

Issue 539

PS

October
1997

THE
PREVENTIVE
MAINTENANCE
MONTHLY

TB 43-PS-539



YOU'LL
NEVER GET
A-HEAD WITHOUT
GOOD PM.

Legend of
Sloppy Hollow
... See page 27

Approved for Public Release;
Distribution is Unlimited

NCOs...

The Making of a Unit Mechanic

Take a soldier who'd rather work than eat...

Then stuff his (or her) head full of engines, transmissions, electricity, hydraulics, fuel systems...

Teach him to use a ton of tools and to identify hundreds of parts on sight...

Season him to keep a jeweler's touch while his fingers are freezing... or when oil's dripping on his face.

On top of all that, make him into a diagnostician. It's what separates real mechanics from parts changers. Troubleshooting equipment in their hands is like x-ray eyes.

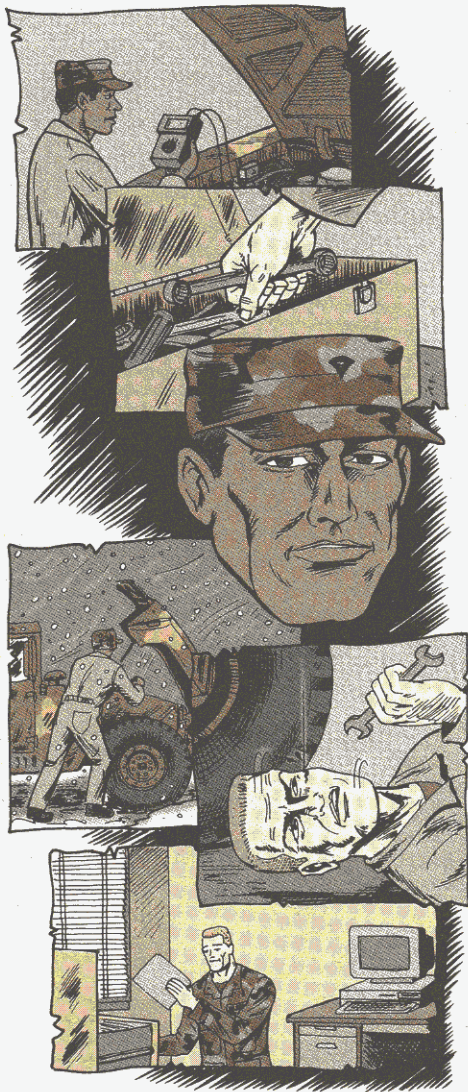
Finally, teach him to keep good records. Now you've got the makings of a unit mechanic—the finished product.

Tough job? You bet!

Possible? Not only possible, but it's being done every day in motor pools throughout the Army. These mechanics have set a high standard for themselves, day in and day out. They're the ones who keep the equipment operating in spite of obstacles and problems that would stop a parts changer.

So, next time you see one of these mechanics in your motor pool, think how lucky you are to have him working on your equipment.

You may even want to officially recognize him for his work. If so, see Para 8-28 of AR 600-8-22 on awarding a mechanic's badge to one of these "superstars."





THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-539, 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:

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DENNIS J. REIMER

General, United States Army Chief of Staff

Official:

Joel B. Hudson

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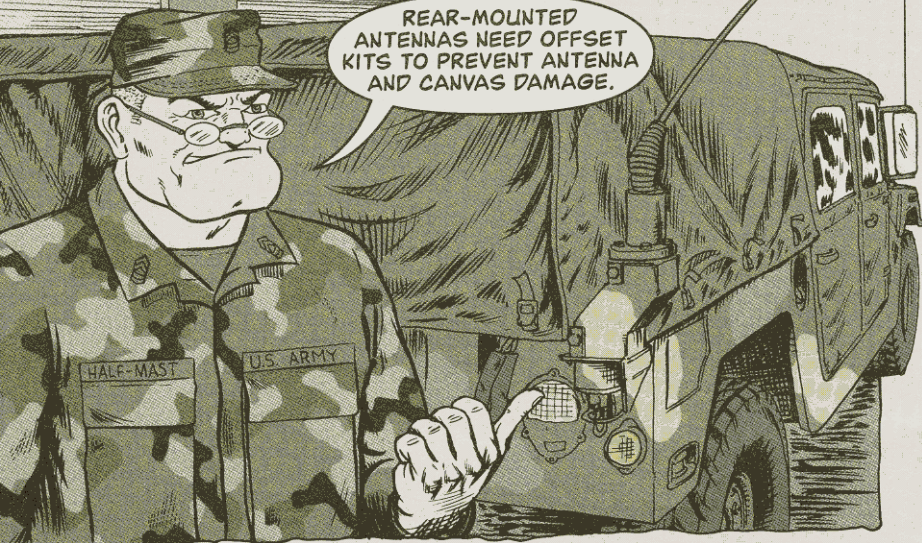
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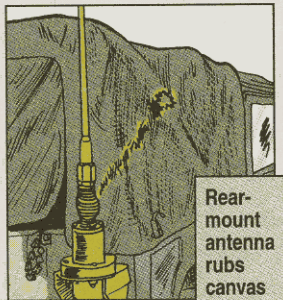
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HMMWV ...

Offset Those Antennas



Without the offset mount, the antenna's bottom element rubs against the rear bow of the canvas support frame. Over time, the rubbing wears the antenna 'til it shorts out or breaks. It also wears out the canvas.

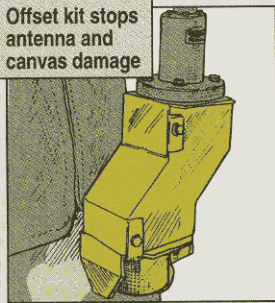


Rear-mount antenna rubs canvas

Add the offset kit, NSN 5985-01-258-0037, to move your antenna a couple of inches beyond the side of the HMMWV, where it can't rub the canvas.

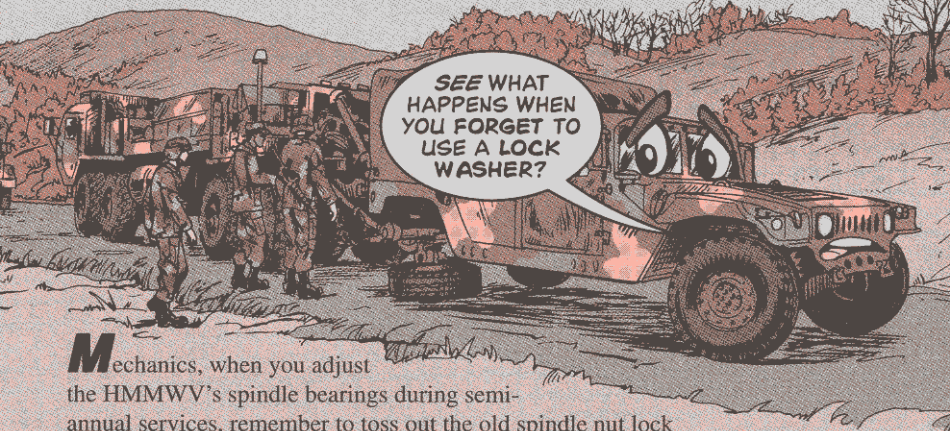
The kit contains a reinforcing plate,

Offset kit stops antenna and canvas damage



NSN 9535-01-302-0068, for the truck body so there is heavier support for the antenna base.

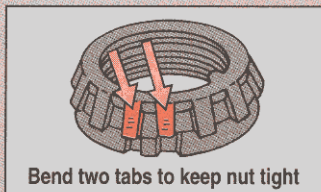
Use Lock Washer nce



SEE WHAT HAPPENS WHEN YOU FORGET TO USE A LOCK WASHER?

Mechanics, when you adjust the HMMWV's spindle bearings during semi-annual services, remember to toss out the old spindle nut lock washer and replace it with a new one, NSN 5310-01-213-4185.

A reused lock washer will let the locknut loosen. Then, the wheel assembly can fly off. That's real bad news when you're moving down the road.



Bend two tabs to keep nut tight

So, replace the lock washer at each service. And, when you put in the new one, always bend two tabs like Para 6-14 of TM 9-2320-280-20-2 (Jan 96) tells you. Bending the tabs keeps the nut from loosening.

If you still have the four-slotted nut, it's even more important to get one tab bent in the slot.

FMTV...

Gasket Leak Causes Mist

If you've noticed a smoky mist coming from the air/hydraulic power unit when you raise or lower the cab on your FMTV, you've got a gasket failure.

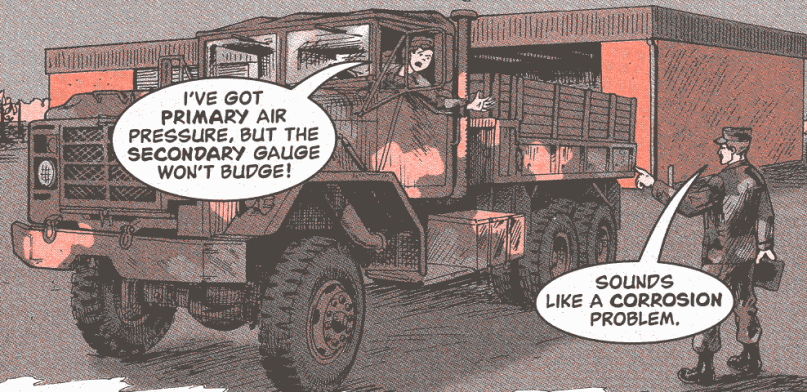
There's only one thing to do—get your truck to your support unit.

They'll remove the cover, replace the gasket and add sealant, NSN 8030-00-220-6973.



Support replaces bad gasket

Keep Water Out of Brake System

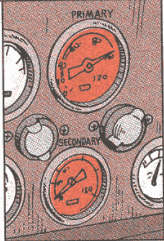


It is a cold, hard fact—even in warm weather—that water does no good to air brake systems.

Moisture feeds corrosion, which can clog air lines and jam up relay valves. Then there's not enough air flow to pressurize the system—you can't move.

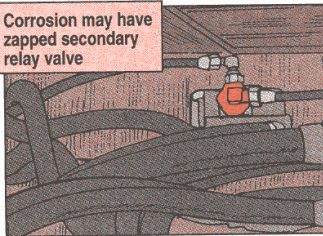
Here's a good example: You go to your M939-series truck to prepare for a mission. You crank it up and wait for air pressure to build. The primary gauge maxes out, but the secondary gauge won't budge or only gives you 10 psi or so.

Primary gauge OK but secondary gauge not OK?



"What gives," you ask? Moisture has corroded the spring inside the secondary relay valve so it won't let pressure build to the rear brakes. You're stuck until the valve is replaced.

Corrosion may have zapped secondary relay valve



Removing the moisture is simple. Just drain the air tanks after operation. Here's the right way to drain M939 air lines:

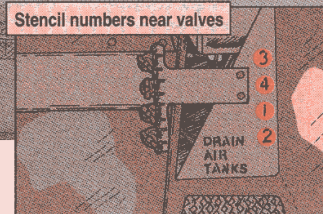
First, always drain all four tanks. There's more water in the wet tank, for sure, but all tanks hold moisture.

of Brake System



Drain tanks in the order called for on Page 2-67 of TM 9-2320-272-10 (Aug 96).

Stencil numbers near valves



To make the draining order easy to remember, get your mechanic to stencil the numbers on the truck near the valves. CARC, NSN 8010-01-229-7540, and the 1-in stencils from the No. 1 Common shop set are best.

Open each petcock, one at a time, until the air pressure is gone. Close all petcocks after you've drained the tanks. Leaving them open doesn't get rid of more water—it creates more.

That's because cool nights and warm days build condensation inside the tanks. When you close the tanks just before you operate, the water is trapped inside, getting ready to clog air lines and jam relay valves.

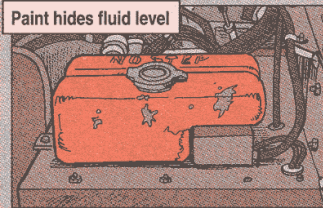
Wheeled Vehicles ...

Painting Precautions

When you prep a wheeled vehicle for the paint shop, you know you have to cover all the glass and lamp components—windshield, mirrors, headlights, taillights, etc.

What you need to learn to cover are all the polyethylene/plastic components that contain liquids—overflow tanks, windshield washer reservoirs, etc.

Paint hides fluid level



That's because you can't see through CARC to tell how much liquid is in the containers.

Just remember to cover the polyethylene/plastic as well as the glass items on your wheeled vehicles **before** they go to the paint booth.

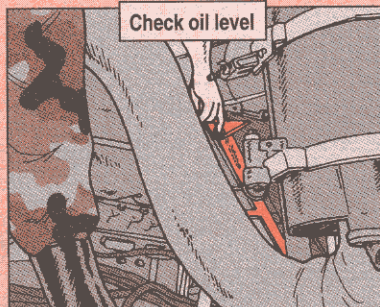
Blowing Transmission Oil



CONNIE,
THE TRANSMISSION
OIL LEVEL ON OUR HEMTT
CHECKS OUT, BUT OIL STILL
BLOWS OUT THE VENT
AT STARTUP.

THE OIL LEVEL
COULD BE TOO HIGH.
THAT'S WHAT UNITS AT
FORT BLISS, TEXAS,
DISCOVERED.

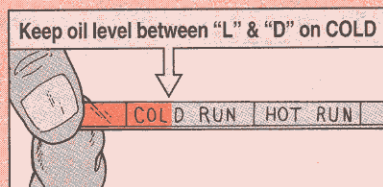
They found that their M983 tractors were losing several quarts of transmission oil at start-up. Since overfilling is the most likely culprit for blowoff, they made sure oil levels were within TM 9-2320-279-10 limits for operation.



When that didn't seem to make any difference, they began backing off on the fill levels required in the -10, still sure that too much oil was in the transmission case.

They were right, too. They found that their oil level must be nearer the COLD end of the dipstick than the HOT.

Specifically, when they make the after-operation check as described in the -10, they maintain an oil level between the letters "L" and "D" in COLD. That's right—COLD. The check, you'll remember, is made after operation (parking brake set, transmission in neutral, engine running), with a hot transmission (over 160°F).



'Course, if your HEMTT doesn't blow transmission oil, keep your oil level where it is. It's working for you.

Parts Update

HERE'S SOME PARTS NEWS THAT COULD MAKE LIFE EASIER FOR YOU HEMTT DRIVERS AND MECHANICS.

Slobber kit: First, it's no secret that HEMTTs suffer from "engine slobber." Forget about unburned fuel and oil leaks by getting support to install a slobber tube kit, NSN 2815-01-210-0374. It's the same tube kit used on the M911 HET.

Relay switch: The relay switch for the chassis's wiring harness comes with NSN 5945-00-855-7478. The description shown for Item 55 in Fig 76 of TM 9-2320-279-20P is wrong.

Sending unit guard: NSN 3020-01-428-6096 gets a guard kit for the PTO sending unit and the transmission oil temperature sending unit on M984A1 HEMTTs. Order guard kit, NSN 3020-01-426-4824, for M977, M983 and M985 HEMTTs. Instructions come with the kits.

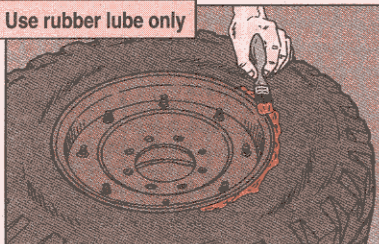
Mounting and Demounting Tires

Oil or grease may make mounting and demounting tires easier. But, it also rots tires. S-o-o-o, don't use them.

Instead, use rubber lubricant, like it says on Page 2-18 of TM 9-2610-200-14, Care, Maintenance, Repair and Inspection of Pneumatic Tires and Inner Tubes.

It works as well as oil or grease and won't damage your tires. It's listed in Table C-8 of the TM. Get a quart with NSN 2640-00-256-5526 and a gallon with NSN 2640-00-256-5527.

Use rubber lube only



Hubs Can't Afford Water

WHY ARE YOU SO SURE THAT THE LUBE IS FOULED?

I'M NOT, THAT'S WHY MY MECHANIC IS GONNA CHANGE IT!

Drivers, your mechanic has a lube job waiting anytime you drive your truck into hub-deep water with hot axle housings.

This sudden cooling creates a vacuum inside the housing. The vacuum draws water past the axle seals and into the gear oil. Water-contaminated oil is a poor lubricant. Gears get worn and fail.

Contamination can happen whether you ford a stream or just drive through hub-deep water.

How can you know for sure that water has been sucked into the axle housing? You can't, but there's no sense taking chances on ruining differential gears. Have your mechanic change the oil!

M116A2 Trailers ...

Mind the Chains

Cross the safety chains on top of the M116A2's tongue when you unhook the trailer.

If you drop the chains over the frame, you run the risk of putting a hole in the brake line that runs next to the frame.

It's already happened, so don't figure it won't happen again. A hole in the brake line means no trailer brakes.

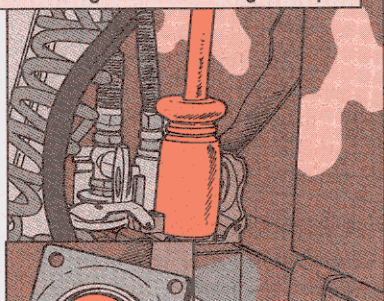
Stow safety chains here...

...to prevent brake line damage here

TAKE CARE WITH POWER HOOKUPS

"No charge" really makes your day when you deal with business people. Power cables and connectors deserve the same consideration when you hook a trailer to a truck.

Turn off lights before making hookup ...

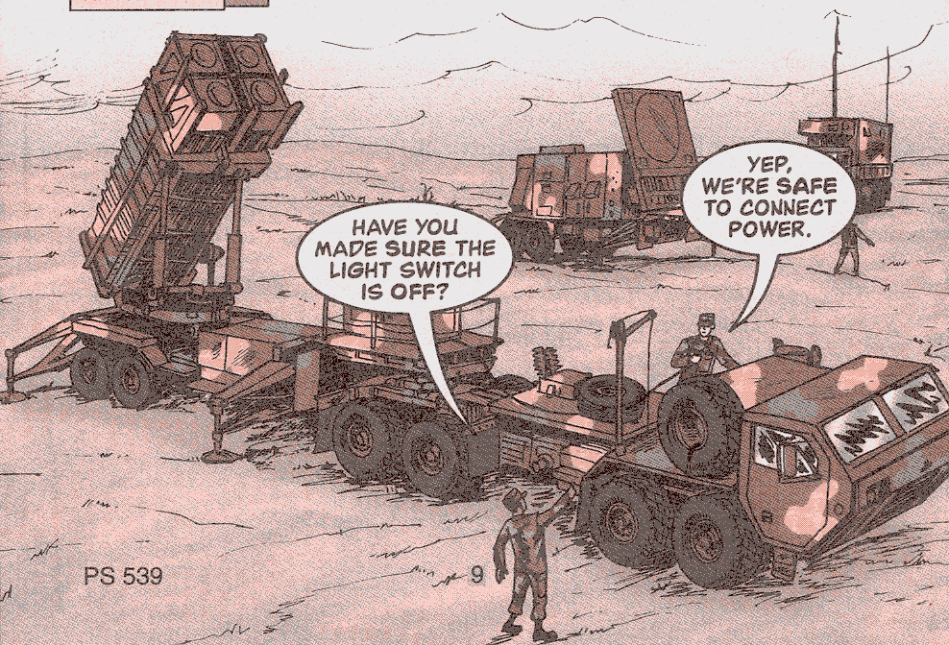


...or you'll burn out connector

Make sure there are no light switches in the ON position when you hook up the electrical power cables. Otherwise, there's a big charge waiting when you try to make that connection.

Arcing can occur as soon as the cable gets close enough to the connector if the truck's lights are on. Arcing can destroy the connector on the truck or the cable connector, or both. And you'll have no lights until repairs are made.

Before any trailer hookups, turn off all truck lights, match cable and connector keyways so pins don't get bent or broken. Once all electrical hookups are made, then turn on the lights to check that all your lights are working.



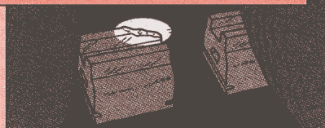
Clear the

If your MK-155 mine clearing line charge (MICLIC) is going to clear your path through mine fields, you need to clear its path with PM.

Tires and Track

The unusual combination of tires and track can cause both to wear out fast if something's wrong. Before you go to the field, eyeball the insides of all eight tires for gouges or bad wear. Also look at track teeth for uneven wear.

Check tracks and tires for unusual wear



Worn tires or teeth usually mean the track is aligned or adjusted wrong. Your repairman can correct out-of-whack track with the procedure beginning on Page 4-64 in TM 9-2330-389-14&P.

Be sure to get bad tires replaced. A flat tire in the field will flatten your day.

If you're travelling through mud, clean between the tracks and tires every chance you get. Lots of mud between the track and tires will throw the track. It's no easy job to put track back on in the field.

Use the truck or APC pioneer tools for cleaning. Scrape out the mud, move the MICLIC forward, and scrape out the rest of the mud.

Clean it, move it, and clean again



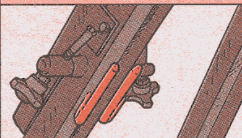
Any time the MICLIC goes through heavy mud or deep water the lube gets washed out. So lube again ASAP. Without more lube, the bearings seize. The MICLIC lube chart is in Chap 3 of TM 9-2330-389-14&P.

Way with PM

Launcher Lowdown

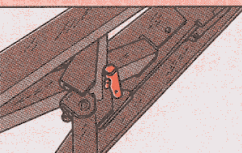
Before leaving the motor pool, check that the rocket guides on the launcher arms aren't bent outward. Bent guides let the rockets bounce around and suffer damage. Gently bend the guides back in place.

Make sure rocket guides are not pointing out



Also, make sure the rocket release catch is on the front of the launcher arm stop. If it's on the rear of the stop, the rocket fires but stays on the launcher. One MICLIC crew suffered burns from a rocket that couldn't take off.

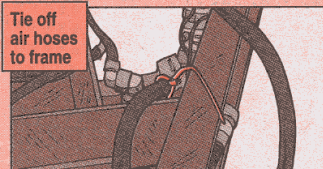
Release catch should be at front of stop



Air Hoses

Air hoses dangling loose from the trailer get crimped during travel or vibrate loose and drag the ground. Then you have no trailer brakes. Use tiedown straps to secure the hoses to the trailer frame.

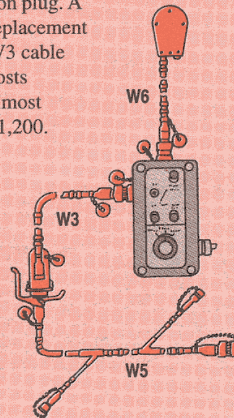
Tie off air hoses to frame



Storage

If MICLICs are just going to sit in the motor pool, remove the W3, W5, and W6 cables to the control box and store them in the MICLIC's storage box. Left exposed to heat and cold, the cables' wires can separate from the cannon plug. A replacement W3 cable costs almost \$1,200.

Store control box cables inside



UH, OH. THERE GOES MY TRACK. YOU GUYS SHOULD HAVE CLEANED OUT ALL THAT MUD FROM MY WHEELS.

OH, NO! I HATE PUTTING TRACK ON IN THE FIELD!



GIVE YOUR TANK SOME AIR

STAND BACK!
STAND BACK!
GIVE HIM SOME AIR!

I'D
RATHER
HAVE A LITTLE
INDUCTION
SYSTEM
PM!

cough HACK
HIK

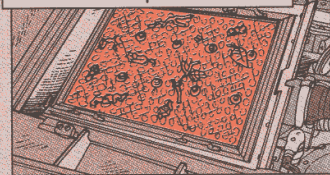
To operate at peak performance, the engine in your M1-series tank needs a lot of clean, fresh air.

Keeping it clean is the job of your tank's seals and filters. They screen out sand and dirt that can overheat the engine. They also keep out larger debris that can dent, crack or break the compressor blades.

Precleaner

Trees and bushes make a good hiding place for your tank, but they also make for clogged air precleaners.

Clean debris from precleaner surface

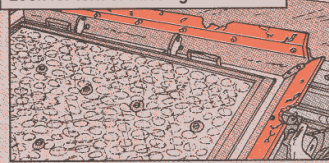


Leaves that fall on or near the air inlets get sucked onto the precleaner. Enough leaves will cut off airflow and lower power output.

If the AIR CLEANER CLOGGED FILTER light comes on, make the precleaner one of your first checks.

While you're there, take a close look at the baffle seals. Cracked, torn or

Look for torn or missing baffle seals

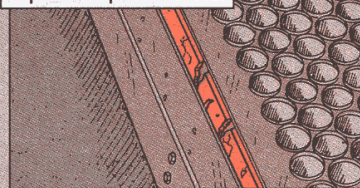


missing seals allow dirt and oil from the engine to clog the air cleaner assembly element strainers.

NSN 5330-01-225-6106 gets a new short seal. The longer seal comes with NSN 5330-01-320-3696.

Next, eyeball the bottom precleaner seal. If the seal is missing, loose or torn,

Replace torn precleaner seal



replace it. NSN 5330-01-166-5798 gets a seal for the type A precleaner.

The type B precleaner takes NSN 5330-01-329-6614.

A new seal is useless, though, unless you put it on right. Here's how:
1. Clean off the old seal and adhesive completely. To do it right you'll need a lot of elbow grease—combined with a rag, drycleaning solvent and a wire brush.

2. Spread adhesive, NSN 8040-00-664-4318, in the seal groove. Use enough to hold the seal, but not enough so it can squeeze around the seal. The right amount of adhesive keeps the seal from sticking to the airbox frame and ripping loose every time you remove the precleaner.

3. Apply a very light coat of adhesive to the bottom of the new seal and press it into the groove with your finger. Take extra care not to twist the seal as you put the rounded side in the mounting groove. A twisted seal is not airtight.

4. Let the adhesive dry completely before you put the precleaner back in place.

Skirt Seals

If you're having problems with clogged air filter V-packs, missing fender skirt seals could be the cause. Those rubber strips are there to seal the area between the skirts and hull.

Missing seals allow dirt and dust to be sucked up the inside of the fender skirts. The engine pulls the dirt into the air intake system where it clogs up the V-packs.

All the seals are important, but pay special attention to the seals at skirts 4, 5 and 6 on the left side of the vehicle. These seals are closest to the air intake grills.

NSNs for the seals are listed in Figs 261-264 and 266 of TM 9-2350-255-24P-1 (Oct 92) for the M1, Figs 248-251 and 253 of TM 9-2350-264-24P-1 (Mar 96) for the M1A1, and Figs 235-238 and 240 of TM 9-2350-288-24P-1 (Sep 95) for the M1A2.

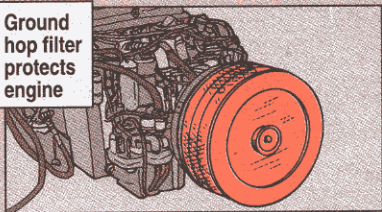
Ground Hopping

Mechanics, whenever you pull the powerpack for maintenance or services, make sure you cover all air and oil inlets to prevent foreign object damage (FOD). The wind is your biggest

enemy here. It can pick up dirt and debris and clog those inlets before you know it.

Next, remember to use the ground hop filter. The ground hop filter takes

Ground hop filter protects engine

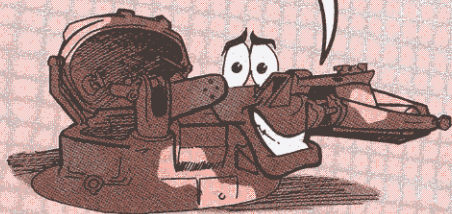


the place of the tank's air filters. Without it, the engine sucks in dirt, dust, sand and whatever else is handy. That's an engine killer for sure.

PS END

M1-Series Tanks ...

UNCOVER GEAR
DAMAGE

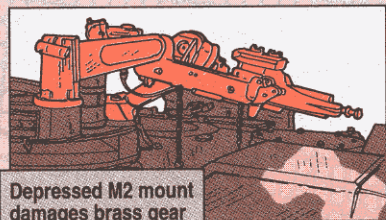


When it's time to cover up your M1-series tank, don't sacrifice the M2 machine gun mount.

Some tankers lock the mount in the fully depressed position to make it easier to put the tarp on. But, that depresses the spring and puts pressure

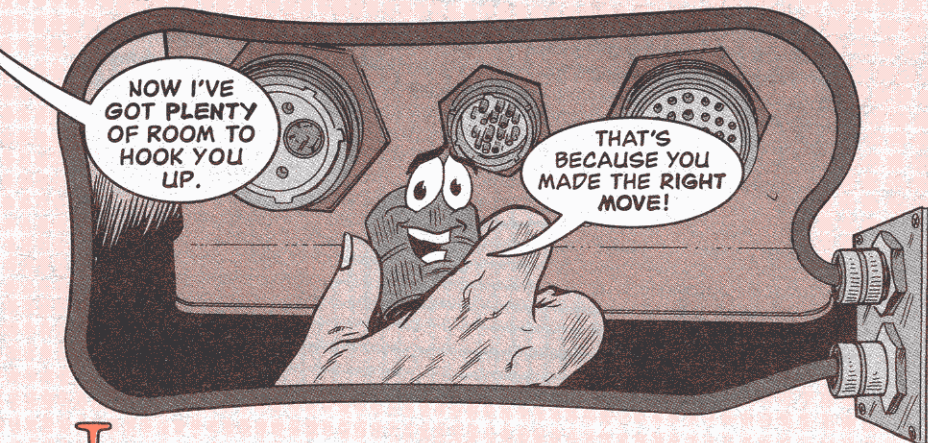
on the brass gear inside the mount housing.

That pressure gradually eats away at the teeth. Enough wear lets the mount float and the machine gun won't hold steady.



So, instead of locking the mount in the fully depressed position, elevate it slightly. That decreases the pressure and saves the gear. If you're worried about tearing the tarp, slip a styrofoam cup over the tip of the mount.

Cable Connection Protection



The cable pins and connectors on the Bradley's turret distribution box have to be lined up straight when you connect them.

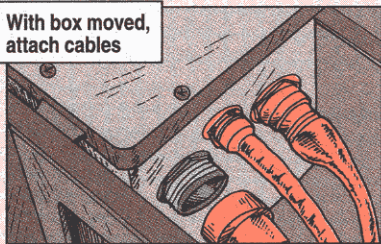
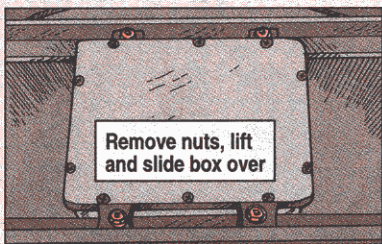
But there's barely room to get your hand between the box and floor wall, much less attach connector plugs properly.

With seven cables on each end of the box, you can count on at least one getting damaged.

There's a better way.

The distribution box is held in place by four nuts and washers. Remove them.

Carefully lift the box off its mounts and slide it over. That'll give you room to hook up the connectors.

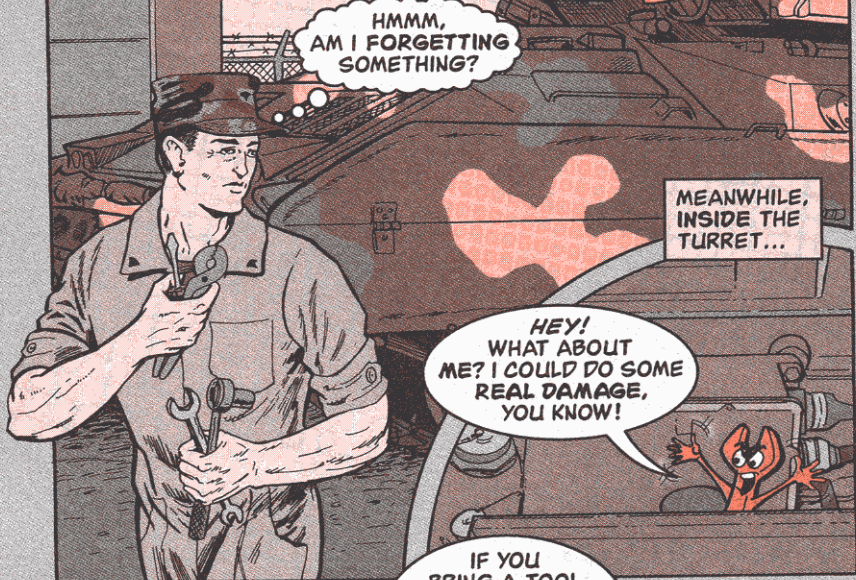


Then slide the box in the other direction and connect **those** cables, too.

When you've connected all the cables, put the distribution box back on its mounts and snug down the nuts and washers.

Do the same thing when it's time to disconnect the cables.

Pick It Up!



Mechanics, the old saying, “There’s a place for everything, and everything in its place”, has special meaning when you’re making repairs inside a Bradley turret.

When the repairs are done, collect any and all the tools you used. Even the smallest screwdriver or wrench can cause a lot of damage if they’re left under the floorplates. The next time the turret is traversed, forgotten tools rip up cables and connectors. You could even end up with a punctured fuel tank.

Prevent those problems by keeping track of the tools you use.

**IF YOU
BRING A TOOL
OUT TO A VEHICLE,
MAKE SURE YOU
TAKE IT BACK
WITH YOU.**



C Follow the LO!

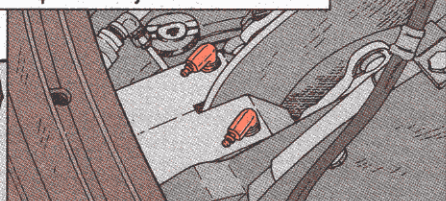
Crewmen, here are some good reasons to follow the LO when you lube your M113-series carrier:

- ▶ You'll hit **all** the lube points.
- ▶ You'll use the **right** lube.
- ▶ You'll lube everything **when** you're supposed to.

Need another good reason? The LO also keeps you from lubing things that should **not** be lubed.

The pivot steer brake assembly hydraulic bleeder valves in the engine compartment

Keep lube away from bleeder valves



are a good example. The valves look like lube fittings, but they're **not**.

Grease clogs the valves and keeps you from bleeding the system. Your mechanic will have to remove the bleeder valves and clean them with solvents and compressed air before you can bleed the system again.

It's an easy problem to prevent. Just make sure you follow your LO—**step by step**—every time you lube your carrier.



ROAD TEST HOW-TO



MECHANICS,
TM 9-2350-277-20-1
COMES UP SHORT ON HOW TO DO
A PROPER ROAD TEST FOR
THE M113A3 FOV.

UNTIL THE TM IS
UPDATED, ADD THESE TWO
PROCEDURES TO ITEM I OF
THE PMCS TABLES...



Item No.	Interval	Location Item to Check/ Service	Procedure
1e	Semiannual	Speed and drift	The carrier should sustain a speed of 40 mph. The carrier's directional drift shall not exceed three feet in 100 feet of travel at 25 mph (± 5 mph).
1f	Semiannual	Acceleration	Standing still, with the engine at idle rpm and the transmission in 1-4 range, the carrier shall accelerate on a smooth, level hard surface from zero to 20 mph in 11 seconds or less.

Protect the Bearings

No matter how hard you try to prevent it, some moisture is going to get into the fuel system of your M113A3 personnel carrier.

While it's usually not enough to cause engine problems, that moisture **can** damage the bearings inside the female fuel line quick-disconnect, NSN 4730-01-149-4010. Continuous exposure to moisture rusts the bearings.

Your mechanic can prevent that damage by cleaning the quick-disconnect semi-annually with a brush and drycleaning solvent. That'll take care of rust and corrosion problems before they can develop.



Clean bearings to prevent rust

Keep the Fog Out!

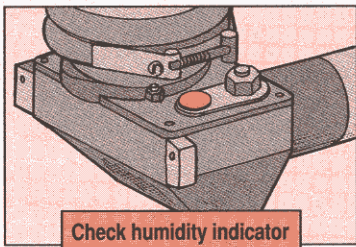
If you've ever had to fire your M901 Improved TOW Vehicle or M981 FISTV in a heavy fog, you know how hard it is. You can't see much of anything!

But fog is exactly what you get when humidity builds up on the mirror in the lower image transfer assembly (ITA).

You can avoid a fogged up mirror by keeping an eye on the humidity indicator. When it turns pink, have your mechanic clean the ITA.

Mechanics, the ITA should be cleaned only by purging it with dry nitrogen. Follow the steps in Para 5-

92, Step 2 of TM 9-2350-259-20 for the M901 ITV and Para 5-105, Step 2 of TM 9-2350-266-20 for the M981 FISTV. To do the job right, you'll need a nitrogen purging kit, NSN 4931-00-065-1110.

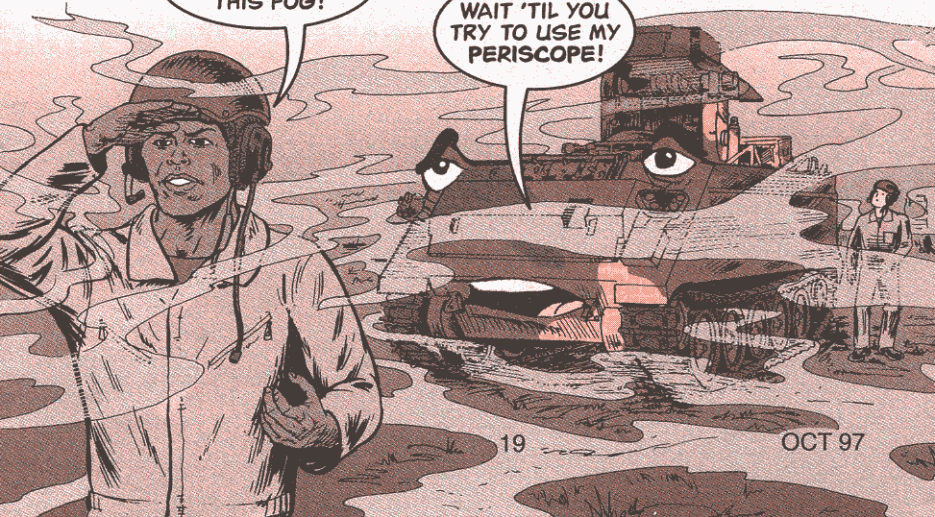


When you're finished, put in new desiccant, NSN 6850-00-181-7727. That keeps moisture from building up on the ITA's mirror.

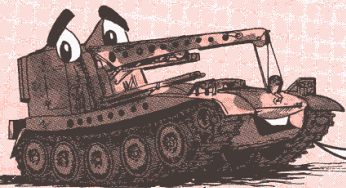
Never try to clean the ITA's interior any other way. Wiping away moisture inside the ITA—particularly on the mirror—damages the assembly. And that means depot level repair. If purging doesn't do the trick, turn the assembly in to support for inside cleaning.

MAN, I CAN'T SEE ANYTHING IN THIS FOG!

WAIT 'TIL YOU TRY TO USE MY PERISCOPE!



Stop Here for Parking Brake Parts Info



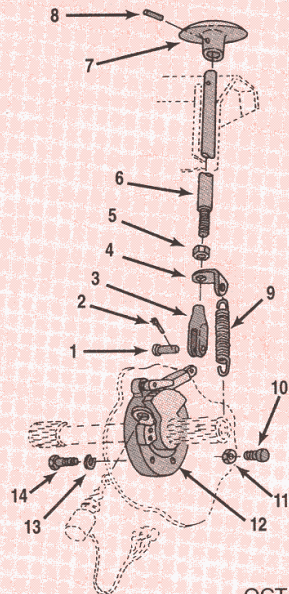
MECHANICS, BEFORE YOU ORDER REPAIR PARTS FOR THE PARKING BRAKE ASSEMBLY ON THE M578 RECOVERY VEHICLE OR M110A2 HOWITZER, READ ON.

Figs 118, 119 and 120 of TM 9-2350-238-24P-1, and Figs 105, 106 and 107 of TM 9-2350-304-24P-1 list parts designed for an MWO that was never released. Those parts won't work with the parking brake assembly on your vehicle.

Until the TMs can be updated, order these parts instead:

Parking Brake Control and Linkage

Item	Description	NSN
1	Pin, straight-headed	5315-00-610-5729
2	Pin, cotter	5315-00-839-2325
3	Clevis, rod end	5340-00-865-9496
4	Bracket, angle	5340-00-089-6191
5	Nut, plain, hexagon	5310-00-971-7989
6	Rod end, threaded	5340-00-009-2209
7	Handle, door	5340-00-089-6190
8	Pin, spring	5315-00-843-7986
9	Spring, helical, extension	5360-00-597-2317
10	Screw, cap, hexagon	5305-00-269-2803
11	Nut, plain, hexagon	5310-00-732-0559
12	Brake assembly	2530-00-937-8043
13	Washer, lock	5310-00-407-9566
14	Screw, cap, hexagon	5305-00-051-4078



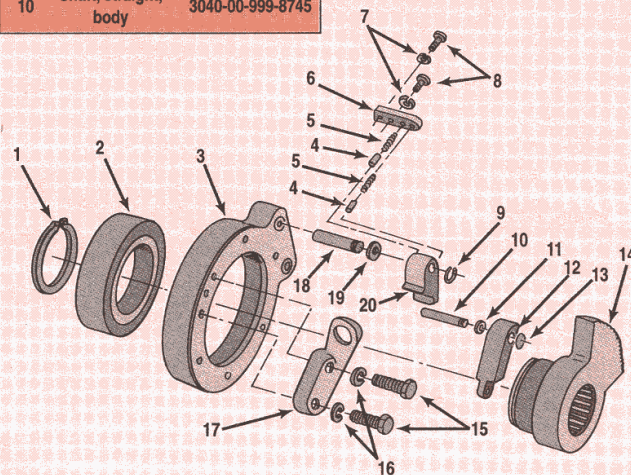
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OCT 97

Parking Brake Assembly

Item	Description	NSN
1	Ring, retaining	5325-00-682-1543
2	Bearing, ball	3110-00-198-0889
3	Support	PN 10902215, CAGE 19207
4	Pin, spring	5315-00-238-1584
5	Spring, helical, compression	5360-00-809-5942
6	Plate	2530-00-442-6040
7	Washer, lock	5310-00-582-5965
8	Screw, cap, hexagon	5305-00-068-0506
9	Ring, retaining	5365-00-715-1152
10	Shaft, straight, body	3040-00-999-8745

Item	Description	NSN
11	Washer, flat	5310-00-857-9570
12	Lever, remote control	3040-00-106-2235
13	Ring, retaining	5365-00-720-8064
14	Ratchet	2530-00-906-0146
15	Bolt, machine	5306-00-225-9089
16	Washer, lock	5310-00-407-9566
17	Bracket	5340-01-087-8640
18	Shaft, straight, body	3040-00-999-8744
19	Washer, flat	5310-00-550-9438
20	Lock	2530-00-041-3115



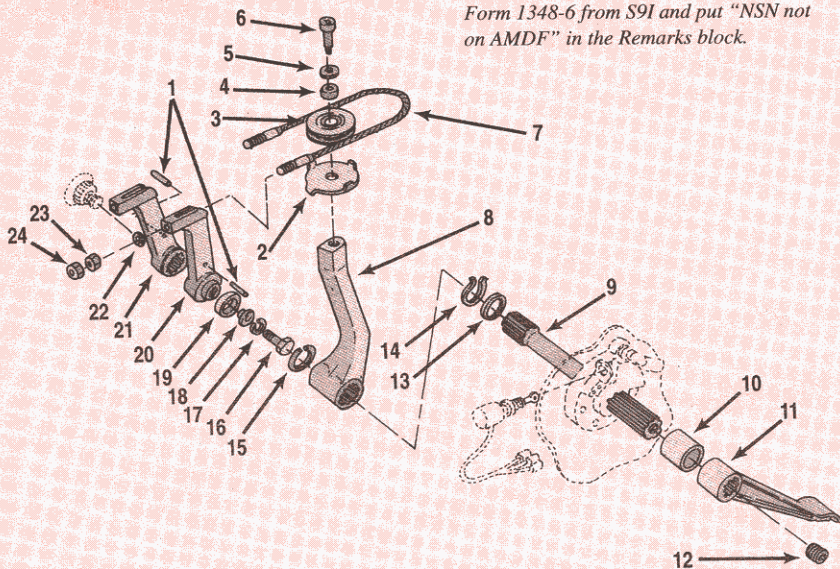
PS 539

Mechanical Brake Control and Linkage

Item	Description	NSN
1	Pin, spring	5315-00-814-3531
2	Clip assembly	2530-00-801-1141
3	Pulley, groove	3020-00-168-2487
4	Bearing, sleeve	3120-00-844-5649
5	Washer, flat	5310-00-809-5998
6	Screw, shoulder	5305-00-943-2043
7	Cable, brake control	2530-00-956-2896
8	Lever, foot brake	3040-00-867-8862
9	Shaft, brake control	3040-00-867-8859
10	Spacer, sleeve	5365-00-937-6558
11	Pedal, control	2540-00-999-5358
12	Plug, pipe	4730-00-555-8291
13	Spacer, ring	5365-00-898-9245

Item	Description	NSN
14	Ring, retaining	5325-00-282-0748*
15	Ring, retaining	5365-00-754-1083
16	Bolt, machine	5306-00-225-9089
17	Washer, lock	5310-00-407-9566
18	Washer, shouldered	5310-00-056-2179
19	Spacer, ring	5365-00-861-7056
20	Lever, left brake	3040-00-918-6202
21	Lever, right brake	3040-00-918-6203
22	Washer, flat	5310-00-809-4058
23	Nut, plain, hexagon	5310-00-905-1691
24	Nut, self-locking hexagon	5310-00-982-4988

* NSN not on the AMDF. Order on a DD Form 1348-6 from S9I and put "NSN not on AMDF" in the Remarks block.



M1A1 Gunner's Quadrant . . .

Glow or No Glow?

INQUIRING
MINDS WANT
TO KNOW!



Dear Half-Mast,

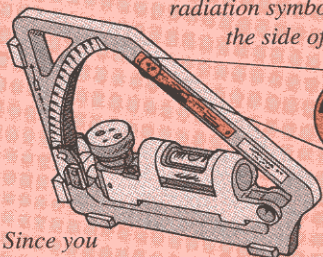
I was told that the level vial in the M1A2 fire control gunner's quadrant contains radioactive tritium, while the M1A1's level vial does not. Yet the M82 carrying case used for both models has a radioactive label on it.

I have the M1A1 quadrant. The level vial doesn't glow in the dark, but that could be due to age or a leak. For safety's sake, I really could use some answers.

SGT R.E.

Dear Sergeant R.E.,

Only the M1A2 gunner's quadrant contains tritium in the level vial. In fact, if you had the M1A2, you'd see a caution plate with the radiation symbol right on the side of the frame.



**M1A2
quadrant
has
radiation
warning**

Since you have the M1A1, just tear the radiation label off the carrying case and you'll be good to go.

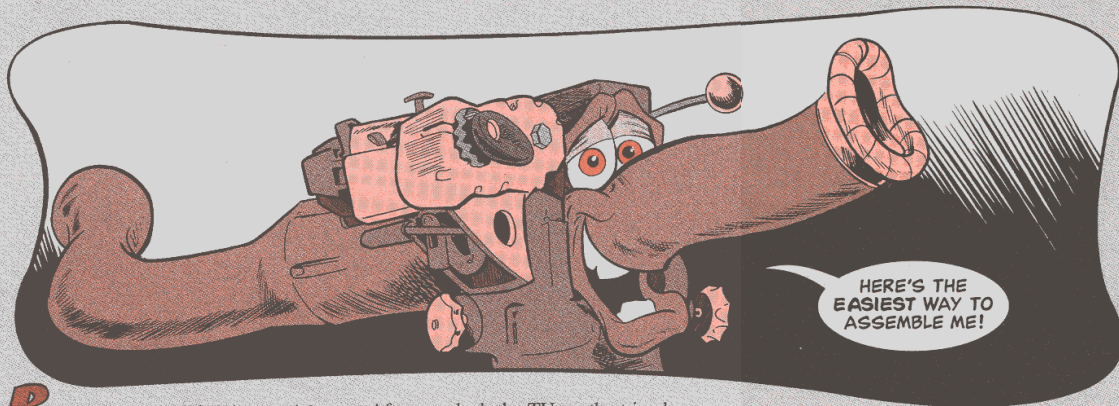
The radiation labels aren't stocked, so if you lose one from your M1A2's case, get a replacement by calling ACALA at DSN 793-2135 or commercial (309) 782-2135. Or send an e-mail to: kfritz@ria-emh1.army.mil

Half-Mast

M109A2-A5 Gearbox Gasket

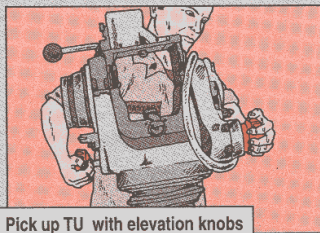
Use NSN 5330-01-426-2070 to get a new gasket for the traversing gearbox on your M109A2-A5 SP howitzer. The NSN listed for Item 15 of Fig 92 and Item 35 of Fig 93 in TM 9-2350-311-24P-2 is a terminal item.

Assemble with Care



Putting together the TOW is no quick-and-easy operation. Some parts—like the traversing unit—are heavy and others—like the op sight—are connected by feel. If you don't get it right, your TOW can take a tumble. Here's how to get it right:

Traversing unit. Use elevation knobs as handles to hoist the TU onto the tripod. The bridge clamp may look like a wonderful handle, but if it comes unlocked the TU hits the floor.

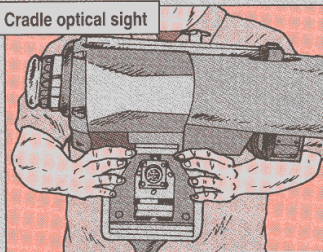


Pick up TU with elevation knobs

After you lock the TU on the tripod, try to move it to make sure it's locked in.

Optical sight. Push the sight latch all the way down. Use both hands to pick up the sight in the position it will lock onto the TU. Your arms should cradle the sight so that your hands meet at the tracker hook mount.

Cradle optical sight

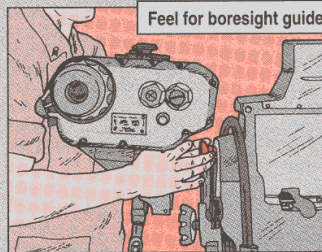


Use both hands to feel for the boresight plate. Slide the sight index plate groove onto the boresight guide.

HERE'S THE EASIEST WAY TO ASSEMBLE ME!

Support the sight with your left hand while you lock down the latch with your right and wiggle the sight to make sure it's tight.

Feel for boresight guide

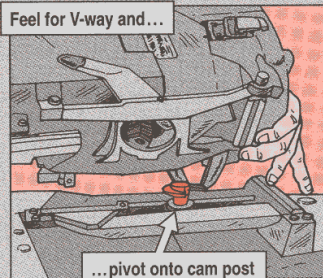


Night sight. Gently shake the night sight's mounting bracket to make sure it's tight. If it's loose, your repairman needs to tighten the screws.

Push the night sight's locking handle all the way to the rear. Grasp each end

of the sight with your fingers wrapped on the bottom. Use two fingers of your left hand to find the day sight's V-way.

Feel for V-way and...



Pivot the night sight onto the day sight's cam post. Lock the sight on by pulling its handle all the way forward. Support the sight as you try to wiggle it to ensure it's on tight.

TOW REPAIRMEN,
MAKE COPIES OF THIS
ARTICLE TO TRAIN NEW
TOW MISSILEMEN.

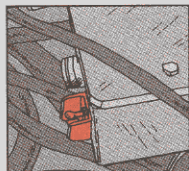


COULD BE THE CB1

Dear Editor,

When we run into a power loss or error prompt when starting up our MLRS, we make the CB1 switch our first troubleshooting check, even though the troubleshooting procedures in TM 9-1425-646-10-1 (Apr 90) don't mention the switch.

That's because it's easy to accidentally bump the CB1 into the down (OFF) position during battery PMCS. Just flip the switch up and you're back in business. Tape the switch in the up position to prevent it from being bumped off again.



Check CB1 switch first

SPC David Ferrell
703rd MSB
Ft Stewart, GA



Readers Quiz

HERE ARE SOME QUESTIONS I CONJURED UP ABOUT THE EQUIPMENT FEATURED IN THIS ISSUE OF PS. SEE IF YOU KNOW THE ANSWERS.

- WHEELED VEHICLES**—How do you prevent that “blue mist” around the hydraulic reservoir on the FMTV? (Page 3)
- COMBAT ENGINEERING**—What's the best way to clean mud from MICLIC tires and track? (Page 10)
- COMBAT VEHICLES**—How can you prevent moisture buildup on the FISTV's lower image transfer assembly? (Page 19)
- SMALL ARMS**—What's an easy check to prevent a runaway M249 machine gun? (Page 22)
- COMMO**—What part of a SINCARS LRU cannot take high pressure water? (Page 39)
- AVIATION**—What are the maximum self-propelled and towed speeds of the AGPU? (Page 42)
- SOLDIER SUPPORT**—Why are metal fuel cans no longer allowed? (Page 49)
- LOGISTICS MANAGEMENT**—How can you tell if your equipment is covered by a warranty? (Page 60)

The Legend of

SLOPPY HOLLOW

ON THE EASTERN BANK OF THE TAPPAN ZEE RIVER LIES A QUIET LITTLE ARMY BASE NAMED FOR THE NEARBY TOWN OF SLOPPY HOLLOW. SGT. ICHABOD CRANE LAZILY DREAMS OF THE NIGHT AHEAD...

HEY, CRANE!
YOU'D BETTER PMCS
THAT HUMVEE, IT'S BEEN
OVERHEATING LATELY! DON'T
FORGET YOU HAVE TO DRIVE
THE GENERAL TO THE BIG
HALLOWEEN PARTY
TONIGHT!

YEAH,
YEAH, GIVE IT A
REST, BONES! I ADDED
SOME ANTIFREEZE!
THAT'LL TAKE CARE
OF IT!

LATER THAT EVENING...

LET'S MOVE IT, SERGEANT!
I DON'T WANT TO BE LATE FOR THIS PARTY!

YESSIR!

A FEW MILES DOWN THE ROAD...

AWW, NUTS!
WHAT A GREAT TIME FOR THE ENGINE TO OVERHEAT!

SOMETHING WRONG, SERGEANT?

LET ME CHECK UNDER THE HOOD, SIR.

I CAN'T BELIEVE THIS, SERGEANT! WHEN WAS THE LAST TIME YOU CLEANED OFF THAT RADIATOR? MAYBE WE SHOULD RADIO BACK FOR ANOTHER VEHICLE.

ER, UHH,

I'M SURE IT WAS CLEAN...

A FEW MORE MILES DOWN THE ROAD...

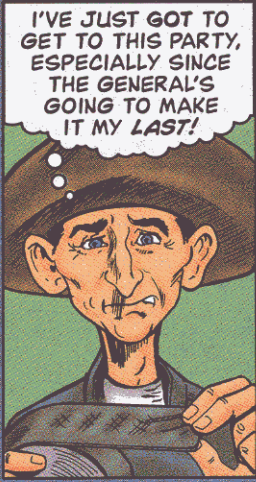
OH NO, NOT AGAIN!

OVERHEATED AGAIN?! THIS IS INTOLERABLE, SERGEANT! RADIO BACK FOR ANOTHER VEHICLE!



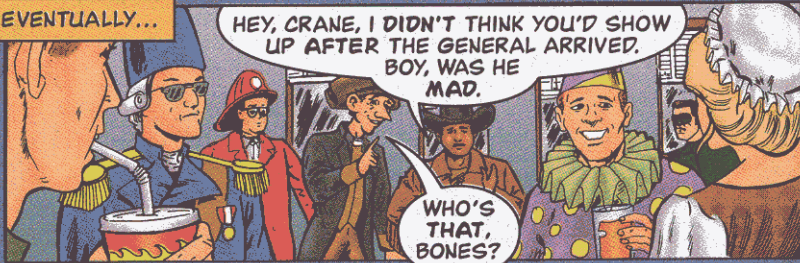
BELIEVE ME, SERGEANT. YOUR COMPANY COMMANDER WILL HEAR ABOUT THIS!

HMM...
MAYBE A
LITTLE DUCT TAPE
WILL FIX THAT
RADIATOR
HOSE.



I'VE JUST GOT TO
GET TO THIS PARTY,
ESPECIALLY SINCE
THE GENERAL'S
GOING TO MAKE
IT MY LAST!

EVENTUALLY...



HEY, CRANE, I DIDN'T THINK YOU'D SHOW UP AFTER THE GENERAL ARRIVED. BOY, WAS HE MAD.

WHO'S THAT, BONES?



THAT'S THE
GENERAL'S DAUGHTER,
CONNIE VAN TASSEL.

WHAT'S SHE DOING?

IT'S A HALLOWEEN TRADITION, WE TAKE TURNS TO SEE WHO CAN TELL THE SCARIEST GHOST STORY.

THE TOWN OF SLOPPY HOLLOW ABOUNDS WITH LEGENDS OF STRANGE AND EERIE HAPPENINGS, BUT THE STRANGEST OF ALL IS THE TALE OF THE HEADLESS HORSEMAN.



"THE TALE STARTS INNOCENTLY ENOUGH, WITH A YOUNG MAN TAKING UP ARMS TO DEFEND HIS COUNTRY DURING THE REVOLUTIONARY WAR."

"UNFORTUNATELY, HIS LOVE OF COUNTRY DID NOT EXTEND TO HIS HORSE OR WEAPON."



PM?
BALDERDASH!
MY HORSE AND GUN
ARE FINE.

BUT
YOU NEED
TO BE PREPARED
EVERY MINUTE,
MAN.

"PM WAS ALWAYS THE FURTHEST THING FROM HIS MIND."

"IN THE END, IT PROVED TO BE HIS DOWNFALL..."

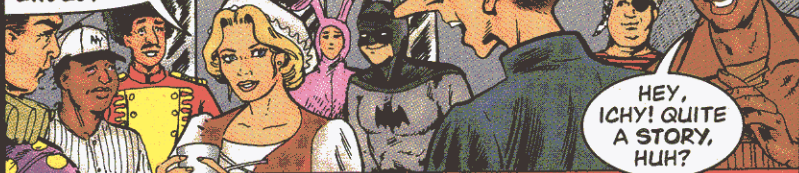
"HIS HORSE LAME, AND HIS RIFLE USELESS, THE YOUNG MAN FELL BEHIND. HE HAD TO FACE THE BRITISH ALONE AND DEFENSELESS."

"IT WAS A LACK OF PM THAT EVENTUALLY COST HIM HIS LIFE..."

"...AND HIS HEAD."

"THEY SAY HE STILL HAUNTS THE HILLS HERE IN SLOPPY HOLLOW... ENDLESSLY LOOKING FOR A NEW HEAD TO REPLACE THE ONE HE LOST."

REMEMBER THIS, MY FRIENDS, SHOULD YOU ENCOUNTER THE HORSEMAN, CROSS THE BRIDGE JUST OUTSIDE THE BASE AND HIS POWER IS ENDED.



HEY, ICHY! QUITE A STORY, HUH?

I H-HOPE IT WAS J-JUST A STORY...

M-MAYBE I SHOULD GET BACK TO THE B-BARRACKS.

"AS SERGEANT CRANE RETURNS HOME, HE CANNOT FORGET CONNIE'S CHILLING STORY."

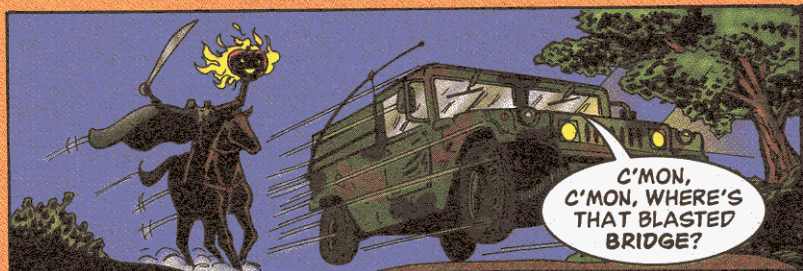


C'MON, ICHABOD. GET A HOLD OF YOURSELF. IT WAS ONLY A STORY.

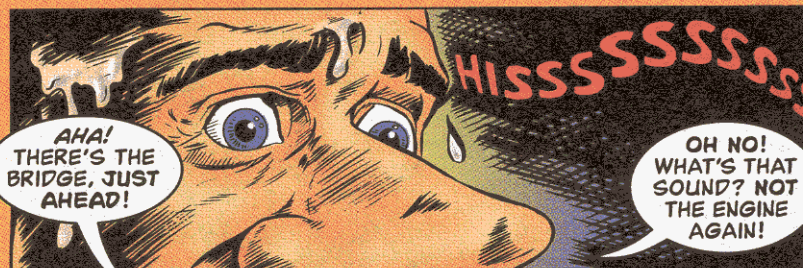
THERE'S NOTHING TO BE AFR...

YAAHHH!!!

SCREEECH



C'MON,
C'MON, WHERE'S
THAT BLASTED
BRIDGE?



AHA!
THERE'S THE
BRIDGE, JUST
AHEAD!

OH NO!
WHAT'S THAT
SOUND? NOT
THE ENGINE
AGAIN!



WHY
DIDN'T I FIX IT
WHEN I HAD THE
CHANCE?

GOTTA
GET TO THE
BRIDGE!



NOOOOOO!!

THE NEXT DAY...



THIS IS
SGT. CRANE'S
HUMVEE, ALRIGHT. BUT
WHERE IS HE?

NOBODY
SEEMS TO KNOW.
HOPE HE DIDN'T LOSE
HIS HEAD AND
DO SOMETHING
STUPID!

PANEL LIGHTS AND DEAD CRANKS

Dear Editor,

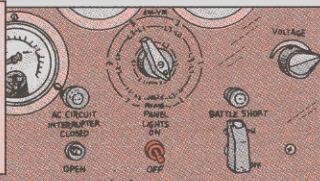
Spread the word, please. The biggest problem with tactical quiet generators is operators leaving the **PANEL LIGHTS** switch set to **ON** after the generator has been shut down.

When the switch is left **ON** the batteries drain and go dead! This happens a lot, especially on bright days when it's hard to tell if the panel lights are on.

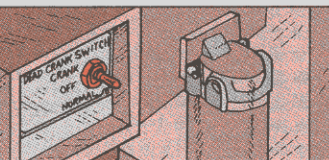
So, after the generator has been shut down, put the **PANEL LIGHTS** switch in the **OFF** position.

Also, make sure the **DEAD CRANK** switch is **OFF**. This makes the generator safe for **PMCS**. If the **DEAD CRANK** is **OFF**, no one can accidentally crank the engine while someone has their hands in the fan or another dangerous area.

After shutdown, turn **PANEL LIGHTS** switch **OFF**



Set **DEAD CRANK** to **OFF** for safety



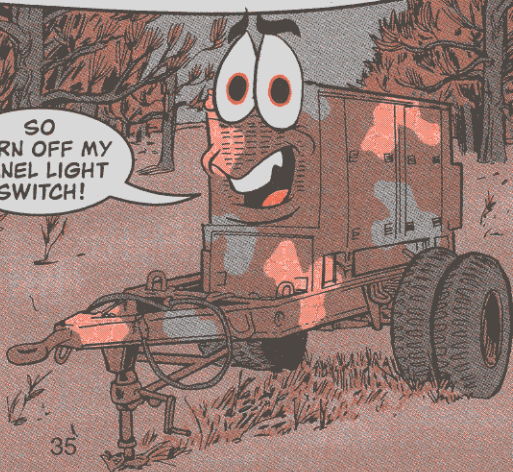
GySgt Joe White
Camp Lejeune, NC

FROM THE
DESK
OF THE Editor



Great advice, Gunny! Also, care should be taken not to put the switch in the **CRANK** or **DEAD CRANK** position with the engine running. The starter will engage the flywheel and both could be seriously damaged.

SO
TURN OFF MY
PANEL LIGHT
SWITCH!



PLGR...

Don't **Blow** Your Fuse

The external power cable, NSN 6150-01-375-8661, for the AN/PSN-11 precision lightweight global positioning system receiver (PLGR) has an in-line fuse.

That fuse, NSN 5920-01-382-1551, protects the PLGR from damaging power surges.

When the cable is disconnected from the PLGR, but still connected to an external power source, your cable is still "hot."

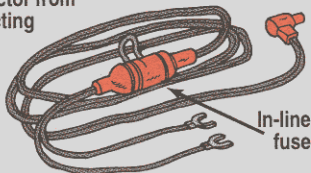


Bump the exposed connector of that cable against metal and you could get a direct short. That means a blown fuse.

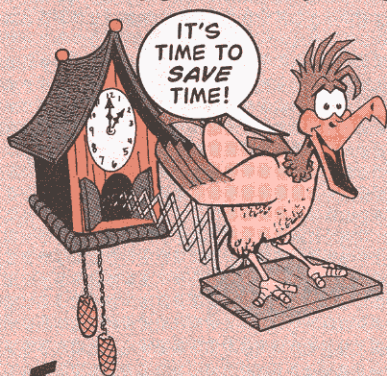
Then when you hook up the power cable you lose the reverse polarity protection the fuse gives you. This could mean damage to the PLGR.

Don't let that happen. When the PLGR is removed from its external power source because your mission is completed, remove the cable, too. For those times you don't remove the cable, make sure the plug-in is secured and not allowed to swing around and make contact with metal.

Keep exposed connector from contacting metal



Two Little Timesavers

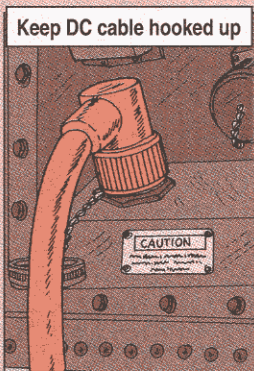


If you operate an MSE AN/TRC-190 line-of-sight multichannel radio terminal or an AN/TRC-191 radio access unit, here are two ways to save time setting up at the commo site:

DC Power Cable

Keep the DC power cable connected to the shelter's power entry panel at all times. Put the other end in the HMMWV's cab, behind the seat and out of the way.

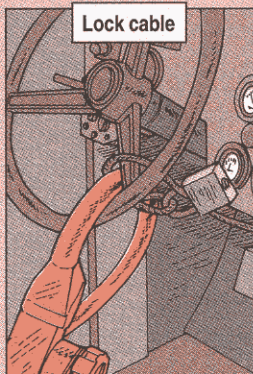
When you reach your commo site you can immediately hook up the cable to the slave receptacle under the passenger's seat. Then you'll have DC power and communications right away



Keep DC cable hooked up

while you're waiting for the generator to start up.

When the HMMWV's parked and you no longer need its DC power, lock the end of the cable to the steering wheel.



Lock cable

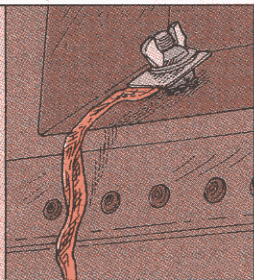
Ground Strap

Another timesaver is to always keep the ground strap attached to the ground lug on the shelter's signal entry panel. That speeds up grounding.

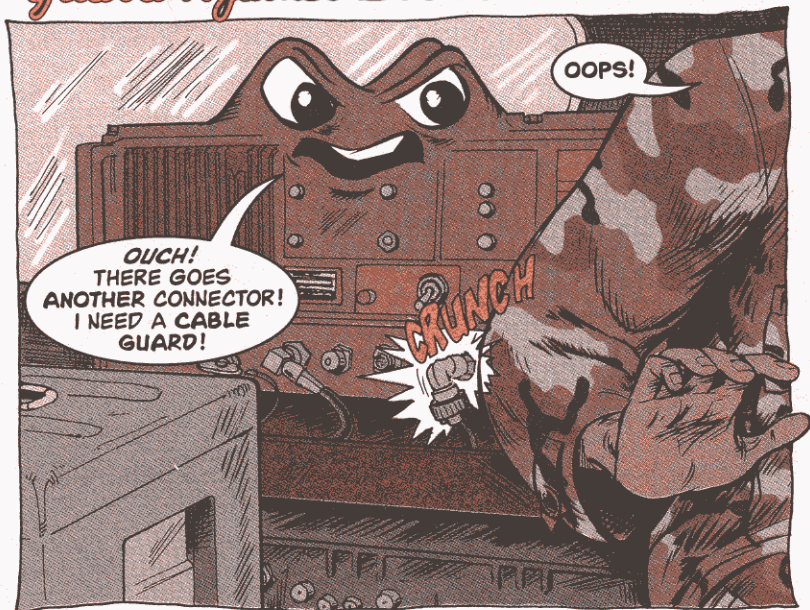
The panel cover will be shut when you're on the move, so it'll hold the ground strap inside.

Of course, this won't work for the ground strap at the power entry panel if you keep the DC power cable hooked up. In that case, the panel cover will be open and the ground strap will fall out and trail behind the moving shelter.

Keep ground strap connected to signal entry panel



Guard Against Broken Connectors



Cable connectors and front panel receptacles on mobile subscriber equipment (MSE) are getting bent or broken.

It happens to everyone sooner or later, usually when they're driving around with a full load inside the M998 HMMWV or M1009 CUCV.

It happens because troops and gear bump into the cables hooked up to the front panel of an MSE's RT-1539.

Protect connectors, cables and receptacles with a cable guard. Here are the parts you need:

Item	NSN
Left-hand guard	5975-01-385-5682
Right-hand guard	5975-01-385-5957
Two thumb screws	5305-01-370-5554
Two lock washers	5310-00-933-8120
Two flat washers	5310-00-619-1148



The cable guard comes with a tether that attaches to the radio mount Para 2-8 of TM 11-5820-1021-10 shows how to put the guard together.

SINGGARS ...

Timely Advice

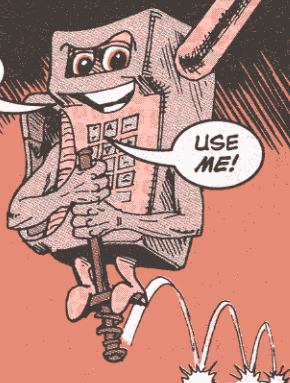
Dear Half-Mast,

What's the best way to load frequency-hopping time into our SINGGARS RT-1523A and later model radios? Should we use the AN/CYZ-10 data transfer device (DTD) or the AN/PSN-11 precision lightweight GPS receiver (PLGR)?

SPC D.R.S.

FREQUENCY HOPPING?

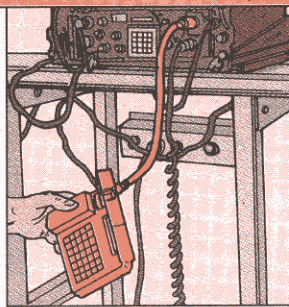
USE ME!



Dear Specialist D.R.S.,

Use the PLGR to load frequency-hopping time. The PLGR actively tracking for GPS satellites gets its time from atomic clocks. That's the most accurate time on the battlefield.

Load all data with DTD except...



The DTD, on the other hand, doesn't keep time as accurately. The DTD—and its internal clock—run on batteries. Batteries gradually lose power, and that means the DTD loses time, almost immediately. If your time doesn't match the rest of the net, you won't be able to talk.

Half-Mast

...load frequency-hopping time with PLGR



Gunning Down the RT

Far too many of you are hopping out of your vehicle at the wash rack and turning on the high-pressure hose. Like a loose cannon, you're spraying everything in sight.

The gaskets on the covers of the SINGGARS line replaceable units are not made to withstand high-pressure hose treatment. Water gets in and corrosion forms.

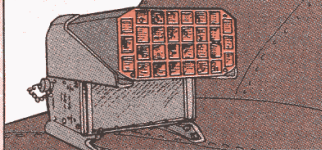
The solution is simple—keep the high-pressure hose out of your vehicle and away from the receiver-transmitter.

COVER KEEPS CRUD OFF CONTACTS

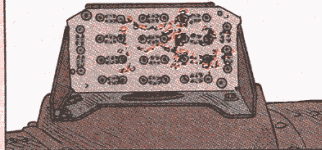
Dear Windy,

It's easy for crud to get into an empty payload module assembly of an M130 chaff dispenser. That crud slides down the module and dirties the firing contacts.

Crud gets into payload module...



...and dirties firing contacts



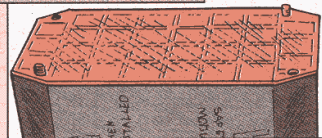
We've solved this problem by making a cover for the bottom of the payload assembly. We cut the cover from plastic sheet, NSN 9330-00-877-2872. It's the same stuff that goes between aircraft battery cells.

HERE'S ANOTHER WEAPON FOR YOUR ARSENAL IN THE NEVER ENDING WAR ON CRUD.



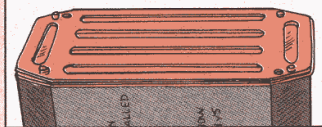
We shape it to fit the module and put a hole for the screws in each corner.

Shape cover to fit module



The plastic fits on the module and then the contact plate fits over the plastic.

Reinstall contact plate



Be sure to stencil "Remove After Loading" on the plastic.

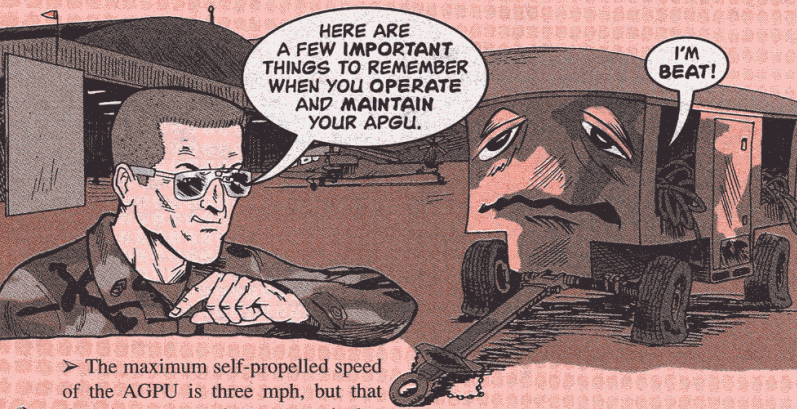
SFC Ronald E. Groce
SSG Dallas E. Long Jr.
1108th AVCRAD
Gulfport, MS

The first line of defense against dirty contacts is filling the tubes with expended cartridges. But if your chaff-dispensing mission is an infrequent one and expended cartridges are rare, this idea works well.

Windy

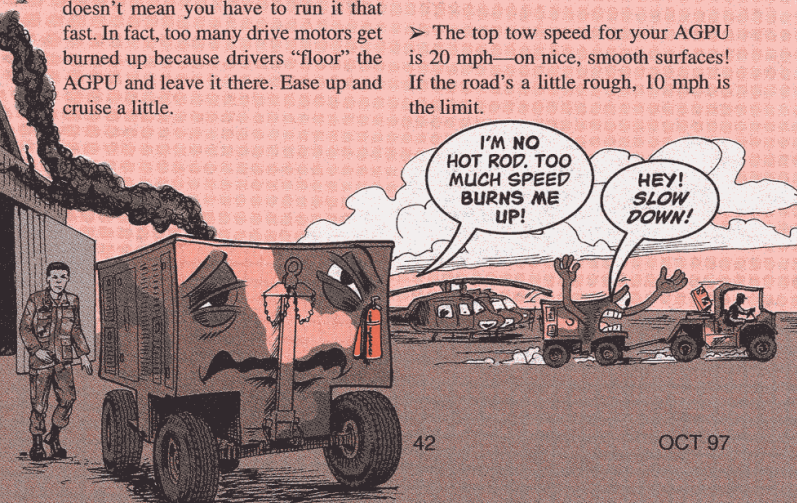
Rode Hard and

The AGPU has been called the most abused and neglected piece of equipment in the hangar. Unfortunately, that's true. Too many of you ride it hard by operating it beyond its limits and many of you put it up wet by failing to do preventive maintenance.



➤ The maximum self-propelled speed of the AGPU is three mph, but that doesn't mean you have to run it that fast. In fact, too many drive motors get burned up because drivers "floor" the AGPU and leave it there. Ease up and cruise a little.

➤ The top tow speed for your AGPU is 20 mph—on nice, smooth surfaces! If the road's a little rough, 10 mph is the limit.



Put Up Wet

- Check tire pressure, often. You need 28 psi.
- If you're towing an AGPU, don't back it up with the tow vehicle. When you must back an AGPU, use its own power. If you back up an AGPU with a vehicle, you'll damage the drawbar or tongue assembly or break a pivot bolt.
- If you have a loading operation that requires you to move an AGPU with a

The hydraulic fluid in an AGPU is pressurized up to 3,300 psi. A ruptured hose could be more than an inconvenience—it could cause you serious harm. Make sure hoses are in good condition—no kinks or breaks. Make sure all connections are tight.

Always wear gloves and eye protection when operating the hydraulic system.

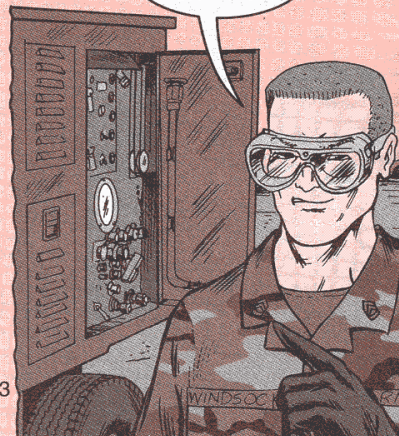
➤ Since a lot of you Cobra mechanics are making your way to OH-58D and Apache hangars, don't forget that your new aircraft has different hydraulic power requirements. Where the maximum AGPU operating hydraulic pressure on the AH-1 was 1,500 psi, it's only 1,000 on the OH-58D, and it's 3,000 on an AH-64.



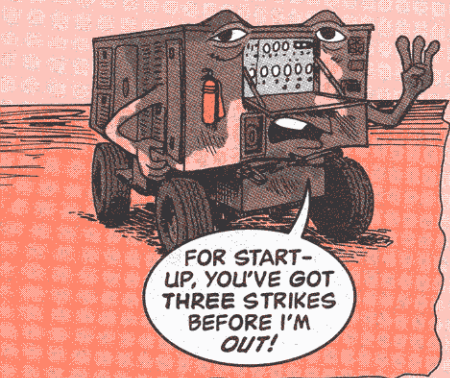
forklift, use the 6,000-lb capacity, 6000M. Don't use the M4K, 4,000-lb capacity forklift. A loaded AGPU weighs 4,275 lbs. Even an empty one weighs 3,550 lbs, which pushes the load limit of an M4K.

➤ Before you switch on an AGPU, make sure the hydraulic reservoir is at least 3/4 full. Low fluid levels can cause hydraulic pump damage.

THERE'S MORE TO THIS STORY ON THE NEXT PAGE.



➤ Most of you know that you get three tries of 30 seconds each to start an AGPU. Then you must wait 20 minutes for the starter to cool down before you make a fourth attempt. If the fourth attempt fails, that's it. Find the problem before trying again.



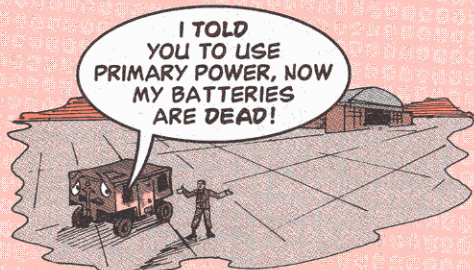
But when you slave start an AGPU from a DC generator, you only get two tries at starting before you must wait 20 minutes for cool-down. Then you get two more tries of 15 seconds each. Still no luck? Find the problem.

The starting procedure is different again if you slave from a battery. You get three tries of 30 seconds each. Then wait 20 minutes. You get two more tries of 30 seconds each. Nothing? Find the problem.

REMEMER,
WITH YOUR AGPU, RIDE
IT EASY AND PUT IT UP
WITH GOOD PM!

➤ The AGPU's propulsion system can be operated in two modes. The primary mode is with the engine running to provide DC power to the propulsion system. The alternate mode is without the engine running and operating on battery power.

Here's the kicker: Do **not** use battery power if you are propelling an AGPU for more than 500 feet. You'll drain the battery. That means those trips to the far end of the flight line probably need primary power.



School-trained AGPU mechanics are becoming a rare breed. A lot of you are learning as you go. Follow these few tips and spend some time with your nose in TM 55-1730-229-12. That way, you'll get your AGPUs off the most abused and neglected list.

PS END



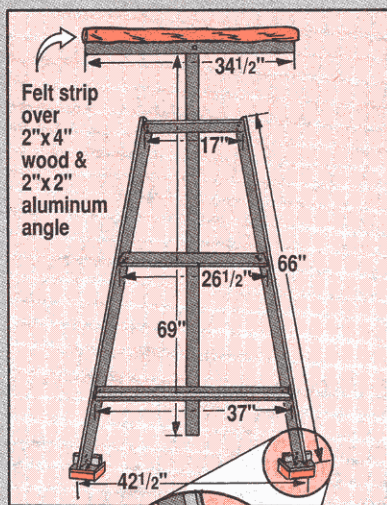
Blade Stand for Adjustments

Raising and lowering Chinook blades to adjust the pitch change links is an awkward two- or three-person job.

Put some ease in the job and eliminate some of that manpower with a blade stand.

Here's a stand made out of 2x2-in angle aluminum, NSN 9540-00-231-9911; a felt strip, NSN 8305-00-812-2360; four feet of 2x4-ft lumber; and 28 nuts and 28 bolts.

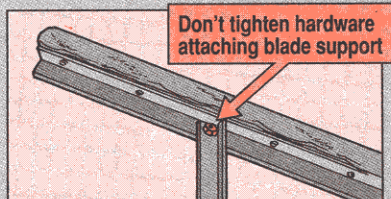
Here are the blade stand's dimensions and how you put all the parts together:



2"x4"
wood
block

6"

Never tighten the hardware attaching the blade support to the vertical beam. The blade support must be able to tilt to fit the angle of the rotor blade.



When you use the stand, put the legs on the reinforced seams of the fuselage so they don't dent or tear your bird's skin.

Once the stand is in place, move it toward the tip of the blade to raise the blade and toward the rotor head to lower it.

I'M FOR
ANYTHING THAT
MEANS ONE LESS
PAIR OF COMBAT
BOOTS ON MY
BACK!

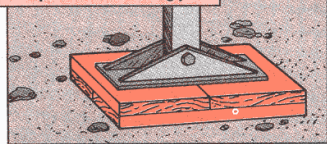
The A-B-Cs of MKTs

It's hard work to keep your MKT mobile field kitchen up-to-snuff. These PM tips will help ease the burden:

Setting Up

Keep the leveling jacks from sinking into soft ground by making a set of square pads to put under them.

Use pad under leveling jack



Make the pads out of 1/2-in steel plate, NSN 9515-00-294-9916, or out of two layers of lumber nailed or screwed together. The pads should measure 12 x 12 inches.

After raising the roof, make sure the corner posts are locked securely. Since the locking pin doesn't go all the way through the post, it's hard to tell if it's locked in place. Raise the roof until a hole is visible on the corner post. Then snap the locking pin in place. Wiggle the locking handle back and forth a bit to make sure the pin is firmly in place.



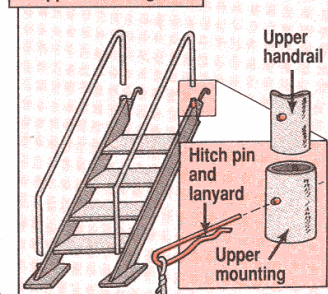
When hole is visible, push locking pin in place

Keep an eye on the corner post welds. Vibration and heavy use can crack the welds that hold the post to the floor brackets. Then, **CRASH!** Report any cracks immediately.

Watch corner post welds for cracks



Drill an 11/64-in hole 1 1/2 inches from bottom of upper mounting



3. Attach a wire or cable lanyard to the pin and secure it to the ladder. That'll keep the pin from disappearing.

Moving Out

Always close and lock the roof vents before packing up and moving your MKT. Once the MKT is packed, you can't get to the vents. Moving with the vents open will break the locking arms.



Close and lock roof air vents before you pack to move out

When putting up camouflage netting over the MKT, make sure you leave room to open the roof vents. Otherwise, the netting gets tangled in the vents when you try to close them.

The ladder handrails come out of their mountings if you pull on them when going up the ladder. Fix that problem like this:

1. Drill an 11/64-in hole through each upper mounting and handrail. The holes should be 1 1/2 inches from the bottom of the mounting.

2. Insert a hitch pin, NSN 5315-01-020-6038, through the hole. Order the pin on a DD Form 1348-6 and put "NSN not on AMDF" in the remarks block.

Searching for Parts

Need repair parts for either 5-gal liquid dispenser, NSN 7320-01-093-7371 or 7310-01-245-6937, in your MKT-75 mobile field kitchen?

**YOU
WON'T FIND 'EM IN
TM 10-7360-206-23P,
SO HERE THEY
ARE...**

A diagram of an orange field kitchen dispenser with various parts labeled. The dispenser is shown from a three-quarter view. The parts are: a vent cap, a faucet valve seat, a faucet assembly, a spout assembly, a lid assembly, a lid gasket, and a latch assembly. Arrows point from the text labels to the corresponding parts on the dispenser.

Vent cap, snap-on,
NSN 7320-01-213-6160

Faucet valve seat,
NSN 4820-01-212-8278

Faucet assembly
(includes C nut and wing nut),
NSN 7320-01-245-9048

Spout assembly (includes two O-rings
and hex nut), NSN 7330-01-195-5259

Latch assembly (includes
four latches and 16 screws),
NSN 7320-01-224-0074*

Lid assembly (includes
lid, vent cap and
lid gasket),
NSN 7320-01-223-9158**

Lid gasket, NSN 5330-01-255-2588

* In the Remarks block, indicate whether 2-hole (PN 60019) or 4-hole (PN 60093) latch assembly is needed.

** In the Remarks block, indicate color preference: dark brown, coffee beige, or dark green.

Air Compressor V-Belt

Get the V-belt for your 5cfm air compressor with NSN 3030-01-350-4809 and part number A65-2. The part number for Item 8 in Fig 1 of TM 5-4310-378-24P is wrong. Make a note until the TM is updated.

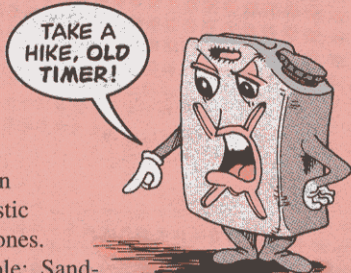
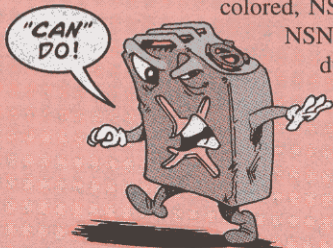
Fuel Cans . . .

MAKE THE SWITCH...NOW!

If you're still using metal 5-gal fuel cans, stop already.

As of 1 Oct 96, only plastic fuel cans are authorized, according to United Nations and Department of Transportation rules. The new rules standardize packaging and transportation of fuel between states and countries. And, plastic cans are more durable and quieter than metal ones.

There are two 5-gal plastic cans available: Sand-colored, NSN 7240-01-337-5268, and olive drab-colored, NSN 7240-01-337-5269. The plastic cans are more durable and quieter than metal ones.



You won't need new mounting brackets for your vehicle or generator, either. The plastic cans fit fine in the old brackets.

Use NSN 7240-01-318-5222 to get a cradle to hold the plastic cans when connecting them to a space heater.

Welding . . .

Put a Stop to Flashback

A flashback in a welding hose can cause an explosion or fire in the regulators or tanks.

While check valves can stop a backflow of gas, they may not be quick enough to stop a flashback. That's why flashback arrestors are a good idea for acetylene, propane and oxygen lines.

Get a set of two flashback arrestors with NSN 4820-01-398-8314. The arrestors are labeled for oxygen or acetylene/propane.

Arrestors not only stop flashback flame, they also prevent the backflow of gases and cut off the flow of gas after a flashback.

Install the flashback arrestor between the gas regulator and the hose. You should use them even if there is a reverse flow check valve already installed on the hose or torch.



Tiedown Straps ...

Strap NSN Gold Mine

For tying down canvas covers, bundles, gear and other loose items, a good, strong strap is worth its weight in gold. Fortunately, most straps don't cost that much.

Use CTA 50-970 as your authority for ordering the straps. Here's what's available:

Rubber tie-down straps

NSN 5340-	Length (inches)	Stretch (inches)
00-340-0980	10 *	10-15
01-029-9084	15	15-22
01-231-6015	25	25-37
01-029-9085	31	31-46

These straps come with an S-hook on each end.

Canvas cargo strap sets

NSN 5340-01-043-	1st Strap Size (inches)	2nd Strap Size (inches)
5409	42 x 1 ³ / ₄	218 x 1 ³ / ₄
8475	18 x 1 ³ / ₄	144 x 1 ³ / ₄

Each set comes with two straps and a buckle to secure the straps in place. If you need a different size, see your installation DOL. They may be able to fabricate it from bulk stock.



Medal and Ribbon Sets

For those who still haven't received the medal and ribbon sets awarded for service during Desert Shield and Desert Storm, here are the NSNs:

Medal/Ribbon Set	NSN 8455-01-
Kuwait Liberation (Kuwait)	421-0067
Kuwait Liberation (Saudi Arabia)	349-7517*
Southwest Asia Service	334-9513

* Order on a DD Form 1348-6 from S9T and put "NSN not on the AMDF" in the Remarks block.

Terminal Kit Breakdown

To restock the terminal wire kit, NSN 5940-00-450-5802, in your No. 1 Common shop set...

...USE THESE NSNs...



...BEFORE YOU RUN OUT!



<p>Ring terminal AWG 12-10 stud 1/4-in NSN 5940-00-143-4777</p> 	<p>Ring terminal AWG 16-14 stud 3/8-in NSN 5940-00-143-4793</p> 	<p>Ring terminal AWG 16-14 stud 10 NSN 5940-00-057-8216</p> 
<p>Ring terminal AWG 22-16 stud 10 NSN 5940-00-143-4771</p> 	<p>Disconnect tab NSN 5940-00-481-9090</p> 	<p>Flag terminal NSN 5940-00-481-9089</p> 
<p>Ring terminal AWG 12-10 stud 3/8-in NSN 5940-00-113-9826</p> 	<p>Spade terminal AWG 16-14 stud 10 NSN 5940-00-552-2019</p> 	<p>Bullet terminal AWG 16-14 NSN 5940-00-177-4356</p> 
<p>Terminal pin AWG 22-16 NSN 5940-00-843-1473</p> 	<p>Plug terminal straight 7mm NSN 5940-00-845-4106</p> 	<p>Distributor cap terminal NSN 5940-00-360-7689</p> 
<p>Ring terminal AWG 12-10 stud 10 NSN 5940-00-143-4794</p> 	<p>Ring terminal AWG 16-14 stud 10 NSN 5940-00-143-4780</p> 	<p>Tab receptacle AWG 16-14 NSN 5940-00-926-0085</p> 
<p>Tab receptacle AWG 22-16 NSN 5940-00-948-9686</p> 	<p>Bullet receptacle NSN 5940-01-035-5085</p> 	<p>Quick disconnect tab NSN 5940-00-843-1550</p> 
<p>Butt connector AWG 12-10 NSN 5940-01-079-1936</p> 	<p>Butt connector AWG 16-14 NSN 5940-01-079-1375</p> 	<p>Closed end connector AWG 22-14 NSN 5940-00-636-5535</p> 
<p>Butt connector AWG 22-16 NSN 5940-00-665-7317</p> 	<p>Blade receptacle NSN 5940-00-998-6126</p> 	<p>Quick disconnect receptacle NSN 5940-00-827-4284</p> 

Order the crimping tool on a DD Form 1348-6 using CAGE 00779 and part number 607837-1.

ORGANIZE YOUR TOOL ROOM

Dear Editor,

After I became my unit's tool man, I found there was no organization in the tool room. I had to organize the tools just to find them. I found a simple way to do it.

When I get new tools in, I etch their NSN on them. It makes the inventory much faster.

I use color to show types of tools. For instance, the storage area for No. 2 Common shop set tools is red, the storage area for ACE tools is green, and for supplemental tools, it's yellow.

Shelves are given a letter. Each section of the shelf gets a number. So, the top left shelf is A1. The one below it is B1. The one next to A1 is A2, and so on.

We keep small tools in storage cabinets. Cabinets are numbered, drawers have letters. We use two sizes of cabinets: NSN 7125-00-357-5337 is a 35x25x20-in cabinet with 18 drawers and one bin, and NSN 7125-00-330-0130 is a 35x25x27-in cabinet with 11 drawers.

I have a master list that shows where each item is stored.

Tools and other items can break or otherwise become unserviceable during normal use.

We put these items on a wheeled cart. Every so often, we turn them in, repair them, or replace them.

SPC Gary Moor
A Co, 577th Engr Bn
Ft Leonard Wood, MO

FROM THE DESK OF THE Editor 

That's the way to keep your tool room straight. Keep up the good work!

NOW
THIS IS WHAT
A TOOL ROOM
SHOULD LOOK
LIKE!

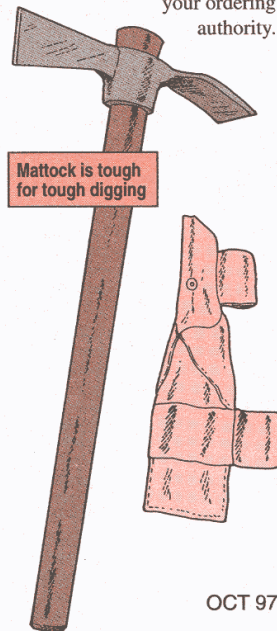


Hard Digging

If you do digging that often breaks your entrenching tool, you may need the new mattock. It's a digging and cutting tool made of hardened steel that will stand up better to hard, rocky ground.

Order the mattock and its carrier with NSN 5120-01-363-3690. Order a replacement handle with NSN 5120-01-369-5629 and a replacement carrier with NSN 5140-01-369-7255.

Use CTA 50-900 as your ordering authority.

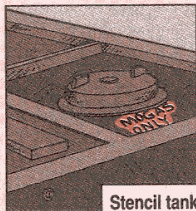


Back to Basics

When it comes to engines, you can't get much more basic than fuel and oil. Unfortunately, these basics are causing problems for M12A1 decons.

Fuel

The M12 decon's 20-hp engine runs only on MOGAS. Diesel clogs the carburetor and fouls the spark plugs. As a reminder, paint MOGAS ONLY by the fuel tank lid.



Stencil tank

The M2 burner is a different story. It can use different fuels, but you need to set the TEMPERATURE SELECTOR so the FUEL

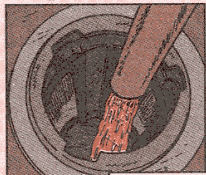
PRESSURE gauge shows these settings for these fuels:

MOGAS, JP4, JP5	75 psi
Kerosene, JP8	70 psi
Diesel fuel, fuel oil	60 psi

Otherwise, the burner can overheat. But, even if you use the right fuel, you'll still have problems if water gets in the fuel system. Water causes the engine to run rough and rusts out the carburetor.

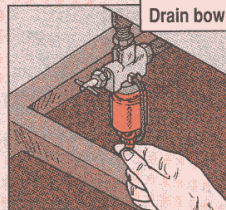
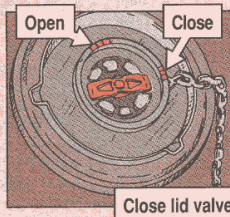
A few simple steps seal out water.

- At day's end:
- ✓ Top off the fuel tank to prevent condensation from forming in the tank.



Top off tank

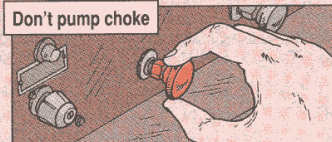
- ✓ Put the valve in the fuel tank lid in the closed position.
- ✓ Close the engine fuel shut-off valve.
- ✓ Drain the sediment bowl.



Drain bowl

One other fuel tip: Don't pump the choke during startup. That just floods the engine.

Pull the choke out. After the engine fires up, push the choke in.

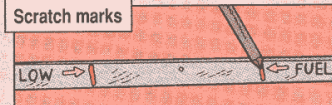


Don't pump choke

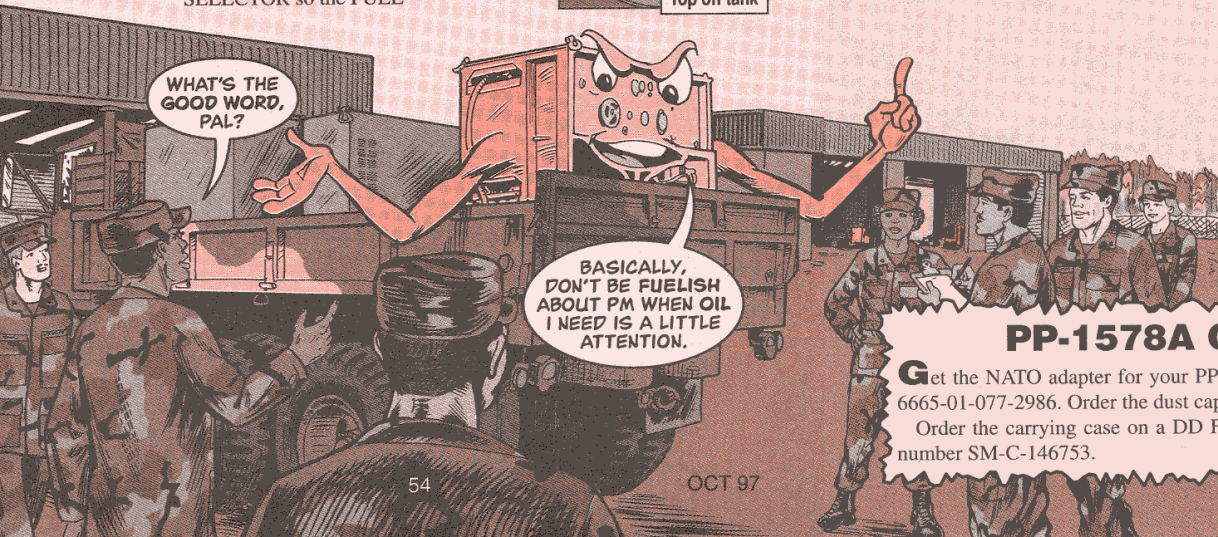
Oil

Too much oil—no too little—has been the problem. Crews have trouble reading the dipstick and err on the high side. Too much oil blows engine seals and causes major damage.

If you have trouble reading the dipstick marks, use a nail to scratch visible marks for the LOW and HIGH levels. If you run into a dipstick that has no markings (there are some in the field), find a marked dipstick and use it as a model for scratching LOW and HIGH marks on the unmarked stick.



Remember to check the oil before operation. Some M12s use lots of oil and will often need more.



WHAT'S THE GOOD WORD, PAL?

BASICALLY, DON'T BE FUELISH ABOUT PM WHEN OIL I NEED IS A LITTLE ATTENTION.

PP-1578A Charger Parts

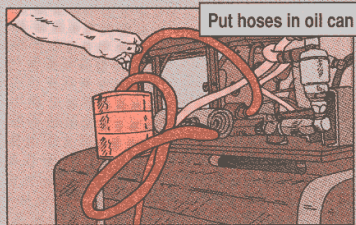
Get the NATO adapter for your PP-1578A radiac detector charger with NSN 6665-01-077-2986. Order the dust cap and chain with NSN 5999-01-362-0069.

Order the carrying case on a DD Form 1348-6 using CAGE 80063 and part number SM-C-146753.

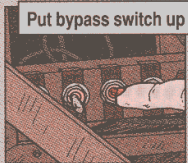
If the M157 smoke generator's fog oil pump stops pumping, you stop smoking. And nothing stops a pump from pumping like corrosion. Here's how to stomp pump corrosion:

Keep the fog oil pumps lubed. If the M157's going to sit for more than 20 days, run a light oil—10W is good—through the two pumps. Here's how:

1. Disconnect the fog oil pump supply and return hoses and stick them in the 10W oil container. That way, the 10W oil won't get mixed in with the fog oil.



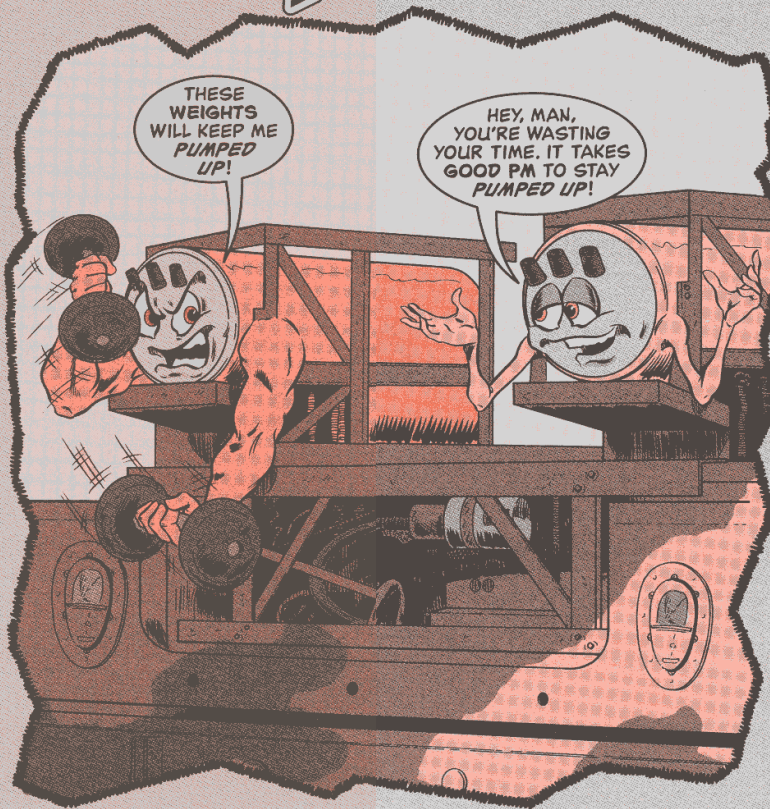
2. Remove the equipment container right side panel and put the FOG OIL bypass switch in the up position.



Turn on the control panel and flip the FOG OIL switch to RUN. You do not need to turn on the FUEL or ENGINE switches.

3. Run the fog oil pump for 2-5 minutes. Reconnect the hoses. Do the same with the other pump. Fog oil pumps are safe from corrosion for 20 days. If the M157 is still going to sit longer than 20 days, lube the pumps again at the end of 20 days.

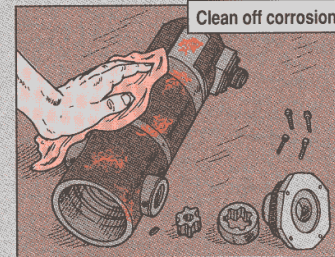
Pump It Up!



In the Field

If a fog oil pump seizes in the field, do not try to free the pump by tapping it. That knocks corrosion loose that can score the insides of the pump. Plus, trying to run a seized pump can hurt the pump motor.

Instead, take the the pump apart like it says in Para 4-34 in TM 3-1040-279-12&P. Clean out any corrosion with clean rags, paying special attention to the gear rotor set. Lubricate pump parts with 10W oil. Put the pump back together.



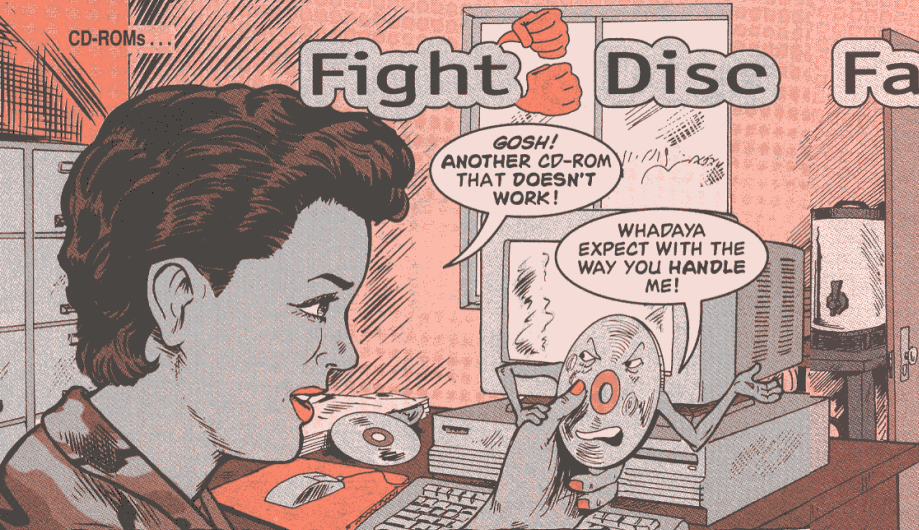
If that doesn't do the trick, you probably need new pump parts.

Strainer Assembly

The O-ring on the fog oil pump strainer assembly often disappears or wears out. No O-ring means the strainer leaks. Order a new O-ring with NSN 5330-00-835-8974.

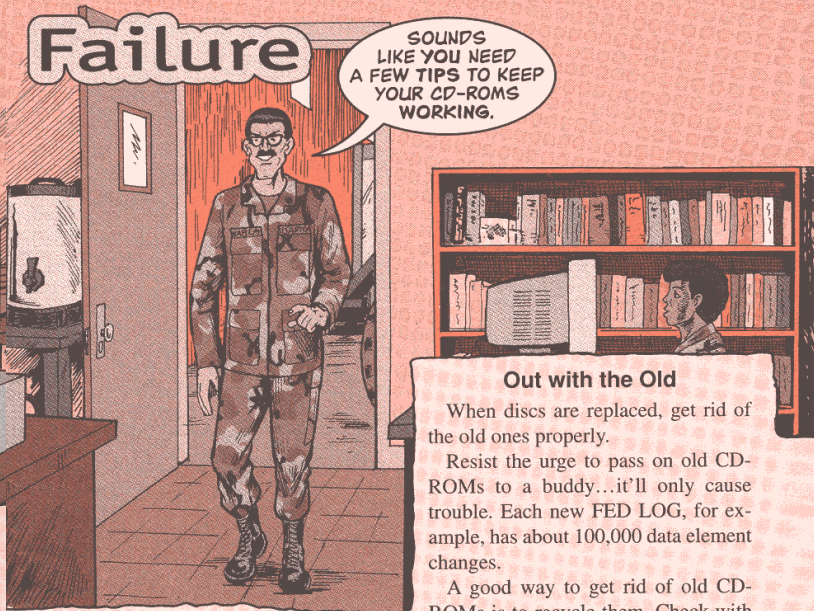


Fight Disc Failure



GOSH!
ANOTHER CD-ROM
THAT DOESN'T
WORK!

WHADAYA
EXPECT WITH THE
WAY YOU HANDLE
ME!



SOUNDS
LIKE YOU NEED
A FEW TIPS TO KEEP
YOUR CD-ROMS
WORKING.

Out with the Old

When discs are replaced, get rid of the old ones properly.

Resist the urge to pass on old CD-ROMs to a buddy...it'll only cause trouble. Each new FED LOG, for example, has about 100,000 data element changes.

A good way to get rid of old CD-ROMs is to recycle them. Check with your local recycling center to see if they'll take them. If they won't, mail your discs to:

NE-SAR Systems
420 Ashwood Rd
Darlington, PA 16115-9325

Here are some things to remember before you ship them:

- ⓧ Send whole discs only. Never cut them in half.
- ⓧ Scratch discs with a sharp object, such as a nail, on both sides. This makes the disc unusable.
- ⓧ Take discs out of protective sleeves before shipping them.
- ⓧ Make sure the shipment weighs less than 50 pounds.

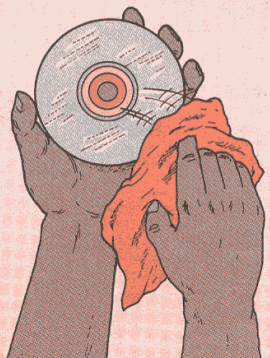
CD-ROMs are being used to carry more and more logistics information. But, if you don't take good care of the discs, you won't be able to access the information when you need to.

Fight CD damage with careful handling and cleaning, like so:

Hold discs by the edge. Skin oils can damage the disc surface so the reader can't read the information.

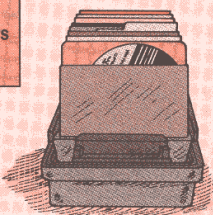
Clean discs with a soft cloth, using a sweeping motion from center to the rim. Never use a circular motion that follows the spiral track. That could damage the disc.

Don't use solvents or harsh chemicals to clean discs. Alcohol and paint thinner damage the disc.



Store the disc when it's not in use. You can ruin the disc just by writing on a piece of paper with the disc hiding underneath.

Storage
containers
protect
discs



Never burn, cut or pulverize discs. CD-ROMs contain materials that could be hazardous to your health.

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Active Army

MTOE Company with Property Book

Winner—2d Maint Co (TMDE), USAMC, Camp Carroll, Korea
Runner-up—None

MTOE Company without a Property Book

Winner—HHS, 15th MI Bn, FORSCOM, Ft Hood, TX
Runner-up—9th MP Det, USAREUR, Mannheim, Germany

MTOE Battalion with a Property Book

Winner—205th MI Bn, INSCOM, Ft Shafter, HI
Runner-up—505th QM Bn, USARPAC, Okinawa, Japan

MTOE Battalion without a Property Book

Winner—19th FA, FORSCOM, Ft Stewart, GA
Runner-up—None

TDA Lower Level

Winner—Co B, 2d Bn, 1st SWTG (A), USASOC, Yuma, AZ
Runner-up—HHC, 1/81 Armor Regt, TRADOC, Ft Knox, KY

TDA Upper Level

Winner—Red River Army Depot, USAMC, Texarkana, TX
Runner-up—UNC Joint Security Area, EUSA, Panmunjon, Korea

Small DSU

Winner—19th Signal Co, FORSCOM, Fort Huachuca, AZ
Runner-up—Co C, 25th Aviation Regt, USARPAC, Schofield Barracks, HI

Medium DSU

Winner—22d Area Support Group, Vicenza, Italy
Runner-up—24th QM Supply Co, I Corps, FORSCOM, Fort Lewis, WA

Large DSU

No competitors submitted

Army Reserve

MTOE Company with a Property Book

Winner—1011th QM Co, USARC, Independence, KS
Runner-up—None

MTOE Company without a Property Book

Winner—454th Regulating Replacement Det, USARC, Frankfurt, Germany
Runner-up—HHC, 300th Support Group, USARC, Fort Lee, VA

MTOE Battalion with a Property Book

Winner—388th Medical Bn, Logistics (Fwd) USARC, Hays, KS
Runner-up—None

MTOE Battalion without a Property Book

Winner—HHD, 467th QM Bn, USARC, Corpus Christi, TX
Runner-up—None

TDA Lower Level

Winner—Area Maintenance Support Group #36G, USARC, North Platte, NE
Runner-up—3d Bn, 378th Regiment, 2d Bde (BCT), USARC, Norman, OK

National Guard

MTOE Company with a Property Book

Winner—HHD, 23d Corps Support Bn, Springfield, IL
Runner-up—157th MP Co, Martinsburg, WV

MTOE Company without a Property Book

Winner—Co C, 1st Bn, 133d Infantry, Iowa Falls, IA
Runner-up—Co D, 1st Bn, 252d Armor, Blandenboro, NC

MTOE Battalion with a Property Book

Winner—210th Finance Battalion, Jackson, MS
Runner-up—None

MTOE Battalion without a Property Book

No competitors Submitted

TDA Lower Level

Winner—HQ, 177th Regt (Regional Training Institute) Augusta, MI
Runner-up—90th Troop Command, Oklahoma City, OK



TIPS Changes Address

TIPS (Tool Improvement Program Suggestions) has moved to the US Army Combined Arms Support Command. Send your suggestions on new or improved tools, or additions or deletions to tool kits to:

Project SMART/TIPS
DCD CSS
3901 A Ave, Suite 220
Ft Lee, VA 23801-1809

Or call (804) 734-0363, DSN 687-0363. Fax (804) 734-0336.

HMMWV Tire Pressure

TM 9-2320-280-10 (Jan 96) is low on tire pressure info for going cross-country in your HMMWV. For all HMMWVs except the M998A2-series, M1097s and M1097A1s, front tires carry 15 psi and rear tires carry 20 psi. For M998A2-series, M1097s and M1097A1s, front tires carry 20 psi and rear tires carry 30 psi. Make a little note in your -10 on pages 2-90 and 2-91 until the TM is updated.

Carburetor/Choke Cleaner

When gunk and gum get a choke hold on a carburetor, spray them away with carburetor and choke cleaner, NSN 6850-01-085-1423. This spray can comes with a plastic tube extension and is authorized by Appendix A of CTA 50-970.

Maintenance Excellence

Time is running out to submit your FY97 Army Award for Maintenance Excellence packages. Change 1 to AR 750-1 has detailed instructions on submitting the packages and your MACOM supplement to the AR has the date the package is due to the MACOM. MACOM nominations are due to the Ordnance Center & School no later than 15 Dec 97.

M939A2 AOAP Valve

The next time you replace your M939A2 truck's AOAP valve, use NSN 4820-01-073-0080. It's some \$120 cheaper than the one shown as Item 6 in Fig C15 of TM 9-2320-358-24P. You'll need a 65-cent adapter, NSN 4730-00-695-1133, to go with the valve.

PLS Drawbar Coupler

NSN 2540-01-382-5836 gets the drawbar coupler for the PLS trailer. The NSN shown as Item 1 in Fig 31 of TM 9-2330-385-24P is no longer available.

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

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



If you don't do
Canvas, Tarp,
or Poncho

PM...

...Everything
Gets

WET!