

Issue 472

PS

March
1992

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-472

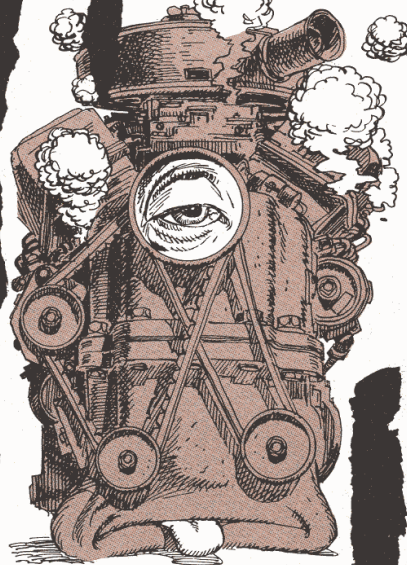
GOT A
QUESTION?
ASK MO! HE
KNOWS!

YEAH,
MO KNOWS
EVERYTHING!

SURE
I DO!

AS
LONG AS
I HAVE MY
ACE IN THE
HOLE!

HOW DOES
MO KNOW?
...SEE PAGE 27



NO IDLE TIME

When you spot an engine idling ... you spot serious engine trouble in the making.

It may not show at the moment, but a lot of idling chugs-up costly and uncalled for maintenance problems. It's not only hard on trucks ... it's rough on tanks, generators, tractors ... anything with an engine.

Letting your vehicle idle, for example, may save you a couple of seconds when you hop back in (or keep you toasty warm while you wait), but maintenance records prove that the practice guarantees—

- Low oil pressure...not enough lubrication.
- Sludge in the engine oil (with its serious mischief.)
- Fouled spark plugs.
- Electrical system problems.
- Wasted fuel.

In addition to deadlining your equipment, tying up your maintenance friends and equipment and using up money, leaving a parked vehicle idling can get you in other kinds of trouble ... like if the MP's are in the neighborhood.

So make a note somewhere handy ... like on the tip of your nose. **No unnecessary idling.**

Just remember ... the engine you operate today is your combat fighting gear tomorrow ... IF—.



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-472, 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, or questions or comments on material published in PS. Just write to:

MSG Half-Mast
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By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

Milton H. Hamilton

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Administrative Assistant to the Secretary of the Army
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Transfer Fuel the Right Way



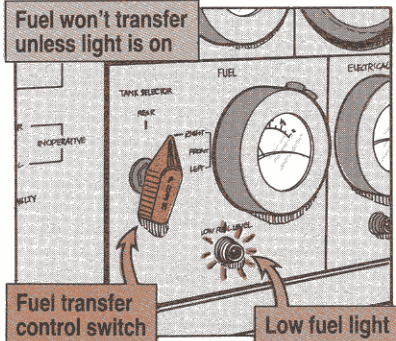
Drivers, that little note in the -10 TM under "Transfer Fuel" that says fuel cannot be transferred until the LOW FUEL LEVEL light comes on was not put there just to fill space.

The light comes on only when the rear tank is $\frac{1}{8}$ full. So no matter how you twist the fuel tank selector switch, the fuel transfer pump won't move fuel from the front tanks to the rear unless the light is on.

It is also true that you can burn up the fuel transfer pump if you run it dry, as in trying to move the last few drops from the front tanks to the rear.

Follow the instructions in your -10 TMs closely. Do not run the fuel transfer pump once all the fuel has been moved. And remember that once you switch to the rear tank after fuel transfer, you can't move more fuel until the light comes on.

Fuel won't transfer unless light is on



Check PTS Cable Before Run



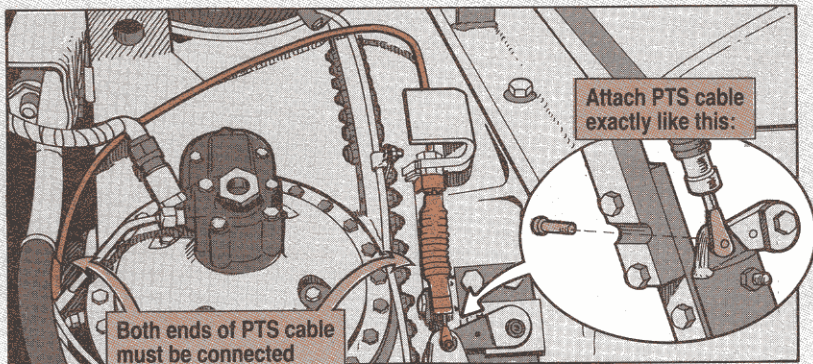
Be sure, mechs, that the power turbine stator (PTS) cable is connected right before you do any engine power test on an M1 tank.

Doing a run-up with the PTS cable disconnected will cause the electronic control unit (ECU) to go into its protective mode to prevent engine overspeeding.

You won't blow an engine, because the ECU prevents that from happening. You will, however, have to repeat the run-up once you've connected the cable.

Save yourself the time and effort by making sure the PTS cable is connected before any power test.

Your tank's -20-1-3 TM has all the info you need to remove or adjust the PTS cable.

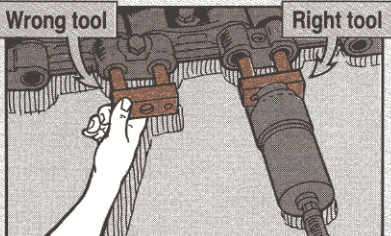


End Connector Puller Modification

HERE'S A DIAGRAM OF THE MODIFICATION TO THE END CONNECTOR PULLER FOR THE T158 TRACK END CONNECTORS.



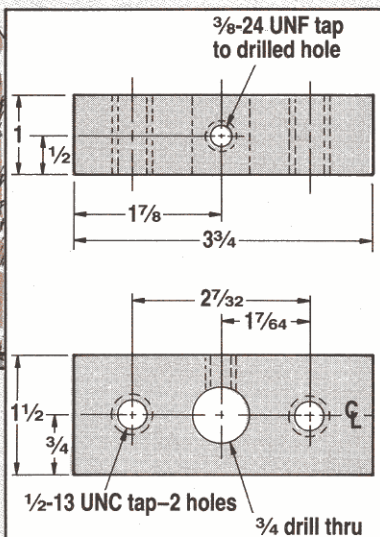
Puller and pump, end connector, NSN 5120-01-052-5642, which is part of the BII for your M1-series tank, will not work on T158 track end connectors.



The puller block won't allow the studs to seat right on the track pins. What you wind up with is a binding action that works against removing the end connectors.

Your DS metal shop can fix you up, though, by making a new block that'll work just right.

Take this diagram and info to your support so you can pull those connectors the easy way:



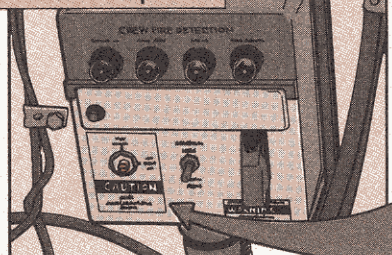
NOTES:

1. All dimensions are shown in inches
2. Material: Steel, Alloy, Bar 4140 (or equivalent)
NSN 9510-00-312-6795
3. Tolerance on dimensions: $\pm 1/64$ "
4. Remove burrs and sharp edges
5. Item to be fabricated by direct support maintenance

Hands Off the MAINT Switch

THE AUTOMATIC
FIRE EXTINGUISHER
SYSTEM (AFES) TEST AND
ALARM PANEL MAINTENANCE
SWITCH IS OFF-LIMITS
TO VEHICLE
CREWMEN.

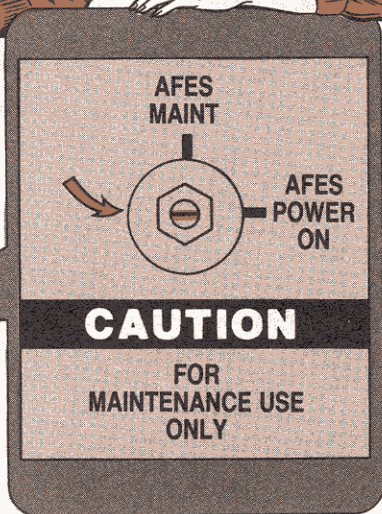
Leave the switch in
the horizontal position



The switch slot must stay horizontal for the AFES to work. As designed, the system operates up to four hours after the master power switch is cut off. That protects your vehicle against any fire that might start after you leave the vehicle.

If you turn the switch vertical, you turn off this extra protection. That's asking for trouble. The only time the switch slot should be vertical is when your unit mechanics pull maintenance on the system.

Remember, crewmen: You leave the AFES maintenance switch slot horizontal at all times. Got that straight?



Armed for Trouble



Lubrication

Make sure you and the Bradley crews keep CLP away from M242s.



CLP is poison to an M242. It breaks down the graphite grease in gears, sprockets, and the track and bolt assembly, which quickly wears out bushings, gears, and bearings. It's a four-hour job for support to tear down an M242 and regrease it.

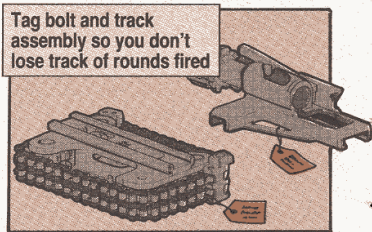
Lube the M242 with GMD (Molybdenum Disulfide Grease), NSN 9150-00-223-4004, and general purpose lubricating oil, NSN 9150-00-754-2595, like TM 9-2350-252-10-2 says.

Round Count

M242 firing pins mushroom after 8,000 rounds and cause jamming. Breeches split after 25,000. That's why Bradley crews need to fill out DA Form 2408-4s after every mission. Keep track of total rounds fired, including dry fires. Get firing pins and breeches replaced when they reach their limits—with no exceptions.

ID the track and bolt assemblies when they're removed from M242s. If

Tag bolt and track assembly so you don't lose track of rounds fired

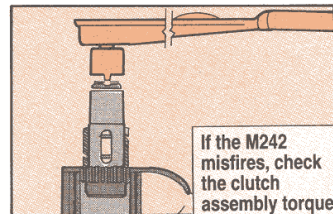


you don't know which assemblies go with which M242s, you have no idea when a firing pin needs replacing. Tag an assembly with the Bradley bumper

number. Or use an ammo box for each assembly with the number painted on the outside.

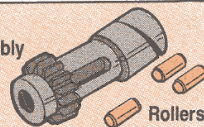
Troubleshooting Tips

If a gun misfires, suspect a weak clutch assembly spring. A weak spring prevents the clutch assembly from holding the correct torque. Check the torque like it says on Page 2-320.1 in TM 9-1005-200-20&P.



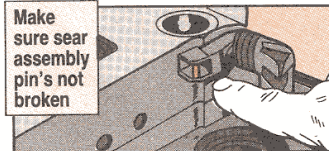
If you do replace the spring, replace the rollers, too. The rollers get flat spots and let the clutch slip.

Clutch assembly



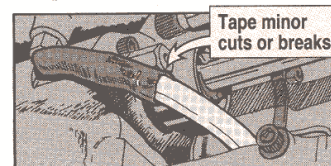
For a gun that suddenly quits firing, look for a broken sear pin. A broken pin means the interlock won't work.

Make sure sear assembly pin's not broken



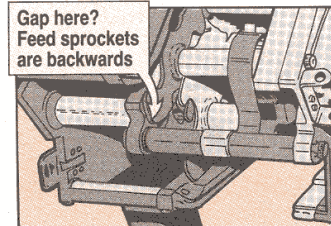
PMCS Extra

Eyeball the feed select solenoid cable for cuts and breaks. The cable is the source of most electrical problems. Tape minor cuts with electrical tape to prevent them from getting worse. If there is exposed wiring, get Support to replace the cable.



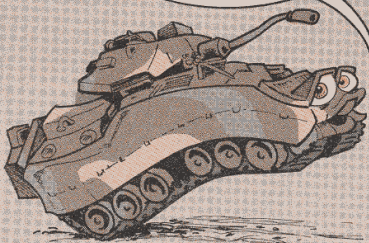
Maintenance Help

If you can't align the forward link stripper on the feeder, eyeball the stepped spacers on the forward feed. If there is a gap between the feeder and the spacers, the feed sprockets are backwards. Reverse the sprockets and you're back in business.



Good Timing Is Everything

I'VE GOT RHYTHM,
I'VE GOT TIMING,
MY M242 IS BOOMING,
WHO COULD ASK FOR
ANYTHING MORE!

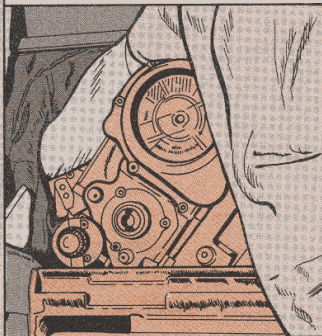


Many times, gunners, you can fix what's ailing the Bradley's M242 cannon with a dose of good timing.

It's what you should always try when you're troubleshooting a gun that won't fire.

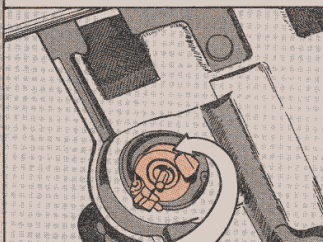
Here's the procedure:

1. Clear, unload and remove the gun feeder from the receiver.



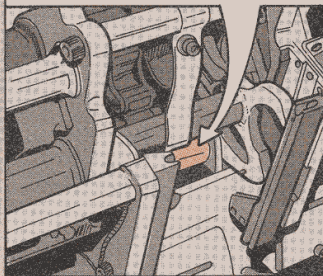
2. Push in the feed select solenoid knob to the AP ammo position.

3. Turn the worm shaft nut. To do that, press in on the timer release rod. Hold the rod in and turn the shaft nut one complete turn. Release the rod.

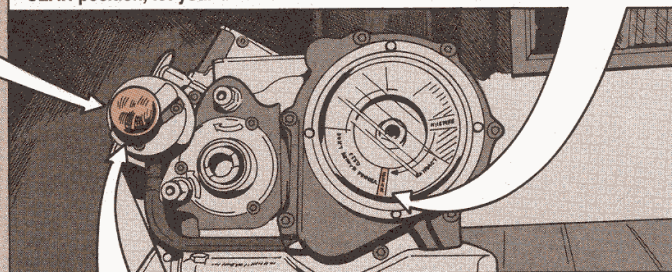


4. Turn the worm shaft nut to the left (counterclockwise) until there is a click and the timer rod pops out.

While you're doing this, check the bolt position indicator to make sure it does not bind while you're turning the feeder. Check that the rotor moves one-third turn and stops, and that the sprockets move continuously.



5. When the rod pops out, check the bolt position indicator. If it is not in the SEAR position, let your unit maintenance mechanic hear about it.



6. Pull out the feed select solenoid knob to the HE position, and repeat the timing procedure.

M109-Series SP Howitzers...

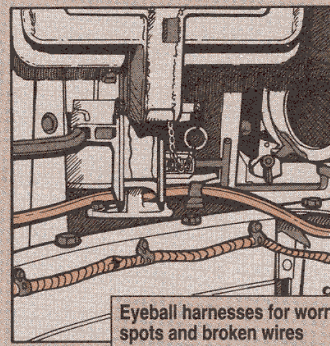
Prevent Seat Shorts

Eyeball cab power harness (wire 100) and intercom wiring harness (circuit 141) near the commander's seat mount for worn spots or broken wires that could cause shorts.

The mount, when folded down, can rub either harness if the harnesses are routed between the mount and the seat.

If the cab power harness is worn, tape it real good. If the intercom harness is broken, it's support level work to repair. Let your mechanic know so he can reroute the harnesses so they go behind the mount like is shown on Page 9-76 of TM 9-2350-311-20-2.

Shorts to wire 100 or circuit 141 can leave you with no cab power or messed-up communications.



Eyeball harnesses for worn spots and broken wires



Worn spots can mean shorts

Passing the Test with PM

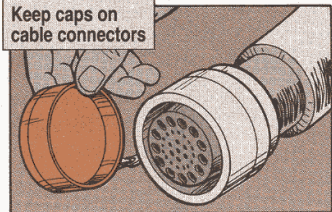


A Land Combat Support System (LCSS) that doesn't test true won't help missiles pass the true test of battle in the field. Do this PM homework to keep your LCSS scoring 100 percent.

Clean and Cool

LCSS PM begins with the most basic stuff: Keep it clean. Dirt and sand get in cable connectors and cause arcing and shorts. Dust off counters and sweep out the van daily. Shut the door.

Keep caps on cable connectors



Keep it cool—68°F. It's the LCSS that needs to be comfortable, not you. Raising and lowering the van tempera-

ture causes condensation, which leads to electrical problems. If the van gets too hot, electronic equipment shuts down.

Help the LCSS stay cool by cleaning its screens and filters at least monthly, especially those on top of the operator control console and the electronics racks.

Power

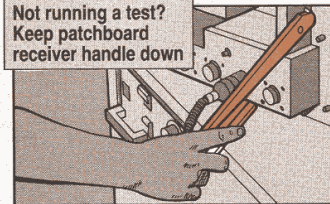
If you're using a generator to power the LCSS, hourly eyeball the HERTZ and AC VOLTS meters on the generator. If the HERTZ gets outside a range of 396-404 and the AC VOLTS outside 206-210, the LCSS stops giving accurate readings. Adjust the generator if necessary.

Keep your finger off the HALT button if the signal generator's power amplifier has been programmed or the 1A4 variable transformer is being used. Hitting HALT is like throwing

your car in reverse when you're going 55 MPH. Power surges with no place to go cause circuit card damage, too.

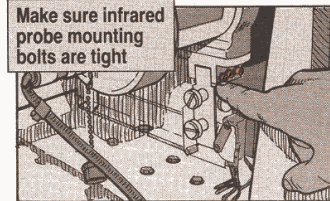
When you're not running tests, keep the patchboard receiver handle all the way down. Otherwise, voltage from the power supplies keeps running to the patchboard receiver and can damage the patchboard, power supply cable pins, or the filter adapter.

**Not running a test?
Keep patchboard receiver handle down**



The infrared probe has mounting bolts that work loose. Tighten the bolts if necessary before you adjust the lamp driver current. Otherwise, you will get bad readings and may burn out the lamp.

Make sure infrared probe mounting bolts are tight

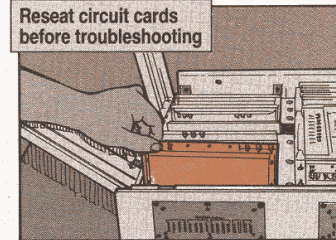


Before you shut down, turn the variable transformer dial back to 0. That prevents voltage surges from damaging the transformer when the LCSS is turned back on.

Troubleshooting

Save time by reseating every LCSS circuit card before you troubleshoot—you can do it in minutes. A card with a bad connection acts like it is defective.

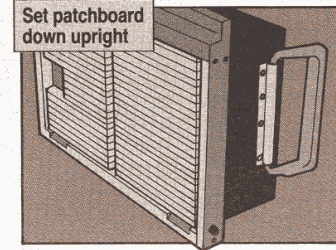
Reseat circuit cards before troubleshooting



Never lay circuit cards on top of each other, even in their protective envelopes. That damages card chips and other components.

Set down a patchboard only in the upright position. If you lay it down flat, something as small as a pen can bend pins. Replacing pins is a major repair.

Set patchboard down upright



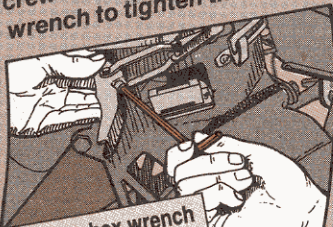
When you eyeball the patchboard, look for broken pin prongs or spread prongs. Those are the most common problems.

Wrench Saves Trips

Dear Editor,

The coupling clamp on the TOW's tripod works loose during firing. That lets the traversing unit (TU) sit loosely on the tripod, which hurts accuracy. If the clamp gets too loose, the TU can even fall off the tripod.

The problem is that the crew doesn't have a hex wrench to tighten the clamp.



Get crews hex wrench so they can tighten clamp themselves

So every time the clamp loosens, they have to find a repairman to do the job. That's a waste of time for such a simple job.

It's much more efficient to provide each crew with their own hex wrench and let them do the job themselves. NSN 5120-00-240-5300 gets a $\frac{3}{16}$ -in hex wrench for 8 cents. Or you can probably pick one up at your local SSSC. SGT Charles Morelli Ft Campbell, KY

WOO-
WOO-I'M AS
LOOSE AS A
GOOSE.

NOT
FOR
LONG!

(Editor's note: A wrenching good idea. TOW units can probably do without the wrench if they make sure the coupling clamp is tight before they go to the field. If it's loose, the repairman is usually right there to tighten it. It also helps if you keep the TU dismounted during travel. Constant bumping will loosen the clamp. A coupling clamp that won't stay tight should be replaced.)

Air Cans Blow Away Problems

Dear Editor,
No matter how hard you try to keep sand out of electrical connectors, some gets in and soon you're getting bad readings or system self-test failures.

The easiest way to clean out sand is with an air hose. But air hoses aren't always available. So we take aerosol cans of air to the field and use them to blow out sand. The cans are cheap and do the job. Get air cans with NSN 6830-00-495-8614 and refills with NSN 6830-01-038-4517.
CW2 Robert Bruns
Ft Campbell, Ky

Blow out sand with compressed air



(Editor's note: Your can-do solution is a breath of fresh air. Thanks.)

M981 FISTV...

Charging System Info

Installing a replacement regulator on a FISTV is not just a matter of a few screws and electrical connections.

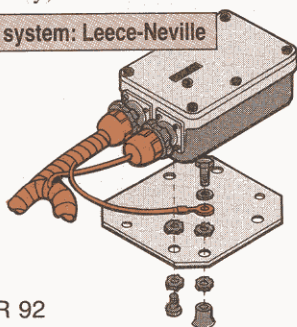
You've got to know whether your FISTV is using special purpose cable assembly, NSN 6150-01-146-9008, to

adapt a Leece-Neville R001-5095RA regulator to the charging system.

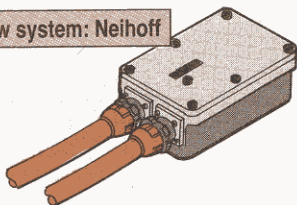
The cable assembly cannot be used with Neihoff 200-amp regulators. Using the assembly with the Neihoff regulator will burn up the FISTV's charging system.

Once you've installed a Neihoff regulator, dispose of the cable assembly so it will never be used again.

Old system: Leece-Neville



New system: Neihoff

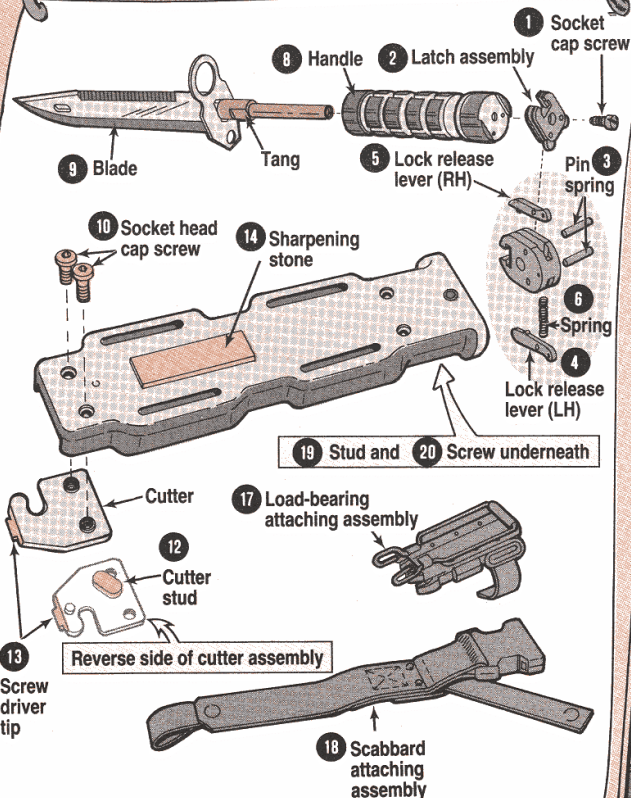


Parts Have Arrived

THE WAIT IS OVER, ARMORERS. M9 BAYONET PARTS ARE AVAILABLE. NOW YOU CAN REPAIR M9s! HERE ARE THE REPAIR PARTS AND THEIR NSNs:

Item	Part	NSN
1	Screw, cap, socket	5305-01-278-1150
2	Latch assembly	(Order new M9)
3	Spring, pin	5315-00-058-6081
4	Lever, lock-release (LH)	5340-00-051-3901
5	Lever, lock-release (RH)	5340-00-051-3899
6	Spring, helical compression	5360-00-716-0949
8	Handle, knife blade	5110-01-277-5767
9	Blade	(Order new M9)
10	Screw, socket head, cap	5305-01-305-6170
11	Cutter assembly (DS)	1005-01-275-5397
12	Cutter stud	(part of cutter assembly)
13	Screw driver tip	(part of cutter assembly)
14	Stone, sharpening	5345-01-275-5395
17	Attaching assembly, load bearing	1005-01-278-1174
18	Attaching assembly, scabbard	5340-01-275-5398
19	Stud	5325-00-842-1879
20	Machine screw	5305-00-455-2549

The two attaching assemblies, Items 17 and 18, are not yet available. Until they are, cannibalize them from unserviceable M9s.



DO THIS **PMCS**
ON **M9s** AT LEAST
QUARTERLY!



PMCS

✓ Test the latch assembly to see if the latch securely holds the bayonet on an M16 rifle. If the spring pins, lock release levers, or helical spring needs to be replaced, see Page 3-5 in TM 9-1005-237-23&P, the TM for the M6 and M7 bayonets. Disassemble and assemble the M9 latch just as you did the M7's.

If the latch plate is damaged, order a new M9.

✓ Remove the socket cap screw and inspect it for stripped threads or other damage. Replace it if necessary.

✓ Remove the handle from the bayonet-knife. Inspect the handle for cracks and chips. Cracks longer than ½ inch or chips larger than ¼ inch mean the handle is shot. Check for corrosion on the bayonet blade and tang.

Do not disassemble the bayonet any further. Its tang requires a specific torque that requires specific tools. If the blade is badly damaged, order a new M9.

✓ Lubricate the bayonet, and then reassemble it by putting the handle on the tang, the latch assembly on the handle, and screwing in the socket cap screw. Check to make sure the bayonet fits on the rifle correctly.

✓ Remove the scabbard's socket head cap screws and check for stripped threads and other damage. Replace them if necessary.

✓ Inspect the cutter assembly for damage, especially the stud. If the cutter can no longer cut, support replaces it. The cutter's still good, though, if the screwdriver tip is damaged, as long as it can remove the cap screw.

✓ Eyeball the sharpening stone. If the stone's too smooth or part of it is missing, knock it out with a cold chisel. Be careful not to damage the scabbard. Take off any adhesive with drycleaning solvent, NSN 6850-00-281-1985. Stick the new stone on with silicone adhesive sealant, NSN 8040-00-851-0211.

If the scabbard screw, NSN 5305-00-455-2549, and stud, NSN 5325-00-842-1879, are missing, replace them.

Support can replace snaps and rivets on the load bearing attaching assembly and snaps and buttons on the scabbard attaching assembly.

Page 8-9 in TB 43-0001-36-1 (Apr 91) has the details.

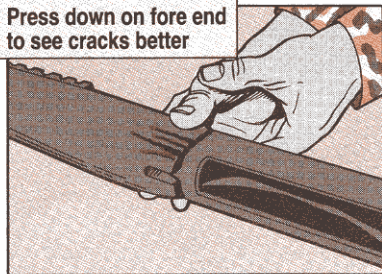
Crack Down on Cracks



A cracked fore end on your M1200 can split apart during firing. And fore ends crack often.

So, look for cracks in the fore ends during PMCS. You will see cracks better if you put a slight bit of pressure on the chamber-end of the fore end with your thumb. If it's cracked, get your support to repair or replace it.

Press down on fore end to see cracks better



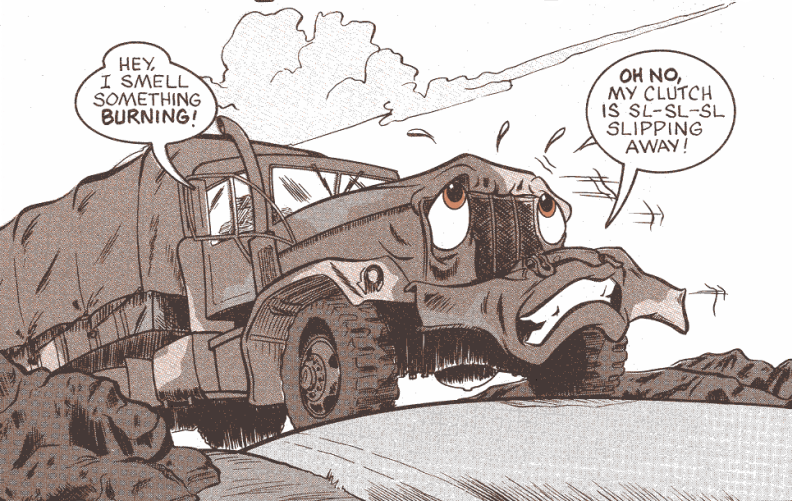
The best way to prevent cracked fore ends is to keep them oiled. Wipe the fore end with a slightly oiled rag. CLP,

Oil fore end to keep it from cracking



LSA or LAW will work. Wipe dry with a clean cloth. Apply a light coat of linseed oil, NSN 8010-00-221-0611, and rub in the oil with the heel of your hand. Do this after every firing or every 90 days, whichever comes first.

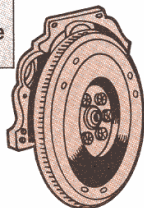
Report Slipping Clutch...Now!



A slipping clutch goes only one way—from bad to worse. If you don't detect and report it, you'll be the one to suffer. Like being stuck out in the boonies... sitting at the bottom of a hill your truck can't climb... or not being able to pull a heavy load because your clutch gave out.

But your truck can suffer worse. When you're finally towed in, the shop may find that your clutch disk, engine flywheel and clutch pressure plate are ruined—cracked or warped by the heat that comes from clutch slippage.

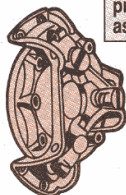
A slipping clutch damages the flywheel...



... the clutch disk ...



... and the pressure plate assembly



You can tell when your clutch starts slipping. When you let up on the clutch pedal and give 'er the gas to move out, you don't get clutch engagement when you're supposed to. Or there's a chattering and shuddering when your clutch does start to engage. Chances are, your truck needs a new clutch disk or clutch adjustment—or both.

You may move out—and think everything's OK—because heat from the clutch disk rubbing on the flywheel causes the parts to expand and improve clutch to flywheel contact.

But all this causes worse damage. Next time, clutch slippage will be worse!

Detect and Correct

Now that you know the first signs of clutch slippage, here's how to make sure... so you can report it... and get it fixed.

Use the same procedure that you use for checking your truck's parking brake. Make sure nobody or nothing is in front of your truck! With the engine running and parking brake ON, shift your transmission into the highest forward gear. Let up on the clutch pedal—slow but steady. Don't let the clutch pedal pop up or you may cause damage to the clutch, transmission, prop shaft or differential.

The clutch should take hold well before the pedal reaches the bottom of free travel specified for your truck. If your truck works OK, put the pedal back down quick. Letting the clutch disk slip on the flywheel will burn up the disk facing.

If your clutch does not take hold when it's supposed to, you've got clutch trouble. Report it.

MAKE SURE TO REPORT A SLIPPING CLUTCH ON DA FORM 2404.



Loose Rivets Sink Frames



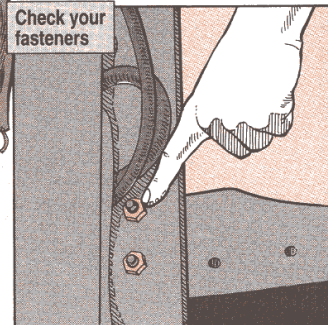
When you're ready to rock and roll, you don't want your truck rocking and rolling—or crashing and burning. That's why you need to make sure the fasteners holding your truck frame together are doing their job.

A major frame failure starts with the loosening of just one rivet. A little play develops. It puts major strain on the fasteners nearby. That strain can cause an entire crossmember to fail.

So, read between the lines a little when doing your monthly PMCS. When it says "any side rail or crossmember is obviously loose or broken," remember that a loose rivet or nut makes a crossmember loose and your truck NMC.

ITEM NO.	INTERVAL					ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed	EQUIPMENT IS NOT READY/ AVAILABLE IF:
	B	D	A	W	M		
10						FRAME Visually inspect frame side rails, crossmembers, and underbody supports for loose or broken bolts, cracks, breaks, broken welds, rivets, and rusted-through condition. Loose fasteners make truck NMC	Any side rails or crossmembers are obviously loose or broken; any welds, bolts, or rivets are broken or rusted through.

● **eyeball each fastener.** Look for a shiny area around the fastener. It means the rivet or bolt's been moving around, rubbing off the paint from the crossmember.



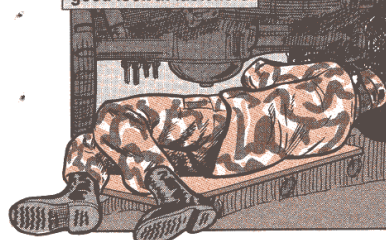
Look, Touch and Tap

You've got to use your eyes, your fingers and a hammer to give those fasteners a good look-see each month.

Here's how:

● **Crawl under the truck.** It's the only place a good inspection can be done.

Crawl under truck for good look at fasteners



● **Look for flaky rust, too.** A shiny area that's been sitting a while will develop new rust.

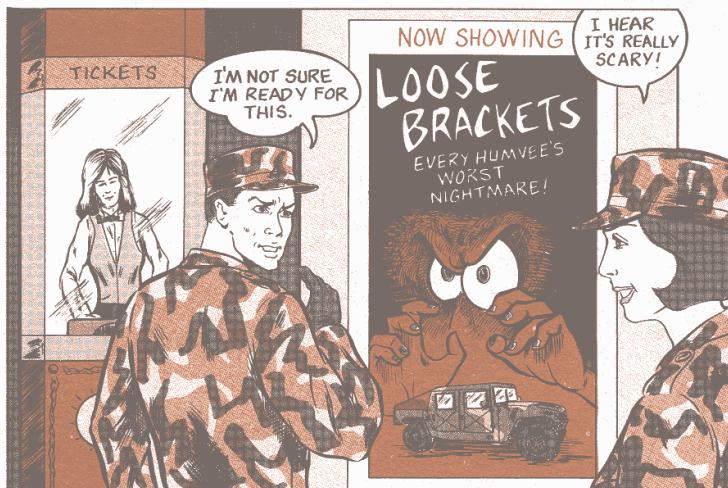
● **Of course, you will want to try to move each fastener with your fingers.** If it's sloppy loose, it must be replaced.

● **If you suspect a fastener is loose, but rust buildup behind the head keeps it from moving, try the oil and hammer test.**

Squirt some light oil around the head. Let it soak in. Wipe excess oil off with a rag. Give the fastener a good tap with a small hammer. With a light, check around the head of the fastener for an oil spray pattern. If oil is squeezed out, the fastener is probably loose.

If any of these tests turn up a loose fastener, report it to your support.

Brace Up the Alternator Bracket

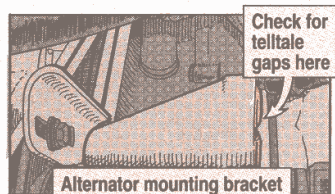


Give vibration an inch, and it'll take your Humvee's alternator mounting hardware to the (bone) yard.

Vibration loosens the bolts that hold the alternator mounting and support brackets.

Once one bolt is loose, the drive belts pull and twist other bolts and brackets. The brackets crack and bolts snap off in the engine.

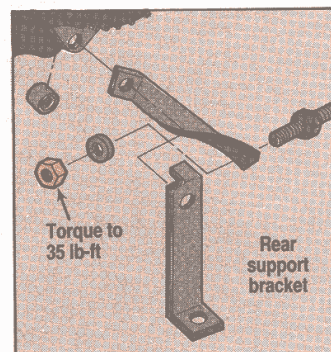
A new brace and proper torque can save those bolts and brackets. Use these solutions if you notice gaps between the brackets and the engine.



Alternator mounting bracket

The Humvee headshed designed a new rear support bracket and hardware for the alternator. It is already on vehicles serial numbered 52644 and above (200 amp models) and 53128 and above (60 amp systems). Unit mechanics can add it to other vehicles when it is needed.

The kits are shown in Fig 29C of TM 9-2320-280-20P. The 60- or 100-amp kit is NSN 2540-01-288-5240. For a 200-amp kit, use NSN 2540-01-288-8567.



Tighten the bolts with the right amount of torque. The bolts holding the alternator mounting bracket get 48 lb-ft; the nut on the rear support bracket gets 35 lb-ft.

IT'S A SCARY STORY, BUT, IT CAN HAVE A HAPPY ENDING!



M939-Series Trucks...

One Torque Fits All

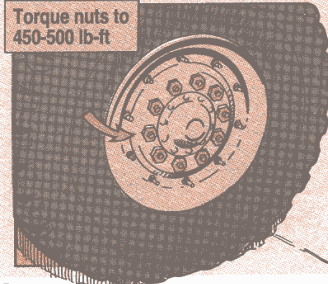


The only torque you need for your 5-ton truck's wheel stud nuts is 450-500 lb-ft, according to the truck headshed.

The word in your pubs is confusing. TM 9-2320-272-20-1's PMCS has one story. Para 8-3 of TM -20-2's maintenance procedures has another.

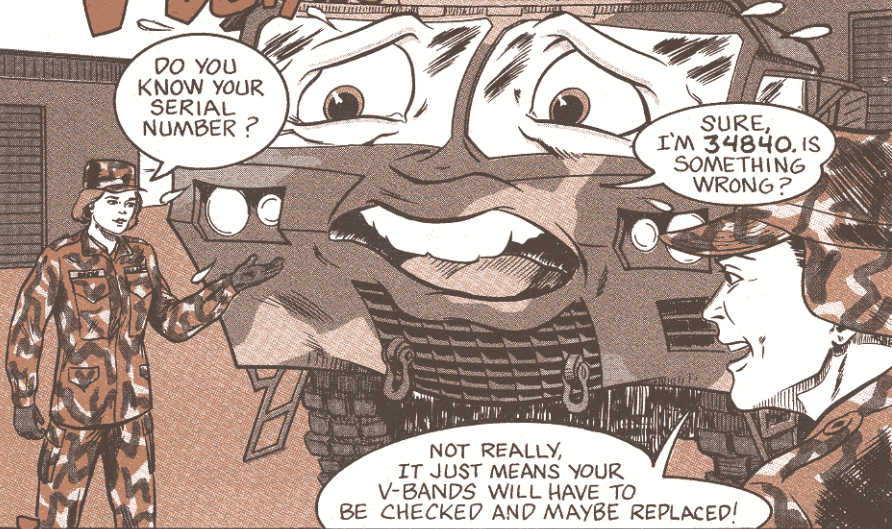
To keep your wheels turning, stick to 450-500 lb-ft for all nuts on front and rear wheels.

Torque nuts to 450-500 lb-ft

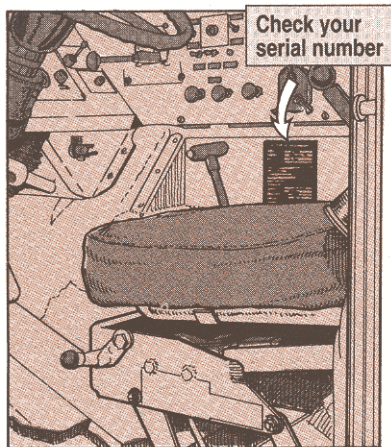


HEMTT...

V-bands Need Aid



If your HEMTT's serial number is 34804 through 36029, the contractor wants to check the engine's turbocharger's V-bands.



There's a chance the bands weren't properly hardened. If they fail, the engine or turbocharger can be damaged.

If your truck's serial number falls within those numbers, tell your support. They'll get your vehicle to Detroit Diesel for a checkup. Any replacement is free to the government.

Compressor Inlet Screen

All HEMTT users should have a new turbocharger compressor inlet screen installed. Detroit Diesel will do this for nothing, too.

The screen keeps people and things out of the turbocharger when the air inlet piping is disconnected.

Local support shops are also authorized to install the screen per instructions in the kit.

M131-series Fuel Tankers...

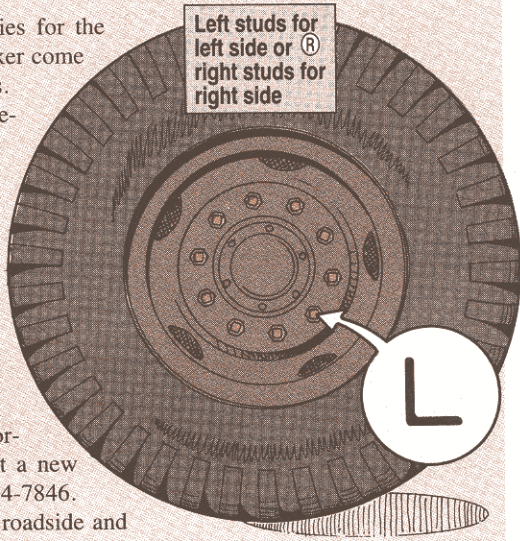
There's a Hub Rub, Bub

New hub and drum assemblies for the M131-series 5,000-gal fuel tanker come only with left-hand wheel studs.

That's extra work for you mechanics if you have to replace the hub and drum for the right side of the semitrailer. You have to remove every stud and replace it with a right-hand stud, NSN 5306-00-383-4957. It takes 10 studs.

So-o-o-o, to avoid a long delay of getting a tanker back in service when a right side wheel hub or drum goes bad, order 10 studs when you request a new hub and drum, NSN 2530-00-134-7846.

For the record, figure left is roadside and right is curbside.



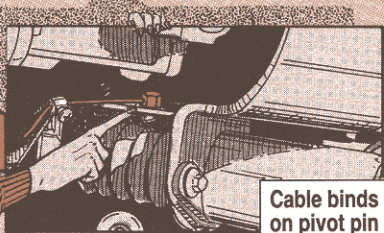
M939A2-Series Trucks...

Fuel Cable Hang-up

The emergency fuel shutoff cable on the M939A2-series 5-ton trucks has a bad habit of binding. Binding causes the cable to snap.



SOLVE THE PROBLEM BY MOVING THE PIVOT PIN TO THE INWARD SIDE OF THE FUEL SHUTOFF LEVER!



Cable binds on pivot pin

PUBS

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

TB 1-1510-213-30-7 Oct 91
Inspect T53-L-701 engine fuel heater and filter for main fuel cell sealant contamination

TB 1-1520-238-20-28 Oct 91
Inspect M/R strap assemblies and lead-lag links on AH-64A in operation Desert Shield/Storm

TB 1-1520-243-20-16 Oct 91
Re-establishment of tracking time between overhaul for servo-cylinder assembly, AH-1 and UH-1M

TB 1-1520-243-20-17 Oct 91
Inspect methods/procedures for AH-1 and UH-1 tail rotor flexible couplings

TB 1-1520-244-30-5 Oct 91
Inspect oil cooler and other

items, for sand erosion, AH-1

TB 1-1520-248-20-12 Oct 91
Inspection of the engine cowl and duct assembly, OH-58D

TB 1-2840-229-20-4 Jun 91
Operational restriction on UH-1 and EH-1 with T53-L-13B, P/N 1-000-060-22 installed engines

TM 5-3805-260-24 Mar 91
Scraper, tractor, models 613BSS, 613BSS1, 613BSNS and 613BSNS1

TM 9-2350-253-10 Sep 91
M60A3 tank

AUDIO-VISUAL STUFF

Film, TV Tapes Available at Battalion or Post Learning Center

707710 AN/TRC-112/121 Series-Parts 1 and 2
708636 Introduction to the modular collective protection equipment (MCPE)-Part 1
708637 Unit maintenance on the M93 gas-par-

ticulate filter unit (GPFU) and the protective entrance module (PEM)-Part 2

708638 Unit maintenance on the M95 and M96 gas-particulate filter units (GPFU) and protective entrance module (PEM)-Part 3

708871 M249 5.56MM SAW

708884 M16A2 rifle, functioning

Maintenance Advisory and Safety-of-Use Messages

AMCCOM SOU MSG 91-24—Technical, Gives guidelines to put motor vehicle towbar made by Abbott Product Co. under contract number DAAA09-81-C-4279 back into service, AMSMC-MA 091500Z Dec 91.

AMCCOM Maintenance Advisory MSG 91-46—Gives temporary fix for premature failure of flexible drive shaft assembly for Bradleys, AMSMC-MA 121930Z Dec 91.

AMCCOM Maintenance Advisory MSG 91-44—Gives information on Revision 0 software used in Backup Computer System (BUCS) general and BUCS special, AMSMC-MA 161700Z Dec 91.

AMCCOM Maintenance Advisory 91-47—Eliminates the electronic control assembly (ECA)/digital electronic control assembly (DECA) humidity in-

dicator used in Bradleys, AMSMC-MA 181800Z Dec 91.

CECOM SOU MSG 91-12-01—Mandatory, Operational, Gives potential safety hazard with ALQ-144A (V)1 and (V)3 countermeasures sets, AMSEL-F-SEC 181800Z Dec 91.

CECOM SOU MSG 91-12-20—Mandatory, Operational, Identifies defective AN/AVS-6 (V)1 and (V)2 night vision goggles monocular housing assemblies made by Insight Technology under contract number DAAB07-91-C-M151, AMSEL-SF-SEC 202200Z Dec 91.

CECOM SOU MSG 91-12-01—Mandatory, Operational, Inspect low speed modulator nuts on AN/ALQ-144A (V)1 and (V)3 countermeasures sets, AMSEL-SF-SEC 091800Z Jan 92.

TROSCOM SOU MSG 28-91—One-Time Inspection, Limited, Advisory Technical, Inspect all 5-Zone CY-7360() FSS-9V monitor cabinets for a blocked power supply fuse, AMSTR-M 051500Z Dec 91.

TROSCOM SOU MSG 29-91—Emergency, Deadlines bracket assembly, NSN 1670-01-162-2376, used on the type V aerial delivery platform, manufactured by Applied System Research Inc under contract number DAAK01-90-D-0023, AMSTR-M 202110Z Dec 91.

TROSCOM Maintenance Advisory 91-46—Gives fix for trapped water in acoustic suppression kits (ASK) for 15- and 30-KW DED generator sets, AMSTR-ME 160730Z Dec 91.

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

How Does MO Know?

I HAVEN'T BEEN HERE FOR A WHILE SO I DECIDED TO STOP BY AND SEE HOW THE SHOP IS DOING, AND TO FIELD ANY QUESTIONS YOU MIGHT HAVE.

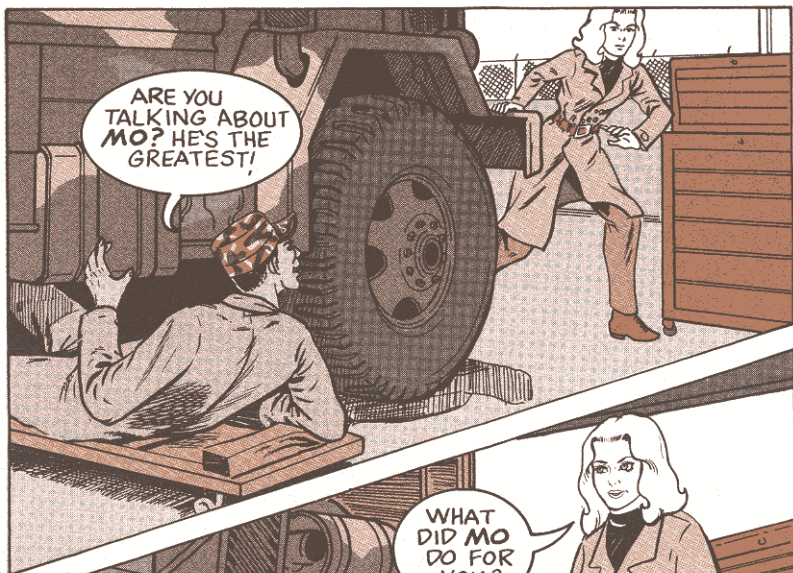
HI, CONNIE.

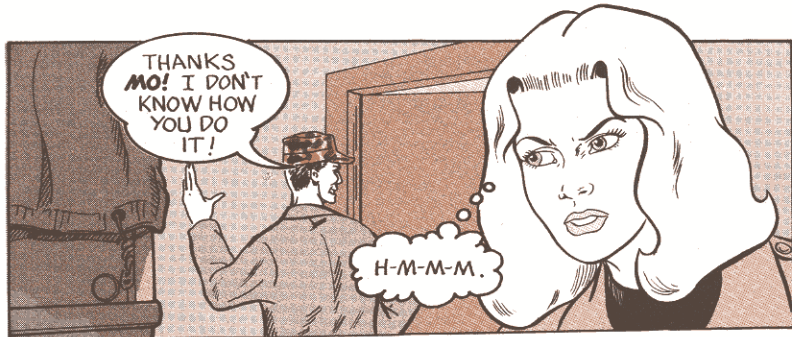
IF I HAVE A QUESTION, I ASK MO. MO KNOWS!

THAT'S RIGHT... MO KNOWS!

I WAS JUST GOING TO SEE MO NOW.









- All howitzers, M578, FAAR, FADAC, ground guidance and shop/test equipment for I-HAWK, and Nike-Hercules (Letterkenny)
DSN 570-9693
COMM 717-267-9693
- Commo/Electronics (Sacramento)
DSN 839-2839
COMM 916-388-2839
- Commo/Electronics (Tobyhanna)
DSN 795-7900
COMM 717-894-7900
- Commo/Electronics (Ft Monmouth-CECOM)
DSN 992-3266
COMM 908-532-3266
- Fuels/lubes (Ft Belvoir)
DSN 354-4594
COMM 703-664-4594
- Supply distribution equipment, water/fuel supply systems, support equipment, electric power systems, heaters, air conditioners (Logistics Equipment Dir-Belvoir)
DSN 354-5120
COMM 703-664-5120
- Tanks, AVLBs, M88A1s, Sheridan, Land Combat Missile Systems (incl LANCE launcher/loader transporter), small arms, mortars, recoilless rifles (Anniston)
DSN 571-6582
COMM 205-235-6582
- Aircraft engines (Corpus Christi)
DSN 861-2651
COMM 512-939-2651
- Cat 1 EIR (Aircraft) (duty hours DSN 693-1687) (AVSCOM)
DSN 693-2066
(after duty hours)
COMM 314-263-2066
- Aircraft Vibrex balancing kit (AVSCOM)
DSN 693-1713
COMM 314-263-1713
- M113 FOV (incl Vulcan, Chaparral), M2/M3-series Bradley (Red River)
DSN 829-3100
COMM 903-334-3100
- Computer software (Ft Monmouth-CECOM)
DSN 995-2980
COMM 908-544-2980
- Security systems and components, camouflage applications and bridges (R&D Combat Engr Dir Belvoir)
DSN 354-2654
COMM 703-664-2654
- Power generation equipment, wheeled vehicles, brake problems, Redeye, topo equipment (Tooele)
DSN 790-2129
COMM 801-833-2129

- Marine/Watercraft and Marine support equipment (TROSCOM)
DSN 693-9277
COMM 314-263-9277
- Supply, maintenance policy guidance for AR's 750-1, 710-2 and 735-5; TB 710-5, TC 43-4 (Log Eval Agency)
DSN 977-6842
COMM 717-770-6842
- Defense Construction Supply Center (for RODs)
DSN 850-2089
COMM 614-238-2089
- Food service eqpt, individual equipment (clothing), tentage and shelter (Natick)
DSN 256-5341
COMM 508-651-5341
- Aerial delivery equipment (TROSCOM)
DSN 693-2619
COMM 618-263-2619
- CARC (Chemical Agent Resistant Coating) General (AMC)
DSN 284-9436
COMM 703-274-9436
TROSCOM
DSN 693-3181
COMM 314-263-3181
Supply Source (GSA)
COMM 206-931-7051
- AMCCOM maintenance, supply of managed items, location of nearest LAR, NICP, NMP (Rock Island)
DSN 793-2666
COMM 309-782-2666
- Substitute NSNs, part number cross reference to NSN, item ID, price questions and AMDF code problems (MIRAC)
DSN 977-7431
COMM 717-770-7431
- AMDF Code Guide (USAMC Catalog Data Activity) (mailing info)
DSN 977-6608/6741
COMM 717-770-6608/6741
- Packaging/storage problems, hazardous materials packaging (AMCPSCC)
DSN 795-7682
COMM 717-894-7682

- SF 364 packaging RODs
DSN 795-7685
COMM 717-894-7685
- Standard Army Maintenance System (SAMS 1/2) Customer Assistance (USALC)
DSN 687-2594/3568
COMM 804-734-2594/3568
- GSA-managed items quality complaints (Fed Supply Srv Quality Assurance Div)
DSN 286-1996
COMM 703-607-1996

- Armament, Munitions and Chemical Command managed end item supply maintenance (duty hours only)

Chemical—DSN 584-3681
COMM 410-671-3681

Nuclear weapons—DSN 880-3619
COMM 201-724-3619

Combat vehicles—DSN 793-2185
COMM 309-782-2185

Artillery—DSN 793-1525
COMM 309-782-1525

Individual/crew-served weapons—
 DSN 793-0032
COMM 309-782-0032

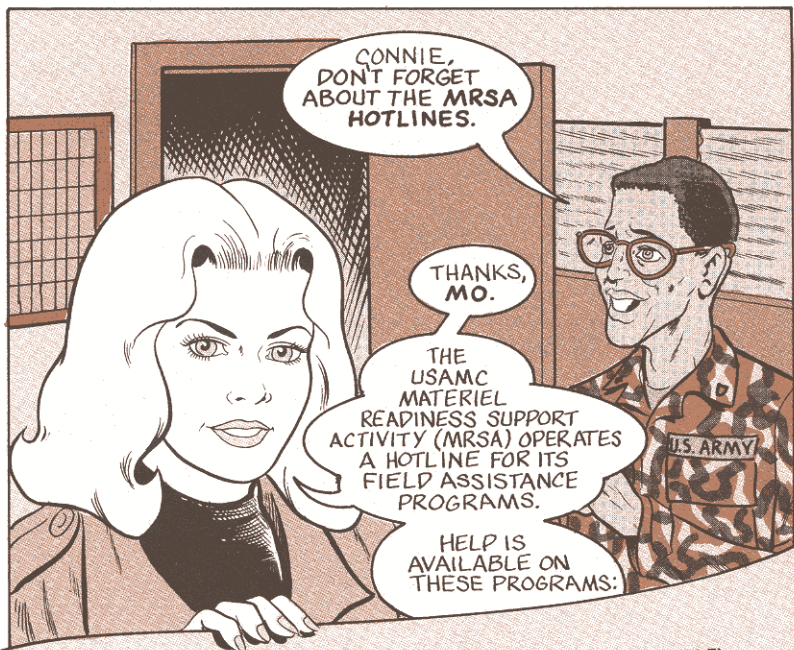
Shop equipment, tool sets—
 DSN 793-2735
COMM 309-782-2735

Remoted target systems—
 DSN 793-1065
COMM 309-782-1065

Air defense gun systems—
 DSN 793-1952
COMM 309-782-1952

Mortars—DSN 793-1525
COMM 309-782-1525

EOD/test equipment/test programs—
 DSN 793-2509
COMM 309-782-2059



Reverse Support List Allowance
Computation (SLAC)

Consolidated PLL Mandatory Parts List
(MPL)

Combat ASL/PLL

Equipment Oriented Publication Data
Base (EOPDB)

Army Oil Analysis Program (AOAP)

Peacetime Prescribed Load List/
Authorized Stockage List (PLL/ASL)

End Item Application File (EIAF)

Standard Army Maintenance System
(SAMS)

Work Order Logistic File (WOLF)

The Army Maintenance Management
System (TAMMS)

Army Vehicle Registration Program

Sample Data Collection (SDC)

Army Readiness Reporting

Force Modernization Lessons Learned

Maintenance Mgmt UPDATE Pubs

Combat Training Centers (CTC) Lessons
Learned

DSN 745-3082/3083
COMM 606-293-3082/3083

NOBODY WILL ASK ME ANYTHING, ANYMORE,
NOT EVEN THE TIME OF DAY!

HEY, YOU'RE RIGHT!

NOW THAT
EVERYONE HAS ACCESS
TO THE DIRECTORY, YOU WON'T
BE **MO** KNOWS, BUT
MO THE HERO!

HEY **MO**, WHO WAS
THAT 1950's ROCKER
NAMED **BO**?

GOSH, I'M
STUMPED!

DON'T
TELL ME
MO DOESN'T
KNOW
DIDDLEY!

Everything Has Its Limits

On some highways it's 65 MPH.

On elevators it's 2,000 pounds.

On first dates it's one brief kiss.

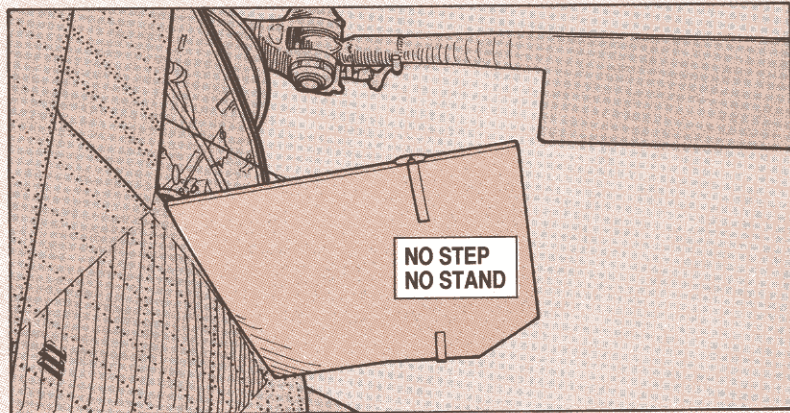
Exceed those limits and you may crash, go splat or get slapped.

Your Chinook aft pylon work platform has a limit, too. It's 400 pounds.

Exceed that limit and you'll bend the platform. A bent platform won't close right. That means a new platform!

That 400-lb limit includes the weight of your tools. So, if you're up there with a buddy and you both "pump iron," chances are a toolbox will put you over the top.

Remember, too, the outer half of the platform beyond the support cable attaching points is a NO STEP/NO STAND area. You can use the area for a few light tools (no more than 5 pounds worth), but don't forget that their weight still counts as part of that 400-lb limit.



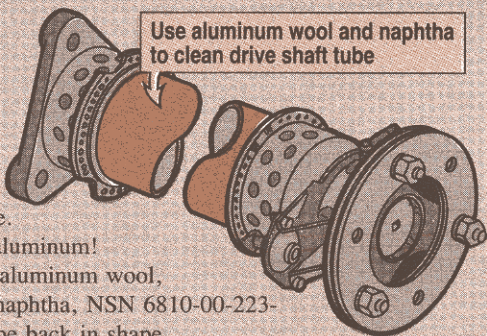
Can the Crocus!

Crocus cloth contains iron oxide which causes rapid corrosion of aluminum.

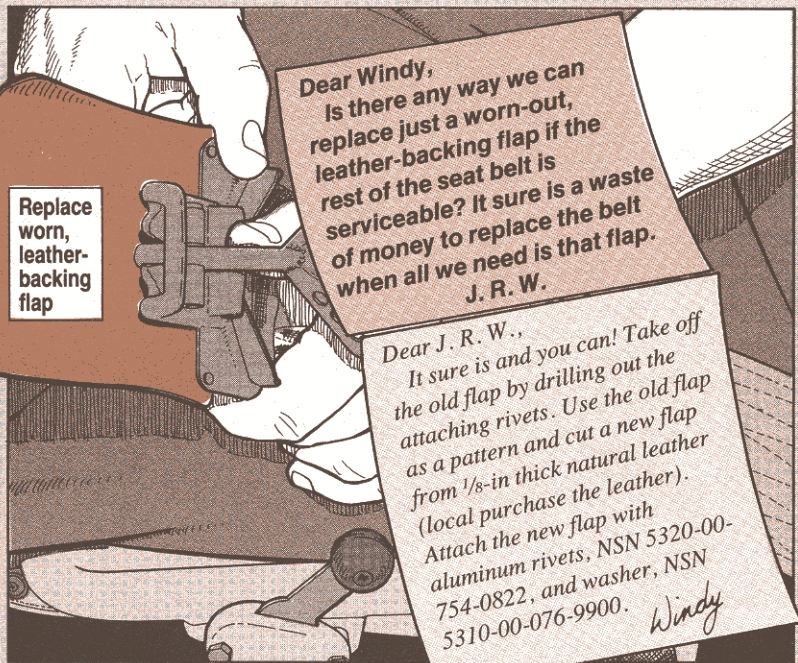
Step 3 of Task 6-11 in TM 55-1520-240-23 says to use crocus cloth to blend out scratches, nicks and gouges on the forward drive shaft tube.

One problem... the tube's aluminum!

Instead of crocus cloth, use aluminum wool, NSN 5350-00-286-4851, and naphtha, NSN 6810-00-223-9067, to get the drive shaft tube back in shape.



Aircraft Seat Belt Help



AH-64A...

Baby Those Seals!

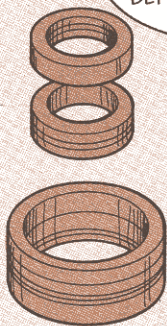
Like a new-born baby!

That's how you handle a new input or output shaft oil seal for the engine nose gearbox.

Those seals are carbon and they are very, very fragile. Just a little abuse will crack or chip 'em. It's a cryin' shame to take the time and effort to fix that nose gearbox leak just to turn around and do it again. Not to mention the cost.

And don't take it for granted that just because a seal is new, it's good. Seals are easily damaged in shipping and handling.

LOOK SEALS OVER
C-A-R-E-F-U-L-L-Y
FOR CRACKS AND CHIPS
BEFORE YOU INSTALL
THEM!



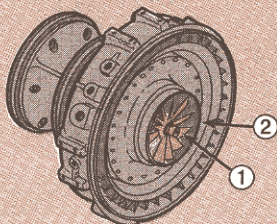
Black Hawk APU...

Turbine Wheel Inspection

The Black Hawk's APU engine turbine wheel inspection, Task 2-21 in TM 55-2835-208-23, has 4 steps. Some engines fail the clearance check in Steps 3 and 4 because the trailing edges of some turbine wheel blades were cut off to balance the wheel.

When the blades are cut off, the measurement between blade tips and the turbine nozzle no longer meets the requirements of Steps 3 and 4.

IF THE
WHEEL
PASSES
STEPS 1
AND 2 WITH
FLYING
COLORS,
IT'S OK
TO GO.



(1) Inspect turbine wheel for cracks and broken vanes. If found, APU requires depot repair.

(2) Inspect for marks indicating turbine wheel has been rubbing on turbine nozzle. Rotate turbine wheel and listen for rubbing sound. If found, APU requires depot repair.

Reworking the Mast

DEAR WINDY,

PARA 6-72 OF TM 55-1520-236-23-1 SAYS THAT THE COBRA MAST CAN BE REWORKED ONE TIME. I THINK THIS MEANS THE WHOLE MAST FROM TOP TO BOTTOM. BUT A FRIEND SAYS IT'S ONLY THE AREA AT THE BOTTOM OF THE MAST SHOWN AS AREA 1 IN FIG 6-25. WHAT'S RIGHT?

SGT M.G.S.

Rework on mast is permitted one time only. Do not polish out mechanical and/or corrosion damage if mast has the word "REWORKED" on the flange in area 1, figure 6-25.



AREA 1 IS THE PLACE TO LOOK FOR THE WORD "REWORKED".



Dear Sergeant M. G. S.,
You can rework (remove corrosion and fix mechanical damage) the entire main rotor mast assembly, not just in area 1. Area 1, the flange area, is where the mast should be marked REWORKED.

Windy

UH-60A...

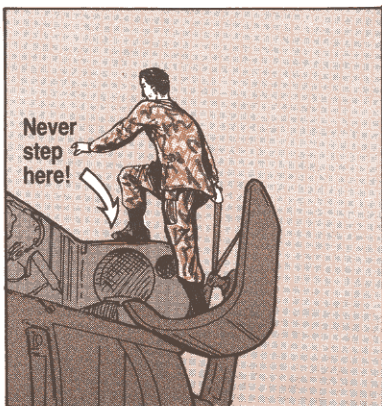
A Bad Step

You'll crack the metal if you use your Black Hawk's engine firewall as a step when the engine cowling is open.

When the cowling is closed, your weight is distributed along the entire firewall and the metal will hold up.

But when the cowling is open, like when you're using it for a work platform, all your weight rests on a specific spot and that spot could crack.

So, before pulling main rotor head PM, close the engine cowling. And anytime the engine cowling is open, watch your step.

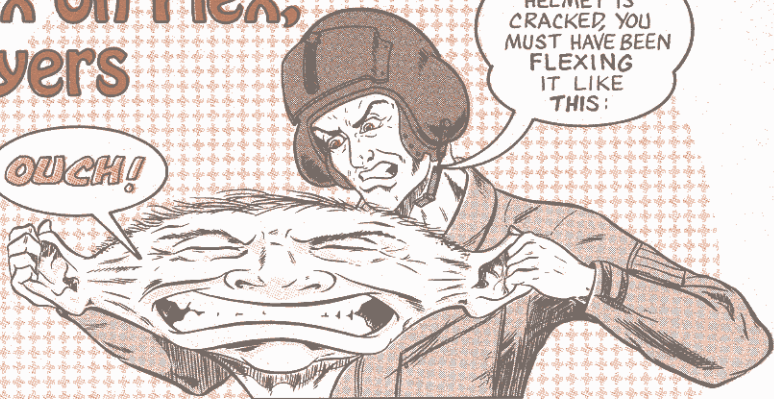


SPH-4 Helmet...

Nix on Flex, Flyers

OUCH!

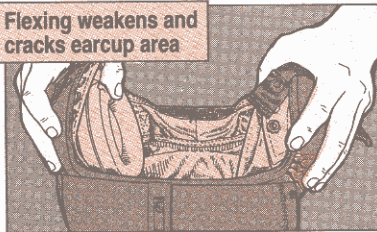
IF YOUR
HELMET IS
CRACKED, YOU
MUST HAVE BEEN
FLEXING
IT LIKE
THIS:



Flexing the earcup area on your SPH-4 helmet could crack the helmet.

The earcup area is the weakest part of your helmet. When you flex it—pull it apart to expand it—it weakens the helmet and leads to cracks.

Flexing weakens and cracks earcup area



Some of you are “flexing” to make it easier to get the helmet on and off, while others are just trying to get a better fit.

When you take your helmet off or put it on, don't over-muscle it. If the fit is poor, get your ALSE tech on the job to give you a good snug fit.

Aviation Messages

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

OH-58-92-ASAM-05, Maint Mand, OH-58A/C, Cancelling OH-58-91-ASAM-14 and OH-58-91-ASAM-15, inspect self-locking nuts on tail rotor blade and hub assembly, 021600Z Dec 91.

OH-58-92-ASAM-06 and **OH-6-92-ASAM-06**, Maint Mand, OH-58A & OH-6, inspect overhauled T63-A-700 engines for

incorrect DA Form 2408-16, 091900Z Dec 91.

OH-58-92-ASAM-07, Maint Mand, OH-58A/C, Revision to one time inspect of fuel system for contamination, 132100Z Dec 91.

AH-1-92-ASAM-04, Info, AH-1, Rescind inspection of nuts in critical locations, 091800Z Dec 91.

AH-1-92-ASAM-05 and **UH-1-92-ASAM-03**, Maint Mand, AH-1 &

UH-1M, Revision to overhaul/retire schedule of the servo cylinder assembly, 181900Z Dec 91.

AH-1-92-ASAM-06, Maint Mand, AH-1E/F, Inspect of engine for FOD and bypass door operating restrictions, 182200Z Dec 91.

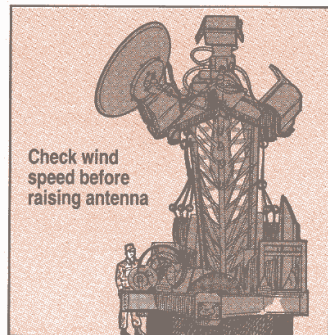
OV-1-92-ASAM-01, Info, OV-1D, AN/AYA-10 Sig Data Converter Connector Maint improvement, 192100Z Dec 91.

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

IT'S THE LITTLE THINGS THAT COUNT

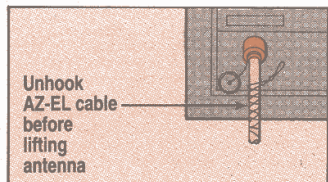
Your AB-1309 DGM antenna is a real giant in the antenna world, but even it can be brought down if you don't take care of the little things.

⚙️ Never set up the antenna if the wind speed indicator reading is greater than 33 MPH. A good rule of thumb is that if the wind blows hard enough to make the tree tops bend, don't set up your antenna.

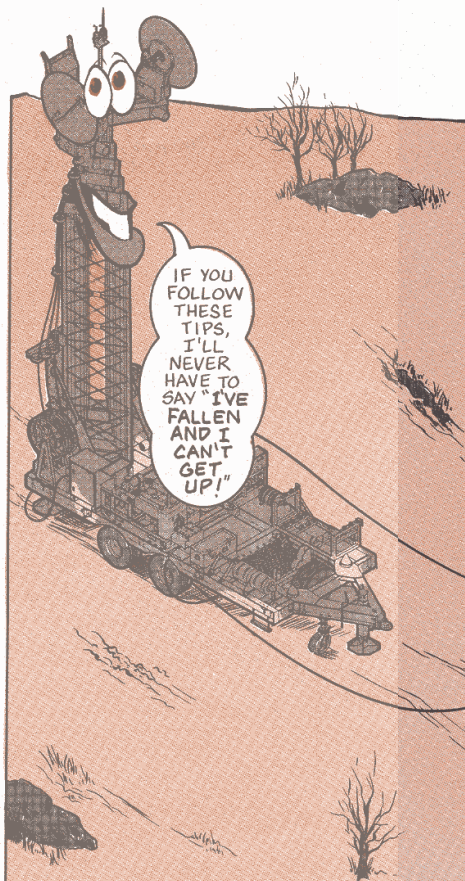


Check wind speed before raising antenna

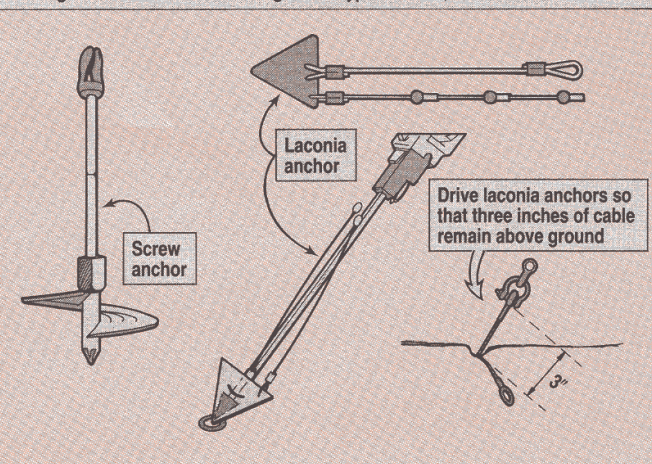
⚙️ Disconnect the short Azimuth-Elevation (AZ-EL) interface cable before you lift your antenna. If you don't unplug this cable, it will break.



Unhook AZ-EL cable before lifting antenna



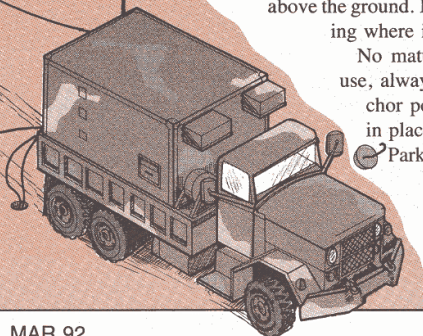
⚙️ Make sure you use the right type of anchor to hold the antenna in place. There are two types of anchors used to anchor the antenna—screw and laconia. If the ground is too hard for using screw-type anchors, use laconia anchors.



When you use the laconia anchors, place them deep enough in the ground to do their job. Drive them with the pionja driver so that three inches of anchor cable remain above the ground. Measure 3 inches of cable starting where it connects to the guy wire.

No matter which type of anchor you use, always put two anchors at each anchor point to hold the antenna tower in place.

⚙️ Park the 5-ton truck and shelter in front of or behind the AB-1309 antenna trailer. If the antenna tower should fall, it's more likely that it will fall to the side.



☞ If the trailer level indicators are not working, use a carpenter's level to level the antenna trailer. The DGM TMs leave you short on an NSN for this level. Get a 24-in level with NSN 5210-00-239-0892.

Use level to level trailer



☞ Put safety first whenever you're erecting the mast or operating the pionjar driver. There's always safety in numbers, and THREE is the number of warm bodies required to erect the mast and operate the pionjar driver. Never try to erect the mast with two people.

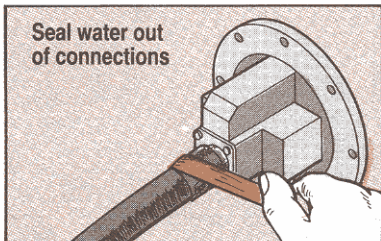
COME ON, IT'LL TAKE ALL THREE OF US TO GET THAT MAST UP.



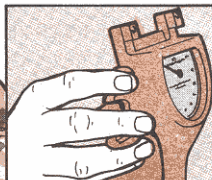
Also, protect yourself by wearing gloves, boots, hard hat and ear and eye protection when working around the pionjar driver and antenna mast.

☞ Seal water out of the antenna coax cable by taping the cable connections. Water will short out the cable. Put insulation tape, NSN 5970-00-240-0620, snugly around the connection. Then top it off with black electrical tape, NSN 5970-00-419-4290, as a final seal.

Seal water out of connections



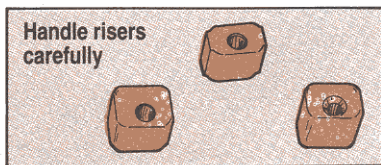
☞ Check the tension on the antenna cables with the TS-8005-110-00 tensiometer. Look at the chart on the inside front cover of the tensiometer case for the correct riser to use.



Tensiometer checks cable tension

Be extra careful when you handle the cable risers. If you drop or bang them, the tensiometer has to be recalibrated.

Handle risers carefully



Aviation Generator Sets...

Increase Receptacle Life

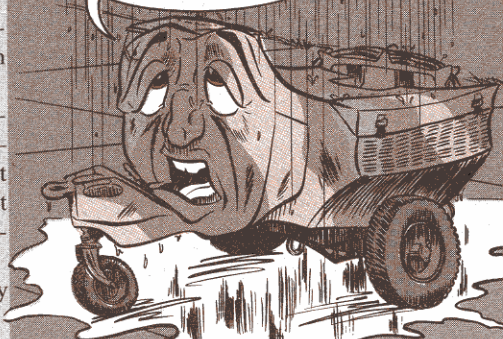
When inspecting your aviation generator set, pay close attention to the turnlock fastener receptacles.

These steel receptacles have no protective coating, so when they fill with water, rust sets in quickly.

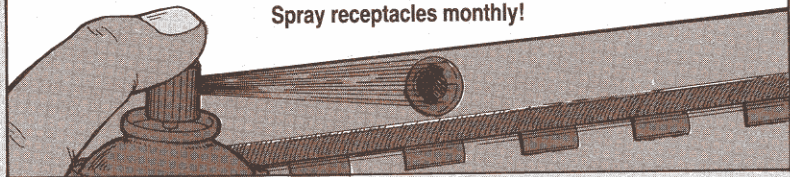
You can extend the life of these receptacles by spraying them monthly—or more often in hot, humid or wet weather—with penetrating fluid. Get a 12-oz aerosol can with NSN 6850-00-973-9091.

If the receptacles have already rusted, turn the set in to support.

AND, OF COURSE,
MY RECEPTACLES ARE
UNPROTECTED.



Spray receptacles monthly!

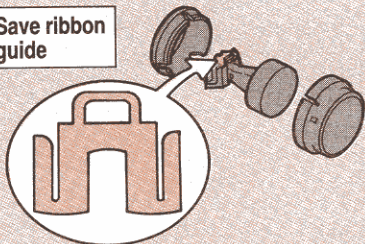


AN/UGC-74B Teletypewriter...

Don't Toss Ribbon Guide

Take a good hard look at your AN/UGC-74B teletypewriter's ribbon cartridge before you toss it so you don't also throw away the ribbon guide.

**Save ribbon
guide**

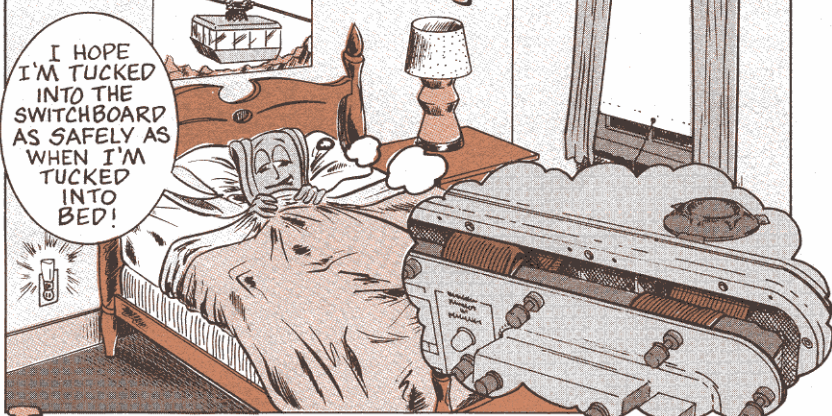


The guide comes off with the old ribbon when you remove it to install a new one. Some operators toss the guides with the used ribbon. Without the guides, the teletypewriter cannot print.

As if that's not bad enough, the guide's not in your teletypewriter's parts TM. To get it, your unit must buy subassembly, NSN 5815-01-266-1647, which costs about \$165.00.

So save yourself a bunch of trouble by taking the guides off the used ribbon at replacement time.

Tuck Away Cable



The flexible cable assemblies on your SB-3614A(V)/TT switchboard are durable when they're treated right. But they've got to be turned in to support for disposal or repair after they've been pinched between the case and panel a few times.

New cable assemblies are in short supply, so keep those cables on the job by making sure they're tucked out of the way when you close the panel.

OE-254, RC-292 Antennas...

Right Lube Means Clear Signal

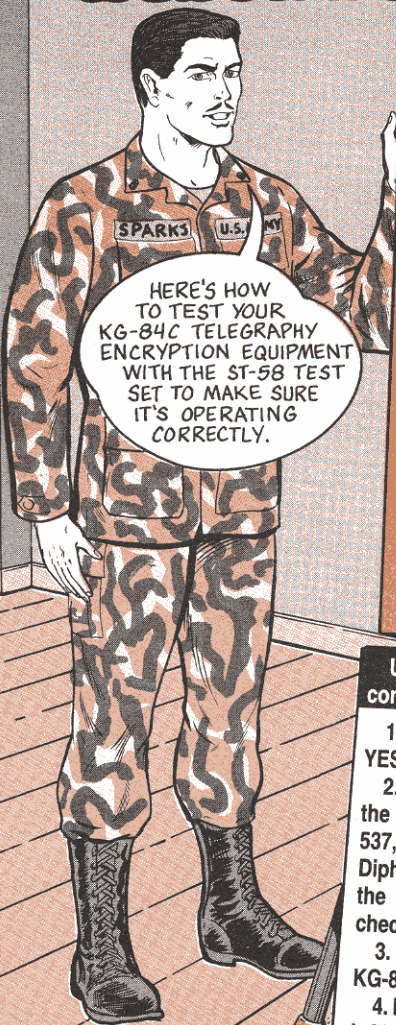
Rust and corrosion are bad news for OE-254 and RC-292 antenna contacts.

Most lubes may make it easy to thread the antenna sections together and keep contacts corrosion free, but they also have insulating properties. And that means your transmission could be blocked.

Instead, use water displacing compound. This compound keeps the leading cause of rust and corrosion—moisture—away from the antenna contacts without blocking transmission. Get a 16-oz can with NSN 6850-00-142-9409.



Test Procedures



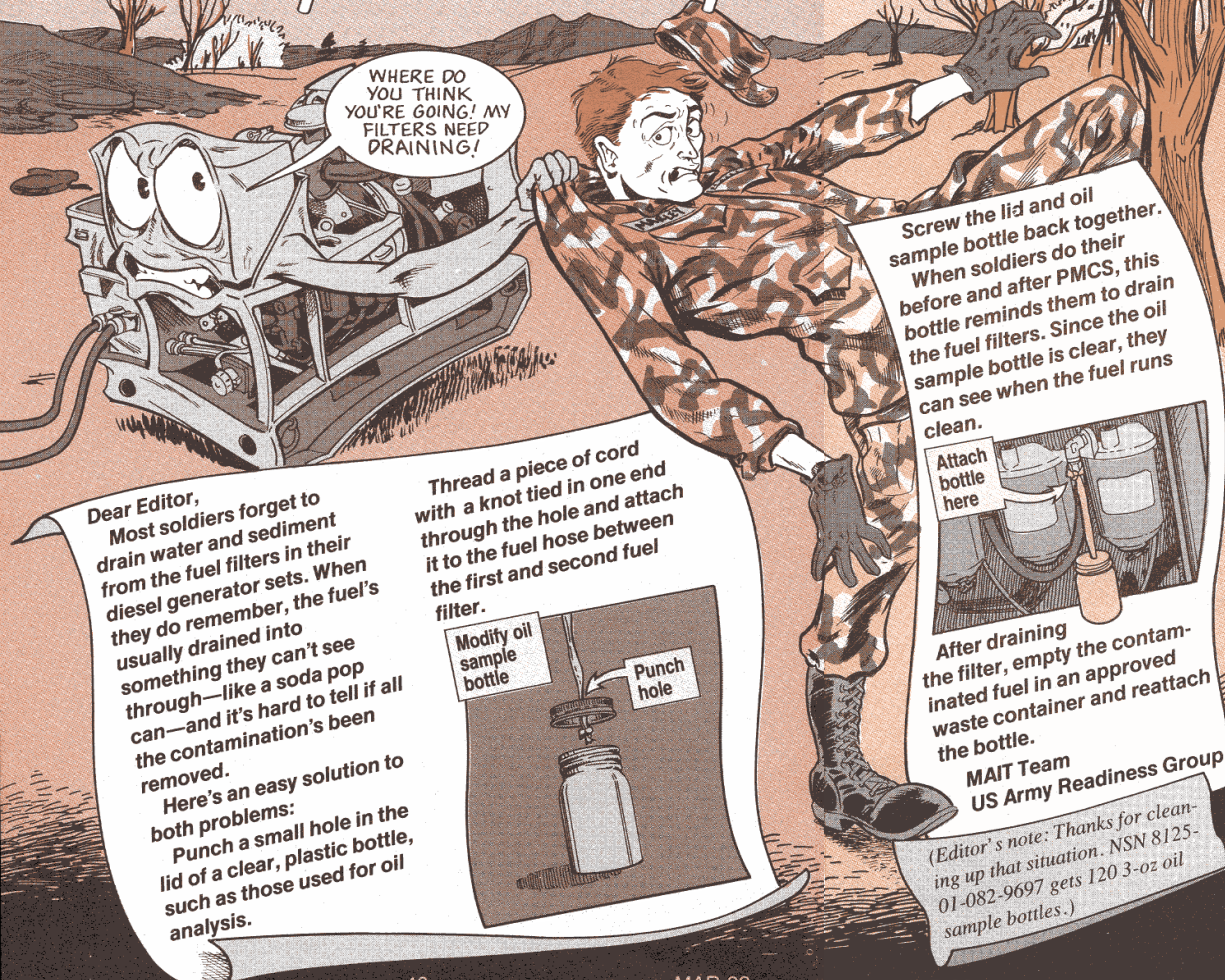
HERE'S HOW
TO TEST YOUR
KG-84C TELEGRAPHY
ENCRYPTION EQUIPMENT
WITH THE ST-58 TEST
SET TO MAKE SURE
IT'S OPERATING
CORRECTLY.

1. Press/hold YES button on hand-held controller.
2. Turn power switch on while compressing the YES button, until first LED display.
3. Display Values, press YES.
4. Debug, press YES.
5. Test, press YES.
6. Z-APD, press YES.
7. Verify Z-APD and cables. If pass, continue test steps.
8. Option on Failure, press YES.
9. Display Values, press NO.
10. Debug, press NO.
11. Press test selection to display KG-84C, then press YES.
12. Strap Test Desired, press YES.
13. Final UUT Strap Configuration Known, press NO.
14. Proceed with self-explanatory test displays.

Use one of the following procedures to continue the tests.

1. If KG-84C fails at Test L-290, press YES to Ignore Failure.
2. If KG-84C passes Test L-533 thru 537, the unit is good. During Tests L-533 thru 537, the KG-84C is being run in wireline Diphas mode by the ST-58. This checks the same circuit that was incorrectly checked at Test L-290.
3. If unit does not fail other than L-290, KG-84C is acceptable.
4. If KG-84C fails any steps further than L-290, troubleshooting procedures should then be applied per KAM 505.

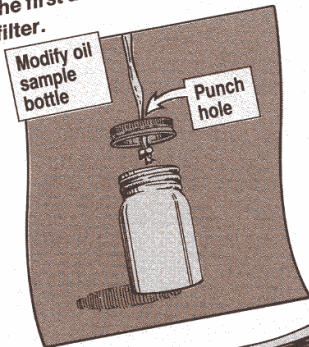
Clean Up With Oil Sample Bottles



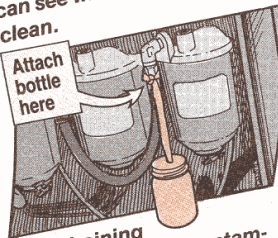
Dear Editor,
Most soldiers forget to drain water and sediment from the fuel filters in their diesel generator sets. When they do remember, the fuel's usually drained into something they can't see through—like a soda pop can—and it's hard to tell if all the contamination's been removed.

Here's an easy solution to both problems:
Punch a small hole in the lid of a clear, plastic bottle, such as those used for oil analysis.

Thread a piece of cord with a knot tied in one end through the hole and attach it to the fuel hose between the first and second fuel filter.



Screw the lid and oil sample bottle back together. When soldiers do their before and after PMCS, this bottle reminds them to drain the fuel filters. Since the oil sample bottle is clear, they can see when the fuel runs clean.



After draining the filter, empty the contaminated fuel in an approved waste container and reattach the bottle.

**MAIT Team
US Army Readiness Group**

(Editor's note: Thanks for cleaning up that situation. NSN 8125-01-082-9697 gets 120 3-oz oil sample bottles.)

Give Connector Plug a Tug

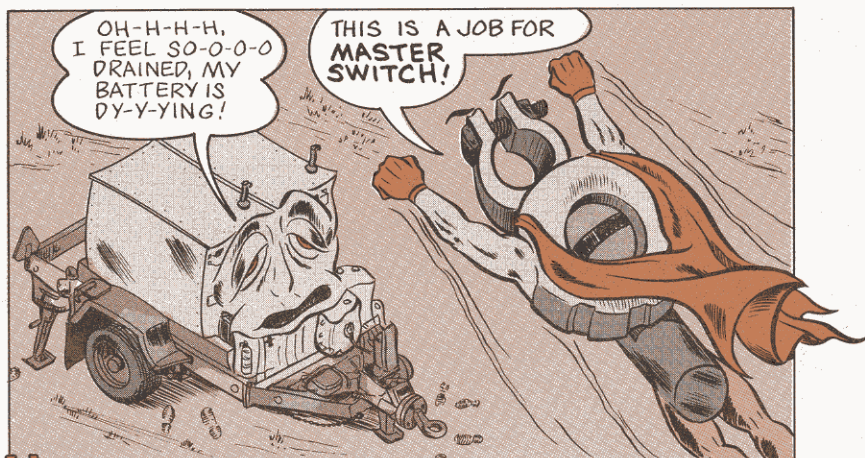
Before operating your 15-, 60-, 100- and 200-KW DED generator sets, check to see if the connector plug on the back of the battery charging alternator is loose.

The vibration of the generator causes the rivets which hold the connector plug in place to pop loose. When all four rivets break, the connector plug flip-flops around, rubbing against the metal edges. This causes the alternator to short out.



If the connector plug is loose when you check it, get your support folks to replace the rivets with machine screws, NSN 5305-01-053-0958, and self-locking nuts, NSN 5310-00-088-0551.

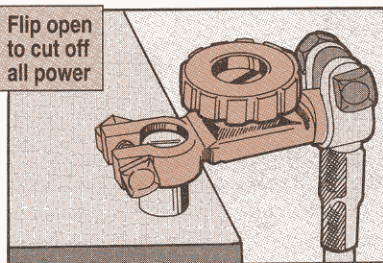
Battery Drain Pain



Your 5-KW DED generator set assembly, model CTMGSA-5, won't generate if the batteries are drained.

Even with the DC circuit breaker turned off after shutdown, the alternator, voltage regulator and battery charger continue to pull power from the batteries.

A battery master switch is the solution. The switch fits over the negative



terminal of the battery and cuts all power. The switch costs \$14.95 and can be ordered on a DD Form 1348-6

using part number 192-B from RIC A12. There's no CAGE, so put in the Remarks column:

NO CAGE ASSIGNED

Bathurst, Inc.

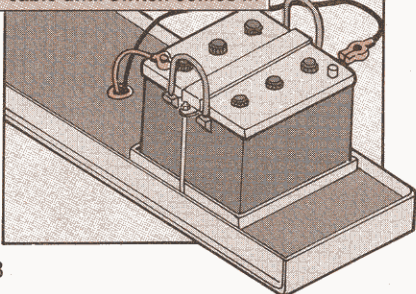
PO Box 27-PS

Tyrone, PA 16686

(814) 684-2603

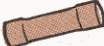
While you're waiting for the switch, disconnect the negative cable from the battery everytime the generator is shut down.

Disconnect (neg) battery cable until switch comes in



Component NSNs

Here are the components you need to restock your terminal wire kit, NSN 5940-00-450-5802:

Ring Terminal, AWG 12-10, Stud 1/4-in NSN 5940-00-143-4777 	Ring Terminal, AWG 16-14, Stud 3/8-in NSN 5940-00-143-4793 	Hook Terminal, AWG 16-14, Stud 10 NSN 5940-00-057-8216 
Ring Terminal, AWG 22-16, Stud 10 NSN 5940-00-143-4771 	Disconnect Tab NSN 5940-00-481-9090 	Flag Terminal NSN 5940-00-481-9089 
Ring Terminal, AWG 12-10, Stud 3/8-in NSN 5940-00-113-9826 	Spade Terminal, AWG 16-14, Stud 10 NSN 5940-00-552-2019 	Bullet Terminal, AWG 16-14 NSN 5940-00-177-4356 
Terminal Pin, AWG 22-16 NSN 5940-00-843-1473 	Plug Terminal, straight, 7MM NSN 5940-00-845-4106 	Distributor Cap Terminal NSN 5940-00-360-7689 
Ring Terminal, AWG 12-10, Stud 10 NSN 5940-00-143-4794 	Ring Terminal, AWG 16-14, Stud 10 NSN 5940-00-143-4780 	Tab Receptacle, AWG 16-14 NSN 5940-00-926-0085 
Tab Receptacle, AWG 22-16 NSN 5940-00-948-9686 	Bullet Receptacle NSN 5940-01-035-5085 	Quick Disconnect Tab NSN 5940-00-843-1550 
Butt Connector, AWG 12-10 NSN 5940-01-079-1936 	Butt Connector, AWG 16-14 NSN 5940-01-079-1375 	Closed End Connector, AWG 22-14 NSN 5940-00-636-5535 
Butt Connector, AWG 22-16 NSN 5940-00-665-7317 	Blade Receptacle NSN 5940-00-998-6126 	Quick Disconnect Receptacle NSN 5940-00-827-4284 

Order the Super Champ III crimping tool from RIC S9G on a DD Form 1348-6 using CAGE 00779 and part number 607837-1.

Be Prepared

SAFETY HAS TO BE YOUR NUMBER ONE PRIORITY WHEN YOU WORK WITH DANGEROUS VOLTAGES. SO BEFORE YOU START TO WORK, **BE PREPARED** FOR ACCIDENTS. MAKE SURE THERE'S AN ELECTRICAL SAFETY BOARD NEARBY.



These safety boards are easy to spot. They're white boards with a 2-in green border.

The equipment on the safety board is geared to the hazards in the work area and approved by your local safety office. These items are recommended for the safety board:

- ★ Local safety instructions
- ★ Emergency procedures
- ★ Emergency telephone numbers (such as the hospital, ambulance or doctor)
- ★ Goggles, safety, NSN 4240-00-052-3776

★ Flashlight, NSN 6230-00-264-8261

★ Rope, halyard, $\frac{3}{8}$ inch, 25 feet, NSN 4020-00-174-3031

★ Gloves, rubber

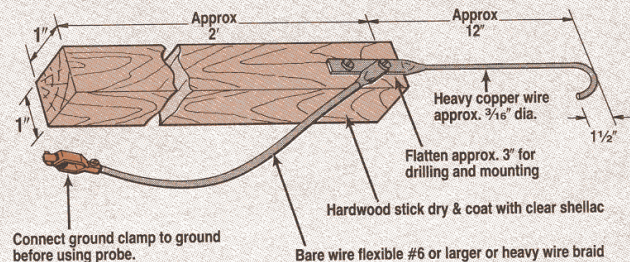
Use these NSNs to order the right size gloves:

Size	NSN 8415-01-158-
9	9449
10	9450
11	9451
12	9452

...Be Safe

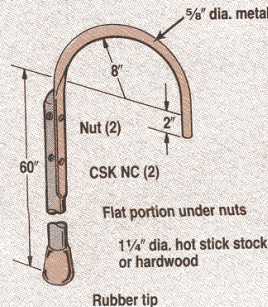
★ Grounding Stick

You have to make the grounding stick. TB 385-4, Safety Precautions for Maintenance of Electrical/Electronic Equipment, has more info. But here are the measurements and materials:



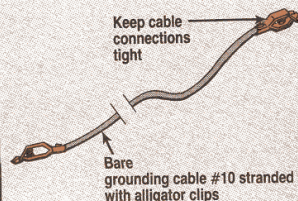
★ Safety Hook

Make the safety hook, too. Use these materials and measurements:



★ Grounding Cable

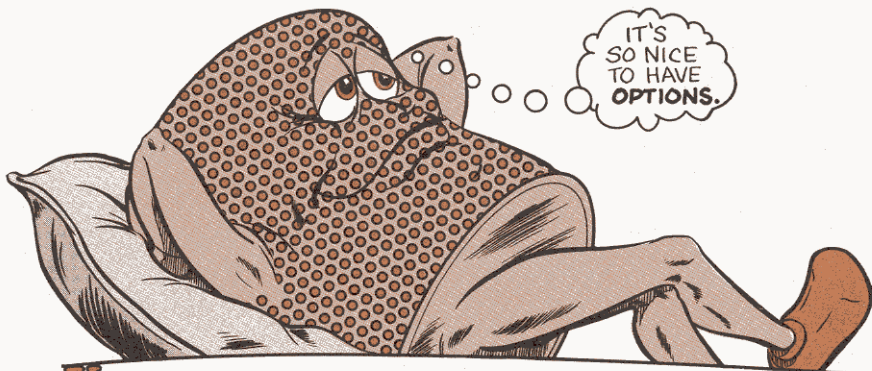
Be sure you keep cable connections tight when you attach the alligator clips.



Other items, such as first aid kits, hearing protectors and snake bite kits may be put on the board when approved by your medical folks.

Check out TB 385-4 for more information on safety precautions for maintenance of electrical and electronic equipment.

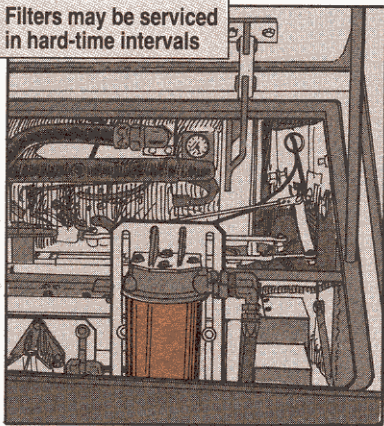
Hard Time for Filters



You now have an added option regarding oil filter changes on equipment in the Army Oil Analysis Program.

In addition to servicing/cleaning/changing oil filters when (1) they are known to be contaminated or clogged, or (2) directed by AOAP lab analysis, filters may be serviced at prescribed hard-time intervals.

Filters may be serviced in hard-time intervals



Changes or updates to lubrication orders (LOs) will give this new information, plus provide the hard-time interval for affected equipment.

On-condition oil changes directed by an AOAP lab require new oil and a serviced, cleaned or changed filter. If the conditions for a directed oil change did not appear for an extended period, there would be no filter change.

That could be longer than the useful lifetime of the filter, causing poor oil cleaning and possible component damage.

Therefore, if no proof of contamination or clogging exists and if the regular AOAP lab analysis does not direct it, an oil filter will be serviced/cleaned/changed according to the hard-time interval prescribed by the component or end item manufacturer.

The hard-time clock starts at zero (0) every time the oil filter is serviced/cleaned/changed for whatever reason.

Multimeters...

Pocket-Size, Hand-Held, **CHEAP**



Here is a multimeter that can make your voltage and continuity checks real simple:

NSN 6625-00-914-4113 fits in your BDU pockets, costs less than \$26 and works well on tactical vehicles.

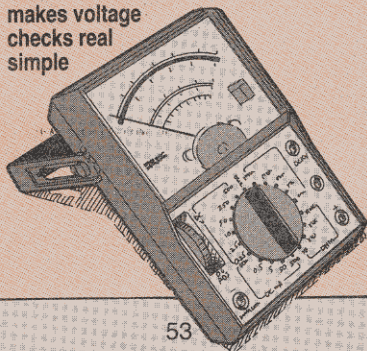
This multimeter is an expendable item authorized by Appendix A of CTA 50-970 based on the FSC and footnote 1. Take the meter to your local

calibration office to be checked. You'll be told how often it must be calibrated, which depends on the manufacturer.

Periodically, turn the meter to the

highest ohms range and check to see that the meter zeros, when no load is applied. If the meter fails the test, check the battery and test leads. If the meter must be replaced, turn it in according to your unit's SOP.

Portable multimeter makes voltage checks real simple



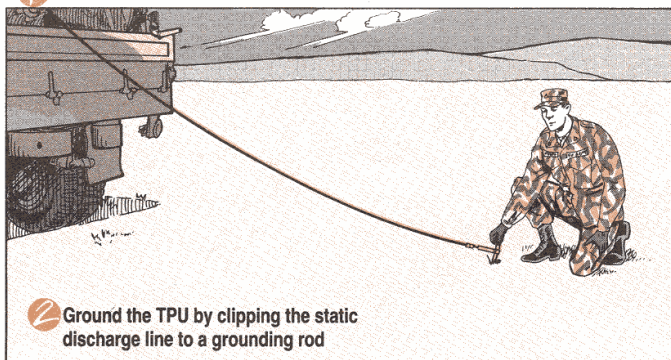
Sparks Can Fly



Sparks near a TPU can set off fireworks like you see on July 4th. If the pump unit has an electric motor, then it's your job to prevent sparking when you hook up the NATO slave cable. Trouble is, sparks could fly if you plug in the cable like it says on page 2-9 of TM 5-4930-230-13.

Here's a safer way to hook up so you won't get burned:

- 1 Turn off all power switches on the TPU and the truck.

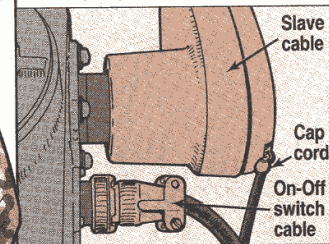


- 2 Ground the TPU by clipping the static discharge line to a grounding rod



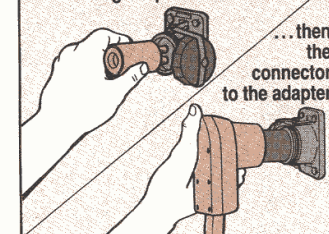
- 3 Plug the remote control ON-OFF switch cable to J1 on pump unit.

- 4 Plug the NATO slave cable to J2 on pump unit.



- 5 If the truck has the 2-hole USA receptacle, plug in adapter, NSN 5935-00-322-8959.

Plug adapter in first...



- 6 If your truck has the NATO receptacle, just plug the slave cable end connector into that.

Turn the power switches ON.

Now you're ready to pump. Just keep everyone away from the slave cable. If you bump it, the end connectors can spark.

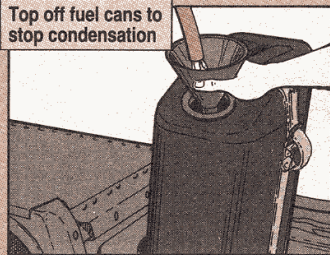
Top Off with PM



JUST A FEW MINUTES OF PM AFTER OPERATIONS CAN MAKE SMOKING A LOT EASIER FOR YOUR M157.

Top off fuel cans and the fog oil tank. Condensation forms in the fuel cans if they're not full and gets in the fuel pump. Eventually, corrosion ruins the fuel pump.

Top off fuel cans to stop condensation

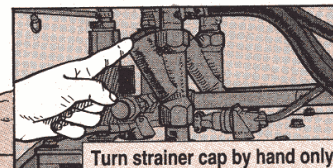


Trash settles in the bottom of the fog oil tank. The fuller the tank is the less likely the trash will be sucked into the fog oil pump.

Drain the fog oil tank, too, until you get clean fog oil. That gets rid of most of the trash.

Check the fog oil pump strainer screen. If it's dirty, clean it with dry cleaning solvent and rags. A dirty screen blocks fog oil from reaching the

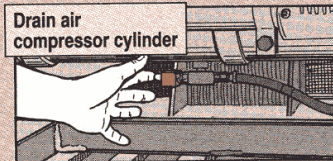
pump. When you screw on the screen's cap, tighten it hand-tight only. If you use a wrench, you ruin the screw's gasket. That lets water in the pump.



Turn strainer cap by hand only

Drain the air compressor cylinder, especially in cold weather. Moisture in the cylinder freezes and blocks air lines. The M157 won't run.

Drain air compressor cylinder



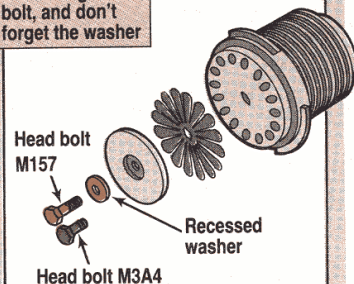
Don't Substitute Head Bolts

There's only one bolt that works with the M157's head assembly. That bolt's NSN 5306-00-637-9674.

The M3A4 smoke generator's head bolt may look like it will work, but it's 1/4 inch too short. Vibration loosens the bolt and lets the head assembly come apart during operation.

Remember the recessed washer when you put the assembly back together. It was added to make sure the bolt stays tight and the head assembly stays together.

Use the right bolt, and don't forget the washer



Head bolt M157

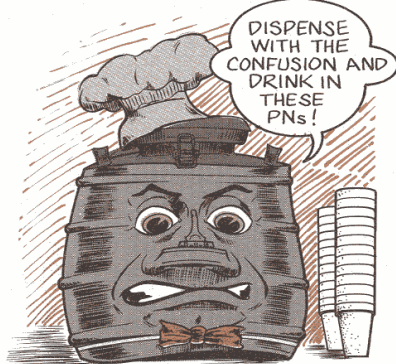
Recessed washer

Head bolt M3A4

Repair Parts Are Available

Repair parts for the Superchef jug made by the American Production Co. are not listed in any TM, but they're available.

Order the repair parts for the 2-, 3-, 5- and 10-gal jugs from GSA on a DD Form 1348-6 using CAGE 02707 and these part numbers:



Item	Part Number
Vacuum seal with O-ring and strap	700
O-ring	701
Lid with clamps	615
Lid gasket	503

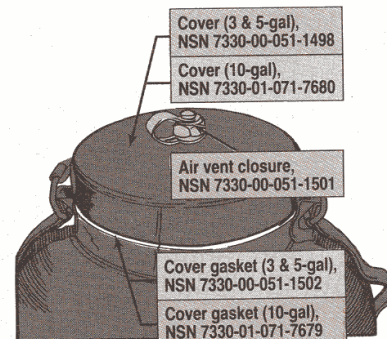
CTA 50-909 is your authority to order these repair parts.

Item	Part Number
Stainless steel faucet assembly, which includes:	504
Handle	13SLBE
Handle Pin	8-S-3
Nylon bonnet (metal threads)	2-5SMB
Steel spring	7SJT
Chromed brass stem	4-S
Seat cup	510
Gasket	509
Plastic faucet assembly, which includes:	505
Handle	13SLBE-1
Bonnet	2-5SSB-3
Spring	7SJT-L
Slotted stem	4SC-1
Seat cup	510
Gasket	509

Get replacement parts for your Vacuum Can Co. 3-gal, NSN 7330-00-721-8499; 5-gal, NSN 7330-00-781-3859; and 10-gal, NSN 7330-00-819-7738, vacuum jugs, with these NSNs:

Item	NSN
Faucet assembly	4510-00-961-7571
Faucet bonnet	7330-00-051-1493
Faucet stem	7330-00-051-1494
Faucet spring	7330-00-051-1492
Faucet washer	7330-00-051-1497
Faucet adapter	7330-00-051-1499
Faucet handle pin	7330-00-051-1496
Handle	7330-00-965-4685
Faucet seat cup	7330-00-051-1495

CTA 50-909 is your authority to order.



Expandable Tent...

NSN's a Little Tricky

CONNIE, WE CAN'T GET THE LIGHTWEIGHT EXPANDABLE FRAME TENT WITH NSN 8340-00-782-3232 ANY MORE.

THAT'S RIGHT, SO ORDER BY COMPONENT. HERE'S WHAT YOU NEED:

Item	NSN 8340-00-	Qty
End frame	234-4708	1
Expandable frame	234-4712	1
9-in aluminum pins	261-9749	18
12-in steel pins	823-7451	6
16-in wood pins	261-9750	10
Tent canvas w/cover	782-3425	1

Phasing Out? Cancel Pubs

If your unit's being phased out, cancel your unit's publication account at the Baltimore Pubs Center!

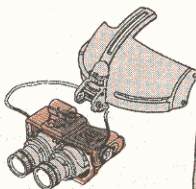


Help stamp out printing and distribution co\$t\$ by stopping action for your account.

Aviation NVG Mount NSN

Need a replacement GM-6 viewer mount to house the AN/PVS-5A, -5B, or -5C night vision goggles binocular?

Order it with NSN 5855-01-300-2301.



DAS-3—Use Like Circuit Cards

The DAS-3 power module, NSN 5895-01-147-9377, in the AN/MYQ-4A computer uses six circuit cards. When one goes bad, check the part number on the replacement card. All six cards need to be the same part number or your module won't operate properly.

M816 Wrecker Jack NSN

The NSN is wrong for the hydraulic jack shown as Item 27 on Page B-14 in C2 of TM 9-2320-260-10. Get the 30-ton jack for the 5-ton wrecker with NSN 5120-00-188-1790.

ULLS Pubs Available

For the latest Unit Level Logistics System (ULLS) user manuals or training literature, send your request to:

Combined Arms Support Command
ATTN: ATCL-SSB
Ft Lee, VA 23801-6000

M9 ACE V-Belt NSN

NSN 3030-01-344-6929 gets a matched set of V-belts for the water pump on the M9 armored combat earth-mover. Jot down the NSN until it shows up in the -20P TM.

M16A1 TM Correction

The NSN, SMR code, and part number are wrong for the M16A1 rifle's stepped spacer in TM 9-1005-249-23&P (Jun 91). The spacer's NSN is 5365-01-267-2169, its SMR code PAOZZ, and its part number 12597640. The spacer is Item 26 in Fig C-10.

M939-Series Filter Change

The transmission oil cooler filter for your 5-tonner is now NSN 2540-01-110-2489. Make that note until Item 17 of Fig 92 in TM 9-2320-272-20P is updated.

M747 Gets New Tire

To get a new radial tire for your 60-ton heavy equipment transporter, order NSN 2610-01-332-8985. It replaces desert tire, NSN 2610-00-177-7022.

Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-Series

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

Antifreeze Advice

