

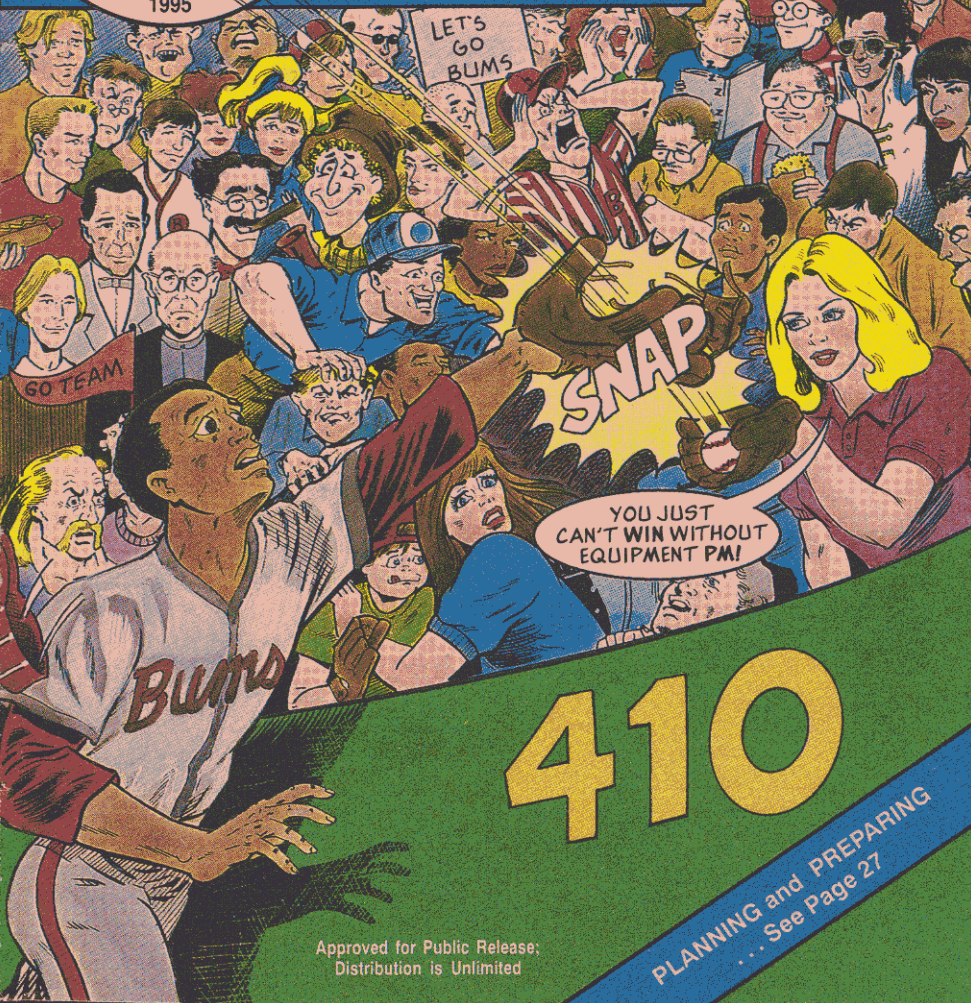
Issue 508

PS

March
1995

TB 43-PS-508

THE PREVENTIVE MAINTENANCE MONTHLY



410

PLANNING and PREPARING
... See Page 27

Approved for Public Release;
Distribution is Unlimited



When you do your PMCS, it's your job to find and write down equipment faults and NMC deficiencies that you can't fix yourself. Put 'em down on ULLS DA Form 5988-E or manual DA Form 2404—Equipment Inspection and Maintenance Worksheet—using your operator TM PMCS.

There are four status symbols that can go on the worksheet. They are:

“X”—Mark the deficiency with an “X” if it's found in the “NOT FULLY MISSION CAPABLE” column of the PMCS. That means the equipment is not mission capable (NMC).

Status symbol “X” faults will go on the DA Form 2408-14, Uncorrected Fault Record. They must be kept on the 2404 or 5988-E until they are corrected.

Never operate the equipment until the fault's corrected, or your commander circles the “X.”

ⓧ Circled “X”—That means the equipment may be operated under very specific conditions until the deficiency can be fixed.

— Horizontal dash (—)—Shows an inspection, part replacement, MWO or maintenance operation check is due, but hasn't been done.

ⓧ Diagonal slash (/)—Means there is a materiel defect that is NOT a deficiency. However, it should be corrected to make the equipment more efficient or completely serviceable.

If you find nothing wrong with your equipment, put your initials in column c.

A well-written 2404 or 5988-E goes a long way toward keeping your equipment ready.

Finally, remember to follow up on that worksheet after you give it to the maintenance supervisor. If you don't see a requisition number in the REMARKS column of the DA Form 2408-14 or ULLS printout, your worksheet has gone nowhere.

IF YOUR WORKSHEET GOES NOWHERE, YOUR EQUIPMENT GOES NOWHERE, TOO.



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-508, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

ISSUE 508 MARCH 1995

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You are invited to send PS your ideas for improving maintenance procedures, suggestions for articles, or comments on material published in PS. Just write to:

MSG Half-Mast
The Preventive Maintenance Monthly
Bldg. 3325
Redstone Arsenal, AL 35898-7466

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
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Double Up on Filter Cleaning

There are two hydraulic filter systems on your M578 recovery vehicle, crewmen, and there's a good chance that you've overlooked one of them.

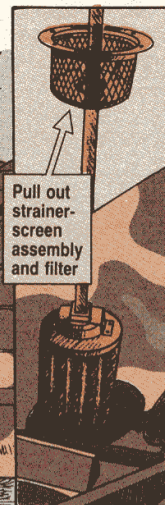
The one that gets all the attention is the filter under the cab floor. When that filter is clogged, the filter by-pass light on the cab control panel comes on. You notify your mechanic, and he fixes the problem with repair kit, NSN 2590-01-218-5891.

The filter system that's usually forgotten is in the hydraulic reservoir. It's part of the strainer-screen assembly that you pull out of the reservoir for cleaning.



OUR M578 HAS THE CLEANEST HYDRAULICS IN THE BATTALION!

YOU DIDN'T FORGET THE SECOND FILTER, DID YOU?



Pull out strainer-screen assembly and filter



Replace loose, cut or missing strainer gaskets

You can tell if there's water in the oil by the milky, creamy color or by foaming oil. Both dirt and water will cause erratic operation and controls that won't work right.

Get your mechanic to replace any bad gaskets with NSN 5330-00-991-8401.

The strainer-screen assembly must be cleaned whenever it gets dirty. During your after-operation checks, make a habit of opening the reservoir cap and looking for dirt, dust or sludge in the strainer. If the strainer's dirty, the screen will be, too. Get your mechanic on the job, right away.

He'll clean the strainer-screen assembly with drycleaning solvent.



Clean strainer with drycleaning solvent

The LO lists it as a quarterly service, but it should be done more often when you're operating in a dusty environment. That'll keep the filters unclogged.

There are a couple of gaskets on either side of the strainer that you need to watch, too. If the gaskets leak, water gets into the reservoir.

Unstick Stuck Bore Evacuator

Trying to remove an M1A1 tank's bore evacuator can put words in your mouth that would embarrass your mother—especially when the evacuator nut is stuck.

Save those choice words by following this quick solution:

➤ Get the diagonal pliers, NSN 5110-00-239-8253, from the Artillery and Turret Mechanic's Ordnance tool kit.

➤ Find the spiral pin on top of the collar assembly.

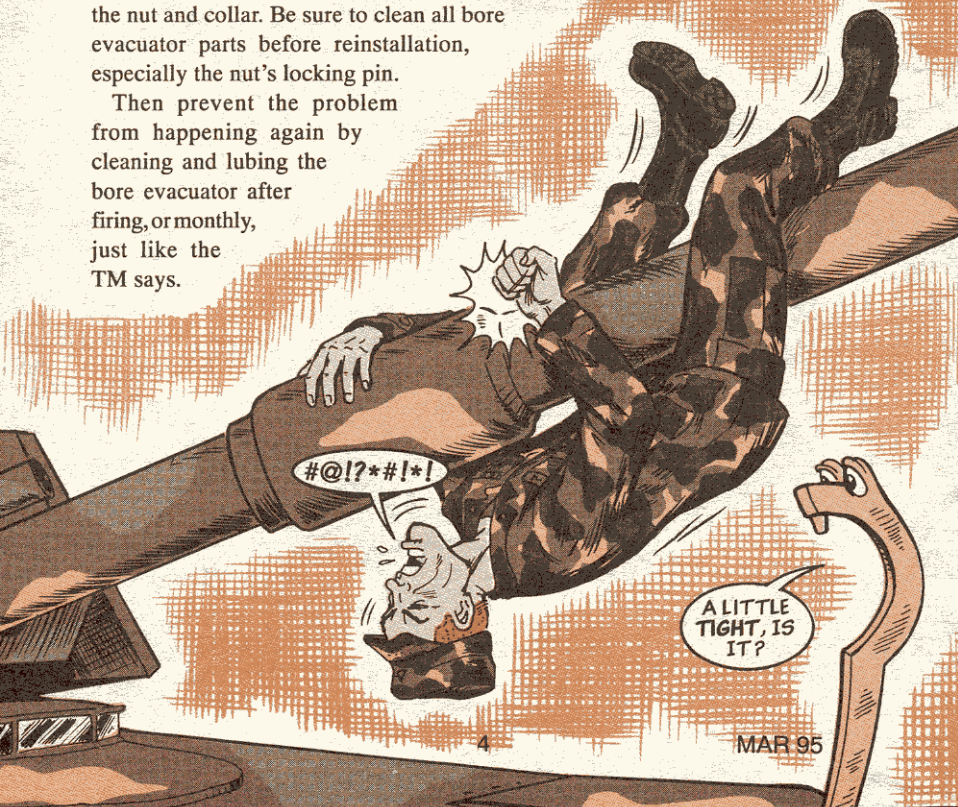
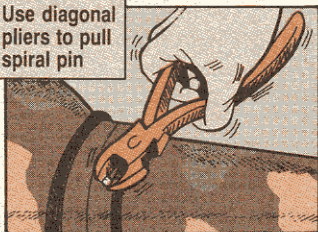
➤ Pull the spiral pin with the pliers. A rocking motion usually helps remove the pin.

➤ Unscrew the bore evacuator nut, collar assembly, and rear shroud as one assembly using the spanner wrench in your BII.

Once the entire assembly is loose, remove the nut and collar. Be sure to clean all bore evacuator parts before reinstallation, especially the nut's locking pin.

Then prevent the problem from happening again by cleaning and lubing the bore evacuator after firing, or monthly, just like the TM says.

Use diagonal pliers to pull spiral pin



Make Oil Cooler Measure Up

HELP!
I'M BEING SUCKED
IN!

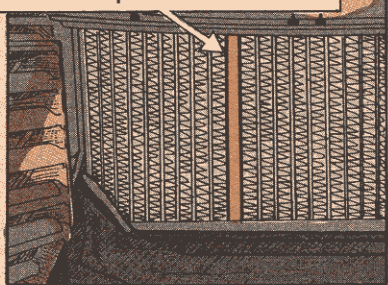
YEAH, WHERE'S
THE RUBBER SEAL WHEN WE
NEED IT?

Mechanics, your best efforts won't measure up if you forget just one little step when replacing the transmission oil cooler on the left-hand side of that M1-series tank.

After installation, you **must** measure the gap between the tops of the engine and transmission oil coolers. If the gap is wider than 0.120 inch (3mm), the oil cooler fan pulls in rocks, sand and dirt, damaging the coolers. Pretty soon, that new cooler is ready for the junk heap.

Rubber seal, NSN 5330-01-145-8006, prevents that damage. Here's how to install it:

Rubber seal protects both oil coolers



1. Remove the transmission oil cooler.
2. Spread adhesive, NSN 8040-00-880-7332, on the seal using brush, NSN 7920-00-514-2417.
3. Place the seal on the front exposed side of the engine oil cooler.
4. Reinstall the transmission oil cooler.

Remember, if the gap is 0.120 inch or less, the rubber seal is not necessary.

VACUUM. LUBE TURRET RACE

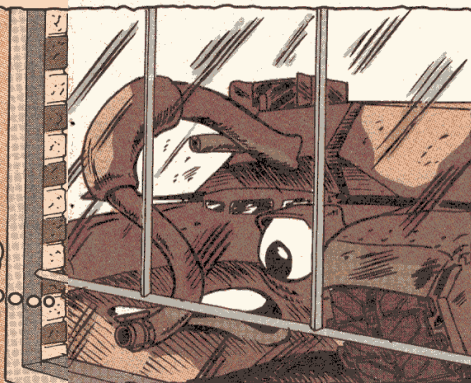
Here's today's big question for all M1A1 tankers:

Sand, dirt and rust in the turret race assembly can:

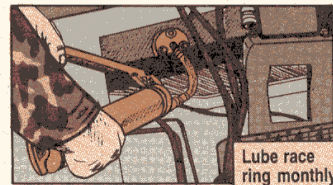
- A. Hang up the ball bearings
- B. Flatten springs
- C. Keep you from hitting your target
- D. Lock up the turret
- E. All of the above

HMM-M

EYE!
THE ANSWER
IS E!



Then lube the race ring through the ball insert plug. It should have a grease fitting on it. If yours doesn't, get it to your support. They'll install one for you per the instructions in Para 8-7 of AMCCOM EIR Digest TB 43-0001-36-1 (Jan 93).



Lube race ring monthly

Tag the ball insert plug with your tank's serial number before sending it off, though. If you get the wrong one back, it won't fit properly and can damage ball bearings, springs and the race assembly when you try to install it.

Once again, have your buddy turn the turret. Go around two or three times, pumping in grease.

Watch the grease coming out, too. If it looks black, you might have a problem. Report it. You could save a race ring.

M113A2 FOV...

Oil Filter Overkill

Dear Half-Mast,
Change 3 to LO 9-2350-261-12 says the transmission oil filter on our M113A2 has to be changed every 150 hours or every 1,500 miles or semianually, whichever comes first. Changing the filter that often seems like overkill to me. With money as tight as it is now, couldn't the interval be lengthened? What do you think?
SSG J.J.A.

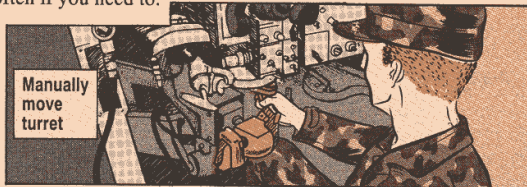
Dear SSG J.J.A.,
TACOM agreed with you, Sergeant. The time interval shown in the LO for the transmission oil filter is too short. Until it can be changed, make a note in your LO that the interval should be 300 hours, 3,000 miles, or annually.

Half-Mast

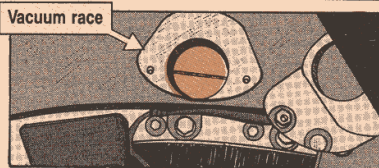
The second question is, how do you head off this maintenance nightmare?

Use a buddy, a vacuum cleaner and a grease gun to give grit and grime a one-two PM punch. Do it at least monthly, per Item 111 of the PMCS in TM 9-2350-264-10-1, and more often if you need to.

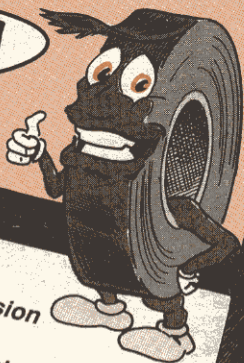
Put your buddy in the gunner's seat. He'll move the turret with the manual drive handle. Then:



Remove the NBC pressure relief guard and cover in the turret. Eyeball the race. If there's dust and dirt inside, have your partner rotate the turret while you vacuum the race. Then, reinstall the guard and cover.



THAT'S A WRAP!



Dear Half-Mast,

I'm a little puzzled about how to handle the torsion bars on M113-series carriers.

When we get a vehicle back that's been rebuilt at depot, the torsion bars are wrapped in black tape. But new torsion bars that we install ourselves don't come with any tape. And there's no TM reference to wrapping the bars, either.

Are the bars supposed to be wrapped, or not? What's the reasoning behind wrapping them in the first place?

SFC R.B.J.

Dear SFC R.B.J.,

The black tape is there to prevent damage to the torsion bar. Nicks, scratches and gouges weaken the bar and can cause it to snap or crack.

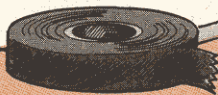
ELECTRICAL
TAPE PROTECTS
AGAINST NICKS
AND CUTS.



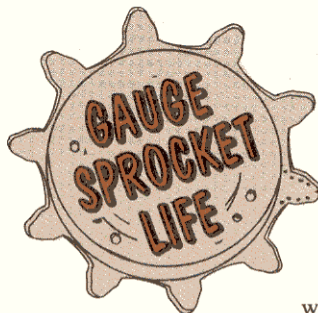
All torsion bars are supposed to come already wrapped in tape. If you're receiving unwrapped bars, submit an SF 368, Product Quality Deficiency Report, to report the problem.

Or, if you need the torsion bar right away, wrap it yourself with electrical tape, NSN 7510-00-850-5079, before installing the bar.

Half-Mast



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Operators, it's easy to tell when it's time to reverse the sprockets on some M109-series howitzers and M992-series ammo carriers. Just pay attention to the built-in wear marks on the sprocket teeth. **When both sides are worn to the marks, you replace the sprocket.**

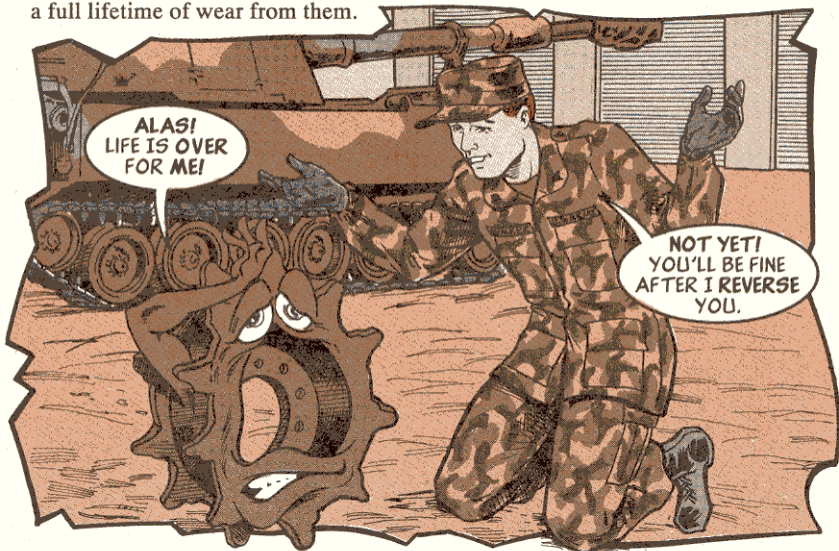
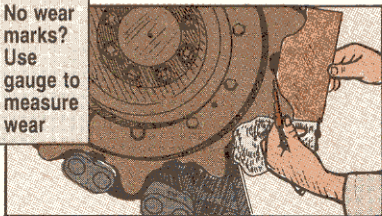
It's a bit harder if your vehicle has T-136 track. The sprockets used with that track don't have wear marks. In those cases, use the sprocket wear gauge, NSN 4910-00-908-7344. The gauge has four measurements called out on its surface. Use only the last one — $\frac{1}{2}$ inch. When wear reaches $\frac{1}{2}$ inch, reverse the sprocket. Again, when both sides are worn, replace the sprocket.

If you forget to check the sprockets after each operation, like it says in the -10TMs, the sprockets may wear too far into one side of the teeth.

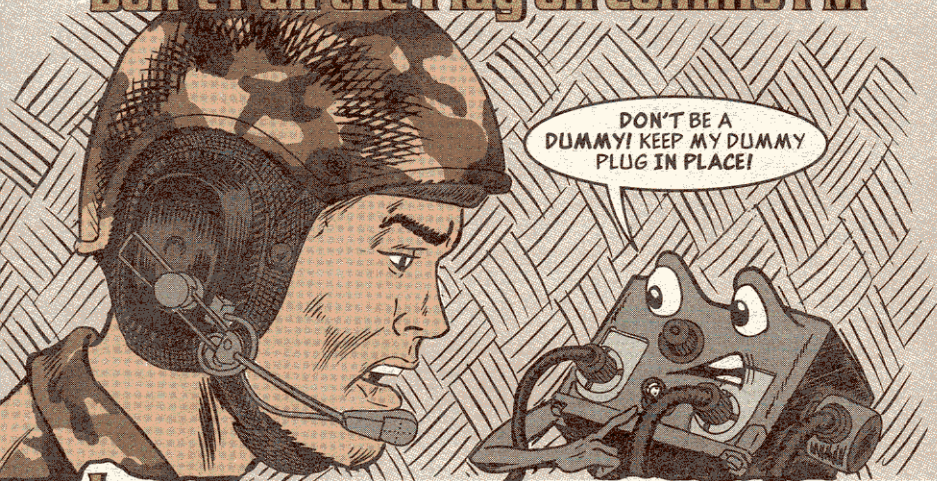
That causes the sprocket to "hook" track end connectors during operation. The connectors are damaged, track life is reduced and sprockets are broken.

So remember to keep an eye on the sprockets. Reverse 'em right and you'll get a full lifetime of wear from them.

No wear marks?
Use
gauge to
measure
wear



Don't Pull the Plug on Commo PM

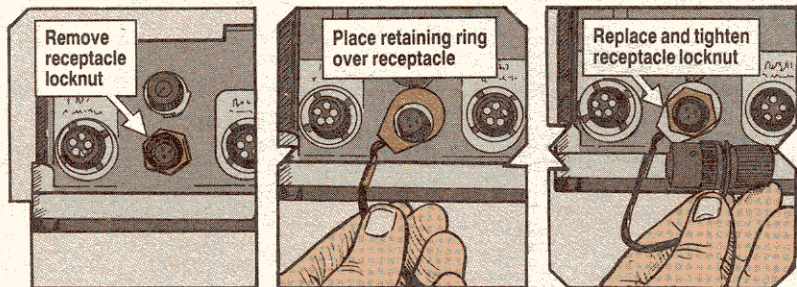


If your AN/VIC-1 intercom system's not working, it could be something as simple as a pulled or missing plug on the C-10456 control box.

Whenever the remote keying connector is not hooked up to the center receptacle on the bottom of the control box, you **must** have the **P805 dummy plug** in place. That completes the circuit and allows the control box to function. It also keeps dirt and moisture out of the receptacle.

If you've lost the dummy plug, get a new one with NSN 5935-01-260-2822. And take the time to install the new assembly when it comes in. If you just plug it in, you'll lose the cover the next time you take it off.

Attach it like this:



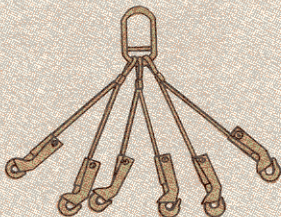
When handling the dummy plug, always hold it by the body. Holding it by the black cap will break the plug.

LOAD'EM UP RIGHT

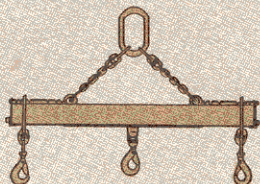
Handling palletized ammo is easy if you've got the right equipment. The right equipment is a new sling and two new hoisting beams. All three can be used with the lifting equipment currently used by the Army: M977 HEMTT, 7¹/₂-ton rough terrain crane and 65-ton rough terrain container crane.

Here's what to use:

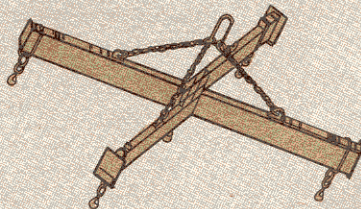
Six-legged sling: Handles one, two or three pallets of 155mm and one or two pallets of 8-in projectiles. Used with the HEMTT crane and 7¹/₂-ton RT crane. NSN: 3940-01-241-7400.



Single hoisting beam: Handles six pallets of 155mm and four pallets of 8-in projectiles. Use requires two six-legged slings. Used with the 7¹/₂-ton RT crane or larger lifting device. NSN: 3940-01-247-3681.



Double hoisting beam: Handles 12 pallets of 155mm and eight pallets of 8-in projectiles in a single lift. Use requires four six-legged slings. Used with the 65-ton RT container crane. Can also be used as a single beam sling with the same capacity as the single beam. NSN: 3940-01-247-3682.



LOAD IT UP RIGHT
AND KEEP YOUR POSTERIOR
OUT OF A SLING.

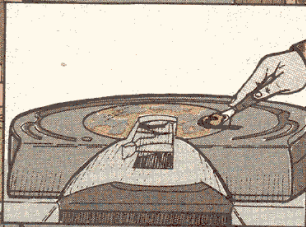


Do Your Duty

TAKING CARE OF
YOUR PATRIOT IS, WELL, JUST
THE PATRIOTIC THING TO DO.
DO YOUR DUTY WITH
THIS PM.

TRUCKS

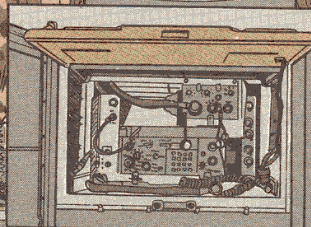
Your truck tractor's fifth wheel needs regular lubing. The LO says to lube fifth wheels every three months. Lube more often with GAA if a heavy rain has washed away the grease—or any time the wheel looks dry. Use a putty knife to clean away old grease and a piece of cardboard to spread a new coat of GAA on the wheel.



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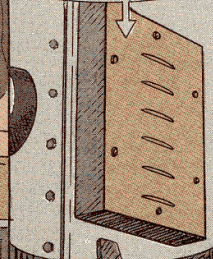
LAUNCHER

Sometimes the heavy door for the Data Link Unit doesn't lock in the up position. Then it can slam down on your hand. Push the door up until you feel it lock in place. While holding the door up, feel the door stays to make sure they're locked.



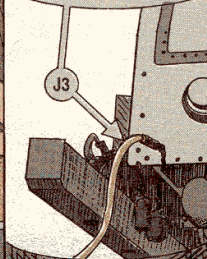
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When you take off the launcher missile round distributor cover to clean the filter, make sure to put the cover back right-side-up. Upside down, the cover lets in water that destroys electrical circuits. The cover openings should point down.



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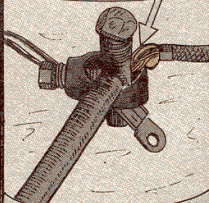
During reload, double-check that the J3 ground cable has been disconnected. It's often forgotten. The cable is ripped off when the missile cannister is lifted off. The cannister cannot be grounded.



13

GROUNDING

There is now a standard ground clamp for the entire Patriot system. But you must make sure the ground wire is put at the back of the clamp against the rod. If you get the wire between the screw and the rod, the wire will be pushed out as you tighten the screw. Result: bad ground.



ELECTRIC POWER PLANT

Every six months you Patriot repairmen are supposed to change the fuel filters on both EPP generators. Some of you are not doing it. Result: Filter clogs up...generator won't run...Patriot won't fire.

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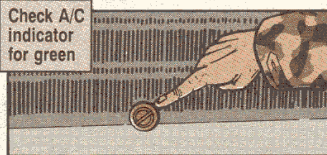
CLEAN AND COOL

With its high-tech electronics and computers, the land combat support system (LCSS) needs lots of cool, clean air or it stops or gives inaccurate readings. Play it cool — and clean — like this:

Keep the LCSS van cool — 68° F. That may be too cool for you, but it's just right for the LCSS. Raising and lowering the van temperature causes condensation, which leads to electrical problems. If the van gets too hot, electronic equipment shuts down.

Give the air conditioner humidity indicator a look. If it's not green, the air conditioner is leaving too much moisture in the air. Tell your repairman.

Check A/C indicator for green



It won't matter what the thermostat's set at if you don't pay attention to screens and filters. When they get clogged with dirt, the air conditioning system conks out from trying to draw air through dirty filters.

Clean the filters at least monthly — more often in very dusty areas. The filters on top of the operator control

console and the electronics racks are the most critical to cooling.



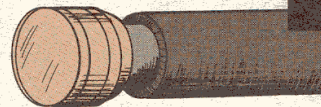
Clean metallic filters with a vacuum cleaner, NSN 7910-00-463-4502. Wash out the other filters with soapy water

MAR 95



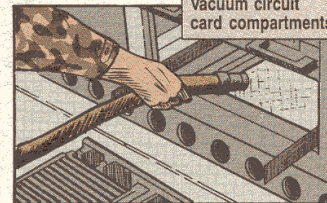
and shorts. Dust off counters and sweep out the van daily. Keep the door shut.

Keep caps on cable connectors



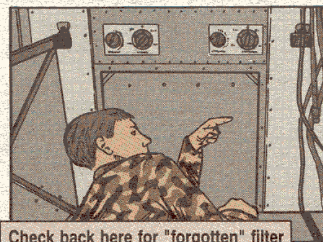
You're still not done cleaning. Pull out the circuit card drawers and vacuum inside the cabinets and over the cards. If air can't flow around the cards, their components get hot and the LCSS develops faults.

Vacuum circuit card compartments



and rinse them with clean water until all the brown gunk's gone. Shake the filters dry.

But don't forget the filter inside the wall at the rear by the air conditioner. It's often missed.

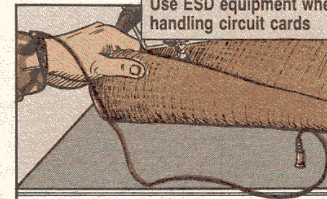


Keep caps on cable connectors. Dust and sand in the connectors cause arcing

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Remember: One spark of electrostatic discharge can knock out a circuit card. Any time you handle a card or vacuum in the card drawers, use your ESD protective equipment. You can order an ESD work station kit with NSN 4940-01-250-4235.

Use ESD equipment when handling circuit cards

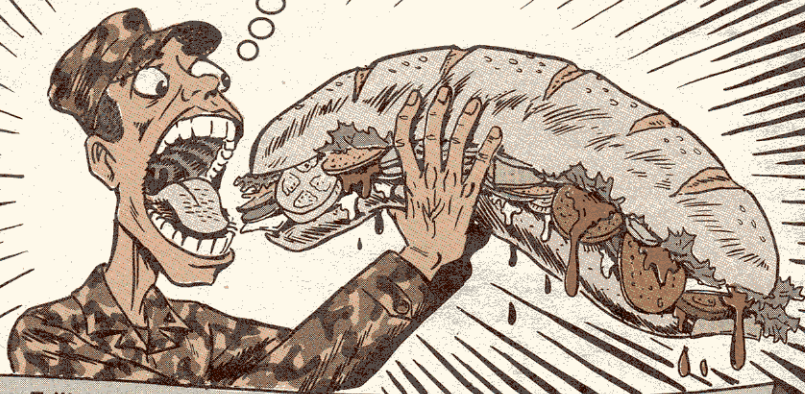


15

MAR 95

M... M... M... BOY!

GOOD CHEAP SUBS!



Dear Editor,

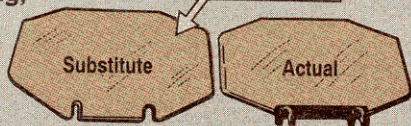
No matter how much you try, no matter how careful you are, Avenger combining glasses are going to be broken. The glass is just too fragile and the turret is just too small. Eventually, somebody bumps it and—crack—a \$600 glass is shattered.

We figured why use the real thing for training when you can make a good and cheap substitute. Use an actual combining glass to trace its outline on glass or plexiglass. Cut out the glass sub with a jigsaw.

Use the sub for training and keep the real combining glass safely locked up, except during live firing, boresighting, and alignment.

SGT Gerald Stringer
SGT John Ford
SGT Daniel Dusablon
Ft Polk, LA

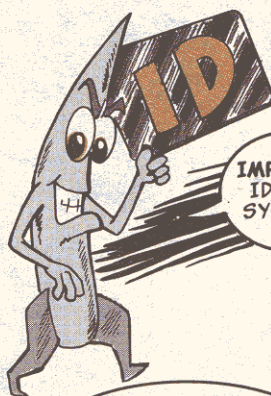
Use actual combining glass to make substitute



FROM THE DESK OF THE Editor



Your suggestion combines economy and logic. You can also prevent a lot of cracked combining glasses by keeping the glass in a file folder or wrapped in newspaper stored to the right of the console when you're not firing.



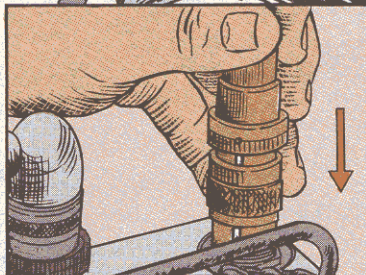
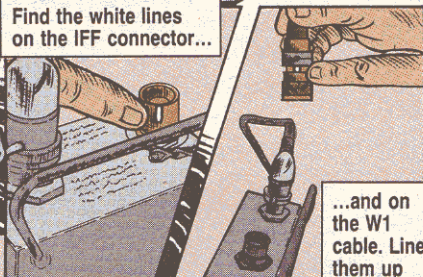
THE W1 CABLE IS A VERY IMPORTANT CABLE: ALL THE INFO THE IDENTIFICATION FRIEND OR FOE (IFF) SYSTEM NEEDS TO DO ITS JOB GOES THROUGH THAT CABLE.

THERE'S ONLY ONE W1 PER PLATOON, SO IF THE W1 IS DAMAGED THE WHOLE PLATOON COULD BE OUT OF THE MISSILE BUSINESS. A NEW CABLE COSTS 1000 BIG ONES!

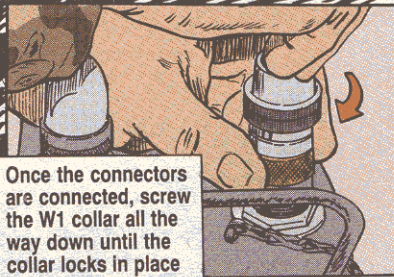
UNFORTUNATELY, LOTS OF W1'S ARE BITING THE DUST BECAUSE MISSILE PEOPLE ARE JAMMING THE W1 ON THE IFF. THAT BENDS W1 PINS, BUT GOOD CONNECTING TAKES JUST A LITTLE EFFORT.



Find the white lines on the IFF connector...



Push the W1 gently in place. If the pins and keyways don't want to mate, slightly rotate the W1 and try again...and again, if necessary. Just don't force things

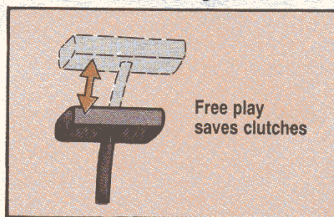


Once the connectors are connected, screw the W1 collar all the way down until the collar locks in place

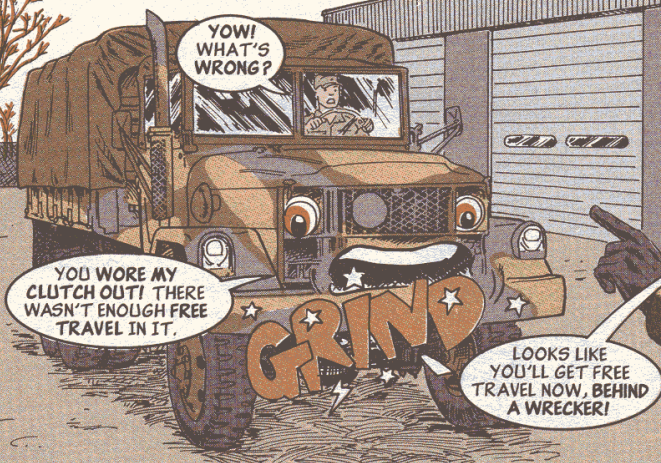
FREE TRAVEL

The opposite of free is expensive, drivers. That goes for clutch pedal travel, too.

Free travel is the distance it takes your foot to move the clutch pedal before it hits resistance. It's a buffer zone for moving clutch parts. Until you hit that resistance, parts are "resting."



Free play
saves clutches



During free travel, the clutch throwout bearing is moving toward the clutch release levers. The bearing starts spinning as soon as it touches the levers.

Without free travel, clutch parts — like throwout bearings, disks or plates — work continuously, fail and must be replaced. That's expensive work instead of a cheap adjustment your unit mechanic can do.

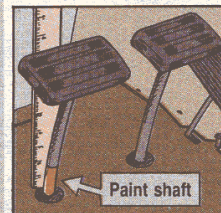
If the free travel's not adjusted right, the release levers touch the bearing and keep it spinning. That burns out the bearing, or worse, you get weaker pressure on the clutch disk.

The disk then slips on the flywheel, and that makes heat. So much heat that it can crack the clutch disk, pressure plate, or even the flywheel.

SAVES CLUTCHES

Each time you drive your truck, gauge the free play. Your vehicle should have the following travel:

Vehicle	Free travel (Inches)	Reference
M44A1	1 1/2 to 2	TM 9-2320-209-20-3-1 Para 3-3e
M44A2	1 1/2 to 2	TM 9-2320-361-20 Para 3-10
M39A2	2 to 2 1/2	Make a change to Para 3-3 of TM 9-2320-211-20-3-1
M809	2 to 2 1/2	TM 9-2320-260-20-3-1 Para 3-6



Since your feet aren't calibrated, here's a way to gauge free travel: Use a ruler to measure the free travel for your truck from the floorboard up the clutch pedal shaft.

Paint that distance (get your supervisor's OK, of course) with white paint.

To tell if you have the right free travel, press the pedal until you get resistance. If the paint disappears or if there is still paint left on the shaft, get your mechanic to adjust the free travel.

Keep Feet Off Pedal

The right free travel doesn't mean a thing, though, if you have a habit of resting your foot on the pedal while you drive. That just takes up the free travel and burns up the clutch throwout bearing.

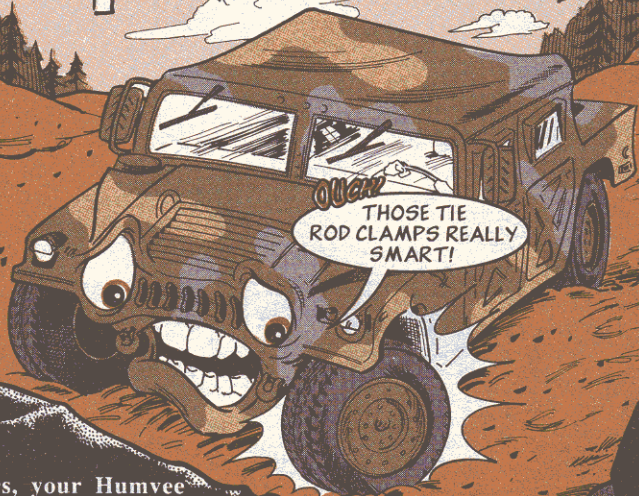
Just a little pressure on the pedal causes the clutch to start disengaging. The bearing starts spinning and keeps spinning as long as your foot is on the pedal.

That gets the bearing hot, hotter, and hottest, then wham! The clutch goes out.



HMMWV ...

Clamp Goes Behind



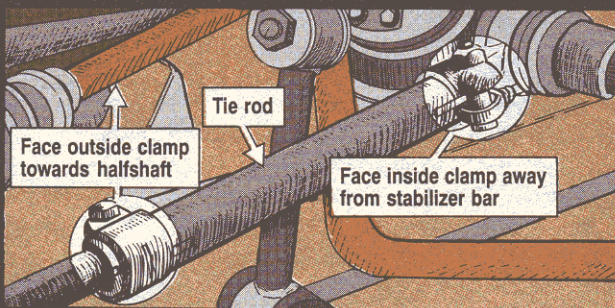
Mechanics, your Humvee toe-in adjustment's not done until the tie rod clamps are pointed the right way.

The clamps can do a lot of damage if they're installed with bolts facing the wrong way.

On a hard turn, the outside clamp can dig into the wheel or tire and the inside clamp can hit the stabilizer bar. All parts suffer.

Head off this damage by making the outside clamp face the halfshaft and the inside clamp face away from the stabilizer bar.

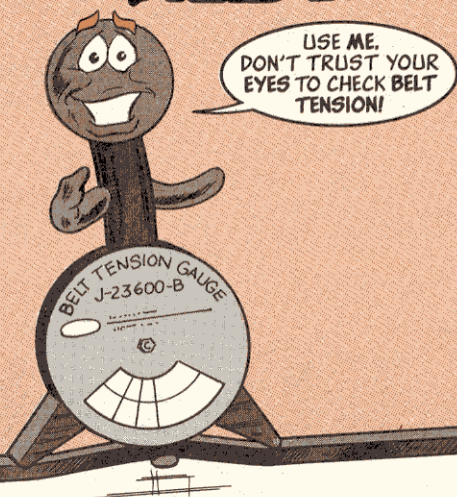
Likewise, when you have a HMMWV in for service, get under the truck and look at the tie rod end clamps. If they're in harm's way, change them.



CARE FOR BOLTS AND BELTS

Too tight's not right for alternator belts, mechanics. Tight belts lead to broken mounting bolts.

Your eyes won't tell you how tight belts are. Belts as long as these will flap and seem loose. Trying to tighten them just puts extra strain on mounting bracket bolts. When one bolt breaks, others will follow.

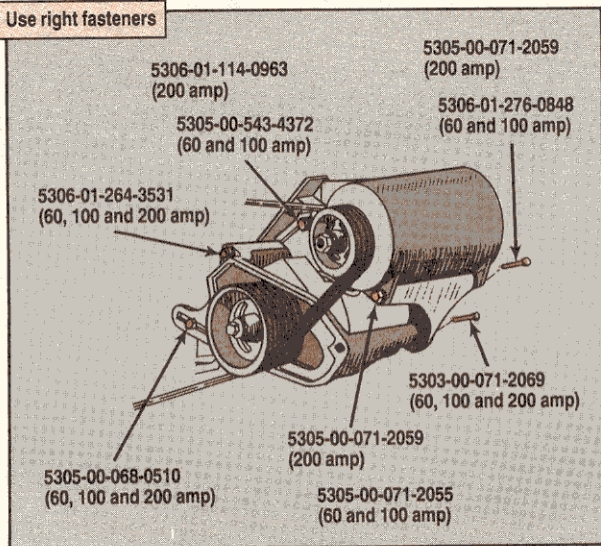


If you suspect loose belts, use the belt tension gauge, NSN 6635-01-093-3710, in your HMMWV's special tools list. Procedures are in Para 3-75 of TM 9-2320-280-20-2.

If you have to tighten belts, remember to torque all capscrews to 40 lb-ft and no more. Extra muscle on these fasteners can snap them off.

Always use the right fasteners, too. Using the wrong ones can lead to problems. One that's too weak can break off when torque is applied.

Use right fasteners



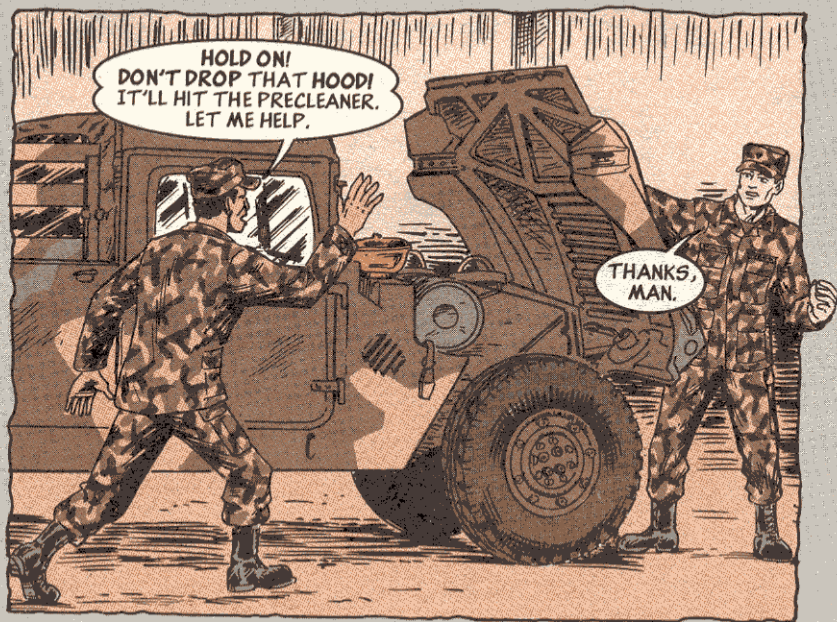
HMMWV ...

Protect Precleaner and Hood

If you've added the precleaner, NSN 2940-01-302-8028, to your HMMWV's air filtering system, make sure you open and close the hood carefully.

The precleaner is bigger than the air cleaner cap it replaced. The hood can catch on it going up or down.

Open the hood slowly, and get a buddy to push the hood away from the precleaner. Reverse the process when you close the hood.



CUCV ...

Radiator Bands Come Off

Remove the shipping bands from a new radiator, mechanics, before you install it. Those bands will rust and break if you don't. Broken bands can cut radiator hoses or punch holes in a good radiator.

Breathe Away the Pressure

LETTING YOUR
TRUCK'S BREATHER
VALVES BREATHE WILL
PREVENT BIG PROBLEMS
DOWN THE ROAD.

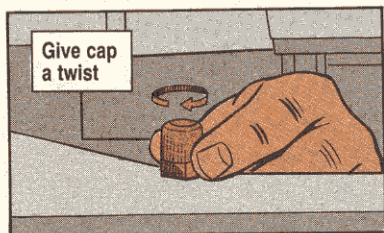
You must remember to keep breather valves open and clean on your 5-tonners.

If you don't, pressure builds up in gearcases and axles until something has to give — usually seals.

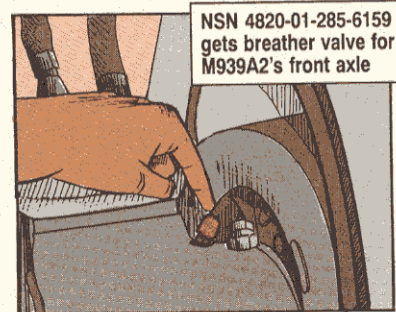
And when the seals go, the lube is bound to follow. Bye-bye gearcase or axle.

Here's what you do to keep the valves clean and operating:

Twist the valve's cap to loosen any dirt stuck up inside.



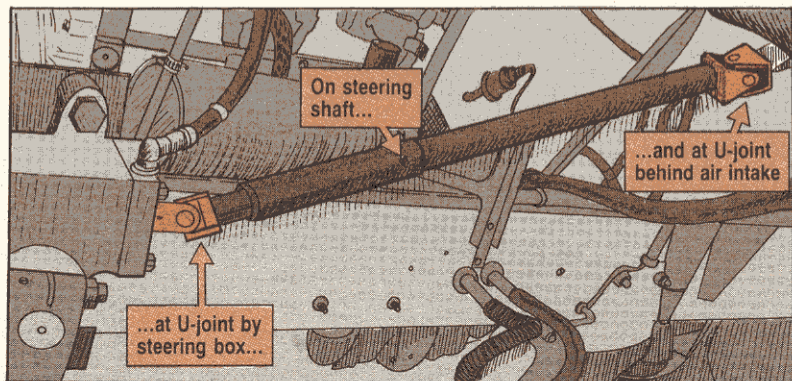
Pull up on the cap to make sure it's free. If the cap won't turn or pull up, get a new breather valve.



Make a note in the parts manual, 'cause the NSN is missing.

Slick Shaft = Smooth Steering

Some mechanics overlook the grease fitting on the steering gear shaft on these 5-ton trucks. Make sure all of them get lube during scheduled service. Here's where to lube:



Wheeled Vehicles . . .

Tape the Bows

Dear MSG Half-Mast,

My unit had trouble with the bows and canvas on our vehicles rubbing together. Surprisingly, the rubbing wore the corners of the bows, causing rust on metal and holes in wood.

We solved that problem by wrapping the corners of the bows with duct tape.

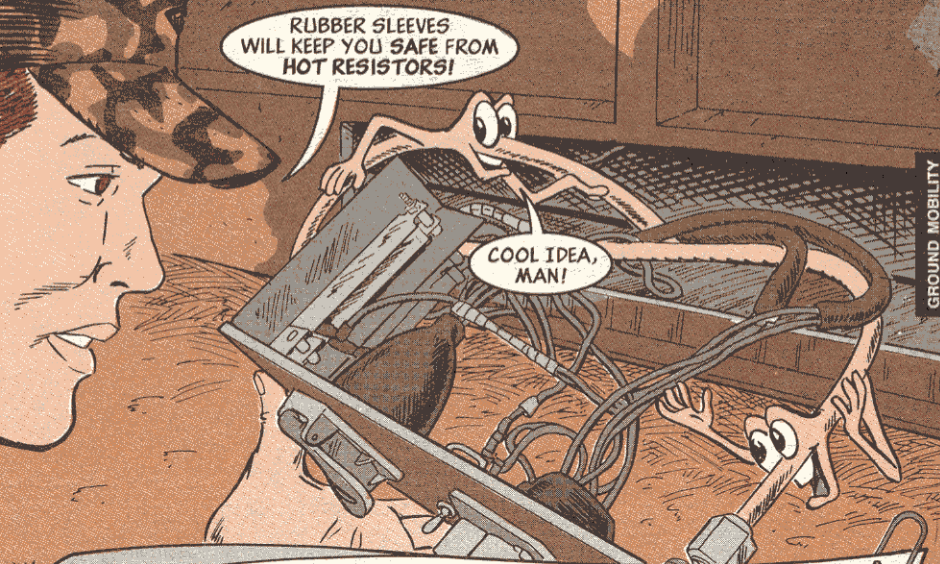
'Course, we also keep a look-out for holes in the canvas.

SFC Billy Britt
ALARNG

Dear Sergeant Britt,
Now that's an idea worthy
of a bow.

Half-Mast

Insulate Brake Lines



GROUND MOBILITY

Dear Editor,

The plastic air lines on our M871A2 trailers cross over and touch resistors in the trailer's nose box.

The heat from these resistors melts the plastic. This creates air leaks which lock up the brakes.

We protect the air lines by insulating them with rubber hose where they cross over the resistors. We use 1/2-in x 16-in hose. NSN 4720-01-211-1998.

CW4 Duan Arsenberger
Clearfield, PA

FROM THE DESK OF THE Editor

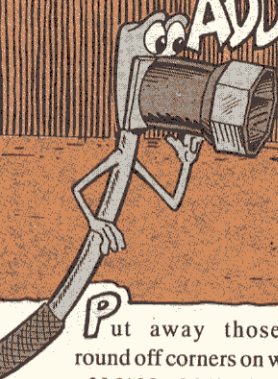
That idea takes the heat off. Good work.

In other places where lines rub (against the frame, for example), use whichever of these hoses that'll fit:

Inside diameter	NSN 4720-
5/8 inch	00-265-7122
3/4 inch	00-870-6071
7/8 inch	00-230-6526
1 inch	01-341-3776

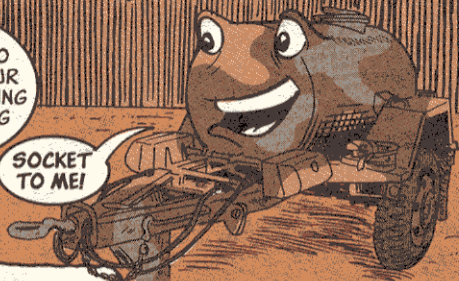
To secure the hoses, use tiedown straps, NSN 5975-00-074-2072.

ADD BEARING SOCKET



NOW
I'M SET TO
HANDLE YOUR
WHEEL BEARING
ADJUSTING
NUTS.

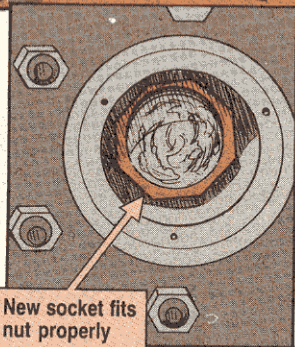
SOCKET
TO ME!



Put away those too-big sockets that round off corners on wheel bearing adjusting nuts of M103-, M105- and M149-series trailers. Get socket, NSN 5120-00-795-0946, to do the job.

The adjusting nuts on these trailers are 3 3/8 inches in diameter. The wheel bearing sockets in the Common shop sets skip from 3 1/4 inches to 3 1/2 inches.

The truck headshed plans to add the right-sized socket to the special tools list of TM 9-2330-213-14&P and TM 9-2330-267-14&P, but you need it now.



M870-Series Trailers . . .

Glass Scratched? Replace It

You can't check your 40-ton trailer's bearing oil level if the sight glass on the hub cap wheel is too scratched to see through.

If you don't check the lube level, wheel bearings can get dry and burn up. A set of wheels can even fly off.



So, if you can't see the oil level, get your unit mechanic to replace the access cover. NSN 2530-01-065-8476 brings a window parts kit for an M870; NSN 2530-01-317-3931 brings an access cover for an M870A1.

From Riches to Rags

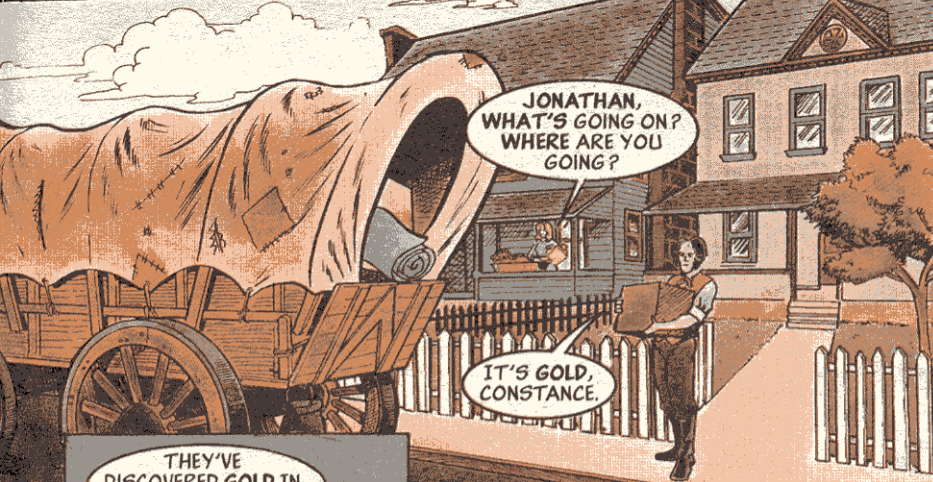
SOON AFTER JAMES MARSHALL UNCOVERED A FEW SHINY CHUNKS OF GOLD IN THE MILLRACE AT SUTTER'S MILL, WORD OF THE DISCOVERY SWEEPED EASTWARD.

St. Louis Gazette JANUARY 15, 1849 GOLD DISCOVERED IN CALIFORNIA!

I'LL
BE
RICH!

GOLD FEVER HAD STRUCK THE NATION... AND IN PARTICULAR, ONE JONATHAN J. PEABODY.






JONATHAN,
WHAT'S GOING ON?
WHERE ARE YOU
GOING?

IT'S GOLD,
CONSTANCE.



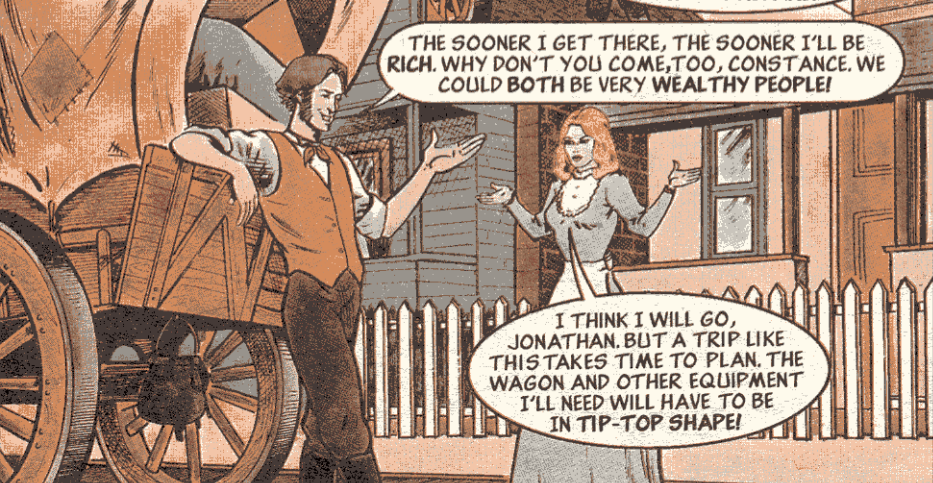
THEY'VE
DISCOVERED GOLD IN
CALIFORNIA!

GOLD? HOW
WONDERFUL!



THE PAPER SAID IT'S SO
PLENTIFUL THAT PEOPLE CAN'T EVEN
WALK WITHOUT STUBBING THEIR
TOES ON THE NUGGETS!

BUT SURELY
YOU'RE NOT TAKING OFF
LIKE THAT, WITHOUT TAKING
TIME TO PREPARE!



THE SOONER I GET THERE, THE SOONER I'LL BE
RICH. WHY DON'T YOU COME, TOO, CONSTANCE. WE
COULD BOTH BE VERY WEALTHY PEOPLE!

I THINK I WILL GO,
JONATHAN. BUT A TRIP LIKE
THIS TAKES TIME TO PLAN. THE
WAGON AND OTHER EQUIPMENT
I'LL NEED WILL HAVE TO BE
IN TIP-TOP SHAPE!

THERE'LL BE A LOT OF
HARDSHIPS ON SUCH A LONG
JOURNEY. I WANT TO BE
WELL-PREPARED.

BYE, CONSTANCE! LOOK ME UP WHEN
YOU GET THERE!

I SURE
HOPE HE KNOWS
WHAT HE'S
DOING.

BUT SOON, DISASTER STRIKES.

CRUNCH

OH, NO!
MY WHEEL!

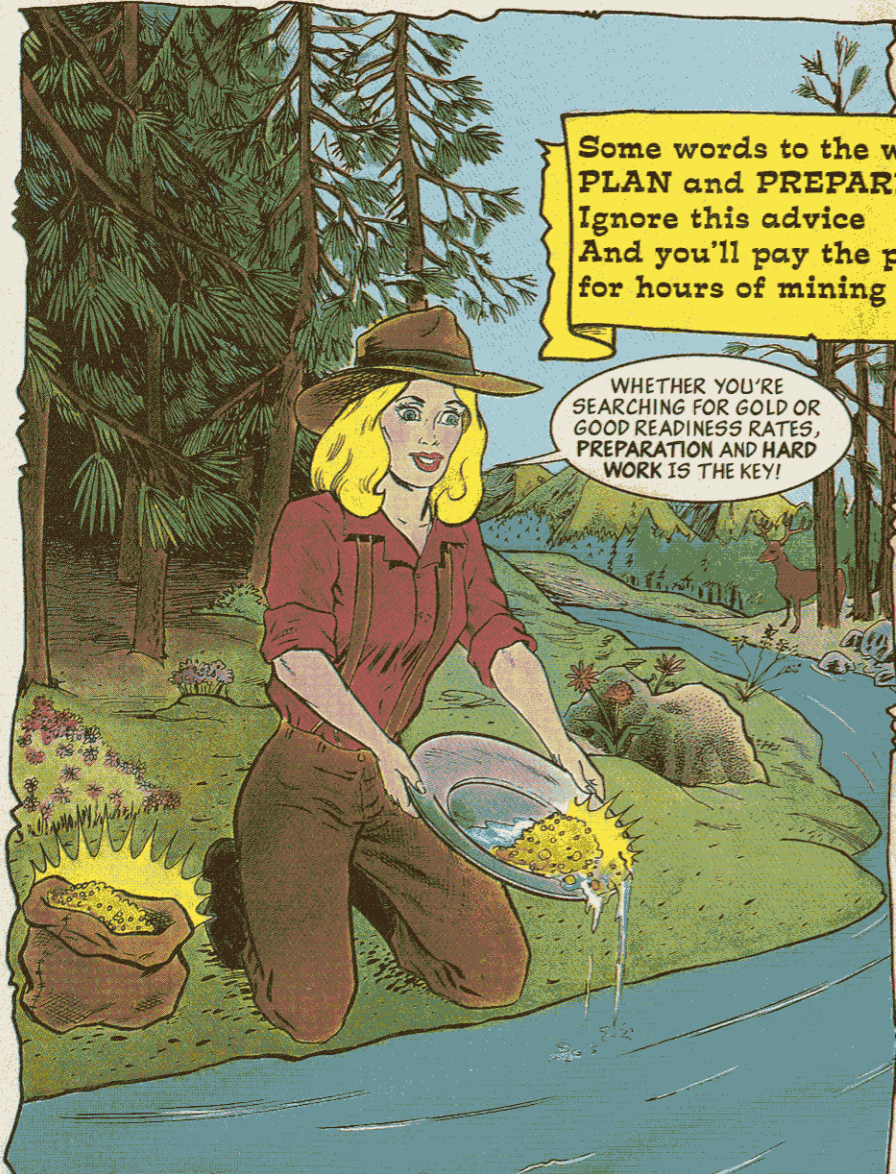
CRASH

LATER ...

THERE'S
NO SAVING THIS
WHEEL.

BUT I THINK
I CAN USE A WHEEL
FROM THAT ABANDONED
WAGON I PASSED A
WHILE BACK.

THAT LARGE WHEEL
SURE MAKES FOR A WOBBLY
RIDE. BUT IT WILL HAVE TO
DO, FOR NOW.



Some words to the wise never grow old,
PLAN and **PREPARE** you've often been told,
Ignore this advice
And you'll pay the price
for hours of mining only **FOOL's** gold.

WHETHER YOU'RE
SEARCHING FOR GOLD OR
GOOD READINESS RATES,
PREPARATION AND HARD
WORK IS THE KEY!



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



LOOKS LIKE
A STORM'S COMING.
I'D BETTER BED DOWN
FOR THE NIGHT.

LATER ...

WHA?...
HUH?... I'M SOAKED!
WHERE'D ALL THIS WATER
COME FROM?

THIS TENT
IS USELESS! I
SHOULD'VE CHECKED
IT OUT BEFORE I
LEFT.

THE NEXT MORNING ...

WELL, I GUESS
I'LL BE SLEEPING
UNDER THE WAGON
FOR THE REST OF
THE TRIP.

A FEW DAYS LATER,
DISASTER STRIKES AGAIN ...

WHOA!
GET BACK HERE!
DARN! I SHOULD
HAVE CHECKED MY
HARNESS FOR
WEAR!

JONATHAN IS FORCED TO SHOULDER
AS MANY OF HIS SUPPLIES AS
POSSIBLE AND PRESS ONWARD ...

... THROUGH
RAGING RIVERS ...

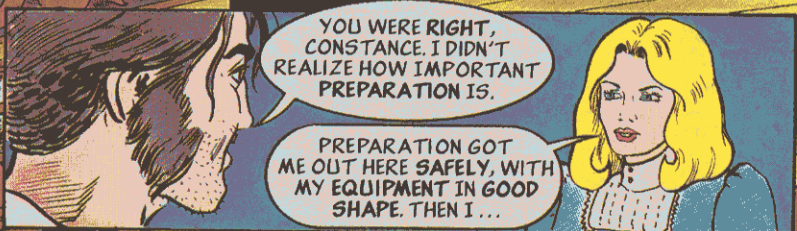
... FRIGID
MOUNTAIN
PASSES ...

... AND
BURNING
DESERTS.

CONSTANCE
WAS RIGHT! I
SHOULD HAVE
BEEN BETTER
PREPARED.

IF I EVER MAKE IT TO
CALIFORNIA, I VOW NEVER TO BE
UNPREPARED AGAIN!
"CONSTANCE
CORNERS"?

CONSTANCE
CORNERS
SITE OF THE
BIGGEST GOLD STRIKE
IN CALIFORNIA



Moral of the Story:
Good planning and prepared equipment
add up to a bonanza!

It's Quite a Shock

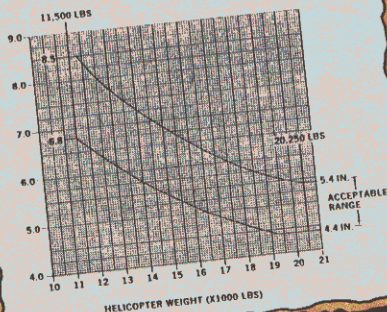
There's a small place not far from here. It's a world of pounds and inches. A zone that, although small, has a profound impact on the life of a Black Hawk. It is a place we like to call—Dimension X.

Witness the main landing gear shock struts. In tiptop shape, they make a landing like a first-time mother laying her newborn baby in a cradle.

In bad shape, they make a landing like the jolt at the end of a hangman's noose.

It's at the main landing gear shock strut that you'll find Dimension X.

Your road map is Task 3.3.2 in TM 1-1520-237-23-3. With that in hand, you'll know that if Dimension X is above or below acceptable ranges, you must service the strut.



You will also find out that Dimension X must be the same on both sides of the aircraft.

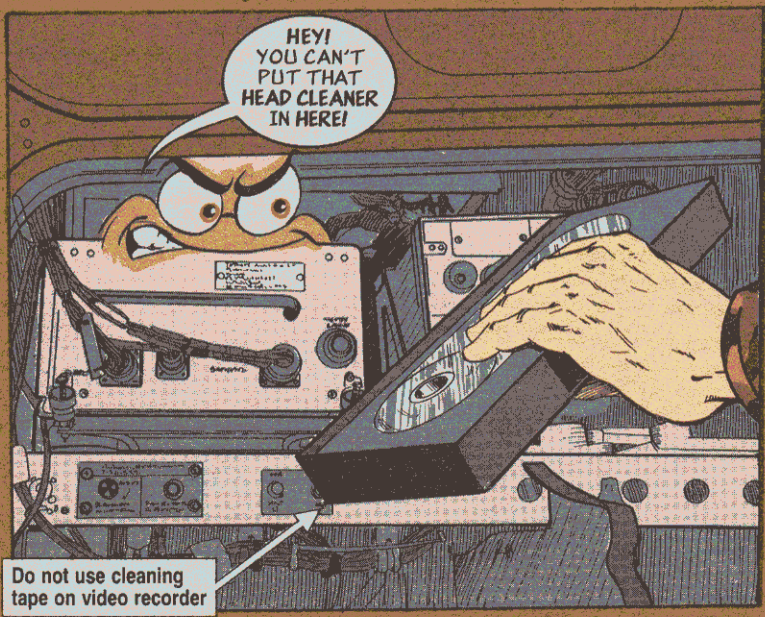
Find the place we call Dimension X. If you don't, the demons that spring from a bad shock strut might find you!

Need a Clean Scene

Dear Windy,

We sure could use a recorder head cleaning tape to keep our Apaches' video recorders, NSN 5836-01-212-3797, up and flying. Got an NSN?

SGT J.E.B.



HEY!
YOU CAN'T
PUT THAT
HEAD CLEANER
IN HERE!

Do not use cleaning
tape on video recorder

Dear Sergeant J.E.B.,

A big nix on using a cleaning tape on the TEAC V-1000 video recorder. Those in the know say using a cleaning tape causes too much head wear. Just stick to the cleaning info in TB 11-1520-238-30.

Windy

As the Seal Turns

Dear Windy,

The main rotor lower seal retainer on almost all our Apaches breaks loose and turns. Is this OK? Sometimes the loose retainer causes the ground strap to tighten and even break.

SGT I.D.K.

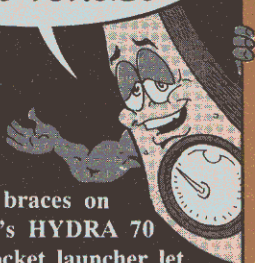
Dear Sergeant I.D.K.,

The seal retainer, Item 8, Fig 286 of TM 55-1520-238-23P-1, and the droop stop liner, Item 10, can turn without a problem. If that turning breaks the grounding strap, though, the strap must be replaced like it says in Para 5.48 of TM 1-1520-238-23-3.

Also, slippage of the droop stop liner and the seal retainer must be measured, since turning is acceptable, but dropping is not. Get the word in Para 5.1.k. in TM 1-1520-238-23-3. If it's outside the slippage limits, get AVIM on the job like it says in Para 5.46.

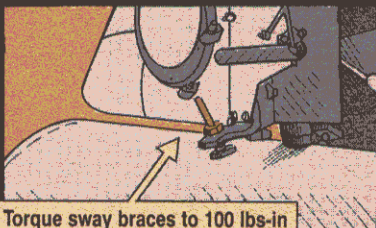
Windy

LEMME TELL YA ABOUT...
**ROCKET LAUNCHER
BRACE TORQUE**



Loose sway braces on your aircraft's HYDRA 70 lightweight rocket launcher let the launcher move during firing. That means erratic rocket trajectories and missed targets.

So, adjust the four sway brace bolts finger-tight until the pads contact the launcher.



Then torque the sway brace bolts to 100 lbs-in, in quarter-turn increments in the following order: 2 bolts forward simultaneously, 2 bolts aft simultaneously (a 2-man job).

Finally, torque the jam nuts to 190 to 210 lbs-in tolerance while holding the sway brace bolts.

The right torque will keep the launcher from moving during firing.

Look for this info to be added to your aircraft's TMs.

WAGE WAR ON CORROSION

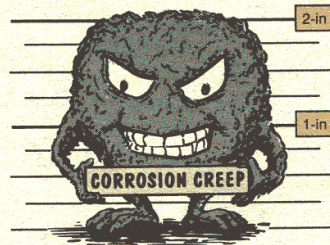


Ever had a speck of dirt in your eye? You may be a 200-pound bruiser, but that speck of dirt can bring you to your knees in pain.

A speck of corrosion may not seem like much, but it can bring your avionics to its knees. Corrosion small enough to be unnoticed on an airframe is large enough to cause your avionics to fail.

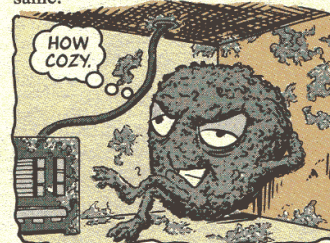
And right now, right this minute, corrosion is forming on your avionics equipment. There is no way to stop it from starting. Your job, by doing PM, is to stop it from spreading. Corrosion is like a weed; the first time it shows its ugly head, get it!

Step one in your PM battle plan against corrosion is enemy recognition.



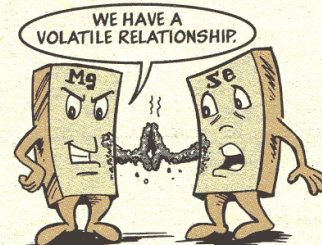
Where does the enemy hide? Check first the areas with direct exposure to the weather. Antennas and where they mate to your aircraft are good places to start.

Corrosion's favorite home is in a box. Closed boxes mean condensation during flight temperature changes. You might as well put your sensitive avionics out in the rain—the effect is the same.



Every aircraft has water entrapment areas. Unfortunately, many of those areas hold avionics equipment. If you never check those areas, you might as well just take your avionics equipment to the river and chuck it in.

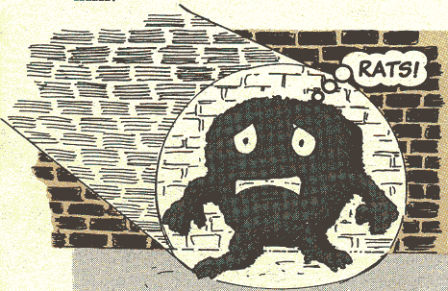
When dissimilar metals meet, they fight. The blood they spill is corrosion and it eats like an acid. Avionics equipment uses many types of metals—aluminum, cadmium, iron, lead, magnesium, selenium and steel, just to name a few. When these metals meet each other in your aircraft, you've got corrosion.



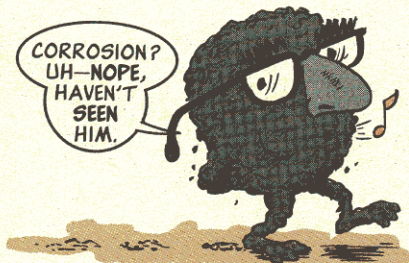
Corrosion loves the B & B boys—batteries and bonds. No surprise about batteries. They corrode and take everything around them with them. Bonds and connections give corrosion that crack, that small area where it can enter and grow.



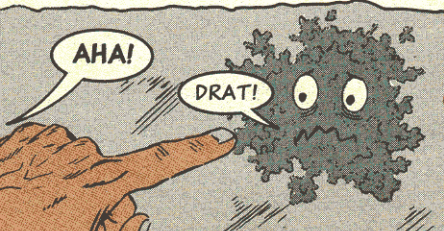
When you know where the enemy hides, you need to know how to spot him.



Corrosion is a wily adversary, taking on many disguises. The two things to remember in spotting corrosion are the cause and what is being corroded. The cause could be chemical, microbial, insect or animal. What is being corroded is the metal that the chemical, microbe, insect or animal, has attacked.



Put these two things together and the result is a distinct type of corrosion. It may be easily recognized, like rust or chemically corroded steel, or more difficult to spot, like the white mottling on cadmium.



So, you've found the enemy. Now how do you fight him? Clean, treat and preserve by the book. That book is TM 55-1500-343-23, Avionic Cleaning and Corrosion Prevention/Control. Fighting corrosion without this TM is like going into battle without your rifle.



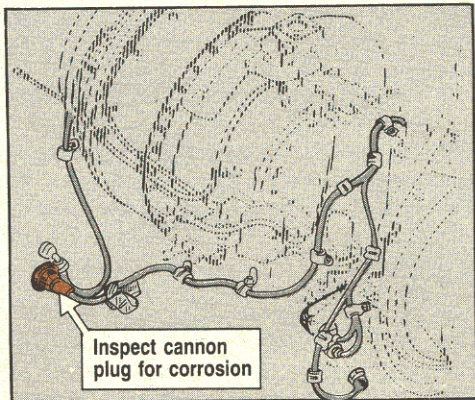
Add Connector Corrosion Check



If your Cobra's collective was full down and your engine RPM shot to 130, would you guess the problem was a corroded cannon plug?

Probably not, but that's exactly what it was.

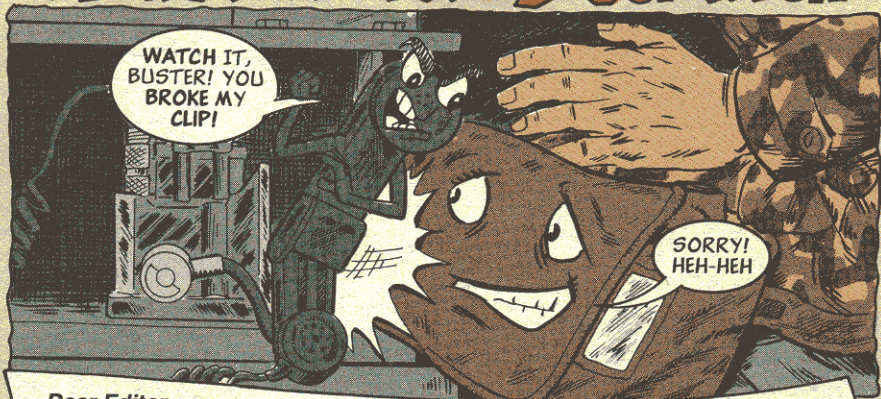
Corrosion on cannon plug, NSN 5935-00-534-7556, Item 21 of Fig 127 in TM 55-1520-236-23P-2, in the engine wiring harness can short out the automatic engagement of the overspeed governor.



Everyone guessed an engine problem, but the culprit was connector corrosion. Inspection of the plug is covered in requirements 13 and 52 during Phase 2—inspect "Engine wiring harness for chafing and loose or corroded connections."

But that's not enough. Make a connector corrosion check at Phase 1 and 3, too.

A Fasten-ating Solution



Dear Editor,

When they're not using the SINGARS in their HMMWVs, most soldiers normally clip the H-250 handset to the bracket under the radio.

That works fine unless you're carrying an M17 or M40 protective mask on your hip. Then, when you sit in the bucket seat, the mask smacks into the handset. The handset clip cracks or breaks.

We made a safe haven for the handset by putting adhesive-backed hook-and-pile fastener tape on the handset and the radio. NSN 8315-01-115-7617 brings you the hooks. Get the pile with NSN 8315-01-043-9881.

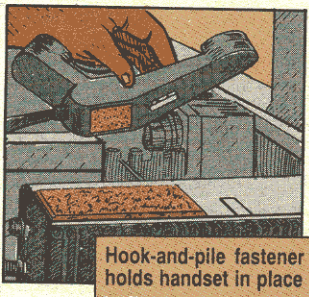
Here's how to protect the handset:

Cut off a 2-in sheet of hooks from the tape and put it on the back of the handset.

Cut off a 4-in sheet of pile and fasten it to the top of the MT-6353 mounting base or the AM-7238 power amplifier. If you don't have a MT-6353 or an AM-7238, fasten the pile to the AM-7239 amplifier-adaptor or to the radio's shelf.

Now, when we're finished talking, we stick the handset on the pile. The handset stays in place. It's out of the way, yet easy to get to.

CPL John Abronski
Ft Benning, GA



FROM THE DESK OF THE Editor

We've become attached to your suggestion. Thanks.

LET ANTENNAS STAND TALL

Dear Editor,

By now, everyone should know about tying down whip antennas when your vehicle's on the move. Tying down antennas keeps them from hitting overhead obstacles—like bridges, tree limbs or power lines.

But did you know this? When your vehicle's parked for any length of time (overnight, for example), you should take the antenna out of the tiedown clip and let it stand straight up.

Why? Two reasons:

1. Letting the antenna stand upright relieves tension on the base spring. Over time, tension weakens the spring.

2. On an upright antenna, the base spring's coils are close together, which helps keep out moisture and debris. A tied-down antenna has its spring coils spread open, making it easier for dirt and moisture to get inside and damage the base and the RF cable.

CW2 Jeffrey Wernz
Ft Bragg, NC



FROM THE DESK OF THE Editor 

Sounds like the perfect solution for keeping your antennas straight. Thanks.

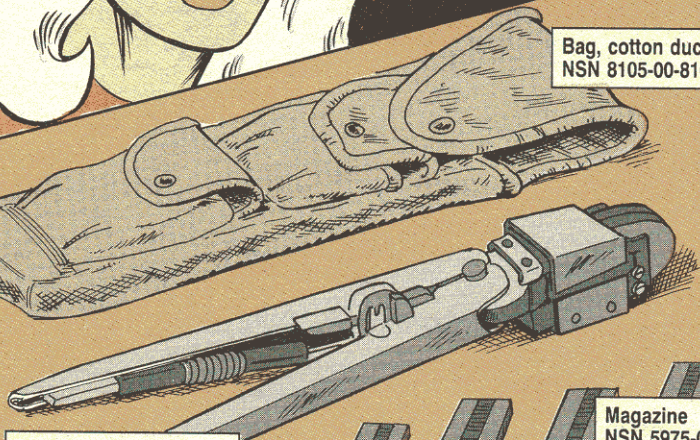
MK-356/G . . .

Splicing Kit Components



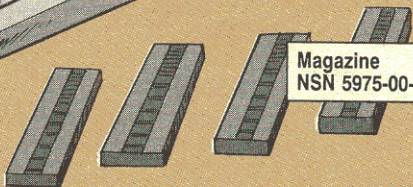
THE MK-356/G
SPLICING KIT IS NO LONGER
AVAILABLE AS A KIT. BUT
YOU CAN ORDER THESE
COMPONENTS...

Bag, cotton duck
NSN 8105-00-810-9875



Sleeve compressing tool
NSN 5120-00-679-2380

Magazine
NSN 5975-00-659-9905

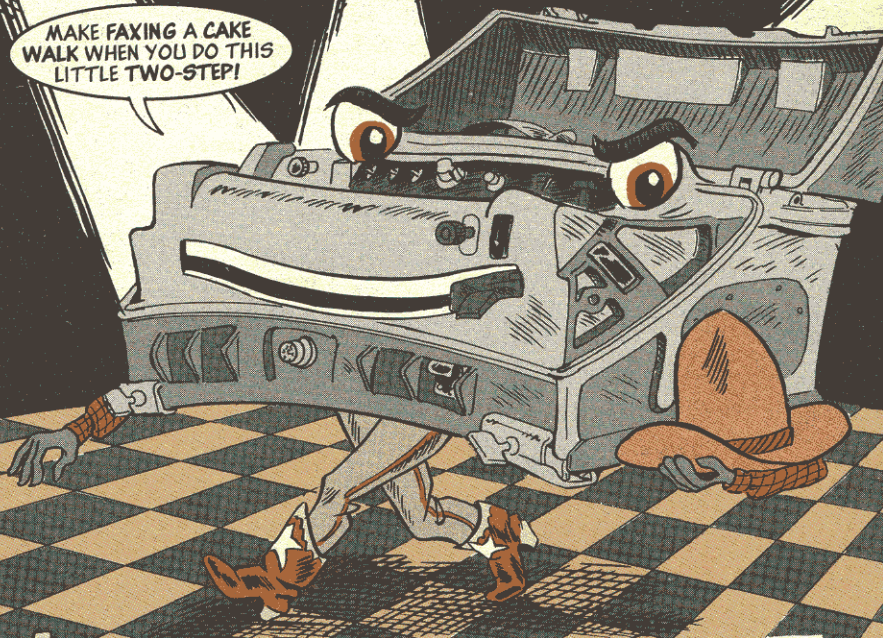


Splicing sleeve
NSN 5940-00-818-1774



Grounding Two-Step

MAKE FAXING A CAKE
WALK WHEN YOU DO THIS
LITTLE TWO-STEP!



Any time you use DC power—from your vehicle's battery, for instance—to run your mobile subscriber equipment (MSE), make sure the AN/UXC-7 fax is grounded the right way.

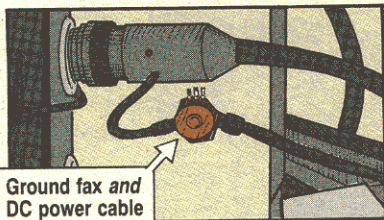
Otherwise, you get electrical noise that interferes with fax transmission. Or, worse yet, you or your fax gets zapped.

The right grounding takes two steps:

The first step is to run a ground strap from the ground stud on the fax to the vehicle chassis or to a ground rod.

The second step—the one some people forget—is to connect the DC power cable's ground strap to the same ground stud on the fax.

Remember to take both steps before you plug the DC power cable into the power receptacle.



Ground fax and
DC power cable

GET THE WHOLE G-Z-CORP STORY



When it comes to grounding your 15-, 30- or 60 KW tactical quiet generator (TQG) power units and power plants, the TMs tell only half the story. TM 9-6115-661-13&P, -662-13&P and -663-13&P have left out some important grounding instructions.

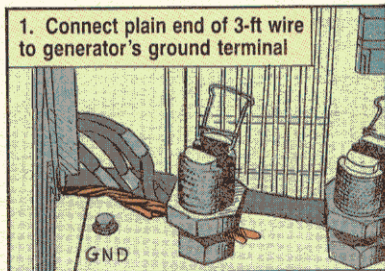
The TMs tell you to connect a ground wire from the trailer ground terminal to the ground rod. But what they don't tell you is this:

☞ You must also connect a ground wire from the generator ground terminal to the trailer ground terminal.

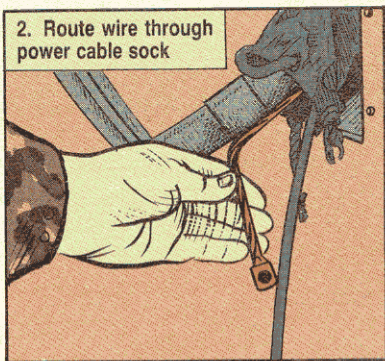
You need both connections to safely ground the generator. Otherwise, you risk getting shocked.

Here's the whole story on grounding TQG power units and power plants:

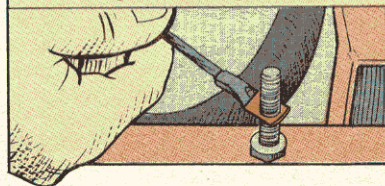
1. Connect plain end of 3-ft wire to generator's ground terminal



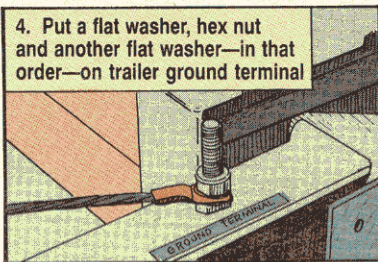
2. Route wire through power cable sock



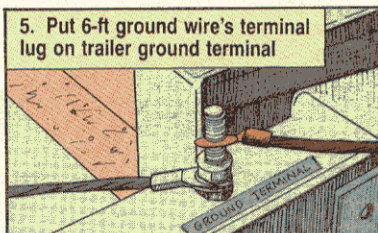
3. Take off wing nut, two flat washers, hex nut and a third flat washer from trailer ground terminal. Put wire's terminal lug over trailer ground terminal



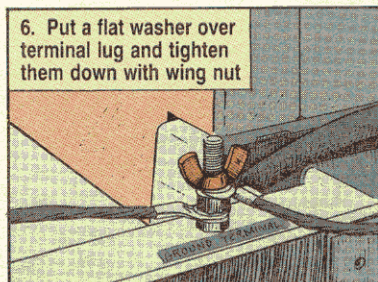
4. Put a flat washer, hex nut and another flat washer—in that order—on trailer ground terminal



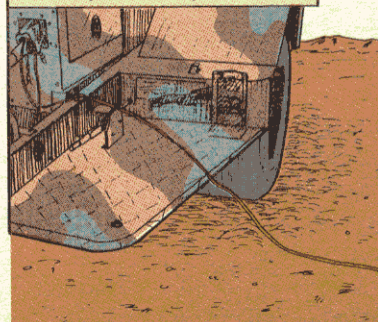
5. Put 6-ft ground wire's terminal lug on trailer ground terminal



6. Put a flat washer over terminal lug and tighten them down with wing nut



7. Connect 6-ft wire to a ground rod, as you normally would



☞ Your generator trailer's accessory box contains 3-ft and 6-ft ground wires with terminal lugs. If you need more ground wire, order it with NSN 6145-01-226-9164. Get terminal lugs with NSN 5940-00-113-8190.

Grounding your generator this way has two advantages:

1. When you're ready to move out, it's easy to take off the ground rod wire from the trailer ground terminal. All you do is take off a wing nut and a flat washer. Make sure you stow the 6-ft wire and the ground rod in the accessory box.
2. The ground wire from the generator ground terminal to the trailer ground terminal can stay right where it is. You won't have to take it off or otherwise fool with it.

For more information on grounding your TQGs, see your ATCOM LAR for Safety-of-Use message 94-007 AMSAT-R-X, 021845Z Aug 94. If he doesn't have one, write to Half-Mast.



Frame Tent Arch Assembly

The NSN for the arch assembly for the lightweight frame tent is wrong in TM 10-8340-220-23P. The correct NSN is 8340-00-566-7394. Make a note until the TM's changed.

600-GPH ROWPU Check

Take a look at your 600-GPH ROWPU. If it is the Univox model, NSN 4610-01-093-2380, take steps with your support unit to turn it in to Sierra Army Depot. It's too costly to support any longer. At the same time, order NSN 4610-01-026-8980, which will get you a 600-GPH ROWPU that is more up-to-date.

Oil's a Killer, Too!

OK, soldier, do you know how to kill a small Mil Std engine with TLC (tender, loving care)?

Just add too much oil, that's how.

Overfilling the engine with oil makes less room for oil expansion as it heats.

Less room means more pressure.

More pressure means blown rear main seals. Then oil leaks out — and the crankcase runs dry. This causes bearings to burn out and the engine to seize.

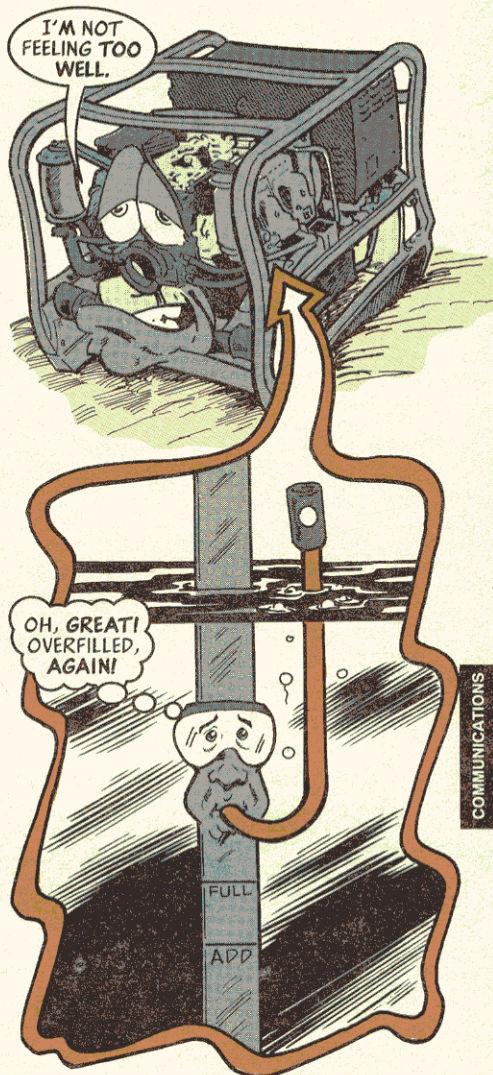
High oil levels also cause sticky piston rings, fouled spark plugs and carbon buildup in combustion chambers.

Some soldiers think that if some oil is good, more is better. So they overfill the crankcase when they add oil.

But engineers already figured out how much oil it takes to lube and cool an engine. That level is the **ADD** mark on the dipstick.

Then engineers figured out how much oil it takes as a "cushion" so the engine won't run dry if there's a slight oil leak, yet not so much so as to overfill the reservoir. That level is to the **FULL** mark on the dipstick.

So remember, when you give your little Mil Std engine TLC, give it all it needs but no more. Keep oil level between the **ADD** and **FULL** marks on the dipstick. And, if possible, measure the level only after the engine's cooled. That gives oil a chance to drain from the working parts where it's been doing its job into the crankcase where it can be measured.



SEE ALL THAT YOU CAN SEE

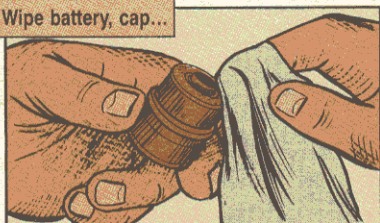
Loss of image and loss of reticle pattern are two common problems that can foul up your AN/PVS-4 night vision sight. Operators, try these quick fixes before you call for help:

Image

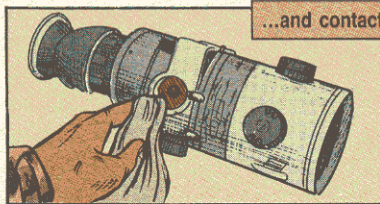
If you lose the image, unscrew the battery cap and look for corrosion — that white stuff. It can keep the sight from getting the power it needs.

If you see corrosion, take out the battery and wipe it clean. Also wipe the cap and the contact.

Wipe battery, cap...



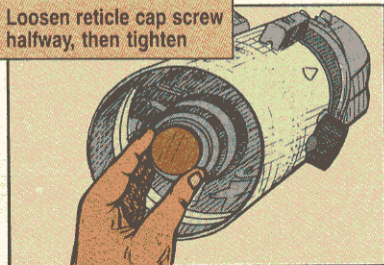
...and contact



Reticle Pattern

Sometimes a bad ground will cause you to lose the reticle pattern. Loosen the reticle cap screw about halfway and then screw it tight again. That should get the pattern back.

Loosen reticle cap screw halfway, then tighten



If you still have no image and no reticle after trying these fixes, then call your unit repairer.

Nightcap



YOUR AN/PVS-5() NIGHT VISION GOGGLES WON'T WORK WITHOUT BATTERIES AND BATTERIES DON'T STAY IN PLACE WITHOUT BATTERY CAPS.

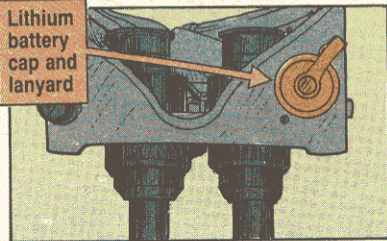


Lithium Battery

The BA-5567/U lithium battery compartment is the same on the AN/PVS-5, -5A, -5B and -5C night vision goggles. That means all models use the same battery cap, gasket, lanyard, washer and screw. Here are the NSNs:

Item	NSN
Cap	5855-00-125-0398
Gasket	5330-00-625-3876
Lanyard	5855-00-125-0753
Screw	5305-00-242-7275
Washer	5310-00-194-3647

Lithium battery cap and lanyard

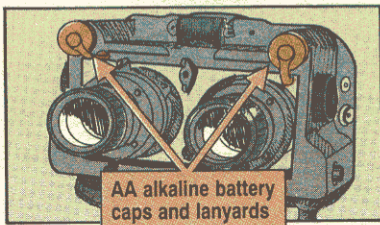


Alkaline Battery

Only the AN/PVS-5C has a replacement cap for the AA alkaline battery compartment. Here are the NSNs:

Item	NSN
Cap	6160-01-315-7809
O-ring	5330-00-251-8839
Lanyard	5330-01-303-9745

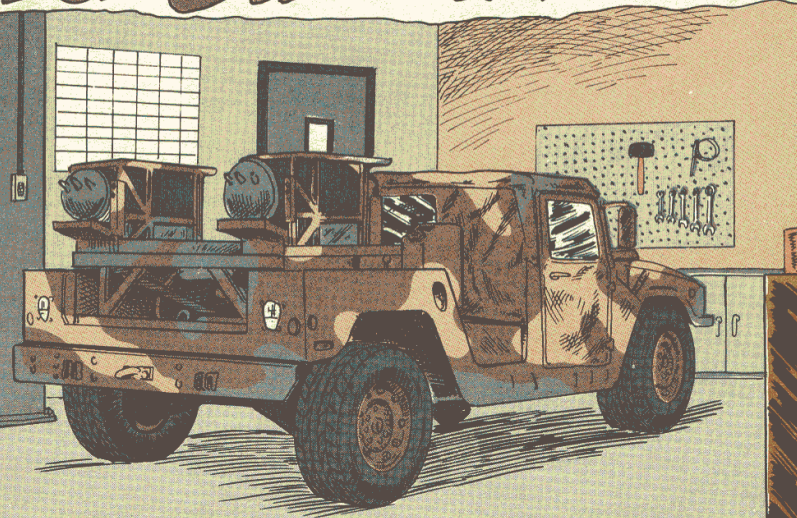
No replacement battery cap is available for the AA alkaline battery compartment on the AN/PVS-5B. The cap for the -5C model won't fit. If you lose the AA cap on the -5B, turn in your goggles for the -5C model.



Modifying for SINGGARS



HERE'S HOW TO INSTALL SINGGARS IN YOUR SMOKE-GENERATOR EQUIPPED HUMVEE.



If you're getting SINGGARS for your HMMWV-mounted M157 smoke generators, you'll need to move the M157 control panels. Do the job like this:

Remove the M157 control panel and panel mounting bracket. Save all the screws, nuts, and washers. Make a note of where the panel's ground strap connects to the mounting bracket.

Plug the holes with plastic plugs, NSN 5340-01-095-5004 or NSN 5340-00-836-2456.

Measure two inches from each drilled hole towards the rear of the HMMWV and mark it.

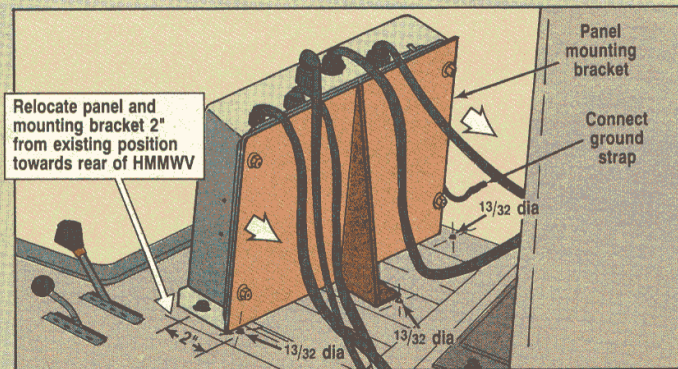
Use the mounting bracket as a template to mark new holes on the center of the HMMWV's raised floor ribs.

Center punch and drill five 7/32-in pilot holes.

Enlarge the pilot holes with a 13/32-in drill.

Install the panel mounting bracket and the ground strap. Make sure the strap connects to the bracket as before.

Install the panel with the same hardware. If you removed the cables, see Page 2-18 in TM 3-1040-279-20 for which cable goes where.



Easy Connecting

HEY! TAKE IT EASY ON ME! I'M JAMMED! YOU NEED TO CLEAN AND LUBE ME!

Dear Editor,

Lots of dirt is thrown up on the quick disconnects for the M157 smoke generator fuel hoses. Dirt works its way into the disconnect sleeves and pretty soon the sleeves are jammed. You push and pull, but you can't disconnect the disconnects.

M157 crews often get impatient and jerk on the disconnects. That breaks them. The disconnects aren't cheap and you can't operate until they're fixed.

The solution is oil and air. Every time the M157s come back from the field, spray penetrating oil, NSN 9150-00-529-7518, under the disconnects' sleeves. Work the sleeves up and down until the sleeves move smoothly. Use a low-pressure air hose to blow away any remaining dirt under the sleeve. Wipe dry the disconnects with a clean rag so oil won't attract more dirt.

Use the penetrating oil and the rag to clean out any sand inside the disconnects and off the engine's male plugs, too. Make sure they're wiped dry.

John Stevenson
Sully Dansby
Ft McClellan, AL

FROM THE DESK OF THE Editor

You make a very penetrating suggestion. Smokesters can also make disconnects last like this:

Push in on the top disconnects with one hand. With the other hand, push in the locking sleeve slightly. The disconnect should pop off.

With the bottom disconnects, push in on the disconnect, but pull back slightly on the sleeve. Again, the disconnect should pop off.

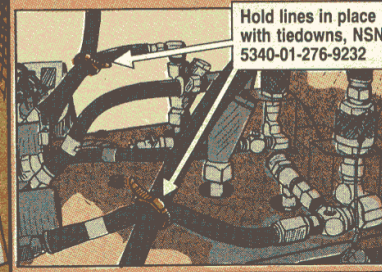
If they don't, try again. No luck? Tell your repairman. It's time for penetrating oil.

Tie Off Hoses

Fog oil supply hoses are open targets for tree limbs when they're left dangling on a HMMWV-mounted M157.

Get rid of the targets by pulling out any slack in the hoses. Use tie-downs, NSN 5340-01-276-9232, to secure them to the intake lines. This tie-down can wrap a 4-in diameter bundle of hoses and will not easily break.

Make sure the hoses do not stick up above the cab where branches can whack them.



Critical Quality

Reporting

When you find a Category I quality defect in an item, report it ASAP! Category I defects cause:

- Death, injury or job-related illnesses.
- Loss or major damage to a weapon system.
- Problems affecting a unit's combat readiness.

Category I product defects are so critical, you report them by message or telephone within 24 hours of finding the defect.

MAKE SURE YOU HAVE ALL THE
INFORMATION BEFORE YOU CALL.
THEN SEND A FOLLOW-UP
MESSAGE

JOINT MESSAGEFORM									
UNCLAS									
FROM	TO	DATE	TIME	TYPE	CLASS	EXT	EXT	EXT	EXT
1	2	3	4	5	6	7	8	9	10

FROM: CO A TRIP 8/1 ARM CAV FT KNOX KY//

TO: CDRATCOM ST LOUIS MO//AMSAT-IMDO//

INFO: CDRAMC ALEXANDRIA VA//AMCOA-P//

UNCLAS

SUBJ: CATEGORY I EIR - HYDRAULIC CONTROL PUMP

1. POINT OF CONTACT FOR ADDITIONAL INFORMATION IS

RAY BOSS, CPT, FC, DSN 464-4321, WK4FF.

2. N/A

3. WK4FFB40001

4. 13 JAN 94

5. 1650-00-295-4672

6. IMPELLER, PUMP, HYDRAULIC

7. XYZ CORP, RICHMOND, VA

8. N/A

9. 12345

10. B. ZYZ CORPORATION, RICHMOND, VA

11. N/A

12. N/A

13. N/A

14. N/A

15. N/A

16. N/A

17. N/A

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93. N/A

94. N/A

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96. N/A

97. N/A

98. N/A

99. N/A

100. N/A

FROM: 693-486

TO: (9) Put in the serial, lot, or batch number of the bad item(s), if known.

10. DAAD-05-C-69

A. UNK

B. W220PLM33620302

C. UNK

11. OVERHAULED

12. UNK

13. 459 HRS

14. NO

15. TWO (2)

A. TWO (2)

B. TWO (2)

C. ONE (1)

D. TWO (2)

(10) Contract number.
a. Purchase order number.
b. Requisition number.
c. GBL number.

(11) Note if the materiel is new, has been repaired, or overhauled.

(12) Give the date received, manufactured, repaired, or last overhaul date, if known.

(13) Tell how many miles, cycles, hours, or EFC rounds were on the equipment or components. For vehicles bought by GSA, put in the date the vehicle was first used.

(14) Enter "NO." Only contractors enter "YES."

(15) Put in the total number of items being reported, no matter what the unit of issue is.
a. Put in the total of items in the lot or batch in which the bad item was found, if you know it.
b. Put in the number of items looked at.
c. Put in the number of items found to be bad after the inspection.
d. Put in the number of items in stock, if you know it.

FROM:
TO:

16. A. TANK M60, NSN 2350-00-116-9765

B. NHA

(1) 3110-00-647-5303

(2) PUMP, HYDRAULIC CONTROL

(3) N/A

(4) 14216

(16) a. Show type/model/series of the end item that the bad item is used with. Show the serial number of the end item, if you have it. List the NSN.
b. If the bad item is part of a next higher assembly, put in the assembly's:
(1) NSN.
(2) Name.
(3) Part Number.
(4) Serial Number. Lot numbers are used for ammunition items since serial numbers do not apply.

17. \$850 (17) Put the AMDF price.

18. UNK (18) Put in the estimated cost (including overhead) to fix all of the bad items listed. If you know the actual cost, enter that.

19. UNK (19) Enter "YES" if the item is under warranty. Put the expiration date of the warranty in parenthesis. Put "NO" if it's not. Put "UNK", if you don't know.

20. F (20) Put in the code for the maintenance unit doing the maintenance:

O—Unit.

F—Direct Support (DS).

H—General Support (GS).

D—Depot.

L—Special Repair Activity.

21. HOLDING EXHIBIT FOR
60 DAYS

(21) List the type of action being done or asked for. If an exhibit is being held, show the number of days (at least 60) it will be held.

22. A. O

FROM:
B. INSPECTION
TO:

C. NOISY

D. TM 9-2320-228-24P.

26 JAN 71, PG 136, FIG 62

E. N/A

F. IMPELLER

SEPARATED DURING

ENGINE RUN UP.

G. UNK

H. REPLACED PUMP.

EXHIBIT WILL BE HELD.

SF 368 WILL BE SUBMITTED

WITH PHOTOS.

I. NONE

23. CO A T 8/1 CAV FT KNOX KY

(22) a. Put in the proper utilization code from Table B-6 of DA Pam 738-750. For vehicles in administrative use, use code "V".

b. Show when the problem was found.

c. Describe the conditions when the first sign of trouble was noticed.

d. To help identify the item, list TM number, date, and latest change number. Also, list the TM page, figure, and item number.

e. Put in all the details of what was happening before the equipment failed. Also give any other information you think might help the investigator.

f. Give a brief, but thorough description of the problem.

g. Outline the most likely cause of the problem.

h. Give a short summary of what you did to correct the problem. If an item is fixed and put back in service, describe the repair. List exhibit information: exhibit held, destroyed, pictures or drawings made, or item turned into supply.

i. Give any suggestions to improve equipment, stop future failures, improve design, and modify or revise instructions.

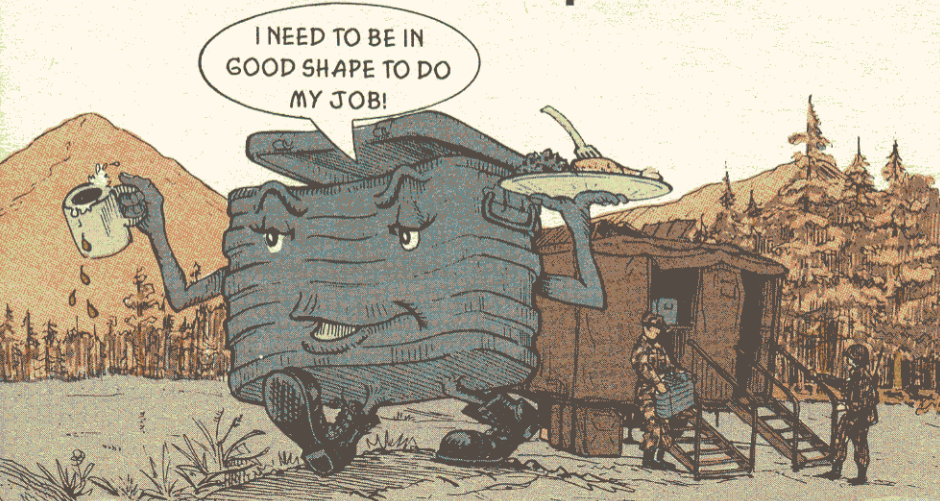
If a report is sent in as a result of an accident or is safety related, note in block 22 if a DA Form 285 (U.S. Army Accident Investigation Report) has been sent in and give the date it was sent.

(23) Enter the unit name, location, and ZIP code or APO number where the deficient material is located.

REPORT CATEGORY I
DEFECTS AS SOON AS
POSSIBLE



Food Container Repair Parts



To keep your insulated food container, NSN 7330-00-238-2411, doing its job, you need to keep it in good repair.

Insert cover gasket

Outer cover gasket

Inserts

Insert cover

USE THESE NSNS TO KEEP THE CONTAINER IN GOOD SHAPE...

ITEM	NSN
Outer cover gasket	5330-00-032-2722
Inserts	7330-00-243-3253
Insert cover	7330-00-243-3254
Insert cover gasket	5330-00-032-2721

If the decals on your container are damaged or missing, replace them using these NSNs:

DECAL	NSN 7690-01-
Insulated food container with inserts	224-6411
Instructions for use	220-3274
Nomenclature of parts	223-2521



WON'T THIS
WINTER EVER
END?

LIKE YOGI SAYS,
'IT AIN'T OVER
TILL IT'S OVER!'

◊ M1 Mine Roller Revisited ◊

Oops! Page 16 of PS 505 said to protect the lifting belt on your M1-series tank's mine clearing roller by avoiding concertina wire. Since the roller doesn't have a lifting belt, that's obviously wrong. Concertina wire will not hurt the mine clearing roller.

✧ Vehicle Glass Sealer ✧

NSN 8030-00-057-4109 brings a 5-oz tube of glass sealer. The clear, fast-drying liquid seals cracks and small openings in vehicle windows, windshields and taillights. Appendix A of CTA 50-970 is your ordering authority.

✧ 621B Shutoff Cable NSN ✧

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

✧ Compressed Air Can ✧

Need a quick, simple way to clean dust off your optics while avoiding the risk of scratches? Compressed air is what you need. Get a hand held can of compressed air with NSN 6830-01-335-7509. NSN 6830-01-334-7026 gets you twelve 10-oz refills.

✧ M157 O-ring NSN ◊

Use NSN 5330-00-835-8974 to get an O-ring for the smoke generator's fog oil strainer assembly. The O-ring is missing from Fig 18 of TM 3-1040-279-12&P.

✧ 600-GPH ROWPU Check ◊

Take a look at your 600-GPH ROWPU. If it is the Univox model, NSN 4610-01-093-2380, turn it in to your DS. It's too costly to support any longer. At the same time, order NSN 4610-01-026-8980, which will get you a 600-GPH ROWPU that is more up-to-date.

✧ Tanker Trough Cover ✧

Get the roadside trough access covers for M967/A1, M969/A1 and M970/A1 tankers with these NSNs: Forward, NSN 5340-01-179-9843, and rear, NSN 5340-01-167-8119. Make a note until TM 9-2330-356-24P is updated.

✧ GAA NSN Error ✧

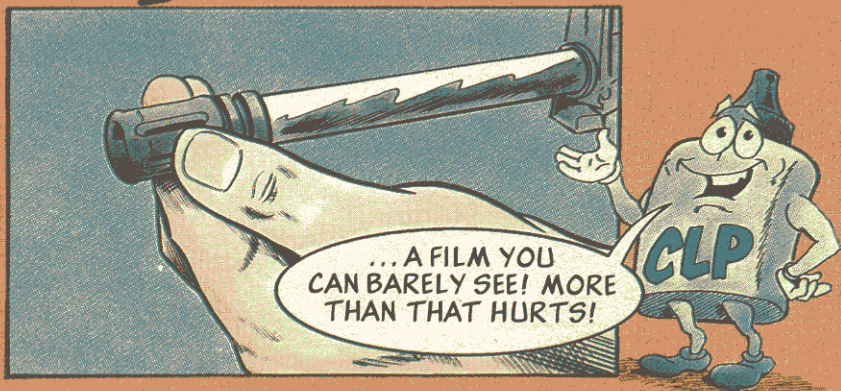
Use NSN 9150-00-530-7369 to get a 120-lb drum of GAA for your 2 1/2-ton trucks. The NSN shown on Page D-2 of TM 9-2320-361-10 is wrong.

Distribution: To be distributed in accordance with DA Form 12-34-E, Block 0312, for TB-43-Series

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

Small Arms Lubrication

A Light Lube means...



A Generous Lube means...

