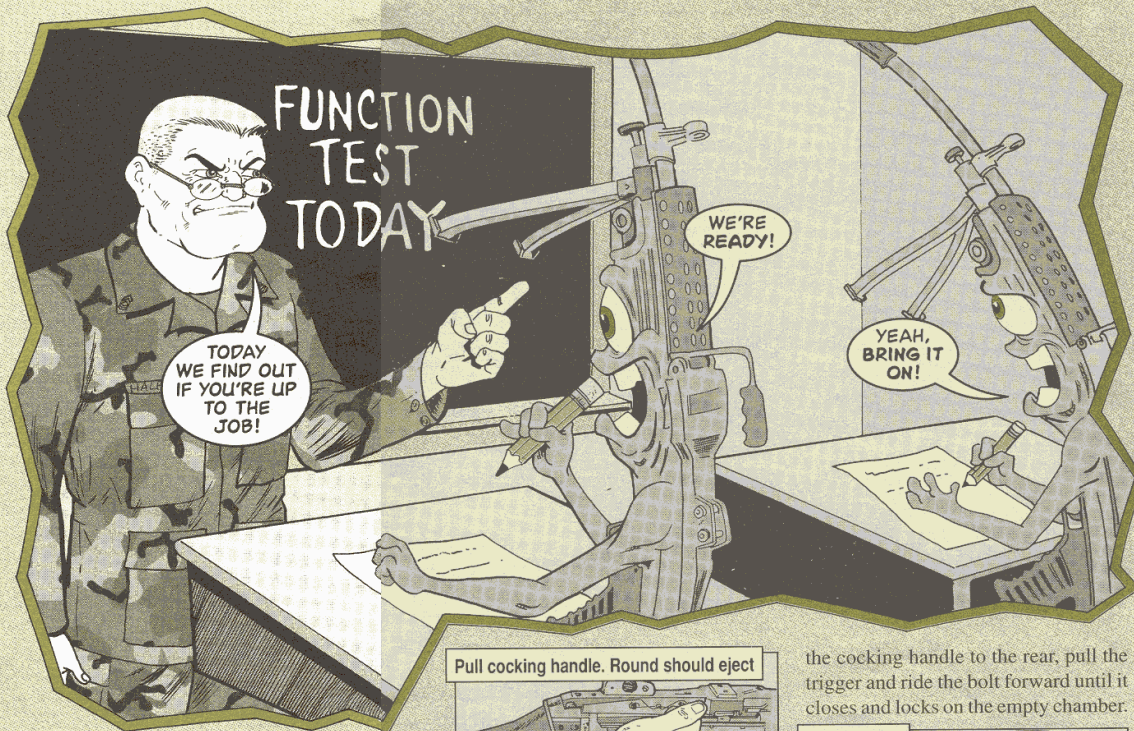
▶ Open the cover and put a link belt with several M232 dummy rounds on the feed tray with the first round against the cartridge stop. Holding the belt in position, close the cover.

- ▶ Pull the trigger. Nothing should happen.

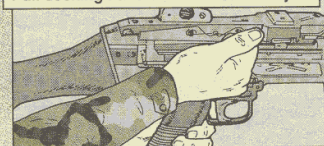
Pull trigger



- ▶ Push the safety to the left (RED BAND visible) and pull the trigger. The bolt assembly should move forward, stripping, feeding, and locking an inert round in the chamber.
- ▶ Pull the cocking handle to the rear. The round should extract and eject, and the bolt should stay to the rear.



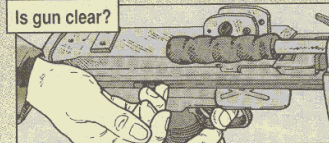
Pull cocking handle. Round should eject



- ▶ Repeat the cycle several times. Each time the cycle is completed, a link should be ejected.
- ▶ While holding the bolt to the rear, check that your M249 is cleared. Hold

the cocking handle to the rear, pull the trigger and ride the bolt forward until it closes and locks on the empty chamber.

Is gun clear?



If your M249 fails any part of the function test, you and your armorer need to troubleshoot per your TMs.

Be Your Own Inspector

WONDERING
WHAT KIND OF SHAPE
YOUR M9 PISTOL IS IN?
AFTER YOU'VE CLEARED
YOUR WEAPON, GIVE IT
THIS ONCE-OVER
TO FIND OUT.

Slide assembly: Safety
stuck? Firing pin block
missing? Firing pin
block moves freely?
Clean? Safety, bolt face,
and slide rails dirty?

Barrel assembly: Bore
or chamber pitted or
corroded? Locking
block sticking?
Locking lugs cracked
or burred?

Rear sight: Broken,
missing, or stuck?

Hammer: Remains cocked in
FIRE position? Doesn't remain
cocked in SAFE position?

Chamber: Dirty, pitted,
obstructed or damaged?

Front sight: Missing,
broken or bent?

Disassembly lever:
Missing, broken or stuck?

Trigger: Broken, missing, or stuck?

Extractor and extractor
spring: Broken? Dirty?

Receiver: Bent, chipped
or cracked? Slide stop
sticking? Magazine
catch sticking? Slide
rails burred, cracked or
chipped?

Lanyard loop: Broken?

Recoil spring and
guide: Spring
damaged or bent?
Guide bent, cracked
or burred?

Magazine assembly: Bent?
Spring missing? Corroded?
Follower sticking? Magazine
doesn't lock in place?
Magazine release doesn't
unlock magazine?

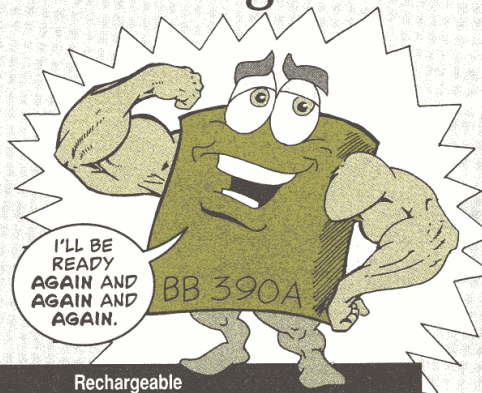
ANY
PROBLEMS?
TELL YOUR
ARMORER.

Batteries ...

Yes, They're Rechargeable

There are new and improved rechargeable replacements for many batteries. The rechargeables have a longer life and little or no memory effect when recharging. Not sure which batteries are rechargeable and which primary batteries they're used in place of?

Here's some help:



Primary		Rechargeable	
Battery	NSN 6135-01-	Battery	NSN 6140-01-419-
BA-5590	036-3495	BB-390A	8187
BA-5588	088-2708	BB-388	8190
BA-5847	090-5364	BB-2847	8194
BA-5847/A	391-4944	BB-2847	8194
BA-5847/B	430-3119	BB-2847	8194
BA-5847/C	438-9447	BB-2847	8194
No primary	—	BB-516A	8191
No primary	—	BB-503/A	8193

Run Times

Here are some common run times:

Battery	Equipment Used In	Time (hours)
BB-390A/U	SINCGARS	8-12
BB-388	AN/PRC-126	27
BB-2847	Thermal Weapons Sight	3-7

Rechargeable Info

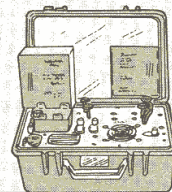
The BB-390A and BB-388 are high performance nickel metal hydride batteries that can be recharged at least 225 times. The BB-2847 is a high performance lithium ion battery that can be recharged up to 1000 times.

Each battery has a built-in state-of-charge (SOC) indicator that lets you

know the percent of charge remaining in the battery. The BB-390A/U has two SOC's, one for each 12 volt section.

Charger

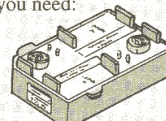
To charge the batteries, use the universal portable charger (UPC), PP-8444A/U, NSN 6130-01-443-0970. It can charge two batteries at once. It charges BB-388, BB-390A, BB-503A and BB-516A batteries in about two hours. The BB-2847 takes about three and a half hours to recharge.



Universal portable battery charger PP-8444A/U

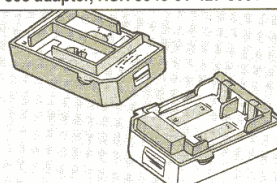
To use the UPC you'll need battery adapters. Match the adapter number to the battery.

Here's what you need:



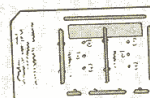
AP-390A adapter, NSN 5940-01-427-9110

AP-388 adapter, NSN 5940-01-427-8601



AP-516A adapter, NSN 5940-01-427-9183

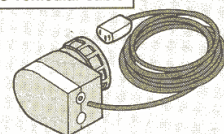
AP-503A adapter, NSN 5940-01-427-9247



AP-2847 adapter, NSN 5940-01-427-9278

You can also power the PP-8444-A/U using a 24-volt vehicular cable, J-6363, NSN 5940-01-427-9395, that lets the charger operate from a vehicle's NATO slave receptacle.

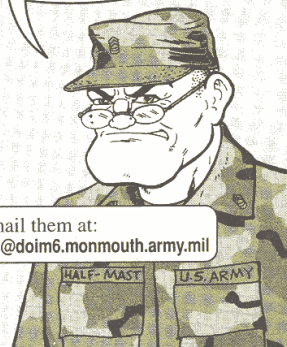
24 volt DC vehicular cable



Another battery charger is PP-7286, NSN 6130-01-041-3490. It takes longer to charge the batteries, around the 10-hour range. It's an MTOE item and must be authorized.

CECOM NEEDS YOUR
FEEDBACK ON RECHARGEABLE
BATTERIES. CALL THEM
AT: DSN 992-9016.

Or e-mail them at:
brockeld@doim6.monmouth.army.mil



Of Contacts,

Ground and Paint

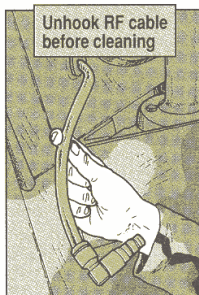


Keeping Good Contacts

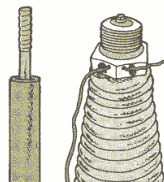
Dirty and corroded contacts on the antenna mean intermittent or broken traffic. Worse yet, dirt and corrosion can lead to high reflected RF power, which can damage the receiver-transmitter.

Here are a few tips for clean contacts:

- ◆ Unhook the RF cable before you clean. Don't take a chance on getting burned.
- ◆ Unscrew the top and bottom antenna elements and clean the contacts with isopropyl alcohol, NSN 6810-01-190-2538, and a soft cloth. Clean the contact on the antenna base the same way.
- ◆ Clean stubborn dirt and corrosion from the top element contact with 550 cord, NSN 4020-00-014-6699.



Clean contacts



MAR 98

Loop the cord once around the contact and pull it back and forth to clean out the ridges. Then wipe the contact down with isopropyl alcohol.

◆ After cleaning, apply a light coat of silicone compound, NSN 6850-00-177-5094, on the top and bottom element contacts. That'll help protect against corrosion.

◆ If you remove just the top element for any length of time, put a piece of electrical tape over the opening of the bottom element to keep out dirt and moisture. If you remove the bottom element, put a rubber dust cap, NSN 5340-01-316-0883, over the antenna base's contact to keep it clean and dry.

Saving Dust Caps

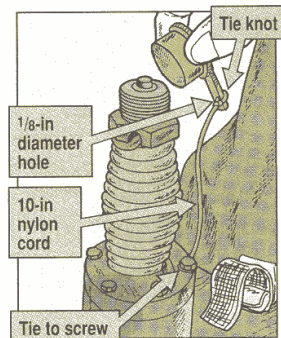
The plastic strap holding the dust cap over the contact of the SINGGARS AS-3900 antenna base gets a real workout. Off comes the cap when you connect the antenna elements. Back on it goes when you remove the elements.

On and off, on and off. The strap starts to wear. Sooner or later—especially in cold weather—it breaks and you lose the cap.

Keep that dust cap on a tight rein. Make a lanyard for the cap with a 10-in piece of nylon cord, NSN 4020-00-262-2019. Here's how:

1. Drill a 1/8-in diameter hole through the top of the strap near the cap.
2. Run one end of the cord through the hole and knot it.
3. Tie the other end to the screw on the base.
4. Melt the ends of both knots with a match or lighter, then mash them flat with a knife blade or the tip of a screwdriver. That keeps the cord from fraying and slipping back through the hole.

You can also make the lanyard with 550 cord. Just pull out the center strands before you knot the cord. That makes the cord more flexible and easier to knot.



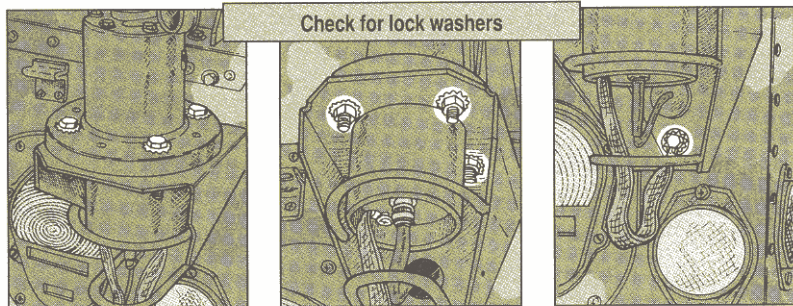
Making Good Grounds

Getting a good ground for your antenna? If not, maybe you didn't use enough internal/external tooth lock washers when you installed it. These lock washers help hold the screws—and thus the antenna—tightly to the mount, creating a safe ground.

You should have four lock washers above the antenna's retaining ring, one for each screw, and four more below the mount.

You'll also need lock washers where the ground strap attaches to the mount, one on each side of the strap. Another washer should be inside the vehicle chassis.

Don't have enough lock washers? Get 100 with NSN 5310-00-061-1258.



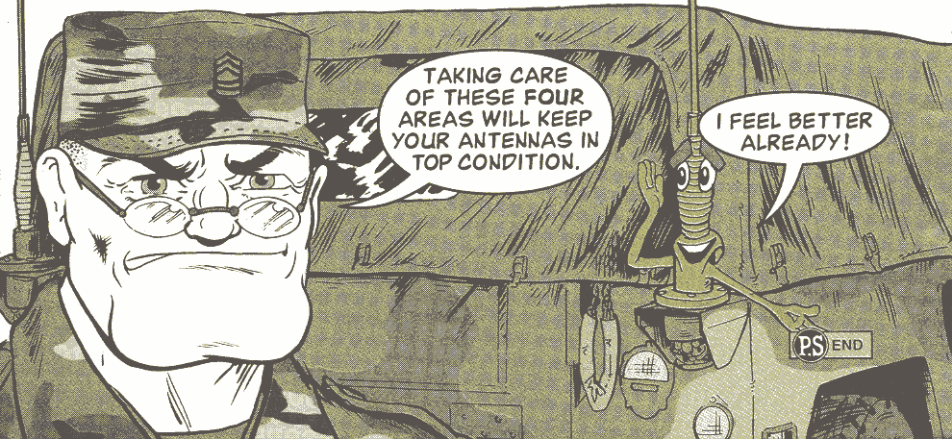
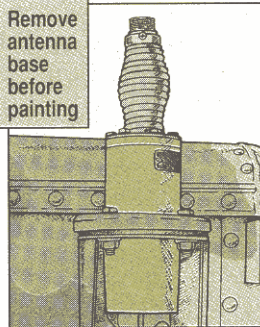
No Good Paint

Some vehicles get sent to direct support for CARC painting with the antenna base still in the mount.

CARC is not meant for your AS-3900. It slowly breaks down the plastic antenna base and the rubber insulation on the RF cable.

So, before you send a vehicle out for painting, remove the antenna base. Then wind masking tape around the exposed RF cable. Make sure to tape over the cable connector so that paint doesn't coat the connections.

Remove
antenna
base
before
painting



RECORD TEST STAND HOURS?

Dear Windy,

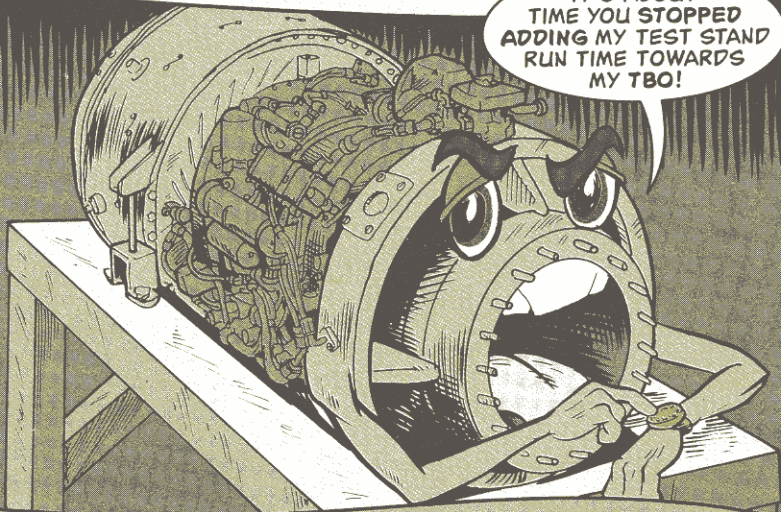
I'm at the hair-pulling stage.

I'm getting T55-712 engines back from the engine specialized repair activity and they're adding test stand run time towards our Time Between Overhaul (TBO). They record these test stand hours by correcting Blocks 7, 8 and 9 of DA Form 2410.

Is that right?

SFC D.L.H.

7. TIME SINCE LAST INST (HRS)	8. TIME SINCE NEW (HRS)	9. TIME SINCE OVERHAUL (HRS)	10. FAI CODE
12	618 618	143 146	



Dear Sergeant D.L.H.,

Save your hair. They shouldn't be doing that.

According to the Army's Aviation and Missile Command, any repair facility testing Army aircraft engines on a test stand or cell should not count the test stand/cell hours against the engine TBO hours.

Only engine operating time accumulated "on-the-wing" should be entered in Blocks 7, 8 and 9 of DA Form 2410.

Windy

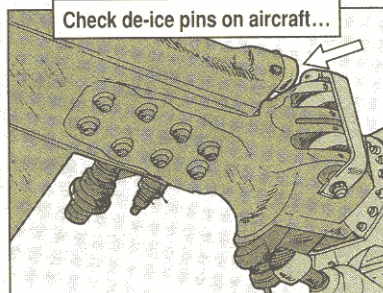
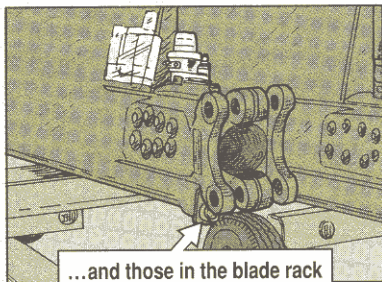
NOT A SIGHT TO BEHOLD

Good preventive maintenance starts with the eyes, but some things just shouldn't be seen. Like the pins on your Black Hawk's main rotor de-ice receptacle connector.

If the de-ice unit is not hooked up, the receptacle connector must be capped! That's how you keep corrosion-causing moisture out.

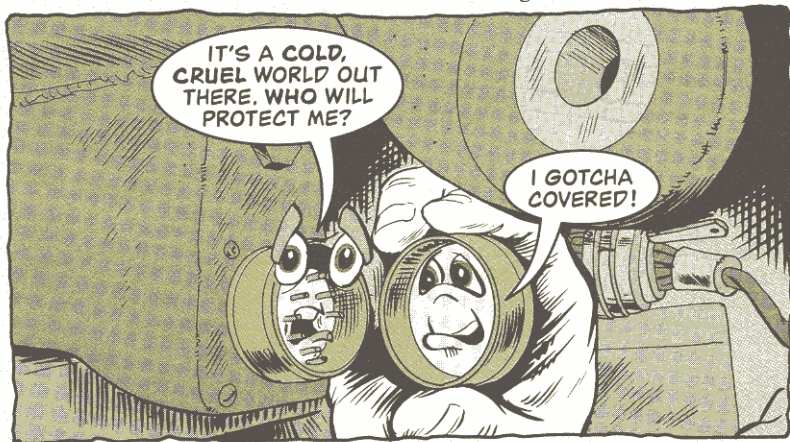
Take a look at your Black Hawks' main rotor blades. Look at the ones on aircraft and off.

Check the blade racks for new blades coming in and old ones going out.



People in the know say that as many as 90% of the blades with disconnected de-ice units have uncovered receptacles. They know it's true because of the corroded receptacles and moisture-ruined blades that are finding their way to repair shops.

So use protective cap, NSN 5340-01-142-2815, whenever the de-ice assembly is disconnected. Connector pins are not a sight to behold.



Water in the Processor

Dear Windy,

Is there any way to keep water out of the AN/APR-39 radar signal detecting set's processor? We've tried every kind of sealant there is and nothing seems to work.

SGT D. R. R.



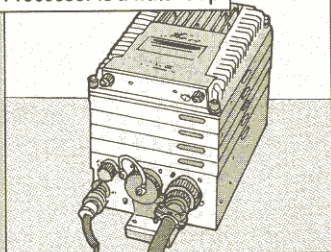
Dear Sergeant D. R. R.,

Don't feel like the Lone Ranger, Sergeant. Everyone has this problem. The location of the processor in the tail rotor shaft compartment and its design makes keeping water out of it a full time (and some would say impossible) job.

Have heart, though. Moving the processor to inside the aircraft's tail and suspending it upside down is being evaluated and looks promising.

Until that happens, remove the processor when washing the Apache and make it a regular part of your PM to mop the top (the slotted area) whenever a bird comes back from flying in the rain.

Processor is a water trap

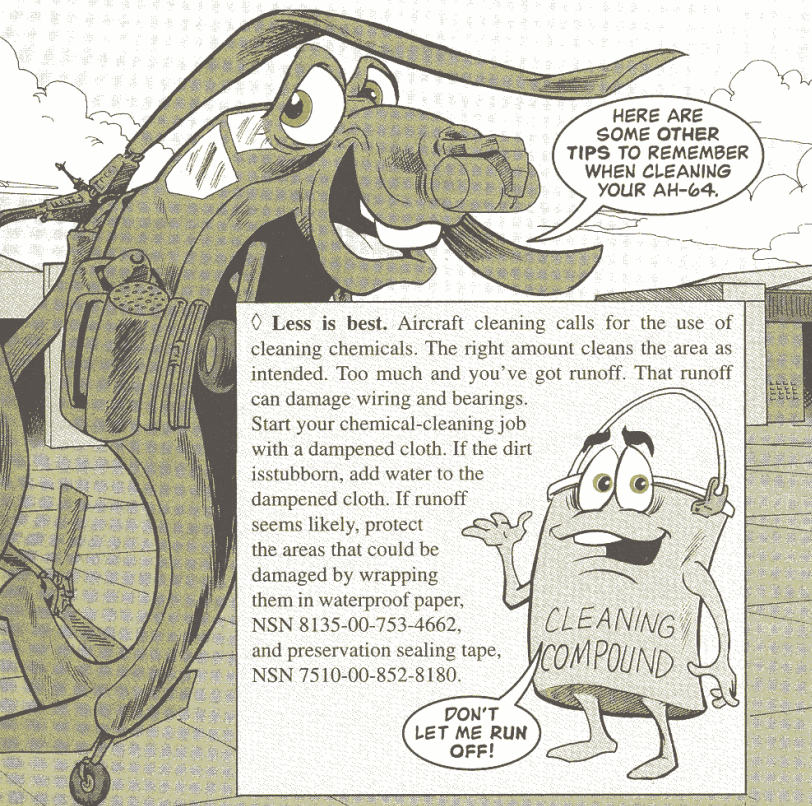


Windy

Time to Come Clean

Never use high-pressure water to wash any part of your Apache. Many areas on the aircraft are vulnerable to high-pressure water.

When you need a hose, a soft-spray is all your aircraft can handle. Even when you use a soft spray, though, areas like the TADS and the environmental control unit are still vulnerable. Make sure all of their attaching hardware is securely fastened and all seals are in good shape before you spray.



◊ **Less is best.** Aircraft cleaning calls for the use of cleaning chemicals. The right amount cleans the area as intended. Too much and you've got runoff. That runoff can damage wiring and bearings. Start your chemical-cleaning job with a dampened cloth. If the dirt is stubborn, add water to the dampened cloth. If runoff seems likely, protect the areas that could be damaged by wrapping them in waterproof paper, NSN 8135-00-753-4662, and preservation sealing tape, NSN 7510-00-852-8180.

◊ **Lint-free is the way to be.** It's a mighty strong temptation to grab any old rag to do a cleaning chore, but tell that temptation to get behind you and use only a clean, lint-free cloth.

It's hard to imagine that a piece of lint could bring down an Apache, but it can clog a filter, ruin an electrical contact or pollute a vital fluid.

◊ **Wipe is right.**

Any standing water left after you clean needs to be wiped up. Water corrodes—standing water corrodes absolutely. ◊ **Prevent corrosion.** When you finish your cleaning job, your job is only half done.

Now you must add corrosion prevention compound (CPC) to all the areas called out in your TMs. Don't forget those areas that your own local SOP says need CPC.

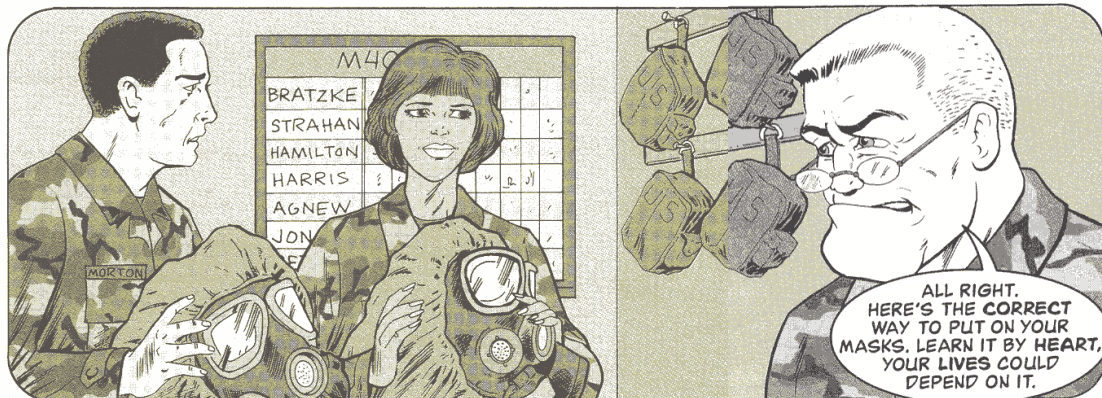
Aviation & Missile POCs

Been wondering where to send your aviation-related reports, or get aviation information, now that ATCOM has left St. Louis and moved to Redstone Arsenal, AL?

Here's a starter list for you. These addresses are also good for missile-related items.

SF 368 DEFICIENCY REPORTS	US Army AMCOM ATTN: AMSAM-MMC-RE-FD Redstone Arsenal, AL 35898-5230 Call: DSN 788-6665, (205) 842-6665 Fax: DSN 746-4904, (205) 876-4904 E-mail: cfo@redstone.army.mil
DA FORMS 2028	US Army AMCOM ATTN: AMSAM-MMC-RE-LP Redstone Arsenal, AL 35898-5230 Call: DSN 645-6195, (205) 955-6195 Fax: DSN 788-6546, (205) 842-6546 E-mail: ls-lp@redstone.army.mil
DA FORM 2408-19-3 REPORTING	US Army AMCOM ATTN: AMSAM-MMC-RE-FD Redstone Arsenal, AL 35898-5230 Call: DSN 788-6705, (205) 842-6705 Fax: DSN 897-2075, (205) 313-2075 E-mail: data2410@redstone.army.mil
DA FORM 2410 HOTLINE	US Army AMCOM ATTN: AMSAM-MMC-RE-FD Redstone Arsenal, AL 35898-5230 Call: DSN 897-2410, (205) 313-2410 or DSN 897-6091, (205) 842-6091 Fax: DSN 897-2075, (205) 313-2075 E-mail: data2410@redstone.army.mil
DA PAM 738-751 Questions	US Army AMCOM ATTN: AMSAM-MMC-RE-FF Redstone Arsenal, AL 35898-5230 Call: DSN 746-5564, (205) 876-5564 Fax: DSN 746-4904, (205) 876-4904 E-mail: waldeckab@exchange1.redstone.army.mil
REPORTS OF DISCREPANCY	US Army AMCOM ATTN: AMSAM-MMC-LS-DC Redstone Arsenal, AL 35898-5000 Call: DSN 788-2522, (205) 842-2522 Fax: DSN 746-7612, (205) 876-7612

Put It on —The Right Way



Here's the correct step-by-step procedure for putting on M40 and M42 masks:

1. Stop breathing and close your eyes.
2. Remove your helmet and put it between your knees or anywhere that it won't get contaminated.
3. Remove glasses if you wear them. Never wear contact lenses in the field. The mask dries out your eyes too much for contacts.

4. Open the mask carrier with one hand.

5. Pull out the mask by the facepiece.

Open carrier and pull out mask



6. Put your chin in the chin pocket and press the facepiece snugly against your face.

Press facepiece against face



7. Grab the headharness tab and pull it over your head. Be sure your ears are



Pull harness over head

between the temple straps and cheek straps. Make sure the headharness is pulled far enough over so that the forehead straps are tight.

8. Hold the headpad centered on the back of your head. Use your other hand to tighten the cheek straps one at a time, making sure the straps lay flat against your head.

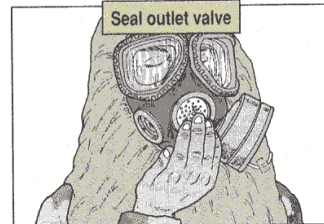
Tighten cheek straps



9. Now clear your mask. Seal the outlet valve by pushing in on the center of the outlet valve cover with one hand. Blow

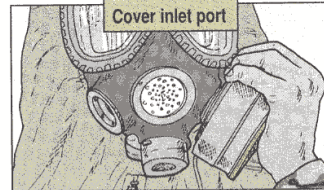
hard to blow any contaminated air out under the edge of the facepiece.

Seal outlet valve



10. Check the mask seal. Cover the inlet port of the canister (M40) or armor quick disconnect (M42) with the palm of your hand. Breathe in. The facepiece should collapse against your face and stay collapsed while you hold your breath. If it does, the mask is airtight and it's OK to breath normally.

Cover inlet port



If the mask doesn't seal, do the BEFORE PMCS in the -10 TM and then try again. No luck? Your NBC NCO needs to check it out.

NBC NCOs, make sure everyone in your unit practices this procedure. Soldiers **must** hold their breath while putting on their masks, so they've got to do it **fast**.

ABC's of Stowage

Many M40 masks have drawn their last breath because soldiers stuck them in the carriers wrong.

The drink tube coupling gets sheared and the facepiece gets cut if a mask is stowed...

...like the old M17 mask, folded in the middle.

...with a canister in the face cavity.

...with the eyelenses facing toward the body.

There is no fix for a sheared coupling or cut in the facepiece. The mask must be replaced.

Your mask will have a long life if you remember the ABCs of stowage:

A. Stow mask in carrier with eyelenses facing away from your body

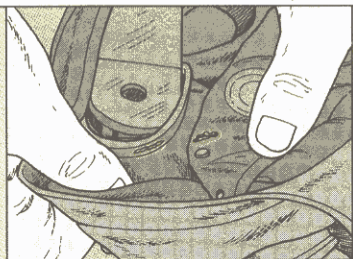
B. Do not fold your M40

C. Do not store anything in facepiece

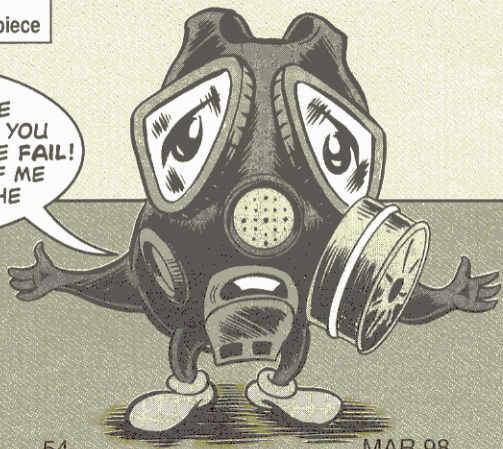
BELIEVE ME.
YOUR MASK IS ONE
PIECE OF EQUIPMENT YOU
CAN'T AFFORD TO HAVE FAIL!
TAKE GOOD CARE OF ME
AND I'LL RETURN THE
FAVOR.

NBC NCOs, immediately inspect all your M40s for sheared drink tube couplings and cuts in the facepiece at the 6 o'clock position of the inlet valve housing. Replace any masks with these defects.

Drink tube sheared? Cuts in facepiece?



Make sure every soldier in your unit sees this article and knows the correct way to stow the M40.

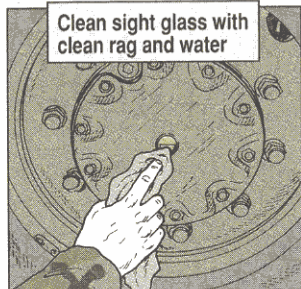


SCRATCH SIGHT GLASS SCRATCHING

Fox crewmembers, keep the wire brush, screwdriver or knife in your pocket when it's time to clean the oil level sight glass on the wheel hub cover.

These tools will not only remove dirt and dried-up mud, but they'll also scratch the sight glass surface. Then it's useless as a visual check for the oil level in the front and intermediate planetary gear hubs.

If the sight glass is caked with mud,



use only water and a rag to wipe it off.



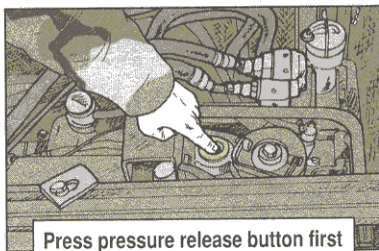
Relieve Coolant Pressure

Operators, the coolant-level check in your weekly Fox PMCS is a two-step process. Skip step one and you could get a face full of coolant.

Step 1: Before you remove the coolant tank's cap, make sure the engine is cooled off. Then, push the pressure release button next to the cap.

If you don't press the button, the coolant is still under pressure. When you take the cap off, engine coolant can spray into your face and cause serious eye damage.

Step 2: Remove the cap and eyeball the coolant level. It should be within an inch of the overflow port on the filler neck. If it's not, add coolant.



Keep ROWPU Rarin' to Go

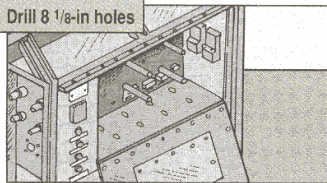
TM 10-4610-240-10 HAS MOST OF WHAT YOU NEED TO KEEP YOUR 600-GPH ROWPU READY TO GO, BUT NOT EVERYTHING.

Junction Box Drain

Rain and water from high pressure hoses pool inside the junction box and lead to corrosion of the switches, relays and wiring.

Since you can't stop the water from getting in, give it somewhere to go. Have your mechanic remove the box and drill eight 1/8-in holes in the bottom of the box.

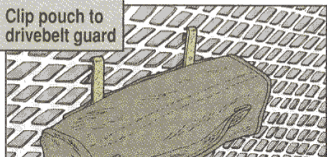
Drill 8 1/8-in holes



TM Pouch

Keep your ROWPU TMs handy by storing them inside a canvas pouch, NSN 7520-00-559-9618. Use the metal clips on the back of the pouch to secure it to the high-pressure pump drivebelt guard. The TMs stay with your ROWPU, but they're not inthaway.

Clip pouch to drivebelt guard



Circuit Breaker Box

When opening the circuit breaker box, loosen the wing nuts just enough to open the panel.

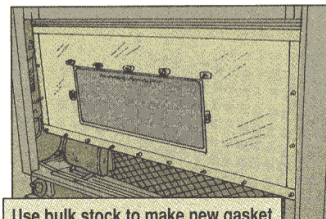
If you take the wing nuts completely off, the washers and sheet spring nuts fall out. Then you can't reattach the panel.

Replace missing nuts with NSN 5305-00-719-3853. New washers come with NSN 5310-00-191-4132 and a new sheet spring nut with NSN 5310-00-888-2878.

Junction Box Gasket

TM 10-4610-240-24P doesn't list an NSN or part number for the gasket on

the back of the junction box and circuit breaker box panels. Make the gaskets from bulk stock, NSN 9320-00-093-6150, and attach 'em with adhesive, NSN 8040-00-664-4318.



Use bulk stock to make new gasket

PS 544

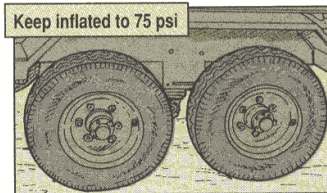
I USED THE TM!

BUT I NEED MORE!

Tire Pressure

Keep the tires on your ROWPU at 75 psi at all times. Don't lower the pressure for off-road use. That puts a lot of stress on the sidewalls and can lead to a blowout.

Keep inflated to 75 psi



57

MAR 98

Give Blisters the Boot

IF THIS SOLDIER TOOK BETTER CARE OF US, WE'D TAKE BETTER CARE OF HIM!

Boots and blisters are a painful combination. Since you've gotta wear the boots, it's a good idea to minimize the blisters.

That means taking good care of your boots—no matter what kind you have.

Combat Boots

Use your hands or a soft brush to remove dust and dirt from the boots. Then, wax the boots with a commercial shoe polish that contains silicone to keep the leather from getting hard and stiff.

Use shoe brush, NSN 7920-00-852-8170, and a little elbow grease (sorry, no NSN) to bring a high shine to your boots.

...AND THE ELBOW GREASE IS FREE!

ME NEXT!

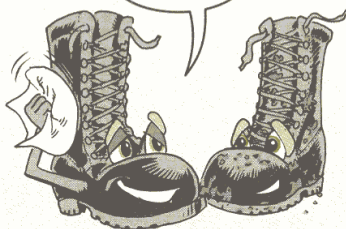


Wipe the inside of the boots with a moist, soapy rag. Let the boots and insoles dry in the sun or indoors at room temperature. Keep 'em away from radiators, heating units, and blowers that will dry out and crack the leather.

Intermediate Cold/Wet Boots

Wipe dirty boots clean with a damp cloth and let 'em dry slowly at room temperature.

WIPE AWAY YOUR WORRIES!



Waterproofing is not necessary, but a natural conditioner such as mink oil will preserve the leather and help the boots last longer.

Hot Weather (Jungle) Boots

Brush off loose dirt and dust. Wash the screened vents with warm water and a soft brush.

MMM... THAT'S NICE!



YOU GOT THAT RIGHT!

Whenever possible, let the boots and insoles dry in the sun. Keep the boots away from intense heat sources. They damage the nylon and plastic portions of the boots.

Finally, wax the boots with silicone shoe polish and shine them with shoe brush, NSN 7920-00-852-8170.

Hot Weather (Desert) Boots

Brush off mud and dirt. Wipe out the insides with a moist, soapy rag.

Let the boots and insoles dry in the sun whenever possible. Again, keep the boots away from intense heat sources to protect the boot's nylon.

Do not polish desert boots! They have a suede exterior that is ruined by polish.

STAY AWAY! WE'VE GOT A SUEDE FINISH!



Gas Up with Parts NSNs

Need some repair parts for your 5-gal plastic fuel can? The following parts were designed for the 5-gal metal fuel can, but they fit the plastic can, too.

Item	NSN
Cap and screen assembly (includes flat washer, screen and cap)	7240-00-132-6433
Spout assembly (includes cap and screen, 1/8-in thick rubber gasket, rubber bushing and flexible nozzle)	7240-00-177-6154
Flat washer	5310-00-228-6638
Rubber bushing	7240-00-132-6431
Gasket (flexible in temperatures down to -40°F)	5330-00-298-7165
Closure assembly (includes gasket, chain, plug swivel, connecting link, and cotter pin anchor)	7240-00-025-3377

Supply ...

Hold the Steam!



That's the word in DA Message 121252Z May 97 from DALO-SMM. The headshed has decided that if an assembly needs to be steam cleaned before it can be repaired, the repairing unit will now do the cleaning. The same thing goes for draining the lube oils.

The reasons for the change are simply to speed up the resupply process and to reduce the burden on maintenance personnel. Reducing the time required to get a repaired assembly back into the supply pipeline increases the availability of repair parts. It's all part of what is known as *velocity management*.

There are some exceptions to the new policy. For example, if you don't have a metal shipping container, or if the assembly cannot be safely shipped without being drained, or if the receiving unit cannot collect or get rid of the fluids, you'll still have to drain the liquids yourself.

The other exception is when an assembly is shipped from OCONUS to CONUS and steam cleaning is required to meet agricultural inspection standards.

If you need more information, or a copy of the message, contact your logistics assistance office or contact Half-Mast.



THE
TRUTH
IS OUT
THERE.

PM

MLRS Correction

We told you on Page 26 in PS 539 to put tape over the CB1 switch in your MLRS to prevent the switch from being accidentally bumped OFF. Forget that. Tape could keep the switch from flipping OFF in case of a current overload, which could damage the personnel heater.

Equipment Sale

Save on food service equipment during the Defense Industrial Supply Center's (DISC) 50% reduction sale. Get ice makers, freezers, refrigerators, fryers, other items while they last. For a complete list check DISC's website:

<http://www.disc.dla.mil/cbu/v/salecov.htm>
or look in FED LOG under the Discounted Item Program. Army users, change service to "FLIS" and hit F6.

For more info, contact Susanne McHale at (215) 697-0649 or DSN 442-0649; e-mail: smchale@disc.dla.mil

Field Filing Cabinet

Need a good one-drawer filing cabinet to hold TMs, maps and other papers while in the field? NSN 7110-00-823-7218 gets a steel, OD-green cabinet that measures 13x12x24 inches. The cabinet also comes with a padlock hasp for security.

AN/PRC-126 Parts

Here are four NSNs that PRC-126 radio users need:

Item	NSN
Antenna matching knob	5355-01-283-6566
AS-4094 short antenna	5985-01-299-0845
Battery housing	6160-01-298-2408
Carrying pouch	5820-01-255-4068

FMTV Trans Oil Update

To clarify the FMTV transmission oil article on Page 9 of PS 541 (Dec 97), follow your truck's lubrication order (LO) for which oil to use from one season to another. You do not have to use OE/HDO-15W40 year-round.

FMTV Air Dryer Canister Nut

You'll notice real quick that the parts TM for your FMTV does not give an NSN for the 5/16-in nuts that fasten the top and bottom of the air dryer canister. Add NSN 5310-00-880-7744 and a note to Fig 136, TM 9-2320-365-24P, and Fig 151, TM 9-2320-366-24P. That way you won't have to order an entire air dryer canister just to get the nuts.

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

Would You Stake Your Life ^{right now} on the Condition of Your Equipment?

☆ U.S. GOVERNMENT PRINTING OFFICE: 1998 — 650-065/20039

For sale by the Superintendent of Documents, U.S. Government Printing Office Washington, DC

**In the desert,
lube attracts sand
like a magnet**



FORGOT TO
WIPE IT DRY,
DIDN'T YOU?

- WIPE THE OUTSIDE OF WEAPONS AND EQUIPMENT DRY.
- LUBE MOVING PARTS LIGHTLY.
- COVER EQUIPMENT • CLEAN OFTEN.