



Issue 530

PS

January
1997

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-530

Read and
heed, then
pass along!

REPEAT
AFTER ME...

I—STATE
YOUR NAME—
RESOLVE
TO...

NEW YEAR'S RESOLUTIONS

1. USE THE TM

2. DO PM
REGULARLY

TURN

USE THE
RIGHT TOOL
FOR THE JOB

5. MAKE ONLY
AUTHORIZED
MODIFICATIONS

6. KEEP PUBS
UP-TO-DATE

7. READ PS
MAGAZINE

8. NO FUNNY
FACES

I—STATE
YOUR NAME—
RESOLVE
TO...



Approved for
Public Release;
Distribution Is
Unlimited

"Independence Day", PS Style
... Check it out, Page 27

IT'S UP TO YOU

Some people are afraid of it. Others try to ignore it. A few don't even understand what it means.

What is it? **Responsibility.**

It's a big word with a simple meaning—a willingness to do the job you're expected to do.

For operators and mechanics, that means taking care of your equipment. Whether it's a rifle, radio, tank, truck or helicopter, it takes good preventive maintenance to keep your equipment ready to perform.

Without that PM, your equipment is doomed to fail. It may not happen today, or even tomorrow, but it **will** happen. Success or failure of a mission depends on **everyone** in your unit carrying out their PM responsibility.

There's an added bonus, too. It just might keep you and others alive on the battlefield.





THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-530, 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.

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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
Bldg. 5307
Redstone Arsenal, AL 35898-7466

Or E-mail to:

psmag@logsa.army.mil

By Order of the Secretary of the Army:

DENNIS J. REIMER

General, United States Army Chief of Staff

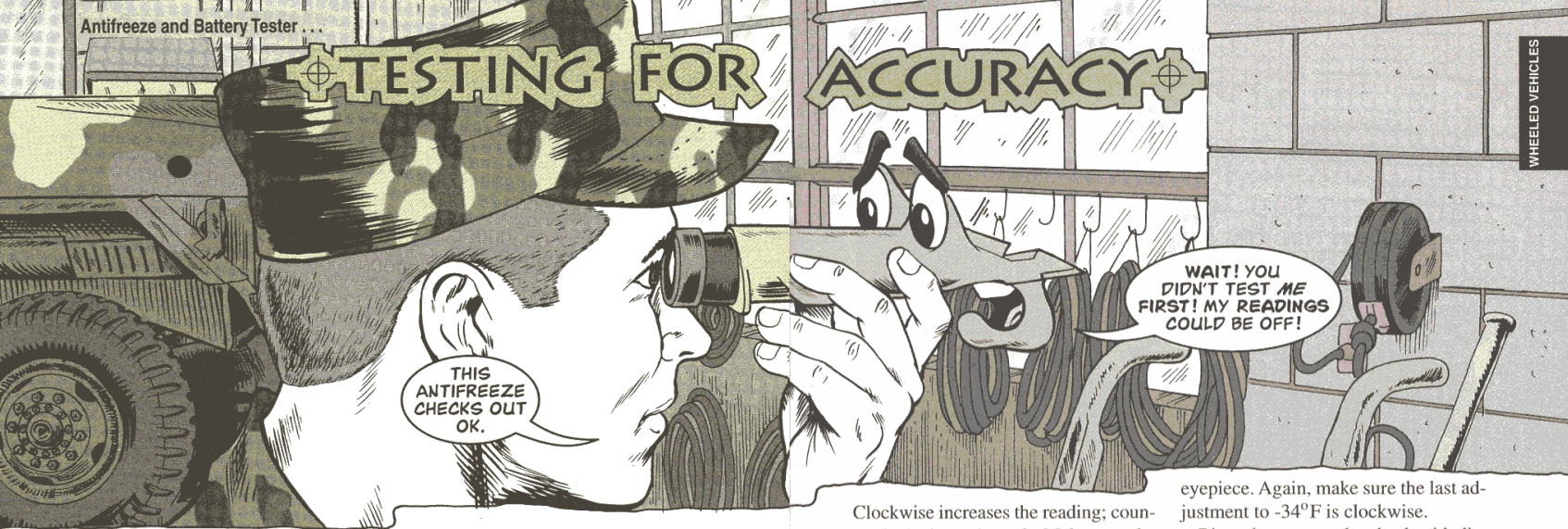
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Joel B. Hudson
JOEL B. HUDSON

Administrative Assistant to the Secretary of the Army
02747

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You took antifreeze readings earlier this year with the antifreeze and battery tester, NSN 6630-00-105-1418, but did you test the tester to be certain that your readings were good?

If you didn't, then you don't know how good the antifreeze is in your vehicles.

Here's how to test the tester:

Take a reading using distilled water, NSN 6810-00-682-6867. If the reading is more than 34°F or less than 30°F, your tester needs adjusting. Take three or four readings to be sure.

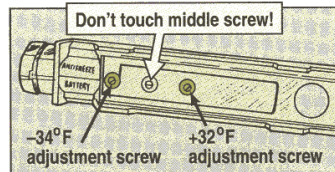
If the reading is off, remove the instruction plate on the bottom by working a knife blade under the edge. Carefully dig out the sealer over the screws closest to each end.

PS 530

Remove metal cover on bottom



Never touch the middle screw. It holds the lens in place.



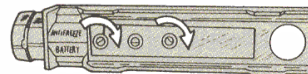
The screw farthest from the eyepiece controls the 32°F end of the scale. Use a small screwdriver to adjust the screw.

2

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Clockwise increases the reading; counterclockwise reduces it. Make sure the final adjustment to 32°F is clockwise.

Both final adjustments must be clockwise



Now that you've checked the plus side of the scale, check out the minus side.

Mix up a solution of **exactly** one part distilled water and one part antifreeze, NSN 6850-00-181-7929. Stir it well.

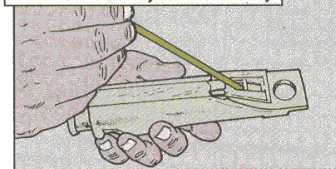
Take several readings with the antifreeze solution. If the reading is more than -32°F or less than -36°F, adjust to -34°F using the screw closest to the

PS 530

eyepiece. Again, make sure the last adjustment to -34°F is clockwise.

Rinse the tester and recheck with distilled water. Repeat the adjustment for 32°F if needed. Then recheck using the antifreeze solution.

Recheck and readjust if necessary



Repeat the tests until both readings check out.

Then use a little adhesive, NSN 8040-00-843-0802, to hold the screws in place. Replace the instruction plate.

Oh, by the way, don't forget to recheck all those vehicles you checked with a bad tester!

3

JAN 97

Put an End to Frozen Fuel



If there's no water in the fuel tank on your favorite vehicle, you won't have to worry about fuel freeze-up this winter. So how do you make sure there's no water in your fuel?

- ✓ Drain fuel filters daily, just like your PMCS says.
- ✓ Refuel with care to keep water or snow out of the tank.
- ✓ Keep the fuel tank filled to the FULL mark to stop condensation.
- ✓ Add icing inhibitors to the fuel. There is one kind for diesel and jet fuel and another kind for gasoline.

Diesel / Jet A-1	
5-gal can	NSN 6850-01-377-5074
55-gal drum	NSN 6850-01-089-5514

Gasoline	
1-gal can	NSN 6810-00-597-3608
5-gal can	NSN 6810-00-275-6010

Mix one pint of additive with 40 gallons of fuel. Add it to the tank before refueling. Remember this: You can damage the engine if you add more than one pint of additive to 40 gallons of fuel. At the least, engine performance suffers.

If you use JP-8 jet fuel, you don't add icing inhibitor—it's already in there! Jet A-1 does **not** have the inhibitor, so treat it just like diesel fuel.

Drain Fuel and Do It Right

Nothing messes up the works more than dirt and water in fuel filters. If you're lucky enough to start your vehicle with dirt and water in the fuel, you certainly won't get great performance.

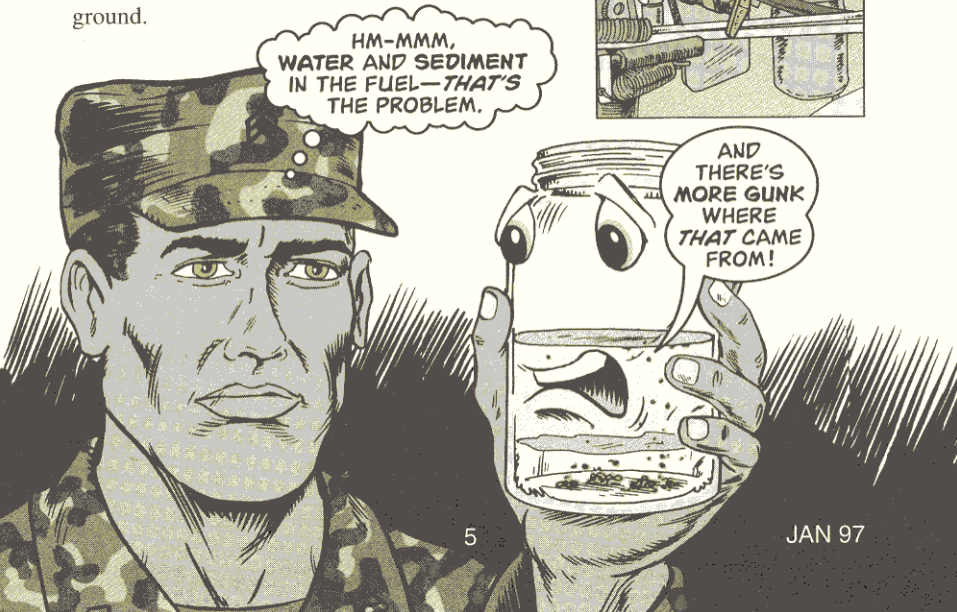
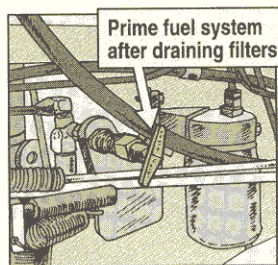
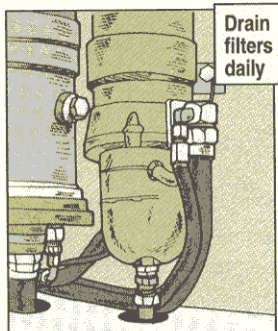
So what's the solution? Same as it has been forever—drain those fuel filters according to your TM, and more often in extreme conditions, like in jungle or desert operations.

Drain only a pint or so of liquid into a clear container. You should get only clean fuel after that. If water or sediment is still flowing after another pint or so, tell your mechanic.

Tighten the drain cock when you're through. If you forget, you'll have dangerous—and wasteful—fuel drips.

After draining the filters, prime the fuel system where it's needed, like on your M800- or M900-series 5-ton trucks. Without a prime, your engine gets air instead of fuel, and won't start or run.

And remember that the drained fuel goes in a hazardous waste disposal container, not on the ground.



HMMWVs...

SAMPLING SAMPLING METHODS

You can always use the sampling pump (NSN 4310-01-119-4030) and tube (NSN 4720-00-964-1433) method, but the tube can get caught in the oil pan baffles. Plus, it's real easy to contaminate your sample.

Then there's the sampling valve method as described in TB 43-0001-39-8 (Mar 96). If you don't have the TB, see your local TACOM LAR or write to Half-Mast.

This method puts a valve, NSN 4820-00-845-1096, on both the engine and transmission oil cooler so you can take samples easier.

That is, if the power steering oil cooler doesn't get in the way.

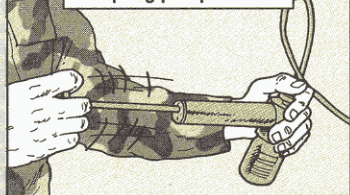
If that happens, you can add an elbow, NSN 4730-00-277-5553, to the sampling valves to get them far enough from the oil cooler to add a piece of hose, NSN 4720-01-159-5796, to the valve with clamp, NSN 5340-00-954-6014.

The elbow stays with the valve, but you remove the hose after sampling so it doesn't get contaminated.

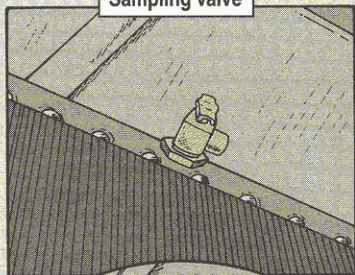
And, there are probably several more variations of sampling out there. If what you use works for you and doesn't cost too much, have at it.

GETTING
OIL SAMPLES
FROM YOUR
HMMWV'S
ENGINE AND
TRANSMISSION
CAN BE DONE
SEVERAL
WAYS.

Sampling pump method

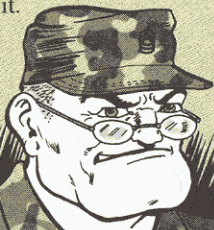


Sampling valve



Sampling valve with elbow

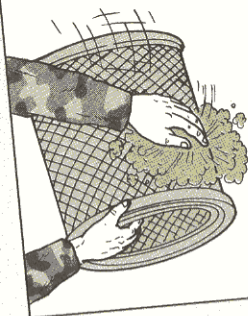
JUST KEEP
THOSE SAMPLES CLEAN SO
THE REAL CONDITION OF YOUR
ENGINE AND TRANSMISSION CAN
BE MONITORED. IT SAVES
MONEY!



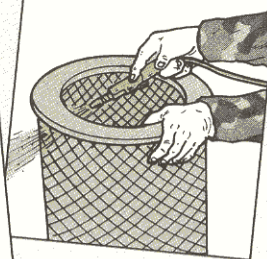
Three Clean Filter Facts



Tap element with your hand to free trapped dirt. Don't bang it against a rock or tire. You'll bend its sealing edge or crush filtering material



Blow low-pressure air—30 psi or less—from inside to outside



For oily dirt, wash element in detergent, NSN 7930-00-282-9699, and warm water. Rinse away soap with warm water and let dry before you put it back



Some operators have tried to clean the filter element with forced exhaust from a tank or truck. **Don't!** The extreme heat will melt the adhesives in the filter element.



Flat Tire Fix

Dear Half-Mast,

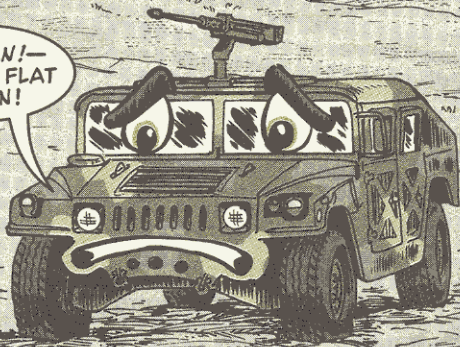
When you work in a desert area like we do, you have a lot of problems with flat HMMWV tires.

In almost every situation, we find sand inside the flat tire. Apparently, the sand is working its way past the tire's rubber O-ring. When the seal is broken, the tire goes flat.

Is there something we can do to prevent this?

SGT K.B.

—GROAN!—
THEY'RE FLAT
AGAIN!



Dear Sergeant K.B.,

Yes! There are three things you can do to help solve your problem, Sergeant.

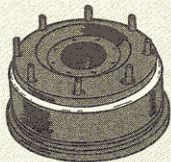
One, always use a new O-ring when fixing a flat. Reusing an O-ring will just result in another flat tire. NSN 5330-01-176-0923 gets the eight-stud wheel O-ring. The 12-stud wheel O-ring is NSN 5330-01-335-8878.

Cut the old O-ring in half after it's removed. Then it **can't** be reused.

Two, clean off sand and debris from the wheel halves with a clean cloth.

Three, lubricate the new O-ring with tire soap, NSN 7930-01-107-6997, before it's installed. That creates a better seal and keeps sand out.

Coat O-ring
with tire soap



Half-Mast

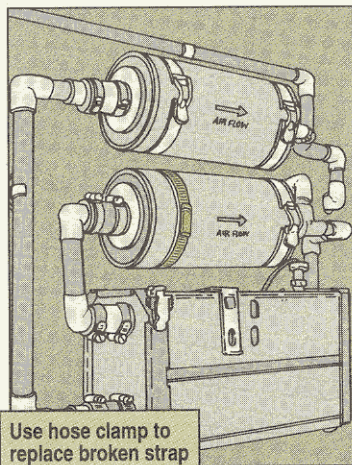
Strapless? Try Clamps



Save yourself lots of dollars when a strap breaks on your M996- or M997-series ambulance's NBC filter bracket. Replace the strap with a hose clamp. So said SSG Ben Casey, Illinois ARNG, to the SMART folks.

The bracket has no repair parts, and it costs more than \$300 to replace. Hose clamp, NSN 4730-00-908-6294, costs about 60 cents.

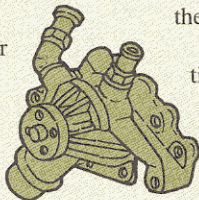
Just make sure that you knock out the strap rivet and route the hose clamp behind the bracket and around the filter before tightening.



Unit Replaces Water Pump

For those of you who always knew that unit maintenance could remove and install HMMWV water pumps, here's good news.

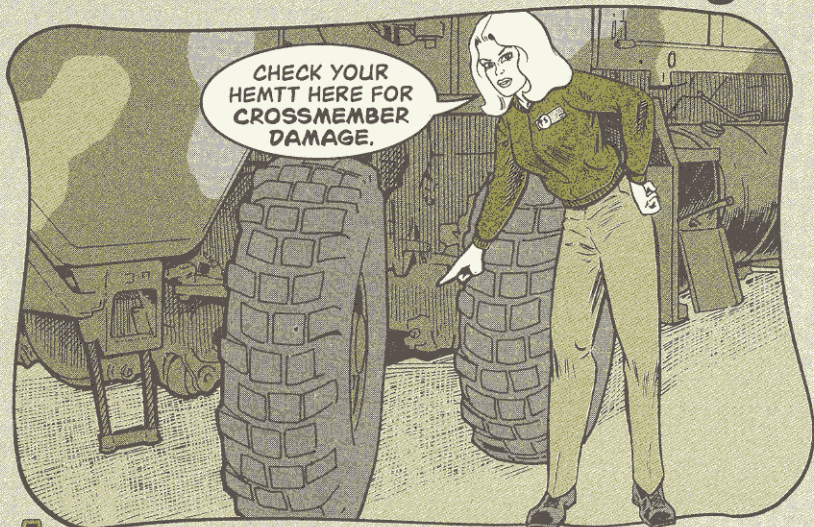
As a result of a SMART suggestion, the TMs will be changed to provide the instructions in TM 9-2320



280-20 and the mounting parts in the -24P.

You can find the information now in TB 43-0001-39-3 (Dec 96). If you need a copy, see your local TACOM LAR or write to Half-Mast.

Monitor Crossmember Damage



An overlooked PMCS item in TM 9-2320-279-20-1 and one that's missing from TM 9-2320-279-10-1 may be contributing to front end woes for HEMTTs.

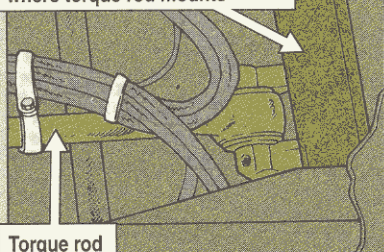
A few years ago, the PMCS in the -20-1 was changed to include crossmember bending as part of the NMC criteria.

But many HEMTTs are now showing up with front tandem (No. 2) crossmember bending where the torque rod mounts. Once it bends, the front end cannot be aligned.

If you mechanics haven't checked the crossmembers on your HEMTT lately, give 'em the old eyeball right now. Drivers, do the same. This check is scheduled to be added to Item 74 in your -10-1 checks, too.

Any broken, cracked or bent frame side or crossmembers, broken welds or broken bolts make your truck NMC.

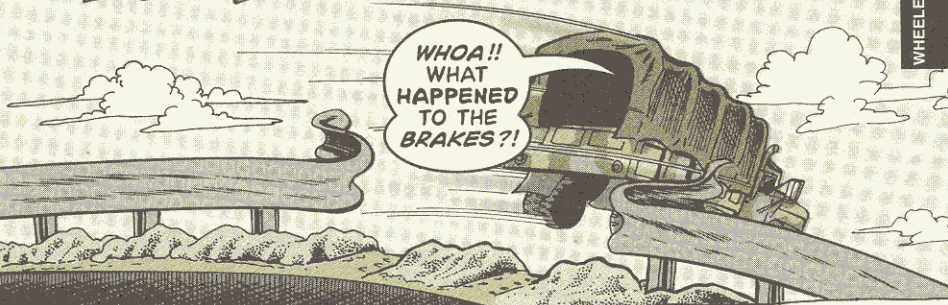
Look for bends in crossmember where torque rod mounts



Even if you spot no damage, DS can add a severe duty reinforcement kit, NSN 2510-01-355-6872, to your HEMTT.

The kit adds a tougher front tandem crossmember and stronger hardware.

Ice Is a Brake Buster



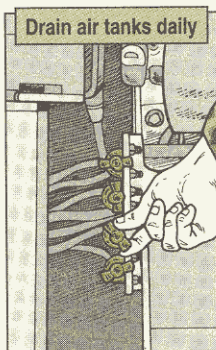
Trouble is brewing if you don't drain your vehicle's air tanks in warm weather. Moisture corrodes air lines, relief valves, safety valves and even the air tank itself.

But frozen water—ice—in your vehicle's brake system is a **double whammy!**

First, it plugs up the air system. If air can't get through, the brakes can't work!

Worse, water expands when it turns to ice. The pressure will burst most anything. You lose your brakes, control of your vehicle, maybe your life.

The solution is simple. After the day's run—no matter what the weather—drain the vehicle's air tanks.



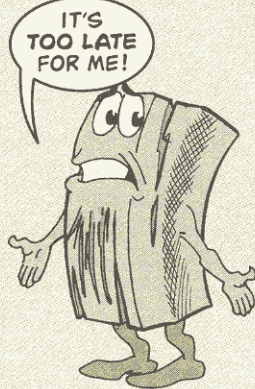
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Chock Block Talk

The wooden chock blocks stowed on HEMTTs, HETs, and PLS vehicles are coated with CARC paint at the factory.

Over time, the paint peels off, exposing the wood. Soon the wood cracks and splits. Then the blocks might not hold the vehicle.

Take the blocks out and look at 'em. If the paint is peeling, get the blocks repainted. If they're too far gone, replace them.



JAN 97

Don't Spare the Strap

Dear Editor,

If the launcher arms on the MK-155 mine clearing line charge bounce up and down during travel, the holes for the locking pins in the raise rails will enlarge, especially if the rockets are mounted. The rockets' weight worsens the bouncing. Eventually, the pins won't stay in their holes.

We've taken the bounce out of the launcher arms by tying them down for travel. We run a bungee strap from one side of the front of the launcher tub to the other, hooking the strap tight to the tub crossmembers.



If you don't have a bungee strap, use tiedowns or rope to keep the launcher arms from bouncing. Make sure they can easily be removed when you're ready to fire.

SSG Steven Davis
SGT Christopher Grant
 4th Engr Bn
 Ft Carson, CO

FROM THE DESK OF THE Editor

A strapping good suggestion.
 Thanks.



Give Crews a Step Up

Dear Editor,

In our combat engineer unit, the MK-155 mine clearing line charge is mounted on an AVLM chassis. That has caused a couple of problems.

To get to the MICLIC, we have to climb up and down the side of the vehicle, which is neither easy nor safe. To use the hydraulic pump, we're forced to hang on to the back of the MICLIC with one hand while pumping the handle with the other. We've had several pump handles broken as a result.

We made climbing easier by using HEMTT ladders. Just set the ladder at the rear of the vehicle and you've got an easy step up to the MICLIC. And you can stand on the ladder to operate the hydraulic pump.

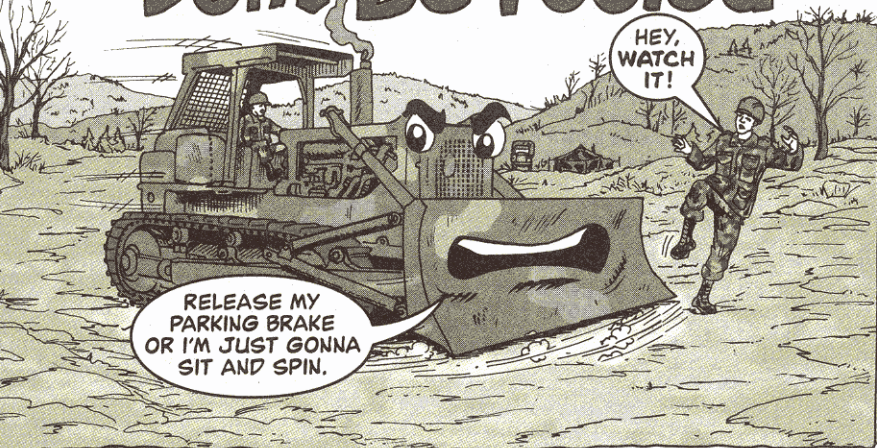
If no HEMTT ladders are available, your support can fabricate something similar. For travel, we strap the ladder to the beams that the MICLIC's mounted on.

SSG Robert Ortiz
 4th Engr Bn
 Ft Carson, CO

FROM THE DESK OF THE Editor

Your suggestion is a step in the right direction. But tell your MICLIC crews not to jerk on the hydraulic pump handle when they pump it, either. It should not need that much force. If it does, there's probably low pressure in the accumulator. Charge it like it says in Para 5-14 of TM 9-1375-215-14&P.

Don't Be Fooled

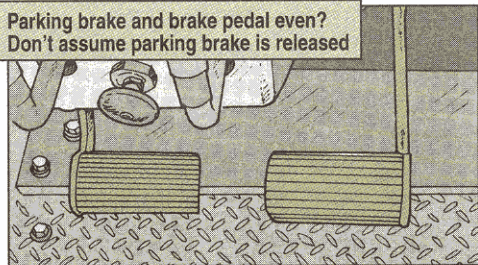


Engaging the parking brake on your tractor is simple, operators. You press down on the parking brake pedal and push down on the parking brake handle. That holds the pedal down and locks the left-hand track.

When the next driver sees that the parking brake pedal is lower than the brake pedal, he knows the brake is engaged.

But some of the older tractors have extra play in the parking brake pedal. Enough play, in fact, to fool you into thinking the parking brake's not engaged at all.

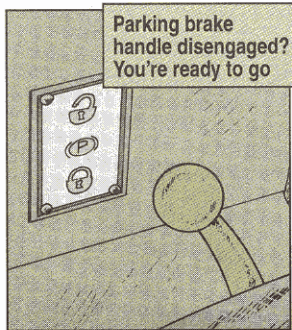
Parking brake and brake pedal even?
Don't assume parking brake is released



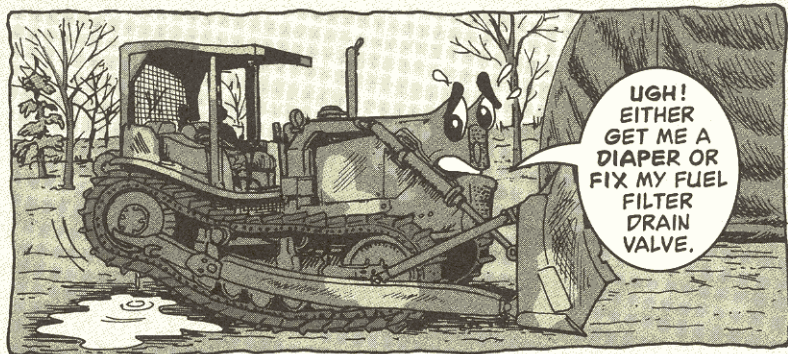
When that happens, the tractor swings suddenly to the left when you hit the gas. That's **real** bad news for anyone standing off to the left side.

So, don't be fooled. Always look at the parking brake handle, not the pedal, to see if the brake is engaged.

Parking brake
handle disengaged?
You're ready to go



STOP THAT LEAK

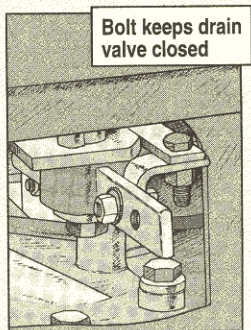


Good operators drain their D7F tractor's fuel filters **BEFORE** each operation.

Unfortunately, daily use weakens the spring that holds the drain valve closed. When the spring loses enough tension, the valve won't stay completely closed. The end result is a slow fuel leak and a potential fire.

Prevention is simple. Push a bolt through the lever support and the bracket above it. Any bolt that fits will work. Secure it with a nut.

With the bolt in place, the valve stays completely closed and your fuel leaks dry up.



621B Scraper ...

Watch Your Step!

Operators, using the footrest on your 621B scraper is a great idea—unless you get careless.

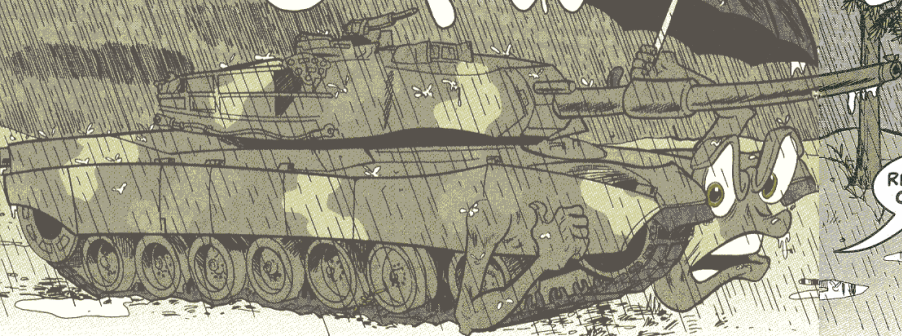
If the heel of your boot rests against the differential lockout, every bump you hit engages and disengages the differential. That overpressurizes the transmission and blows the internal transmission differential seal. Your scraper is going nowhere.

Use the footrest, but make sure to keep your boot away from the differential lockout.



Keep heel off differential lockout

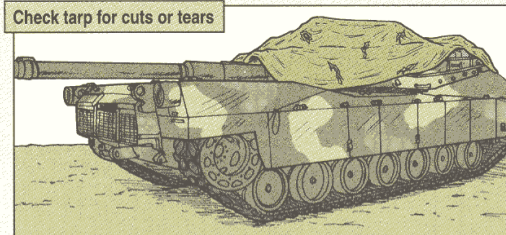
Stop Water Damage



Tankers, a little rain never hurt an M1-series tank—at least not on the outside.

Follow these PM tips to help keep the rain from getting **inside**, where it can damage electronics and ruin ammo:

💧 Take a close look at your tank's tarp. If you see any holes, rips, tears, dry rot or mildew, get the tarp replaced. It's your tank's first line of defense against water damage.



💧 Eyeball the seals and rubber strips around the blow-off panels. If you see cracks, tears or moisture seepage, call your mechanic. He may need to replace them.

💧 Keep water from seeping in past the blow-off panel screws by sealing them with RTV, NSN 8040-00-664-4318.

💧 Look for cracks along the welded seams at the top of the turret near the ammunition compartments and environmental cover. If you see any, call your mechanic.



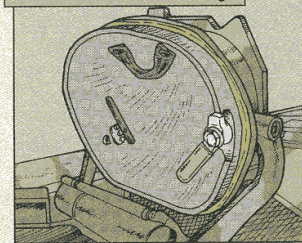
MAN, I'M
REALLY GETTING WET—
ON THE OUTSIDE AND
THE INSIDE!!

💧 Protect the antenna mounts and access cover seals by coating the gasket seams with RTV. If the seals are already damaged, get your mechanic to replace 'em first.

💧 Eyeball the hatch and periscope seals for damage, too. Any water that leaks past these seals will eventually make it into the ammo compartment.

💧 Not even good seals or gaskets can ward off high pressure water or steam. Keep it below the track line.

Check hatch seals for damage



Don't Take a Load Off

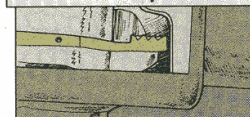
The M2 machine gun mount on your M1-series tank is **not** a seat. Nor is it an arm rest, foot rest, or leaning post.

The mount is there for one reason: *To hold the M2 machine gun.*

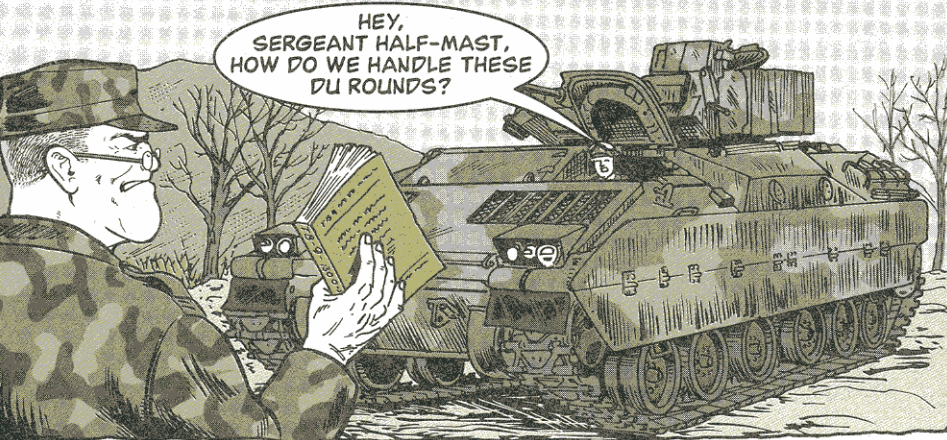
When you sit or lean on the mount, your weight creates pressure against the brass gear teeth inside the mechanical housing. That pressure gradually eats away at the teeth. When the teeth wear down too much, the mount floats and the machine gun won't hold steady.

So do yourself a favor. Find somewhere else to sit.

Pressure eats away brass teeth



Handling Depleted Uranium



Some M1-series and M60A3 tank and M2 M3-series Bradley ammo rounds are made with depleted uranium. So is part of the M1's armor. Depleted uranium is not highly radioactive, but it can be harmful if not handled correctly.

If your unit has M1s or fires armor-piercing rounds, order TB 9-1300-278, "Guidelines for Safe Response to Handling, Storage, Transportation Accidents Involving Army Tank Munitions or Armor which Contains Depleted Uranium." The TB lists the rounds that contain uranium.

If you have questions about depleted uranium rounds, contact:

Industrial Operations Command
ATTN: Chief, Radioactive Waste
Disposal Office
Rock Island, IL 61299-6000

Or call (309) 782-2969, DSN 793-2969.

If you have questions about depleted uranium armor, contact:

TACOM
ATTN: AMSTA-CS-CZ
Warren, MI 48397-5000

Or call (810) 574-7635 or DSN 786-7635.

Fire Extinguisher Bracket

A universal bracket, NSN 4210-01-183-4822, is now available for mounting portable fire extinguishers on your M1-series tank. It replaces the ones used in the .50 cal stowage bin (NSN 4210-00-933-2929) and the sponson box (NSN 4210-01-183-4822). Make a note until the -24P-2 TMs can be updated.

NO ALARM? BE ALARMED!

Operators, an engine fire is the second worst thing that can happen to you and your MLRS. The worst is an **undetected** engine fire.

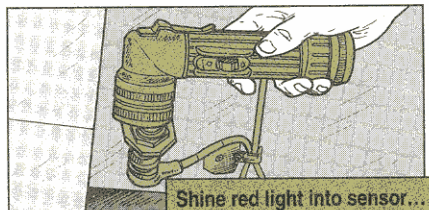
The sensors on your vehicle's fire suppression system are supposed to trigger the **FIRE WARNING** light when a fire starts. Properly warned, you can set off the fire extinguishers and keep damage to a minimum.

If the sensors aren't working, it may be too late—for you and your vehicle—by the time you discover the fire.

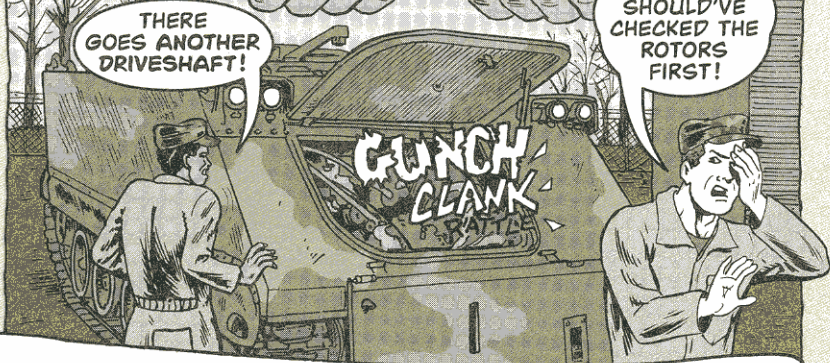
Keep those sensors in top form by checking them weekly like this:

1. Set the **MASTER POWER** switch to **ENGINE ON** and raise the cab.
2. Using a red filter, shine your flashlight directly into the sensor. The **FIRE WARNING** light should come on.
3. Do the same thing with the second sensor on the other side of the cab.

No warning light? Call in your mechanic. He'll repair or replace the sensors.



GIVE ROTORS A HAND

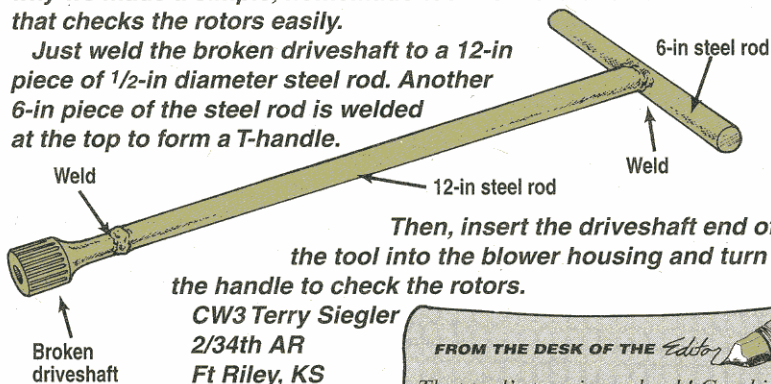


Dear Editor,

Removing a broken driveshaft from the blower housing in your M113-series FOV's 6V53 or 6V53T diesel engine is hard enough. But you still have to take off the air inlet cover and make sure the blower rotors will rotate before putting in the new driveshaft.

Problem is, most hands are too large to fit inside the housing. A lot of mechanics just put in a new driveshaft and hope for the best. That's a good way to end up with another broken driveshaft. That's why we made a simple, homemade tool from a broken driveshaft that checks the rotors easily.

Just weld the broken driveshaft to a 12-in piece of 1/2-in diameter steel rod. Another 6-in piece of the steel rod is welded at the top to form a T-handle.



FROM THE DESK OF THE Editor

That tool's tops in my book! Good job!

LIGHTS OUT!

Dear Half-Mast,

During night operations, the glare from the instrument panel lights in my M113 personnel carrier interferes with my AN/PVS-5 night vision goggles. It makes it hard to see where I'm driving. How do we fix this unsafe situation?

SSG K.L.K.



COMBAT VEHICLES

Dear Sergeant K.L.K.,

TACOM has come up with a quick and easy way to take care of those glaring lights:

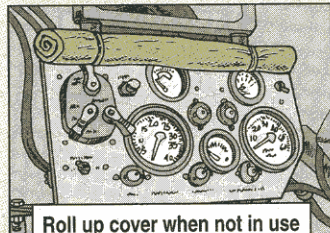
1. Cut out a 12³/₄-in x 14¹/₂-in piece of duck cloth, NSN 8305-00-170-3449.
2. Lay the cloth over the top and front of the instrument panel. Cut the cloth around the mounting studs on top of the panel.
3. Attach two 10-in strings to the cutouts in the cloth. Then tie the cloth to the mounting studs. Leave a few inches of string free.
4. Roll the cloth up from the bottom and tie it in place on the top of the panel with the remaining string.

The next time you need to use your night vision goggles, untie the strings and let the cloth cover the lights.

Half-Mast



Tie cloth to mounting studs



Roll up cover when not in use

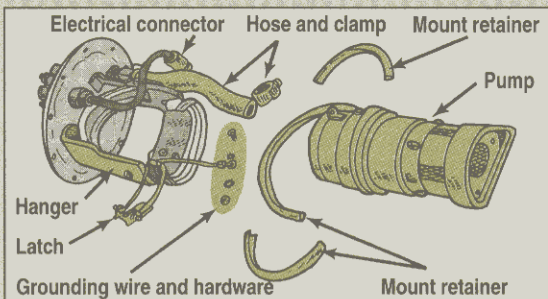
Fuel Pump Repair Goes PAOOO

There's good news for mechanics tired of waiting while DS repairs a left or right intank fuel pump assembly, NSNs 2910-00-937-7435 and 2910-00-782-1376, for their M992 ammo carrier or M109 howitzer.

The SMR codes for all repair parts, including the electric fuel pump—the usual cause of a failed assembly—are being changed to PAOOO. That means unit mechanics can now remove and replace the fuel pumps, NSN 2910-00-923-4248. Replace bad pumps like this:



1. Remove the intank fuel pump assembly following the instructions in your vehicle's -20 TM.
2. Disconnect the electrical connector from the fuel pump.
3. Loosen the hose clamp at the base of the pump and disconnect the hose.
4. Open the latch that holds the pump in the hanger. Remove the pump's rubber mount retainers.
5. Unscrew the grounding wire from the pump. Push the grounding wire to one side and pull the pump free of the hanger.
6. Position a new pump with its rubber mount retainers in the grooves of the fuel pump hanger. Make sure the hose is lined up with the pump outlet.
7. Attach the grounding wire to the pump with the grounding wire screw.
8. Close the latch to secure the pump in place.
9. Clamp the hose to the pump outlet.
10. Plug the electrical connector into the pump and install the repaired assembly in the fuel tank.



Blowout Blues

Flat tires have always been a problem with the M198 towed howitzer. When you try to put more than 16,000 pounds on just two tires, blowouts are bound to happen.

Well, maybe not.

A new radial tire, NSN 2610-01-281-0675, is now available. These tires are rated to carry up to 10,300 pounds—much more than the 7,200-lb capacity for the old radial, NSN 2610-01-287-6409.

Even with the new tire, it'll take good PM to keep your howitzer on the road. Just follow these tips:

- Never use one of the **new** radials with one of the **old** ones on the same howitzer.
- Keep tire pressure at 110 psi. Never—even while towing cross-country—lower the air pressure. Lower pressure makes the tires run hotter. That causes tread separation and fatigue breaks in the body cords. Cornering on underinflated tires forces the wheel rims outward. That puts a

Keep tire inflated to 110 psi



lot of pressure on the sidewall and could cause the tire to blow or come off the wheel.

- The maximum highway towing speed for your howitzer is 45 mph. Any faster and tire temperature rises dramatically, damaging the tire cord.
- Never go faster than 35 mph on secondary roads or 15 mph cross-country. Since the howitzer does not have a suspension system, excessive speed causes the tires to bottom out. That damages the rims and results in handling problems.



Seat Strengthenener



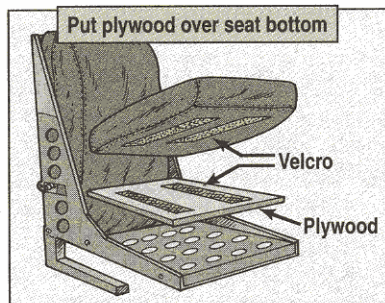
Dear Editor,

Every Avenger crewman knows it doesn't take much to cave in the gunner's seat. One misguided boot and the aluminum seat bottom is history.

We've made sitting safer by reinforcing the seat with plywood. Cut a 1/4-in thick piece to 16 1/2 x 18 1/2 inches.

Glue strips of fastener tape, NSN 8315-00-001-3587, to the plywood so the cushion will have something to stick to. Your SSSC probably has hook and pile that will work.

Lay the plywood down on the



seat and put the cushion on the plywood. You're done.

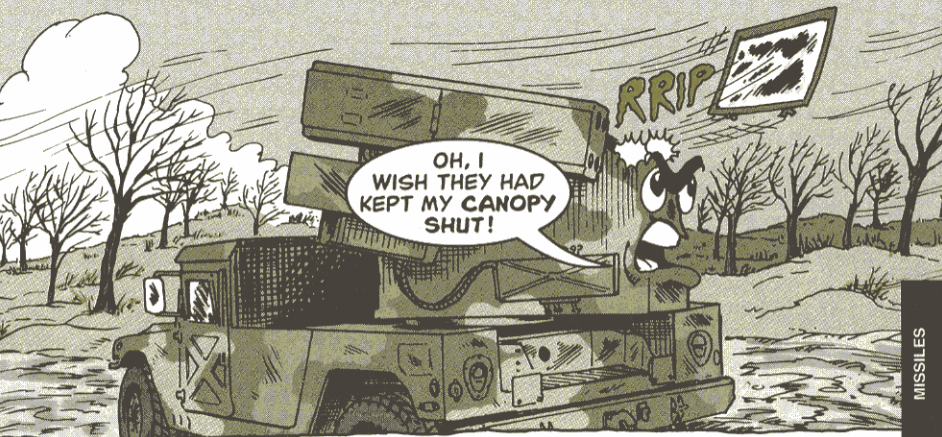
CW2 Jeffrey Swindle
3/61 ADA
Ft Carson, CO

FROM THE DESK OF THE Editor



That's an idea we won't sit on...but I'm sure many Avenger gunners will.

SAVE MONEY AND BE POPULAR

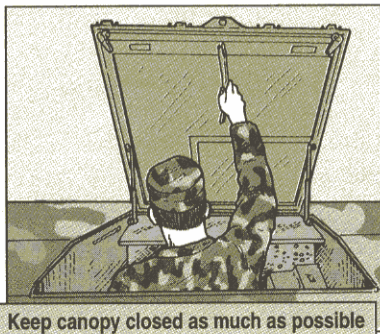
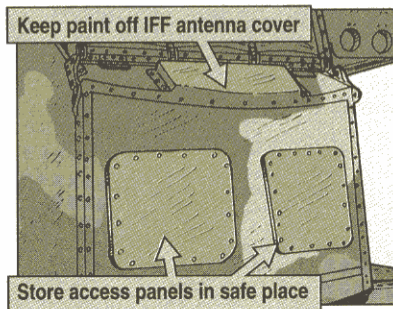


Here are three ways to improve readiness and save your Avenger unit money, which will make you popular with your commander:

✓ When you remove the front access panels to train with MILES, do **not** stick them in the truck wells on either side of the Avenger. Left in a well, panels get dented when the turret rotates. Put the panels in the Avenger truck cab or someplace else where they will be safe. Your best bet is to leave them at the motor pool.

✓ Keep paint away from the IFF antenna cover. It'll weaken the IFF signal.

✓ Keep the canopy closed as much as possible. A strong wind can rip the canopy strut mounts right out of their brackets. If the canopy is not down before the turret goes round, the canopy will be jerked loose. And you know there are no replacement canopies.



Take Problems to the Mat

Dear Editor,

In areas where high winds are common, the Avenger canopy takes a beating, even with its tarp installed. The wind whacks the tarp against the canopy. Soon the canopy is so scratched you can't see through it. There are no replacement canopies.

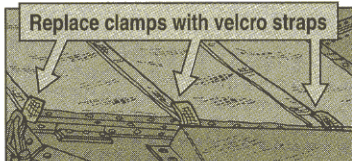
We scratched canopy scratching by cutting old sleeping pads in half and putting them between the tarp and canopy. The tarp bangs against the mat, not the canopy.

CPT William McLagan
US Army Air Defense School
Ft Bliss, TX

FROM THE DESK OF THE Editor



Way to take that scratching problem to the mat! It's also a good idea to replace the tarp's metal buckles with 6-in velcro straps. The straps keep the tarp just as secure as the buckles, but without scratching the canopy. HMMWV cargo cover hooks, NSN 5340-01-203-6542, work well, too.



Reader's Quiz



TEST YOUR
KNOWLEDGE WITH
THIS QUIZ ON SUBJECTS
FROM THIS MONTH'S
PS.

How can you be sure the readings from your antifreeze and battery tester are accurate?
(Page 2)

What four steps can you take to prevent blown tires on the M198 howitzer? (Page 23)

What's the best way to stop a runaway MK 19 machine gun? (Page 35)

What are four important things to remember when handling aircraft engine bore plugs?
(Pages 42-43)

What is the last step in avionics corrosion fighting? (Pages 44-45)

What is the first thing you should check if your SINCGARS radio LS-671 loudspeaker gives you the silent treatment? (Page 50)

What can you do to overcome electrostatic discharge when handling electronics? (Page 51)

What does the M8A1 chemical alarm need at least once a year? (Page 55)

What pubs do you need to help with your Army Oil Analysis Program? (Page 60)

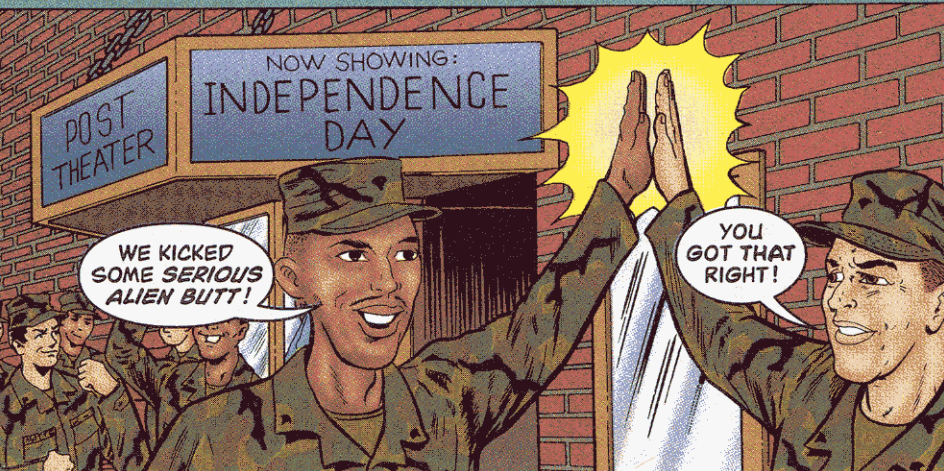
How can you connect to the ULLS bulletin board? (Page 60)

INDEPENDENCE DAY... WITHOUT PM!

"THANKS TO AMERICAN INGENUITY AND A STRONG, PREPARED MILITARY, THE EARTH WAS SAVED."

THE END

USA! USA! USA! USA!



I'LL SEE YOU GUYS IN THE A.M.
MAYBE WE CAN FINALLY GET
AROUND TO THAT PM WE'VE
BEEN PUTTING OFF.

I DOUBT IT.
WITH THAT BUNCH,
SOMETHING ELSE
ALWAYS COMES UP.

I'M NOT
GOING TO
HAVE ANY
TROUBLE
SLEEPING
TONIGHT.
I'M BEAT.

LATER...

WAKE UP!
WE'RE BEING
ATTACKED BY
FLYING SAUCERS!
THE GENERAL
WANTS EVERYONE
AT THE MOTOR
POOL NOW!!

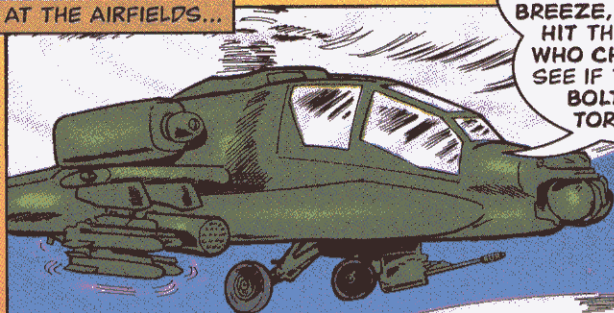
BUT THAT'S ONLY
A MOVIE! THIS CAN'T
BE HAPPENING!

WE ARE THE LAST HOPE.
IF WE CAN'T STOP THESE ALIENS,
LIFE AS WE KNOW IT IS OVER. WE
HAVE TO GIVE THEM
EVERYTHING WE'VE GOT!

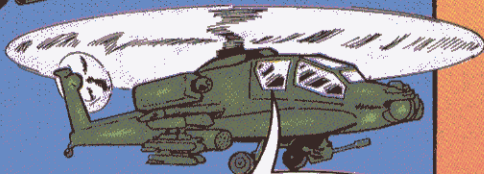


FIRST,
WE'LL HIT THEM FROM
THE AIR!

AT THE AIRFIELDS...



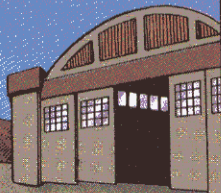
THAT LAUNCHER
IS MOVING LIKE A
FLAG WAVING IN THE
BREEZE, AND I CAN'T
HIT THE TARGET!
WHO CHECKED TO
SEE IF THE BRACE
BOLTS WERE
TORQUED?

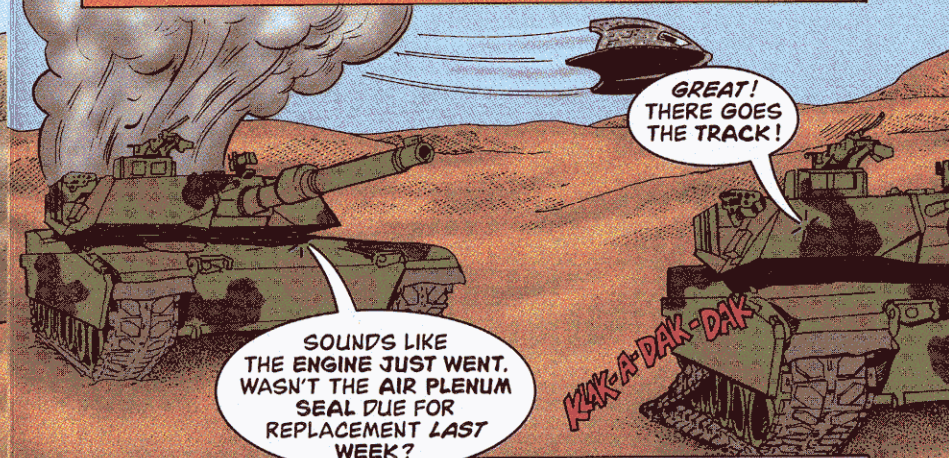


THE 30MM IS
JAMMED! DID ANYONE
LUBE THE RAILS IN THE
AMMO CONVEYOR
ASSEMBLY?



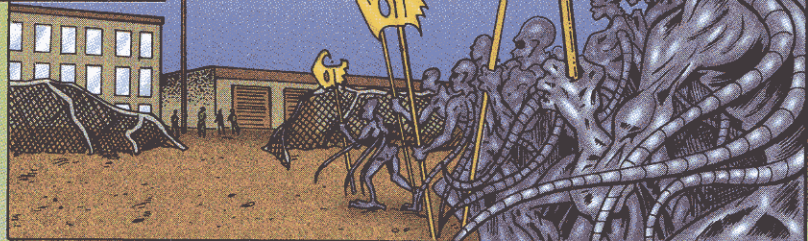
MY HELLFIRE'S
A NO-FIRE! WHO
PULLED PM?







DUE TO LACK
OF PM, THE
GENERAL
CONCEDES
DEFEAT.



UNDERSTAND
THIS, EARTHLINGS, UNDER
OUR RULE YOU WILL TAKE
CARE OF OUR EQUIPMENT
OR YOU WILL DIE.



THERE ARE
NO EXCUSES.

THIS IS MY
WORST
NIGHTMARE!

YOU MONSTERS
BEAT US ONLY BECAUSE
WE WERE TOO BUSY
FOR PM!



HEY, SMITH,
WAKE UP!
WE'RE GONNA
BE LATE! WE'VE
GOT PM TO
DO THIS
MORNING!

HUH—
WHAT? OH,
IT WAS ONLY A
NIGHTMARE?

...
THAT WAS
THE SCARIEST
DREAM I EVER HAD.
I WONDER IF IT WAS
TRYING TO TELL ME
SOMETHING?

OK, LET'S
CATCH UP ON ALL
THAT PM WE'VE BEEN
PUTTING OFF!

WOW!
WHAT'S GOTTEN
INTO SMITH?

LET'S
TAKE CARE OF
THIS EQUIPMENT
LIKE OUR LIVES
DEPEND ON IT!
WE'VE GOT TO BE
READY FOR...
ANYTHING!

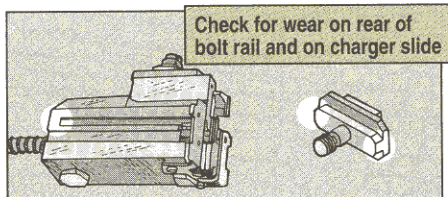
Questions Answered



Stopping a Runaway Gun

Dropping a charging handle is supposed to stop a runaway MK 19. We've had cases where that didn't work. What should we do?

If dropping the charging handle doesn't work, you just have to let it fire itself out. Prevention's the best way to stop runaways. Number one, don't fire that gun again until it's checked out. An MK 19 that's been frequently fired may have a rounded or mushroomed rear bolt rail or a rounded charger assembly slide. Either condition makes the gun unsafe. Armorers can replace the slide like it says in Para 2-40 in TM 9-1010-230-23&P. Support replaces the bolt.



Reticle NSN

Is there an MK 19 scope reticle for the AN/TVS-5 night vision sight?

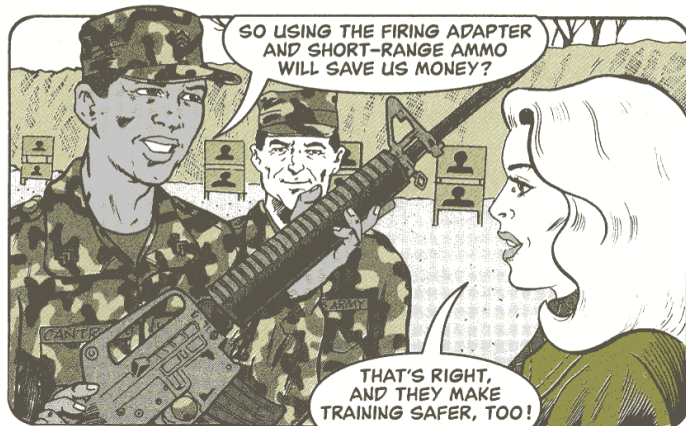
Yes. Order it with NSN 6650-01-192-9075.

Correct Gloves

What kind of gloves satisfy the glove requirement on Page b in TM 9-1010-230-10?

The normal work gloves that all soldiers are issued are fine. If you need a heavy-duty mitt for your other machine guns, order it with NSN 8415-01-092-0039. It's a non-asbestos mitt.

A NEW WAY



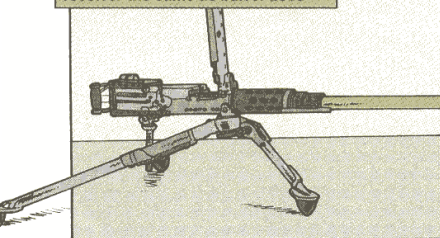
Short-range ammunition and firing adapters are now available for M2 machine guns and M16-series rifles.

Using both the ammo and adapters should make training safer and cheaper.

M2 Machine Gun

An M3 recoil amplifier, NSN 1005-01-323-5406, screws into the M2 machine gun receiver the same way the barrel does. A gas

M3 recoil amplifier screws into M2's receiver the same as barrel does



cylinder clamps onto the barrel support.

Never use live ammo in the recoil amplifier. At the very least, it will damage the gas cylinder and break the barrel support. At the most, it could kill you.

You can fire the training ammunition with the regular barrel, but you'll be able to shoot only one round at a time, because not enough back pressure is provided for continuous firing.

The danger area for the training ammunition is 700 meters, though the maximum range is farther. Always observe the same safety with training ammo that you do with live ammo. You can be injured or killed by it, too.

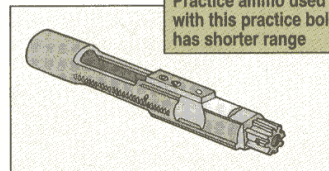
OF FIRING

To get the new ammo, use Department of Defense Ammunition Code (DODAC) 1305-A602.

M16-Series Rifle

The new M2 training bolt, NSN 1005-01-184-4041, for the M16 rifle sends training ammo only 250 meters. You order the ammo under DODAC 1305-A065.

Practice ammo used with this practice bolt has shorter range



Just put the M2 bolt in the weapon instead of the normal bolt and bolt carrier assembly. Mark the removed bolt (the "real" bolt) so you know which rifle it goes to. "Real" bolts are not interchangeable like the training bolts are.

Remember to use double hearing protection. The short-range ammo is extra loud.

To keep the ejected brass from hitting you, get a cartridge deflector—even if you shoot right-handed. Get it from your Training and Audiovisual Support Center.

Never use the training bolt with an M4 carbine. It's only for M16s.

M60 Machine Gun...

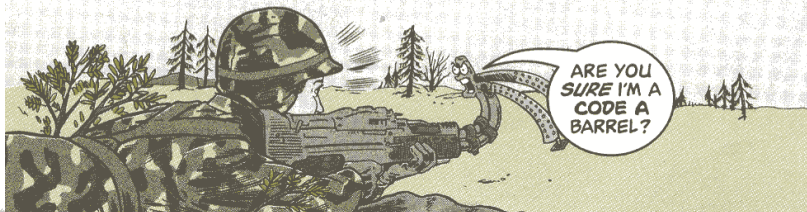
Code A for Overhead Fire

If your unit uses M60 machine guns for live firing over soldiers' heads during training, you must use only supply condition code A barrels. And for safety, fired rounds must be tracked on those barrels. After 10,000 rounds, the barrel must be replaced.

That's no problem with a code A barrel. It's either new or reconditioned to as good as new, so you'll know every round it fires. A code B barrel may be a used one, though, so there's no way to know how many rounds it's fired.

To make sure you get code A barrels, ask your support to write **CONDITION CODE A BARRELS ONLY** in the **REMARKS** block of the DD Form 1348-6 or DA Form 2765-1 when you order new barrels.

Put 2B in columns 65-66 of the request to make sure there are no substitutions.




Less Play, More Pop

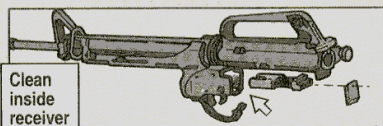
Dear Connie,
I am an armorer. No matter what I do, my M203 grenade launchers just don't seem to have the pop they used to have. What can I do?
SGT C. I. C.



Dear Sergeant C. I. C.,

Many M203s are starting to show their age and may need a bit more care these days. Here are a few ways to pop up your grenade launchers:

 The main collector of crud is inside the M203 receiver. That's one place operators can't clean. So every month or so (depending on how often the M203s are fired), take off the backplate and clean out the insides.

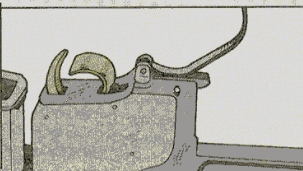


Clean inside receiver

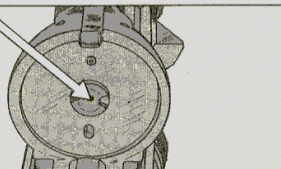
Clean the follower guide with CLP. Wash the receiver with dry cleaning solvent, wipe it out, and let it air dry. Lightly lube the trigger assembly and the safety detent with CLP.

Save yourself trouble by selling your unit on light lubing. The firing pin hole and safety detent need daily lubing in the field, but only


Safety and trigger need only a few drops of CLP...



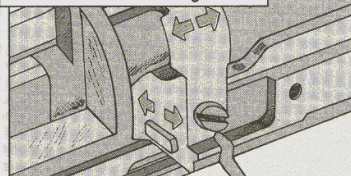
...and so does firing pin hole



a few drops. Any more lube than that just turns to gunk in the receiver.

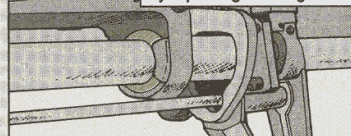
 M203s work loose from the M16 rifle. That can be dangerous. There should be no movement up and down the barrel and no more than 1/8 inch side to side on each side of center for a total of 1/4 inch.


Check for loose mounting bracket



Tightening the bracket screw usually cures looseness. If there's still too much play, replace the bushing halves.

Cure side-to-side movement by replacing bushings



 Misfires are usually caused by loose breech inserts. If the insert's not tight and flush with the receiver face, the firing pin can't strike the round hard enough. Check the inserts before the M203s go to the field.

If you run into misfires and nothing is wrong with the insert, the problem is the firing pin and spring. They need to be replaced by support.

Connie



I HOPE THIS CLEARS UP YOUR CONFUSION.

MOC or MTF Clarified



Dear Windy,

On Page 40 of PS 524 you state "after removing and reinstalling a rotorblade in the same location, on the same head, on the same aircraft, only an MOC is required." While that is true for the main rotor blades on the Black Hawk, it is not true for the tail rotor blades. When a tail rotor blade is removed, a tail rotor balance check and a maintenance test flight (MTF) are required because flight control connections are disconnected and removed.

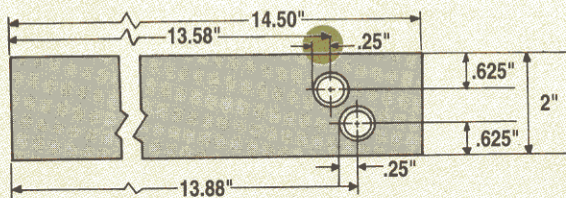
William F. Brooks
Chief, UH-60 Systems Branch
ATCOM, St. Louis

THANKS FOR
THE CLARIFICATION,
SIR. SEE PARA 5.23.1 OF
TM 1-1520-237-23 FOR
MORE GOOD WORDS
ON THIS SUBJECT.

Rigging Tool Correction

Hey, Cobra mechanics, grab PS 514 off the shelf and make a correction to the cyclic rigging tool drawing on Page 36.

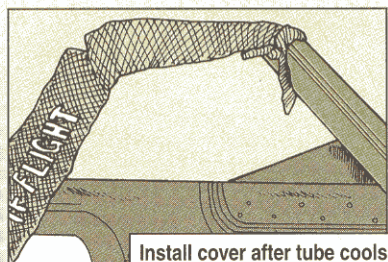
The 13.58-in measurement goes to the **center** of the aligning pin, not the edge.



Pitot PM

The first step in good preventive maintenance on the pitot tube is to keep it covered. That will keep insects and dirt out.

But make sure the pitot tube has cooled before you put the cover on. If you put the cover on a hot tube, the cover will melt and stick. You'll have to replace it and clean the tube.



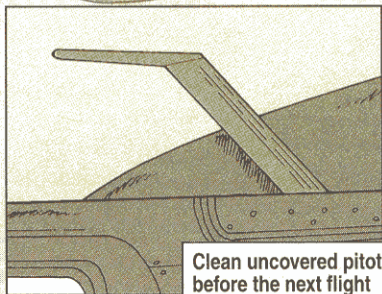
Install cover after tube cools

If you forget the cover, be sure to clean the pitot tube and static lines before your aircraft flies again. Here's how:

1. Disconnect all pitot and static instruments. This is a must or damage could happen to delicate instruments.
2. Disconnect lines from pitot tube and static openings.
3. Apply clean, filtered air pressure, 15-20 psi, at instrument panel ends of lines until obstructions are removed.
4. Connect all pitot and static lines.

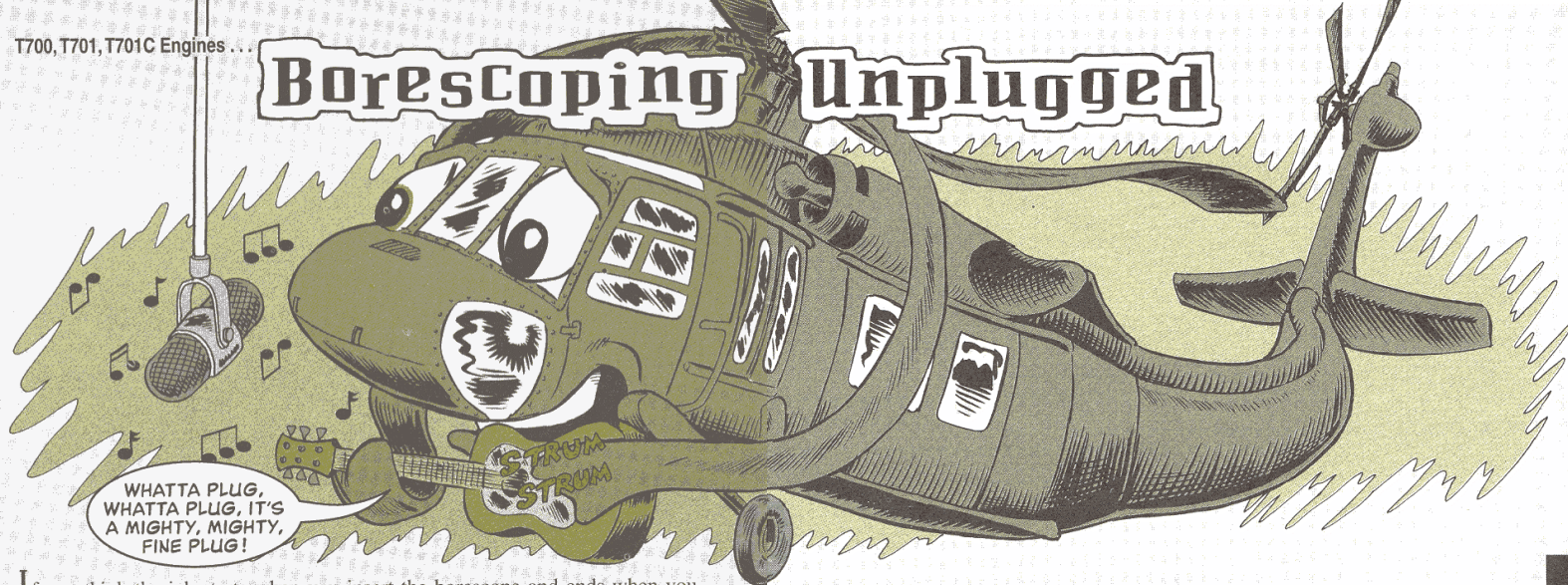
Then, keep the pitot tube covered, cleaned and checked.

For more pitot info, read Chap 4 of TM 1-1500-204-23-4.



Clean uncovered pitot before the next flight

Borescoping Unplugged



If you think the job starts when you insert the borescope and ends when you remove it, you're on the fast track to bent, stripped or seized plugs.

A bore plug is the first and last thing you touch on your engine when you borescope. It's where the job begins and where it ends. Plugs need to be removed right, checked closely, coated if necessary, and reinstalled correctly.

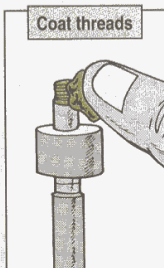
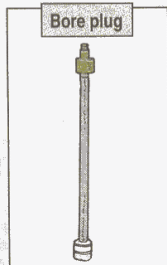
How you maintain bore plugs depends on the engine type and port location.

There are six ports on the T700 engine and five on the T701 and T701C:

Port 1 Midframe Casing (only on the T700): You can loosen a seized plug on the midframe casing port with penetrant, NSN 6850-01-287-3219 (a fluorescent) or oil, NSN 9150-00-223-4119, but don't apply the penetrant when the engine's hot.

Inspect the removed plug for cracks and missing or damaged threads. Replace the plug if there are cracks or damaged threads.

Before putting the plug back, lightly coat it with antiseize compound, NSN 8030-01-044-5034, or synthetic graphite grease, GP460.



Run the plug back in finger tight to make sure you do not cross thread, then with a $\frac{3}{4}$ -in open-end wrench tighten the plug to a 15 degree wrench arc.

Port 2 Main Frame: Remove the plug from the main frame port with a $\frac{1}{4}$ -in ratchet with extension. Use removal penetrant if necessary.

Inspect the plug for cracks and missing or damaged threads. Replace the plug if there are cracks or damaged threads. Reinstall the plug and torque it to 90-110 lbs-in.

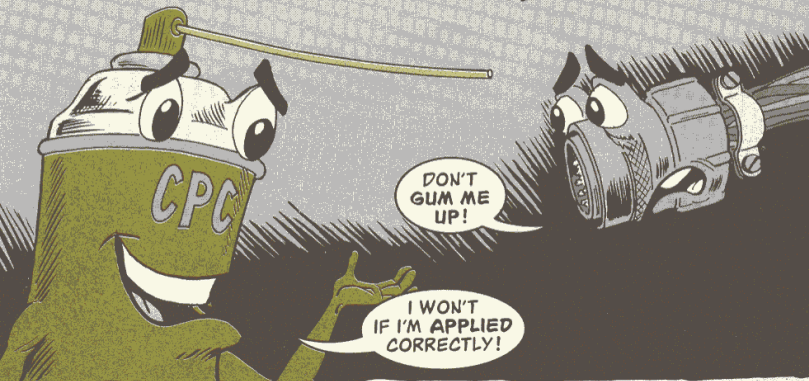
Ports 3 and 5 Compressor Casing: The compressor casing ports may have bore plugs or, on the T700 engine, they may have bore caps. Use the $\frac{1}{4}$ -in ratchet to remove the plugs. Use a $\frac{5}{8}$ -in wrench to remove the caps.

Inspect the plug or cap. No cracks are allowed in either. However, they can have one damaged or missing thread. Coat the threads of the cap or plug with antiseize compound or synthetic graphite grease. Torque the plugs with the $\frac{1}{4}$ -in ratchet to 55-70 lbs-in. Torque the caps with the $\frac{5}{8}$ -in wrench to 100-125 lbs-in.

Ports 4 and 7 Igniter: Remove the plug from the igniter ports with a $\frac{5}{8}$ -in open-end wrench or a $\frac{15}{16}$ inch wrench. Use removal penetrant, if necessary.

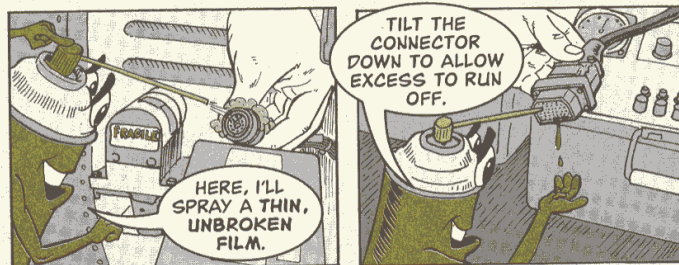
Inspect the plugs for cracks or damaged threads. Before putting the plug back, lightly coat it with antiseize compound. Run the plug back in finger tight and then tighten the plug to a 15 degree wrench arc.

Here's a Good Application



If you're disgusted with avionic grade corrosion preventive compound (CPC), NSN 8030-00-546-8637, because it separates and gums, maybe you're laying it on too thick.

With CPC, you can get too much of a good thing. All that's needed is a thin film. That means one short burst of spray, no more than a second, across the connector. An unbroken, thin film will protect delicate avionics connectors as well or better than a thick film and it won't gum and separate.



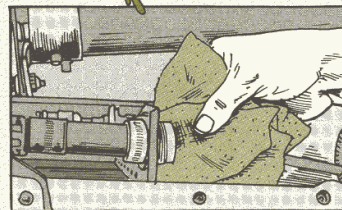
Once you've sprayed, give the CPC time to dry. Old types of CPC evaporated quickly, but new environmentally safe types take a little longer. After a few minutes of drying time, wipe off any excess with cleaning cloth, NSN 7920-01-180-0556.

Don't forget that an application of CPC is the last step in corrosion fighting.



The first step is scrubbing the corroded connectors' exterior with non-abrasive pad, NSN 7920-00-151-6120. For real tough corrosion, use abrasive pad, NSN 5350-00-967-5089.

Use a cleaning cloth to wipe away the corrosion. Then go inside the connector, around the pins, with isopropyl alcohol and an acid brush.



Order the brush with NSN 7920-00-514-2417. NSN 6810-00-983-8551 brings a quart of alcohol and NSN 6810-00-753-4993 brings an 8-oz spray can.

Use pipe cleaner, NSN 9920-00-292-9946, to remove excess alcohol from around the pins.

FOR MORE CORROSION PREVENTION INFO, READ TM 1-1500-343-23, AVIONIC CLEANING AND CORROSION PREVENTION/CONTROL.



SOMETHING TO

There's no sense being quiet about good ideas for operating and maintaining your 5- and 10-KW tactical quiet generators (TQGs).

HERE ARE A FEW SIMPLE TIPS YOU CAN SHOUT ABOUT.

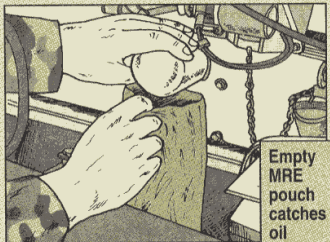


In the Bag

Guard against spills when you change the oil filter on your TQG's engine. The old filter always has a little oil left in it.

There's not enough room under the filter to slide an oil pan. But there is room for an empty MRE pouch. When you unscrew the filter, just hold the plastic pouch underneath to catch both the filter and leftover oil.

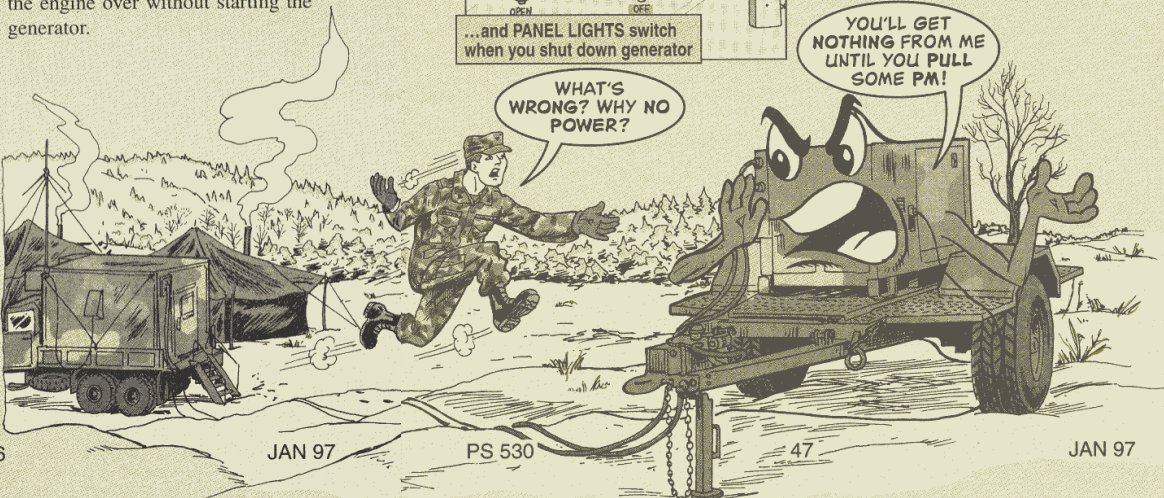
The pouch keeps you from making a mess on the generator. It also protects the environment and is ideal for field use.



Empty MRE pouch catches oil

A Little Cranky

Before you power up your generator, make sure the dead crank switch in the engine compartment is set to NORMAL. If it's set to OFF, the engine will crank but won't actually start. That misleads people into thinking the generator batteries are weak. This feature allows mechanics to turn the engine over without starting the generator.



WHAT'S WRONG? WHY NO POWER?

YOU'LL GET NOTHING FROM ME UNTIL YOU PULL SOME PM!

SHOUT ABOUT

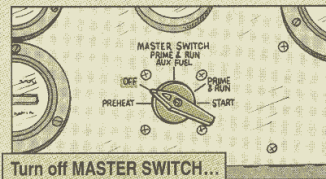
Put Out Your Lights

When you shut down your generator, turn off the MASTER SWITCH and the PANEL LIGHTS switch. Left on, they'll drain generator batteries within 24 hours. At night, of course, you can tell at a glance if you've left

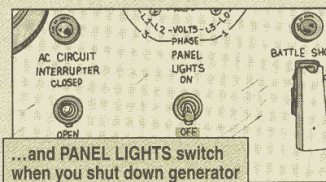
the PANEL LIGHTS switch on. The control panel indicators will be lit up. But in daylight it's hard to spot the indicator lights unless you look closely.

On Track

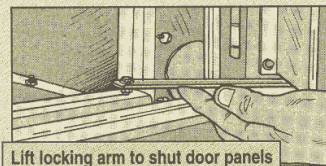
When you close the generator's door panels, lift up on the locking arm. That allows the arm to slide down the track and the door to shut. Never force the door. You'll end up bending the arm or the track, and the door won't shut until it's fixed.



Turn off MASTER SWITCH...



...and PANEL LIGHTS switch when you shut down generator



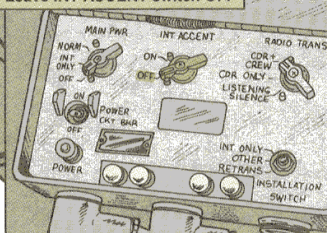
Lift locking arm to shut door panels

Hearing Aids for Tracked Vehicles

DOES THE ROAR AND DIN OF YOUR TRACKED VEHICLE DROWN OUT YOUR COMMO? THERE'S NO NEED TO STOP YOUR VEHICLE TO HEAR RADIO OR INTERCOM TRAFFIC. TRY THESE HEARING AIDS INSTEAD!

EH, WHAT'S THAT? CAN YOU SPEAK UP A LITTLE, CONNIE?

Leave INT ACCENT switch OFF



No Accent

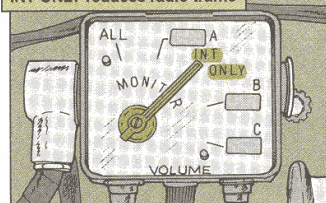
Leave the AM-1780 audio frequency amplifier's INT ACCENT switch OFF. That'll help you pick up faint radio transmissions. When the switch is ON, the intercom seems louder, but it's actually not. Setting the switch to ON just drops the radio volume, making radio traffic even harder to hear.

Control Traffic

Sometimes, too much traffic coming at you interferes with hearing. You can relieve this problem with the intercom control box switch. For instance, if you don't need to get radio traffic, set the

switch to INT ONLY. That lets you talk and listen on the intercom only.

INT ONLY reduces radio traffic

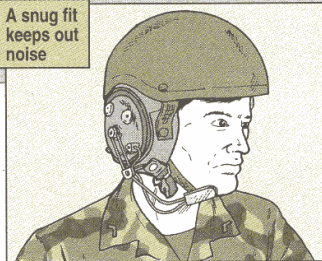


CVC Helmet

Maybe your CVC helmet is keeping you from hearing clearly.

It should fit snugly to keep out distracting vehicle noises. A good fit starts when you choose the right size helmet liner. They come in small, medium and large.

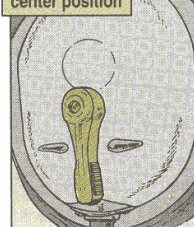
A snug fit keeps out noise



Use the chin strap to snug it even more. Put the mike as close to your lips as possible. Move it slightly off center to prevent overloading and popping noises.

Filter out more background noise by leaving the CVC's switch in the center position until you need to talk. That lets you hear radio and intercom traffic, but leaves the mike unkeyed. You avoid the background noise created by a keyed mike.

Leave switch in center position



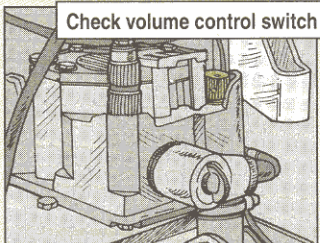
Contacts

Finally, keep contacts clean and dry. That helps keep static and buzzing from disrupting your communications. Clean contacts with isopropyl alcohol, NSN 6810-00-753-4993, and a foam swab, NSN 7045-01-154-1317.

ONE, TWO, SWITCH-A-ROO

If you think your SINGGARS radio's LS-671 loudspeaker is giving you the silent treatment, check the position of its volume control switch before you call a repairer.

It's a push-pull switch. Pushed in, it controls the handset volume; pulled out, it controls the speaker volume.



If the switch is pushed in, you won't hear anything from the speaker. To adjust the loudspeaker volume, you have to pull the switch out.

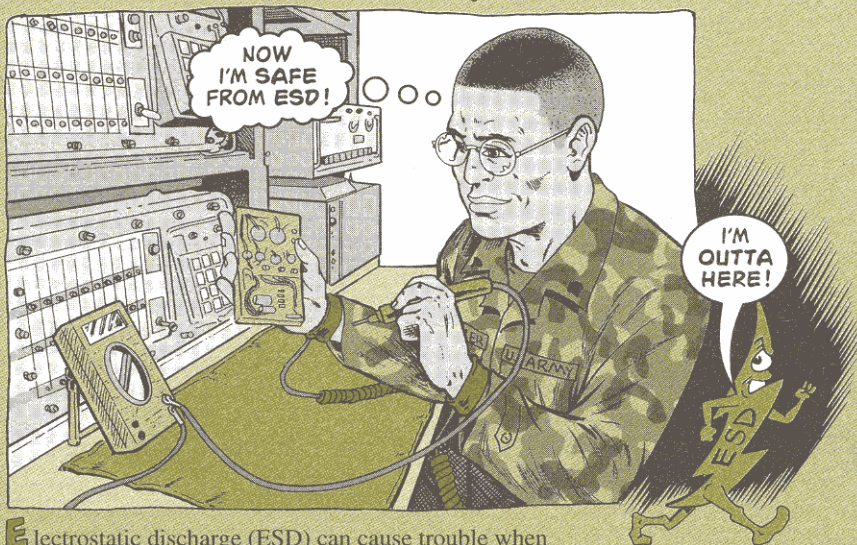
If you pull the switch out but still can't hear anyone through the LS-671, the CX-13292 cable could be hooked up backwards. Look at the ends of the cable. They're marked RADIO and SPEAKER. The ends can be reversed and still fit the connections. But the radio won't operate that way.

Make sure the end marked RADIO is connected to the radio, and the end marked SPEAKER is connected to the loudspeaker.

Sounds simple, but if it's dark, or you're in a hurry, it's an easy mistake to make. Save yourself some embarrassment. Make these simple checks before you call for help.



Don't Take Any Static

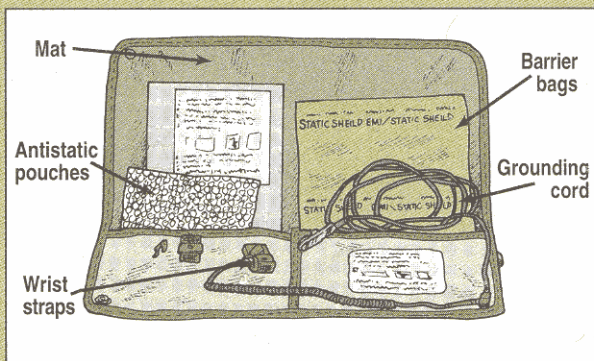


Electrostatic discharge (ESD) can cause trouble when you're handling electronic parts.

Discharge your ESD woes by using ESD field service kit, NSN 4940-01-253-5368. The kit comes with a work surface mat, two wrist straps and a grounding cord. It limits static buildup and carries charges away from your body, and the electronic part you're handling, to ground.

The kit also comes with three Type II antistatic pouches and three Type I barrier bags for shipping or storing circuit cards.

Simple instructions for a self-test and how to use the kit are printed on the work surface mat.



Hardware Roundup



It's downright irritating when you have to search 10 references to find an NSN for small hardware.

Here's an NSN roundup to keep handy:

For **keyrings**, use flat ring, NSN 5365-00-933-3596.

To get **blank key tags**, order red fiber tag and metal hook, NSN 9905-00-245-7826. It comes in a box of 100.



To get a **cotter pin assortment** of 100, order NSN 5315-00-598-5916. If your TM specifies a pin size, though, make sure you use that pin or you could damage your equipment.



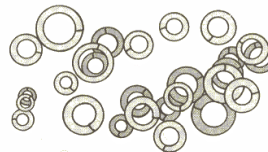
NSN 5365-00-213-9035 gets a **snap ring kit** that has an assortment of external and internal snap rings.



NSN 5310-00-297-3751 brings a **nut assortment**.



To get **assorted lockwashers**, order NSN 5310-00-209-2312.



Order NSN 5315-00-271-4251 for a **woodruff key assortment**.



If it's **stretch tiedowns** you need, here are several:

NSN 5340-	Length (inches)	Stretch (inches)
00-340-0980	10	15-20
01-029-9084	15	20-30
01-231-6015	20	27-41
01-029-9085	31	36-42

For a box of 100 **electrical tiedown straps**, order:

NSN 5975-00-	Length (inches)
074-2072	6.3
156-3253	13.35
570-9598	11.5
727-5153	2.5

Absorbent compound, NSN 7930-01-145-5797, comes in a 25-lb bag. NSN 7930-00-269-1272 gets a 50-lb bag.

An **O-ring assortment** comes with NSN 5330-00-966-8657.

Paper gaskets that are resistant to gasoline, mildew, oil and water come with the following NSNs:

NSN 5330-00-	Thickness (inches)
467-3615	.026-.036
270-8470	.056-.069
233-5845	.016

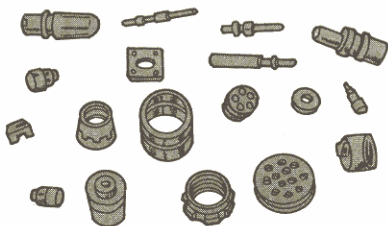
For cork gaskets, order:

NSN 5330-00-	Thickness (inches)
233-5844	.5
291-1685	.031
171-9134	.188

To get gasket-sealing compound, order:

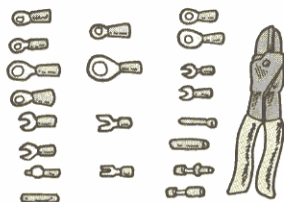
NSN 8030-00-	Size	Type
247-2524	2-oz tube	Hardening
247-2525	11-oz tube	Hardening
220-6973	4-oz can	Nonhardening
656-1426	1 pint	Nonhardening

Electrical waterproof connectors (for electrical tool kit in the No. 1 and No. 2 Common shop sets) are NSN 5999-00-570-1380 for the Bendix kit, and NSN 5999-00-570-1060 for the Douglas kit.



To get **electrical insulating varnish**, order NSN 5970-00-284-5448.

NSN 5940-00-525-0907 gets an **electrical terminal kit** with commercial-type connectors and a crimping tool.



If you need to make electrical wire repairs, order **heat-shrinkable tubing** with these NSNs:

NSN 5970-00-	Diameter (inches)
812-2968	1/16
812-2969	1/8
815-1295	1/4
812-2967	1/2

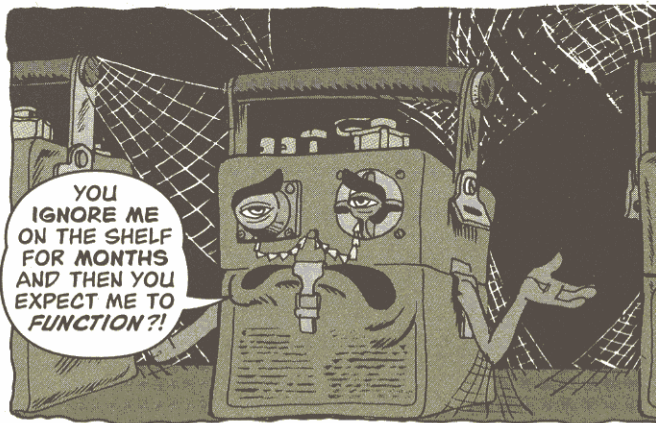
PS END

AND THAT'S
THE ROUNDUP
ON THAT!



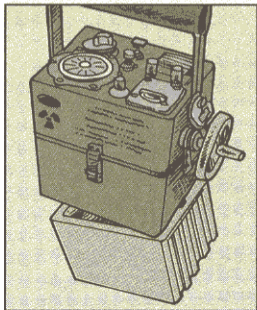
PM for the NBC Room

Most M43A1 detectors sit for long periods in the NBC room before they are taken out and used. So, whether or not they work really comes down to how they've been cared for in the NBC room. Here's how to keep M8A1s ready for action:



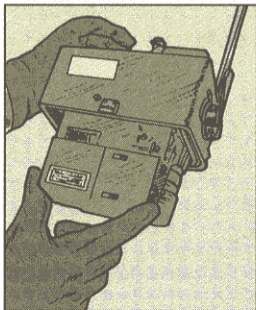
Good Storage

Remove the air outlet filter for storage. Part of the filter sticks out and gets snapped off. That makes it difficult to remove the rest of the filter from the air outlet. Remove the battery cable and battery from the detector. Left on, the battery can swell and burst.



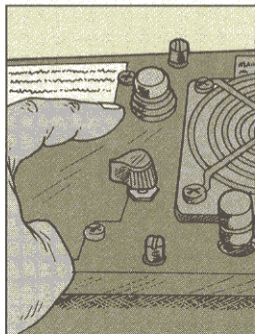
Wipe Test

The M43A1 detector has a radioactive source. That means it must be wipe-tested for leaks by support yearly. It's easy to tell when it's due. Check the label date on the detector cell. If the wipe test is past due, the M43A1 is NMC until the test's done.



Troubleshooting

When the M42 ALARM-RED light won't light, make the detector's two D-cell batteries your first check. If they're OK, change the bulb, NSN 6240-00-155-8706. The batteries or the bulb are usually the problem.



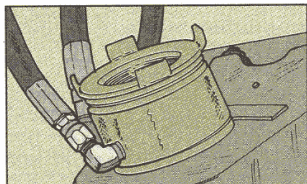
Probing in Small Areas

Use the M8A1's probe, NSN 6625-01-177-9252, when checking cracks, crevices, and other tight spots for nerve agent. Attach the probe to the rain shield adapter.

NEW PARTS MAKE

Many of the problems M157 smokemen have complained about for years—changing fuel cans, water in the fuel, doing PMCS in the motor pool—have been solved with new components:

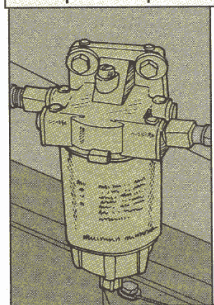
⊗ **Fuel can lid:** With the old lid, you had to switch fuel cans to refuel. With the new lid, you can fill the empty can while it's on the vehicle. The new lid uses the same screw-on fitting as the old lid and can be used on both metal and plastic cans. It has hose fittings for return, vent, and supply lines. The new lid also replaces the expensive quick-disconnect fittings with pipe-to-hose adapters, which eliminates the problem of leaking O-rings.



New fuel can lid lets you refill in place

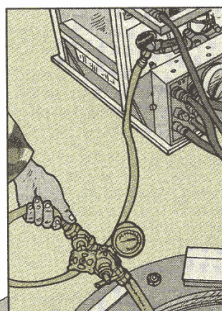
⊗ **Fuel-water separator:** The old in-line fuel filter stopped only dirt, not water. The new separator filters out water and does a much better job of

New separator stops water



stopping dirt.

⊗ **Water manifold:** It's difficult to do PMCS in the motor pool because you're not supposed to blow smoke in populated areas. The water manifold lets you replace fog oil with water so you blow steam, not smoke. PMCS becomes environmentally safe. Using water instead of fog oil saves money.



Use water manifold to blow steam

SMOKING EASIER

⊗ **Engine head:** The M157 sometimes ran rough at altitudes above 4,000 feet because the old engine head restricted airflow into the smoke generator. The new head has a larger air intake port that makes for smoother running.

⊗ **Engine head blank:** This device attaches to the engine head opening and lets you see inside the engine so that you can check the igniter. Troubleshooting becomes simpler.

These new parts must be ordered on a DD Form 1348-6 directly from:

ACALA
ATTN: AMSTA-AC-CTCS (Debra Viren)
Rock Island, IL 61299-7630

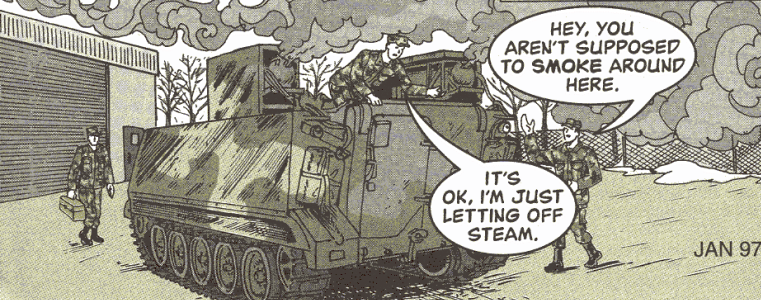
USE THESE
NSNs AND PART
NUMBERS.



Item	NSN/Part Number
Fuel can lid	5340-01-253-6087
Fuel-water separator	31-15-2958
Fuel/water separator mounting bracket for HMMWV (no bracket is needed for M113)	31-15-2923
Water manifold	31-15-3401
Engine head	2805-01-425-9864 (same NSN as old head)
Engine head blank	31-15-3350

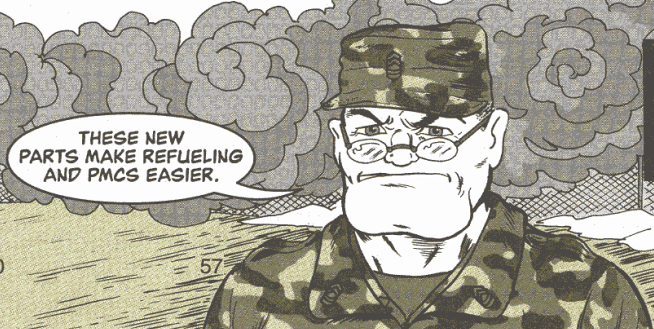
If you have questions about ordering these items, call (309) 782-5978, DSN 793-5978.

For mounting instructions on the fuel-water separator, write to ACALA at the above address. Specify whether you have the HMMWV or M113 version of the M157.



HEY, YOU AREN'T SUPPOSED TO SMOKE AROUND HERE.

IT'S OK, I'M JUST LETTING OFF STEAM.



THESE NEW PARTS MAKE REFUELING AND PMCS EASIER.

Maintenance Management Help



COMMAND MAINTENANCE PROFILE SYSTEM

Dear Half-Mast,

To help unit-level maintenance officers put the maintenance management puzzle together, I came up with something I call the Command Maintenance Profile System. The system charts 11 key maintenance areas in an effective unit-level program.

You can get the system from your TASC using GTA 9-10-47. It includes the profile chart and matching action paths. If you want more information, call me at DSN 946-2620 or commercial (515) 252-4620.

**LTC Mike Quartana
IAARNG
Johnston, IA**

Sounds like you've put the puzzle together, Sir.

Half-Mast

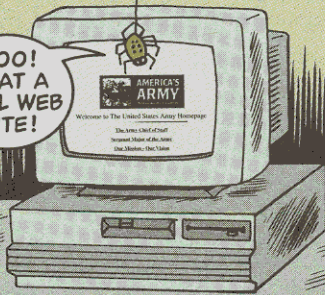
Army Home Page

One of the most powerful web sites on the Internet is the Army Home Page. Visit it at <http://www.army.mil>

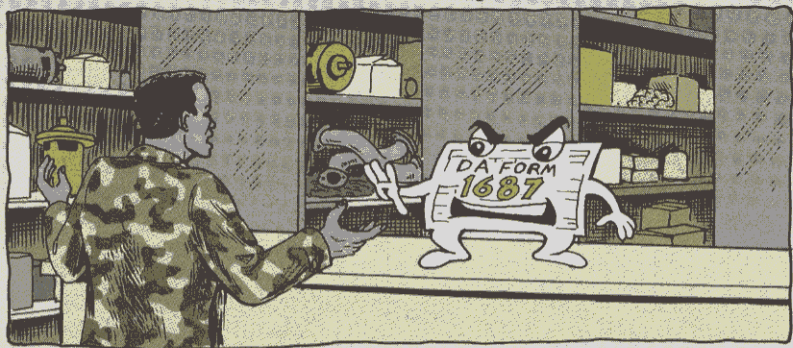
You can connect to organizations like Soldiers Systems Command, publications like PS and Soldiers, and surf to general subject areas like maintenance and supply.

PS 530

OOO!
WHAT A
COOL WEB
SITE!



Show Your ID, Please



Before you can pick up repair parts or supplies from your support shops, you must be listed on a current DA Form 1687, Notice of Delegation of Authority—Receipt of Supplies.

The form authorizes you to pick up items for your motor pool, shop or office. Each support store files a current DA Form 1687 signed by you and your commander or his designated representative.

Make sure the card is updated when the information changes.

When you add names to the list of those who can pick up supplies, prepare a form with the new names and enter **ADDED. PREVIOUS EDITIONS REMAIN IN EFFECT** in the **REMARKS** block.

To delete names, prepare a 1687 listing the names to be deleted and put an "X" in the **WITHDRAWS FROM** block. Circle this block using colored pencil or ink. In the **REMARKS** block, put **DELETED. OTHER PERSONNEL LISTED REMAIN IN EFFECT.**

NOTICE OF DELEGATION OF AUTHORITY - RECEIPT FOR SUPPLIES					DATE	
For use of this form, see DA FAM 710-2.1. The proponent agency is ODCSLOG.					25 Jul 96	
AUTHORIZED REPRESENTATIVE(S)						
ORGANIZATION RECEIVING SUPPLIES 4th Bn, 11th FA				LOCATION Ft Richardson, AK		
LAST NAME FIRST NAME MIDDLE INITIAL	SOCIAL SECURITY NUMBER	AUTHORITY REQ.	REC.	SIGNATURE AND INITIALS		
FIELDS, Willie M.	400-11-2222	YES	YES	Willie M. Fields wmf		
HAMES, Daniel G.	406-00-1111	YES	YES	Daniel G. Hames dgh		
AUTHORIZATION BY RESPONSIBLE SUPPLY OFFICER OR ACCOUNTABLE OFFICER THE UNDERSIGNED HEREBY <input checked="" type="checkbox"/> DELEGATES TO <input type="checkbox"/> WITHDRAWS FROM THE PERSON(S) LISTED ABOVE. THE AUTHORITY TO: Request and receive Class 2, 4, 9 supplies.						
REMARKS: ADDED. PREVIOUS EDITIONS REMAIN IN EFFECT.						
I ASSUME FULL RESPONSIBILITY						
UNIT IDENTIFICATION CODE WAT4W2	GRADE MAJ	TELEPHONE NUMBER 123-4567	EXPIRATION DATE 31 Dec 96	SIGNATURE Anita S. Reeves		
DA FORM 1687 JAN 82			EDITION OF DEC 57 IS OBSOLETE.			

Update Your AOAP Library

AR 700-132—Joint Analysis Program (JOAP)

AR 750-1—Army Materiel Maintenance Policy and Retail Maintenance Operations (Maintenance Management UPDATE)

DA Pamphlet 738-750—Functional Users Manual for The Army Maintenance Management System (TAMMS) (Maintenance Management UPDATE)

DA Pamphlet 738-751—Functional Users Manual for The Army Maintenance Management System-Aviation (TAMMS-A)

TB 43-0106—Aeronautical Equipment, Army Oil Analysis Program (AOAP)

TB 43-0211—AOAP Guide for Leaders and Users.

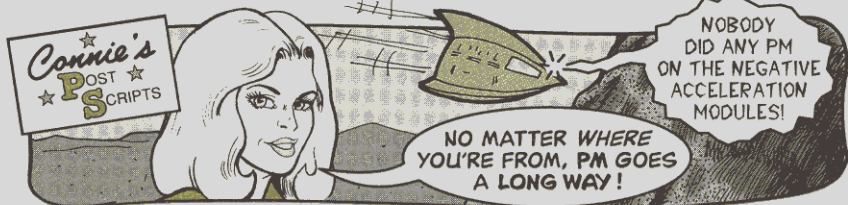


ULLS Bulletin Board Available

If you have a communications modem on your computer, you can now get the latest ULLS info—bulletins, upcoming changes and helpful hints—from the ULLS bulletin board.

Just call (804) 734-1132 or DSN 687-1132 to hook up to the bulletin board. Set your modem for even parity, eight data bits, and one stop bit. Set the baud to the rate of your modem. If you have trouble hooking up, call (804) 734-0871/0859 or DSN 687-0871/0859.

National guard units can download the latest ULLS bulletin from the National Guard bulletin board at (800) 588-8881.



SUSV Fire Extinguisher

NSN 4210-01-388-7854 gets the hand-held CO₂ fire extinguisher and bracket for the small unit support vehicle. They replace the halon extinguisher shown as Item 11 on Page B-4 of TM 9-2350-285-10. The new extinguisher alone is NSN 4210-01-391-0784.

Red Lamp for Circuit Tester

In bright light conditions, it's hard to see if the clear lamp is lit in the electrical circuit tester light from your general mechanic's tool set, SC 5180-90-N26. Replace the lamp with a red one, NSN 6240-01-106-2447.

M1-Series Tank Sprocket Wear

The **AFTER** PMCS charts say your M1-series tank is NMC if you find cupping on either hub and sprocket assembly. That's no longer true, according to the tank headshed. Until they update the -10-1 TMs, just mark out the "and/or cupping" portion from each of the NOT FULLY MISSION CAPABLE IF columns.

Maintenance Awards

Change 1 to AR 750-1, Maintenance Management Update 14, has detailed instructions on submitting nomination packages for the Army Maintenance Excellence and the Secretary of Defense Phoenix Maintenance awards. If you didn't get the change through initial distribution or didn't get enough copies, your pubs clerk can order it.

Irwin Backup Tape

Get backup tapes for the Irwin 80-megabyte tape drive with NSN 7045-01-372-8269. The NSN on Page 41 of PS 524 will do the job, but it costs more and isn't on the AMDF.

Tire Valve Extension

NSN 2640-00-250-2474 gets a tire valve extension that can be used on all M939-series trucks. The NSN shown as Item 4 in Fig 160 of TM 9-2320-272-20P can only be used on the basic model truck.

Kiowa Strip Search

Some of you Kiowa supply folks need to purge your memories of NSN 1615-01-270-0700. That used to bring an erosion strip to use on the Kiowa Warrior's rotor blades, but it doesn't anymore and hasn't for some time. The erosion strip must be fabricated from sheet, NSN 9330-01-381-9318, just like your TM says. You can make four erosion strips from one sheet.

PLS Short Bites

Here's a pair of NSNs you should note in your palletized load system's TM 9-2320-364-24P: NSN 4820-01-330-2502 gets a purge valve kit for the air dryer/after cooler on the truck's air brake system. The kit is being added to Fig 231. NSN 2510-01-434-8191 gets the shock absorber for the truck's number 3 axle. The NSN is missing from Fig 322.

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