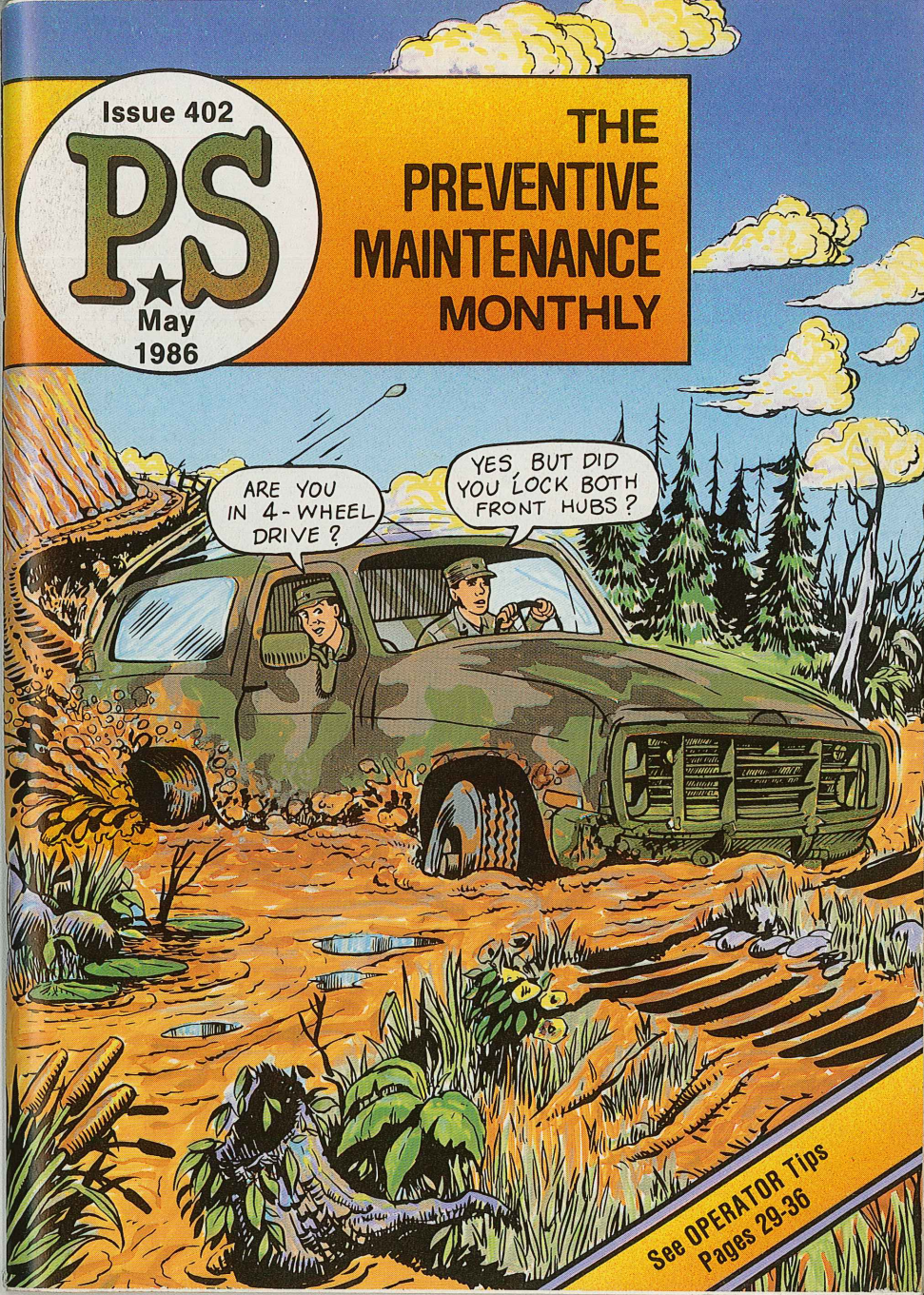
Issue 402

PS

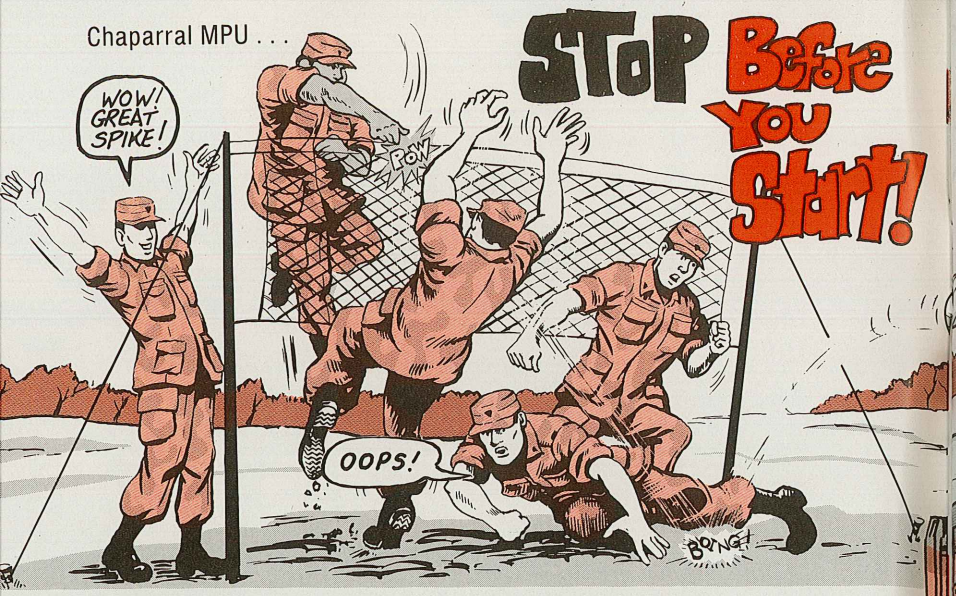
May 1986

THE PREVENTIVE MAINTENANCE MONTHLY



See OPERATOR Tips Pages 29-36

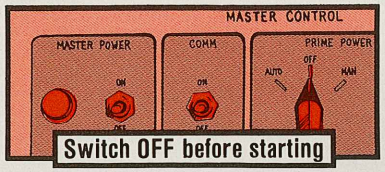
Chaparral MPU . . .



Stop!

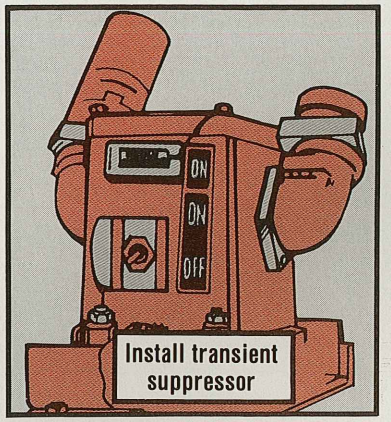
Before you hit the MAN START button on your missile system's master power unit, toggle OFF the MASTER POWER and COMM switches.

If you leave them ON, transient voltages—spikes—can damage both the AM-1780 audio frequency amplifier and your AN/VRC-12-series radio set.



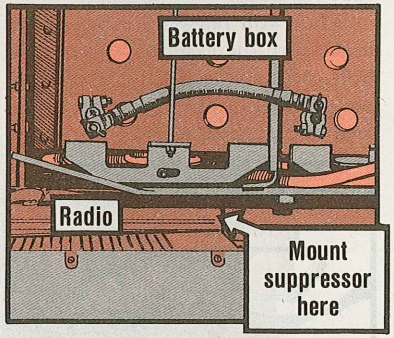
That's especially true after you've been using battery power to run your commo. A weak battery can't stop the spikes the way a fully charged, well maintained battery can.

You can add a big spike stopper to your commo circuits by installing an MX-7778 transient suppressor, NSN 5915-00-431-6718. The suppressor's job is to trip its breaker when too-big surges are headed toward your radio set.



Your authority to add the suppressor is your CO. SB 11-31 links the suppressor with AN/VRC-12-series radios.

TM 11-5915-223-12 has details on installation and operation. For convenience and easy cabling, you should mount the suppressor on the floor of the crew compartment. Put it as close to the battery box and as far under the radio as you can. Make sure you can still connect the cables easily, of course.



PS THE PREVENTIVE MAINTENANCE MONTHLY

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Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Materiel Readiness Support Activity, Lexington, KY 40511-5101.

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MSG Half-Mast
PS Magazine
Lexington, KY
40511-5101

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

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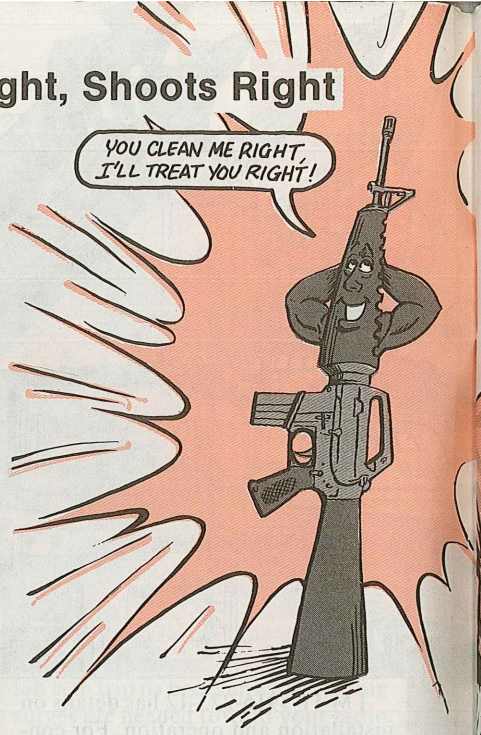
Cleaned Right, Shoots Right



The magazine in your M16A1 rifle is more than just a container for ammo. It also feeds ammo to your rifle to keep it firing.

To do that job, it has to be lubed and cleaned when you clean the rest of your rifle. Otherwise, rust, dust and dirt in the magazine will bind it and keep it from putting the ammo where it has to go.

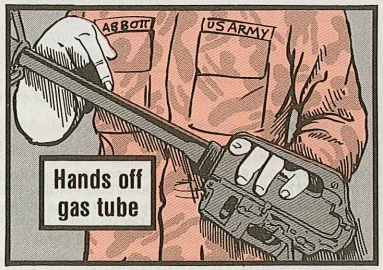
TM 9-1005-249-10 gives you the dope for magazine disassembly and cleaning.

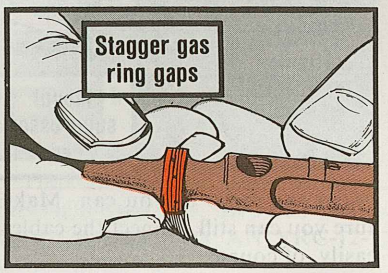
After you disassemble the magazine, an easy way to clean the inside is to stuff a clean rag in one end and pull it out the other. Then give the

spring a light lube. It only takes minutes.

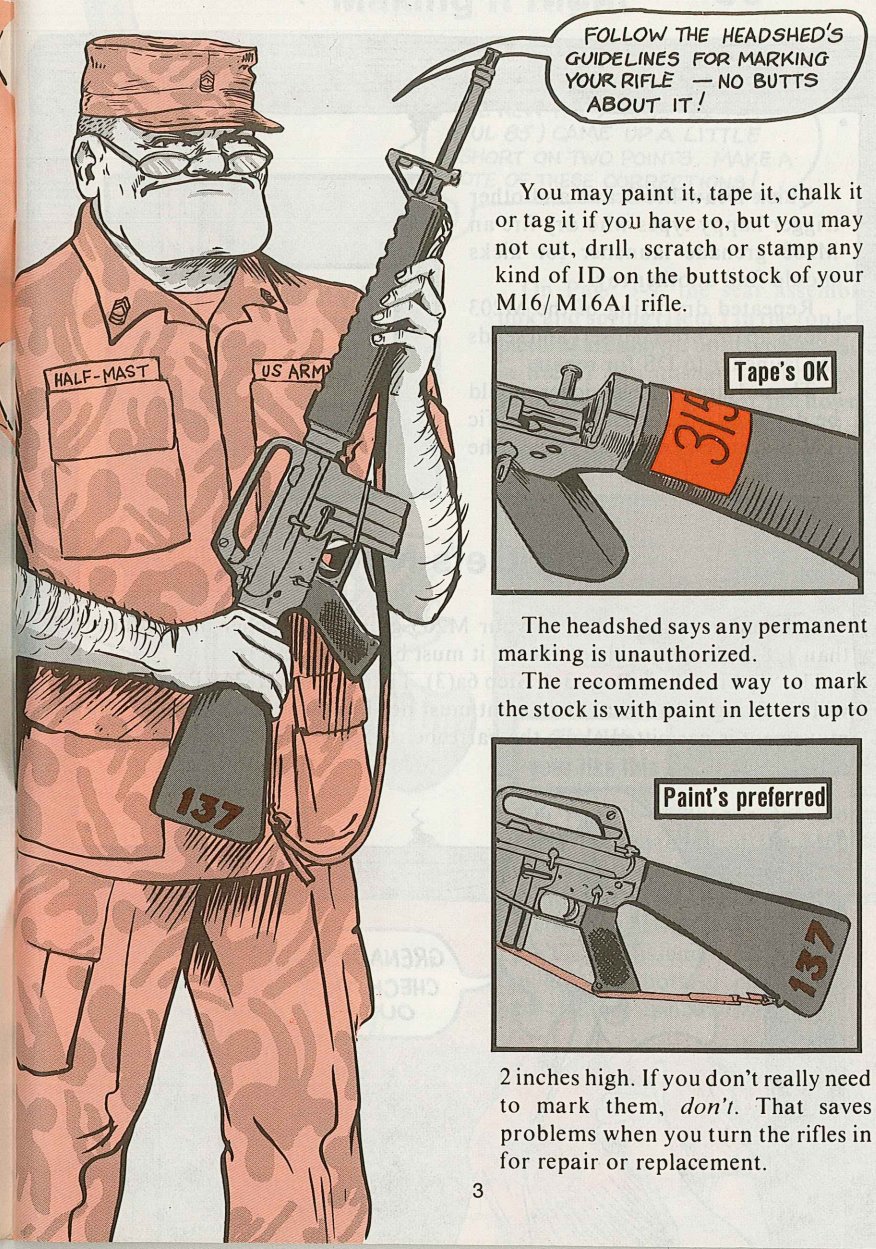
Another cleaning tip: The gas tube bends easily. When you have the hand guards off, keep your hands off the gas tube. Grip the rifle by its barrel. If you even slightly bend the gas tube, it won't mate with the bolt carrier key and you must have the tube replaced.

When you reassemble your rifle, make sure the gas ring gaps on the bolt are staggered. If they line up, gas leaks. Your rifle can fail to feed due to short recoil.





Chalk This Up!



You may paint it, tape it, chalk it or tag it if you have to, but you may not cut, drill, scratch or stamp any kind of ID on the buttstock of your M16/M16A1 rifle.

The headshed says any permanent marking is unauthorized.

The recommended way to mark the stock is with paint in letters up to

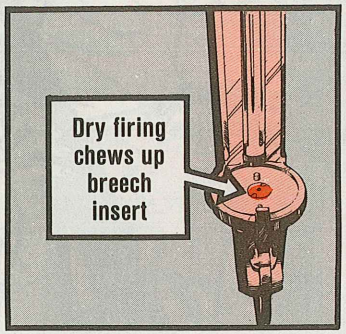
2 inches high. If you don't really need to mark them, *don't*. That saves problems when you turn the rifles in for repair or replacement.

Trigger Happy Grenadiers, Beware!

Quick Draw McGraws and other trigger happy types who dry fire an M203 grenade launcher for kicks should find another toy.

Repeated dry firing of the M203 chews up the breech insert and sends the launcher to DS for repair.

The **only** times the launcher should be dry fired are for PMCS, specific TM maintenance and to release the firing pin for storage.



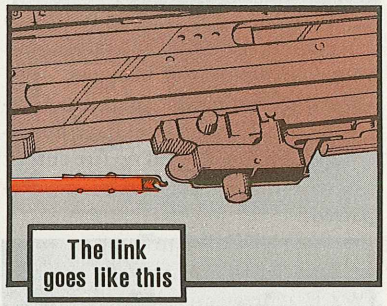
Play Gets Nay!

If the mounting bracket on your M203 grenade launcher moves more than 1/8 inch either side of center, it must be replaced.

The "1/4 inch" on Page 3-4, Step 6a(3), TM 9-1010-221-24&P (Aug 85), will be changed to "total movement must not be more than 1/4 inch." No movement is permitted along the barrel.

Making It Right

On Page 3-9, the sear assembly link and spring (Item 1 in the top left picture) are shown upside down. So, in Step 1 you unsnap the link and spring by pressing upward, not downward. The bottom right illustration also shows the link upside down.

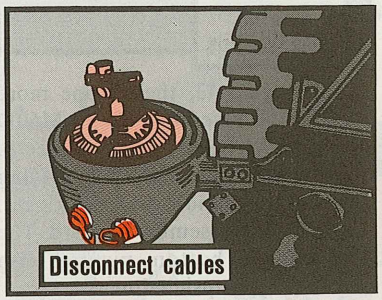


On Page 3-43, there's one more step to the assembly of the M60D spade and trigger grip. For Step 7, put the safety on F. While holding the charging handle, pull the trigger. Ease the bolt assembly forward. The top left and bottom pictures also have the link upside down.

On Bubblegum and Clamps

Hanging your HAWK launcher bubblegum machine (alignment telescope) by its cables while you remove or replace it may be a handy way to get the job done, but it can also put your launcher out of business.

If those dangling cables are damaged, your launcher will have no telescope to align it...and no fire cutout assembly...until the cables are repaired.

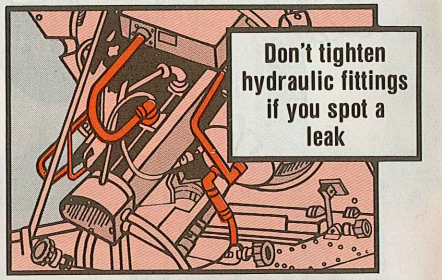


Keep it neat. Disconnect the cables before you remove the telescope . . . and connect them after you replace it. The cables and connectors weren't made to take the weight of the scope.

Hydraulic Leaks

If you spot leaks in the boom positioning hydraulic system of your launcher, resist the temptation to grab a wrench.

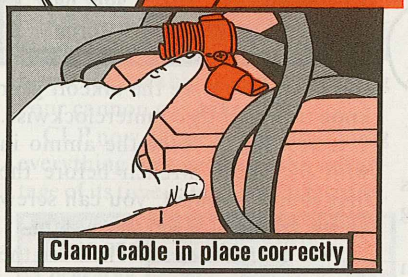
First, crews are not supposed to tighten hydraulic fittings. Second, the fittings will crack if they're over tightened. Report leaks on your DA Form 2404.



Clamp Down

Before you move your M200 trailer, be sure the brake hose and electrical cable are connected and under their clamps.

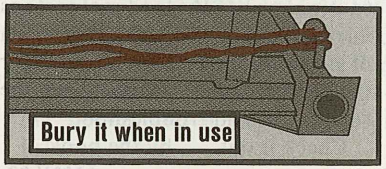
Also, be sure the spring is under each clamp so that the cables can feed through them without binding.



The clamps and springs keep the cables from being pinched when your prime mover (2 1/2-ton truck) backs up or turns. Jackknifing pinches unclamped cables against the guards.

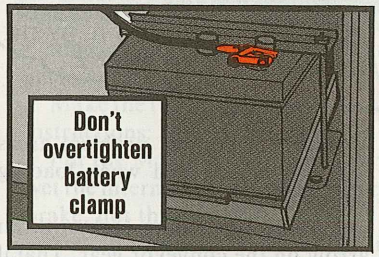
Bury It

If possible, bury the generator ground cable after you connect it. Exposed cables get stepped on, tripped over and snagged in various ways.



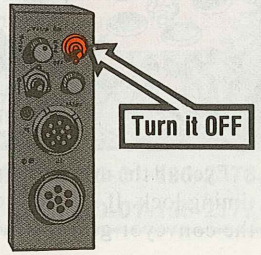
Easy Does It

Clamps on HAWK 60-KW generator battery cables should be tight. Check the clamps by twisting with your thumb and two fingers. If you can move the clamps, report it. Your mech will tighten them, using two wrenches.

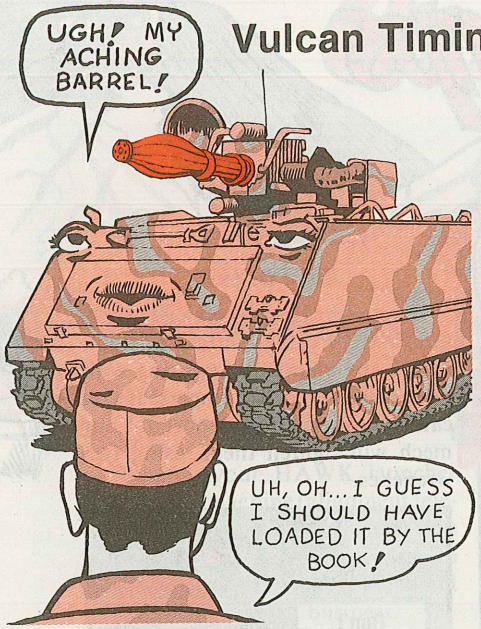


Turn It Off

They're easy to overlook, but commo modules on various HAWK components should be turned off after use. If not, batteries will run down and you won't have the modules when you need them.

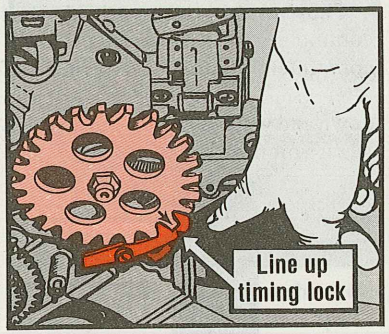


Vulcan Timing & Loading



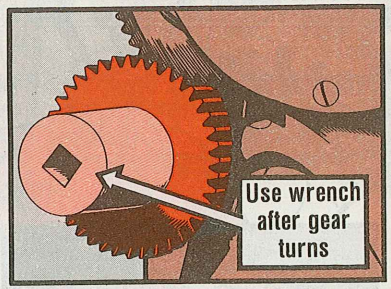
Here're a coupla' problem areas that can be avoided when loading your Vulcan:

Line up the timing lock with an arrow on the conveyor gear. That'll save jamming.



Eyeball the notch on the end of the timing lock. If one of the arrows on the conveyor gear is not lined up in the notch, turn the gear until the arrow does line up. You're not ready for loading until the arrow is right.

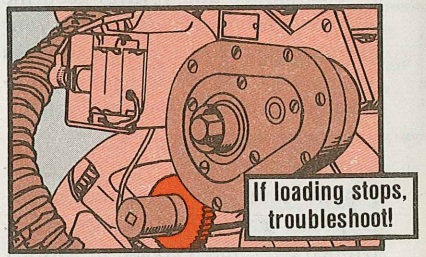
Hold one with the speed wrench! Feed the ammo in until the first round enters the exit unit and



sprocket. You'll see the takeoff gear knob turn slightly counterclockwise.

If you try to force the ammo in with the speed wrench before the first round is seated, you can screw up the ammo . . . and the system.

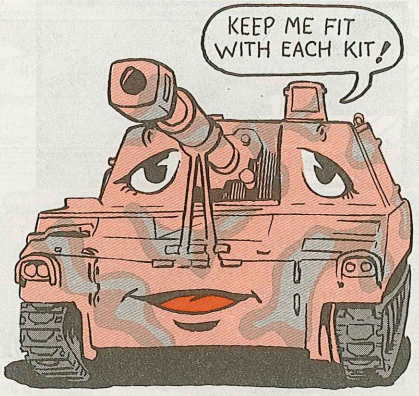
Seat the first round. Then use the speed wrench.



Another time for speed wrench caution is when the load motor stops during loading. That's an indication of jammed rounds, so don't reach for the speed wrench. Instead, back the rounds out and troubleshoot.

Check it out . . . by the book.

Cannon Cleaning and Preserving

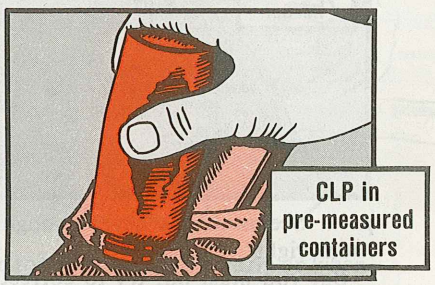


All you tankers and howitzer crewmen who've been waiting for a break in cleaning and preserving your cannon can take heart.

CLP now comes in kits containing everything you need to take advantage of its time-saving characteristics.

Here's what's available:

- For 105 and 120MM tank cannons, use kit, NSN 1015-01-196-2173. The kit has 30 pre-measured containers of CLP, a liter of CLP in a trigger spray bottle, 30 bore cleaning sleeves and a bore evacuator brush.
- For 105MM, 155MM and 8-in artillery weapons, use NSN 1025-01-196-2172. This kit has all of the above items, plus a primer/vent seat brush.



Instructions for using the kits are enclosed in each box.

Make the following changes to the instructions:

For the M110A2 (8-in) howitzer--wet the internal surface of the muzzle brake, not the external.

For 105 and 120MM tank cannons--after soaking the bore evacuator valve and letting it set 30-40 minutes, clean the tube orifices thoroughly with the evacuator brush before you wipe off the CLP.

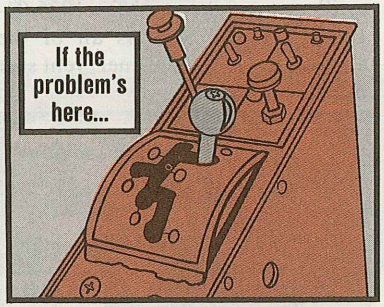
You can also get a new nylon bristle bore brush to use when applying CLP.

Each brush comes with a cover.

Brush and Cover	
Cannon	**NSN**
105MM	1015-01-196-2175
155MM	1025-01-196-2176
8-in	1030-01-196-2177

Two WRONGS Don't Make a Right!

It's mighty easy, mechs, to bump, bend or otherwise screw up the shift tower when pulling or installing the pack. Seems there's never enough room, right?

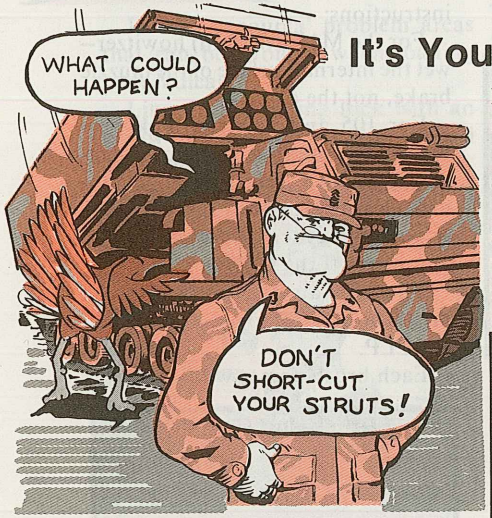


But you must not try to correct damage done to the shifting tower by messing with the transmission linkage.

That transmission is real sensitive to control input. If you start adjusting here and there so the shifter works right, you can really screw up the works.

Some vehicles have pivot steered or gone backward or forward much to the surprise--and without the help--of their drivers . . . all because the linkage got messed up.

So, if you wrack up the shift tower, fix the shift tower. Leave the linkage on the transmission alone.

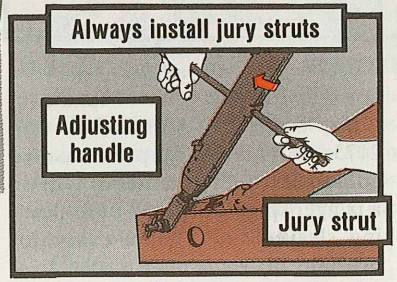


It's Your Neck, Turkey

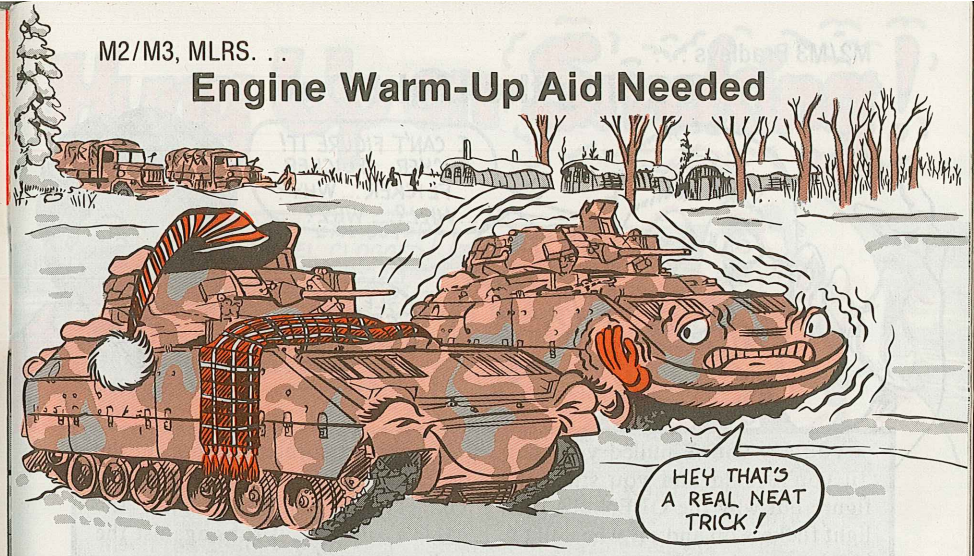
Never stick your neck--or any other part of your body--in the "cage" area of the Launcher Loader Module unless the jury struts are in place. The module can come crashing down.

But it won't come down if the jury struts are in place.

So take no short cuts. Use both struts every time you're going to work in the cage. The neck you save may be your own.



Engine Warm-Up Aid Needed



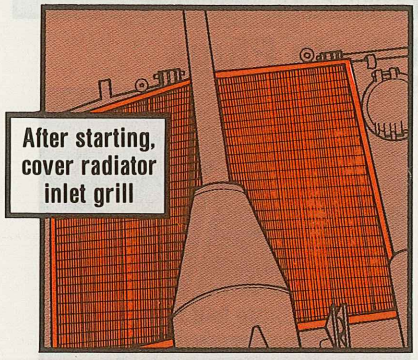
You Bradley and MLRS drivers need to help your engine warm up when the temperature drops below 40° F.

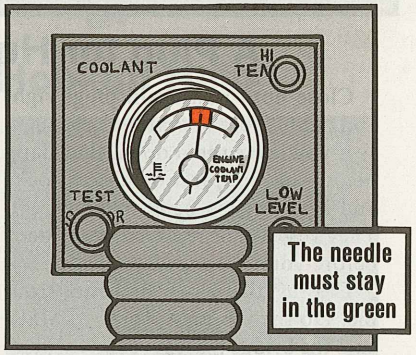
Because of the speed of the radiator fan, the engine rarely reaches normal operating temperature following initial start-up and during idling.

This means a lot of unburned diesel fuel goes through the engine, clogging it with black crud. Eventually, the engine will have to be replaced.

A new fan control valve is being developed that'll slow down the fan 80-90 percent when the engine is at idle. Until it's available, here's what to do:

After start-up, put a piece of cardboard, vehicle tarp or shelter half over the radiator inlet grill. Keep a close eye on the temperature gage. As it rises into the green zone, partially uncover the grill until the gage settles halfway in the green.

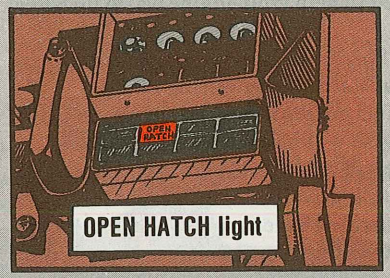




Before moving out, remove the cover completely.

Putting the Light Out

You say you've pulled your hair 'til you're bald and you still can't figure out why the OPEN HATCH light flickers on and off when all the hatches are closed?



Look for worn insulation on the 1W5 cable about 6 inches from the connector at the slip ring. If the cable's too long, it rubs against the hull metal until the cover wears away. Then it shorts against the fuel cell cavity causing the light to flicker.

Get the cable replaced.

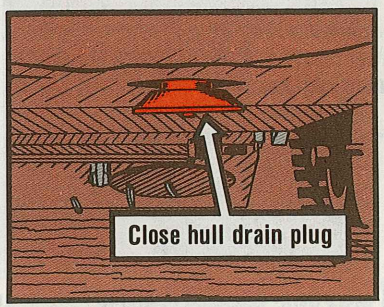
Even if you're not having light trouble, check the cable now. If there's any sign of insulation chafing, wrap that section with electrical tape, NSN 5970-00-685-9059. Then tie the cable to the nearby 1W18 cable to hold it away from the hull.

A Plug for Hull Drain Plugs

Close both hull drain plugs right and tight before operation, crewmen.

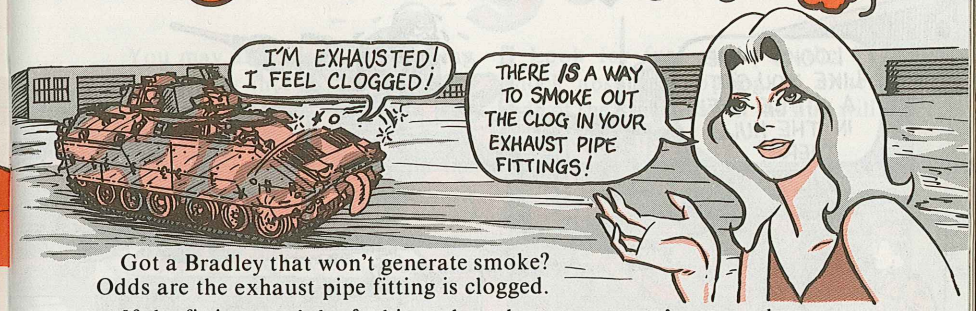
If you leave them open, they hang below the hull and catch on rocks and brush. They bend or break off. They've got to be repaired or replaced before you try to ford or swim.

Closing the plugs prevents trouble. Do the job right, though. Make sure the bridge plates are fully seated. Clean off any mud or sand.



Then tighten the valves. Squirt a little oil on the shaft threads every now and then to keep the valves turning easily.

Hung Up on Smoking!

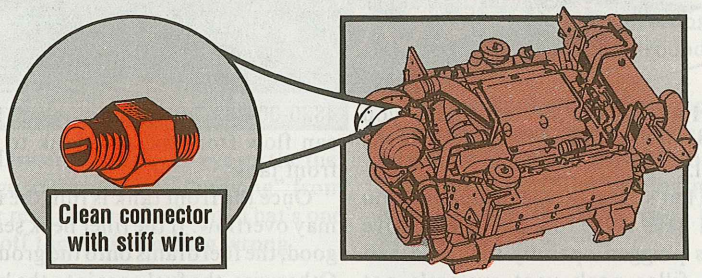


Got a Bradley that won't generate smoke? Odds are the exhaust pipe fitting is clogged.

If the fitting won't let fuel into the exhaust, you won't get smoke.

There are no cleaning procedures in your -20 TM's, but a stiff wire or metal rod about the size of a coathanger or brazing rod works fine.

A replacement fitting, if needed, is NSN 4730-00-289-0383.



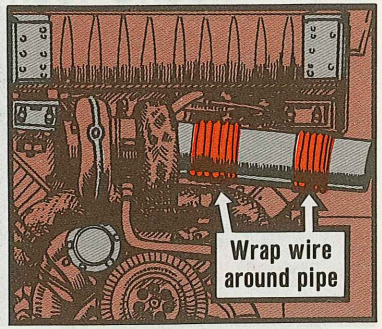
Exhaust Pipe Hookup Help

There's no room to spare in the powerpack compartment of the Bradley when it comes to installing the exhaust pipe.

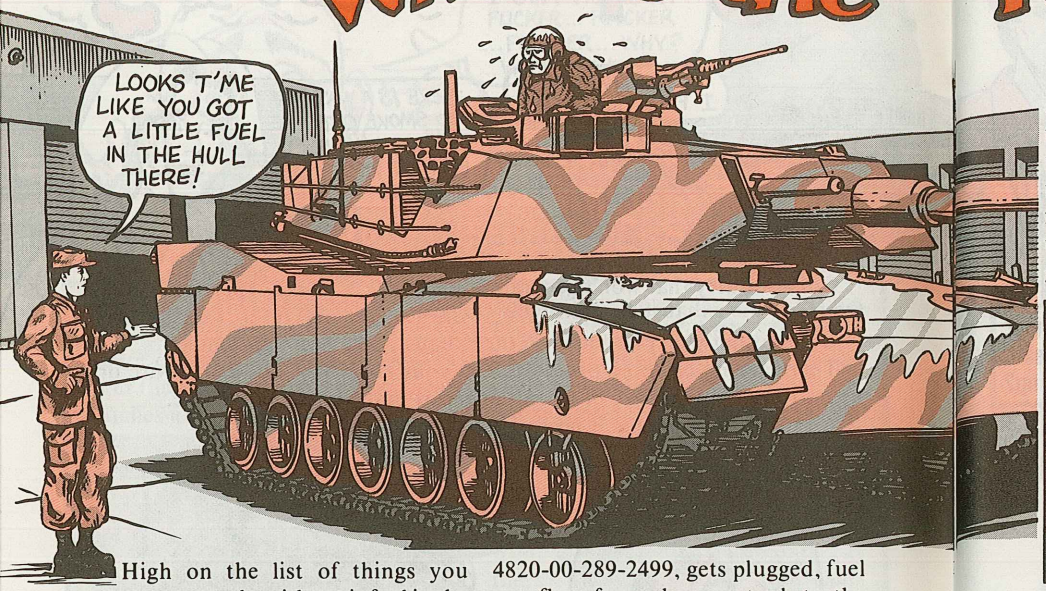
Connecting the exhaust pipe to the muffler is the toughest part.

To get the pipe into place, wrap several loops of lacing wire around the flared end.

Work the pipe into position. Install and close the clamp. Save the wire for use another time.



Where's the Fuel Going?

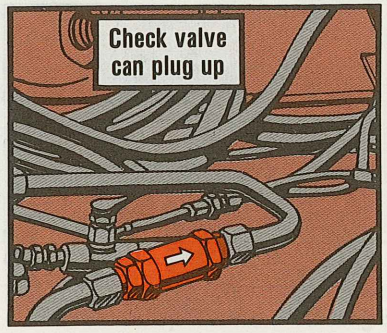


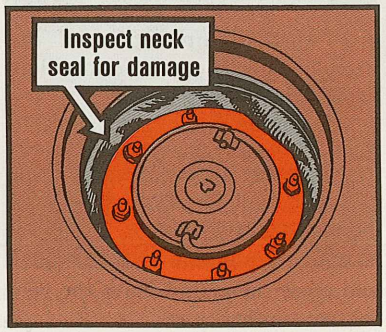
High on the list of things you crewmen can do without is fuel in the hull.

That's one of the problems you can have if the fuel line check valve gets plugged open by fuel crud and the filler neck vent system's not working.

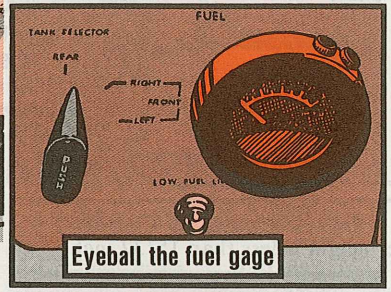
If the fuel line check valve, NSN 4820-00-289-2499, gets plugged, fuel can flow from the rear tank to the front tank.

Once the front tank is full, the fuel may overflow. If the filler neck seal is good, the fuel drains onto the ground. Otherwise, the fuel goes into the hull. If the seal's bad, your mech will replace it with NSN 5330-01-083-5613.





You may also have fuel escaping overboard or into the hull because the filler neck vent system's not working right. Too much pressure in the fuel tank will force fuel out the filler cap. Depending on the condition of the filler neck seal, you could get fuel in the hull.



Drivers can keep an eye on the fuel gage and catch fuel "moving" from the rear tank to the front. That's one tipoff there's something wrong.

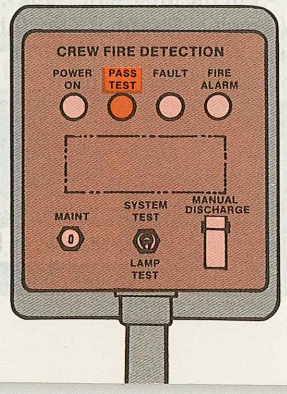
Look for fuel stains at the #1 shock absorber housing on either side of the tank. Fuel in the hull will seep out there.

Also look for fuel slopover on the hull and on the ground around the tank.

You mechs can find info to replace a plugged check valve starting on Page 4-24 of TM 9-2350-255-20-1-3-2. If you've got filler venting problems, replace the filler cap, NSN 2910-01-083-5674.

M992 Fire Sensor Check

Getting a fault light on the automatic fire extinguishing system test and alarm panel when you pull your PMCS? The fire sensors are very sensitive to direct or reflected sunlight, so close all your ammo carrier's doors and hatches. Rerun the test. If the PASS TEST light fails to come on, call your mech.

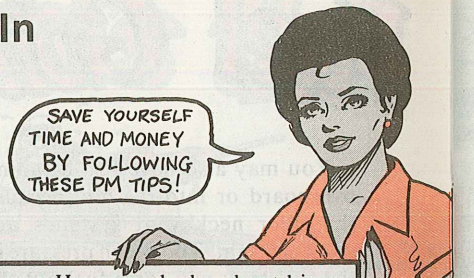


Fit It In

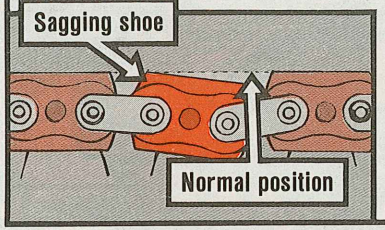
Tank track shoes aren't like apples—one bad one doesn't spoil the whole nine yards.

Never replace sections of track—all eight shoes—just to get rid of one bad shoe. That's a waste.

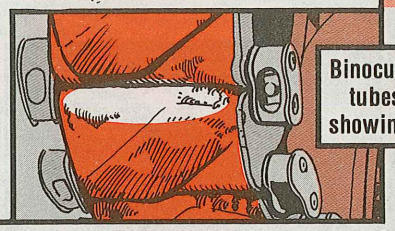
Replace shoes that:



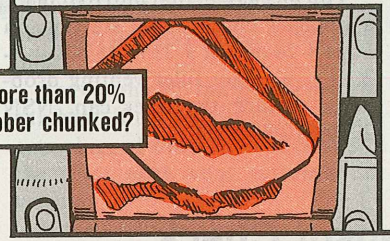
• Sag or droop. Sagging shoes can throw a track.

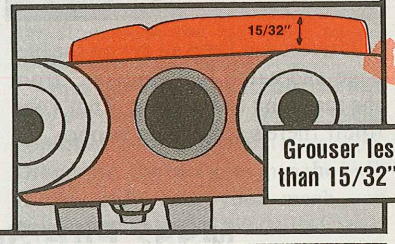


• Have cracked or bent binocular tubes or tubes that show through the rubber.

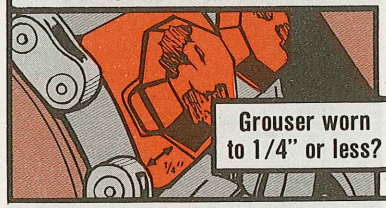


• On the M1's, replace a shoe if over 20 percent of its rubber is chunked or gouged or if the grouser height is less than 15/32 inch.





• For the M60-series tanks, replace a shoe when the grouser is worn to 1/4 inch or less above the tube on the track's outside surface, or when shoe rubber is chunked or gouged on more than 20% of the area touching the roadwheels.



Shorting Connector Blues

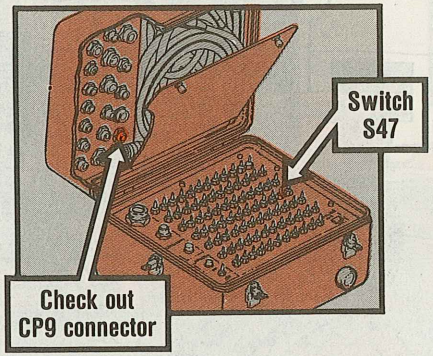
Turret mechs, there are some bum shorting connectors being used in cable test sets.

A bad connector will give you a bogus reading when testing the 3W3 ballistic computer system cable.

Some CP9 shorting connectors are wired wrong. You'll get an "open circuit" indication when you press switch number 47, even though there may be nothing wrong with either the cable or the test set.

To check out the shorting connector, remove the cap and eyeball the wiring. Pin K should be connected. Pin X should not be wired.

If the connector is wired wrong, get a new one with NSN 5935-01-063-4040. Send in an SF 368 QDR on the bad connector.



Using the Right Fan Pulley Key?

The bad news is, your new M113-series vehicle may have the wrong attachment hardware for the fan tower grooved pulley.

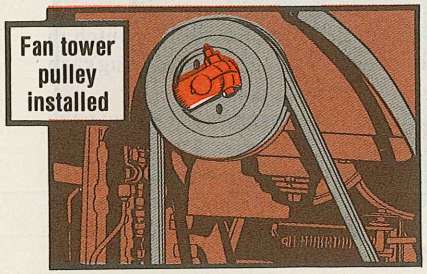
That was the cause for the recent pulley failure of a new M901A1. The same problem may exist with other new vehicles.

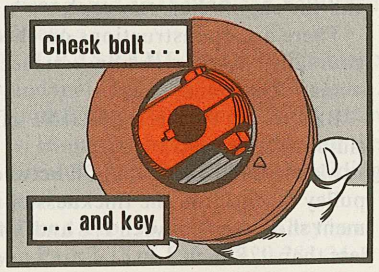
The right hardware is a 2-in key, NSN 5315-00-682-1811, and a grade 8 screw, NSN 5305-00-269-3242.

The faulty pulley had a 1 1/2-in key and grade 5 bolt.

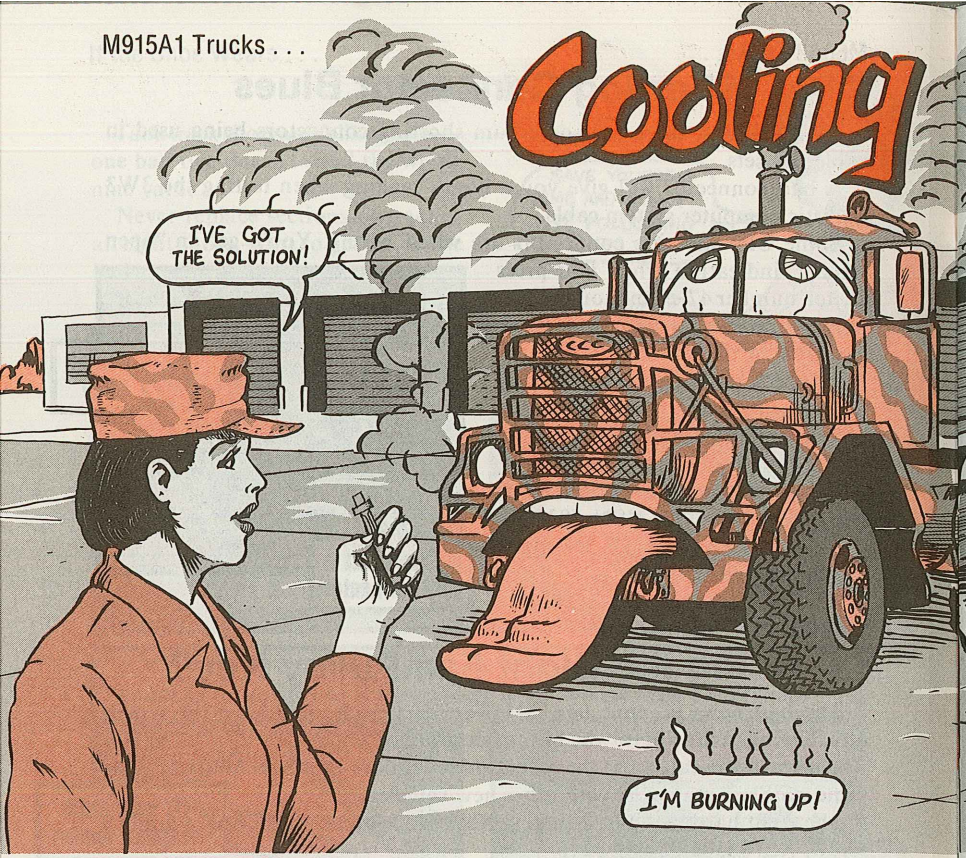
Failure of the key or screw can cause bearing failure, which can lead to engine failure due to poor cooling.

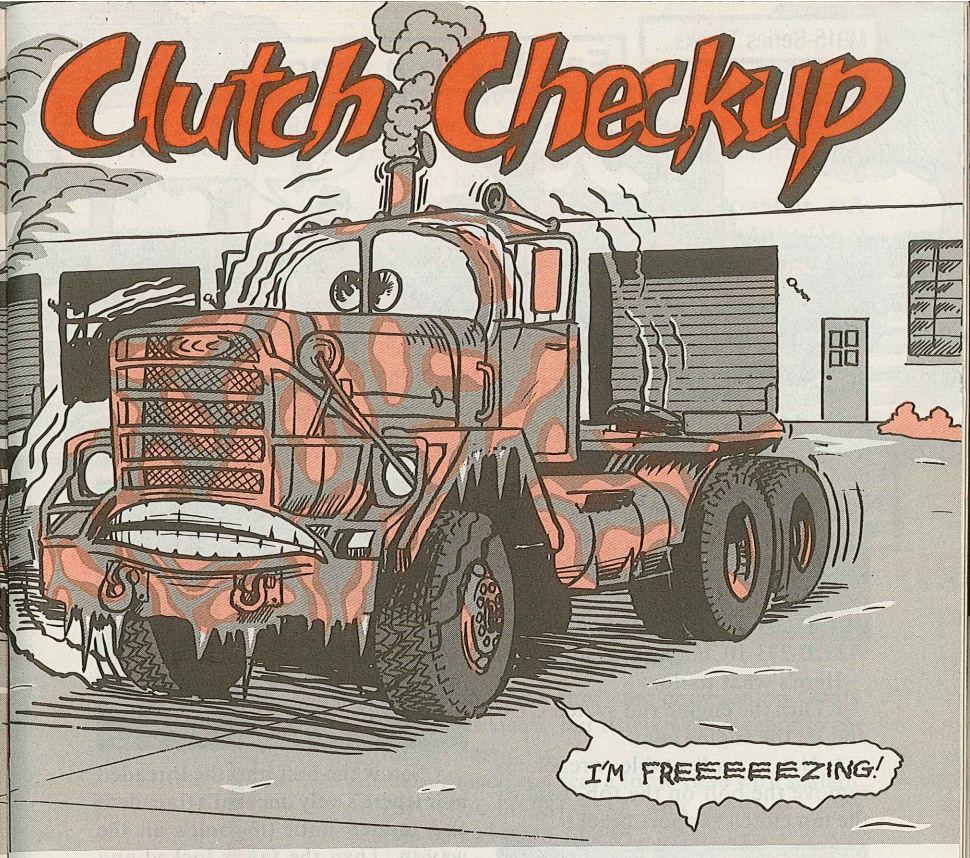
So, the next time you have the powerpack out, make sure the pulley has the right hardware.





Cooling Clutch Checkup





Some M915A1 tractor trucks are running around out there with a bum cooling fan clutch.

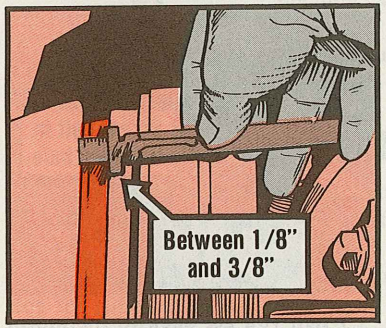
On several, the clutch won't engage. The engine doesn't get the cooling it needs and overheats.

On others, the clutch stays engaged all the time. That wastes engine power and the engine runs too cool.

There are no instructions on checking the serviceability of the clutch in your -20 TM, so here's how you mechanics can check the clutch during each semiannual service.

BEGIN WITH THE ENGINE off and the air tanks empty. That way the clutch will be fully engaged.

MEASURE THE SPACE between the edge of the pressure plate and the pulley face to find the thickness of the pressure plate lining. The measurement should be between 1/8 and 3/8 inch. Replace the clutch if the space is less than 1/8 inch.

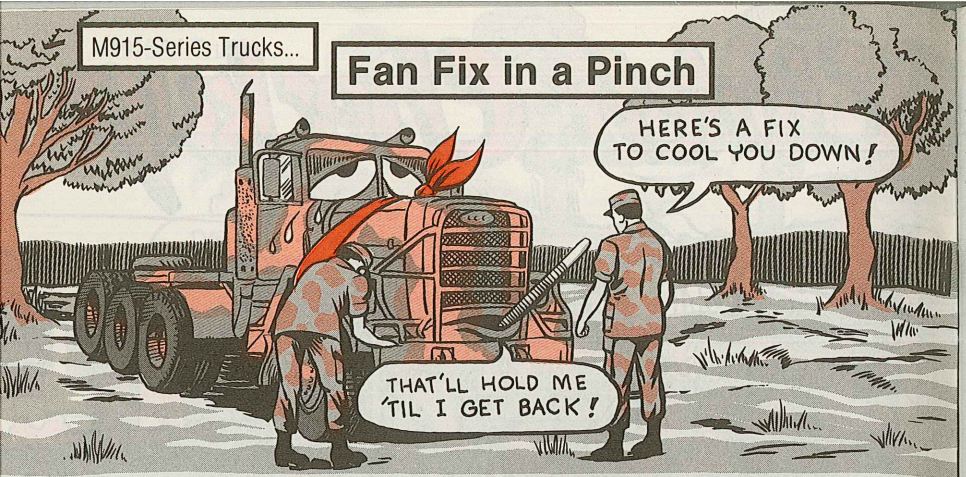


START THE ENGINE and let the air pressure build to **at least** 100 PSI. When you get that, shut down the engine. The clutch should be disengaged so the fan can be turned freely.

GRASP THE END of a fan blade and try to rock the fan back-to-front. If the blade tip moves more than 3/16-in, you have problems with the pressure plate bearing or the sliding piston.

If the clutch needs work, replace it and send it to DS for repair. They have instructions for rebuilding the assembly in Para 3-18 of TM 9-2320-283-34-1.

Fan Fix in a Pinch



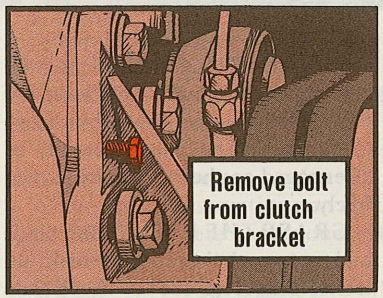
If the fan clutch on your M915 fails to engage, the fan won't turn and the engine can overheat.

There's a quick fix, though, that can get you back home. The procedure is covered on Page 3-20 of TM 9-2320-273-10, but it's not complete.

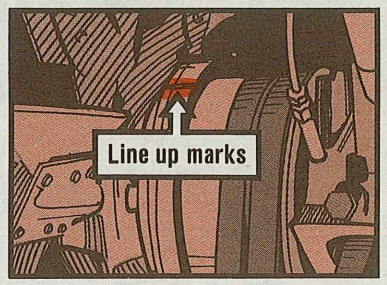
Here's what to do:

+ Turn the engine run switch OFF and let the engine cool.

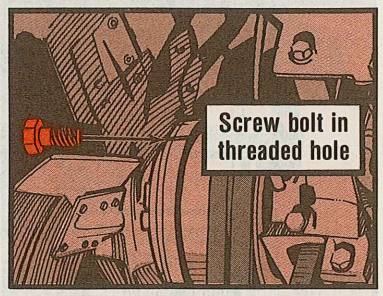
+ Use an adjustable wrench to remove the bolt on the top front of the fan clutch support bracket.



+ Rotate the fan so the alignment marks on the side of the clutch and the fan mounting plate line up. That lines up the three holes in the fan clutch and the fan plate.

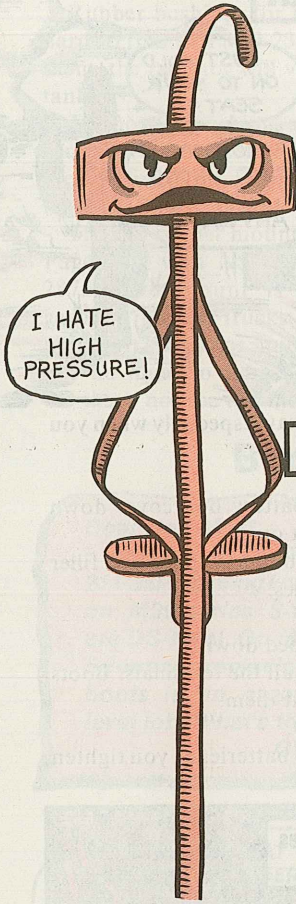


+ Screw the bolt into the threaded hole (there's only one that's threaded) and tighten until the bolt's all the way in. Then the fan is locked and will run continuously.



When you get back to the motor pool, have your mech repair or replace the clutch.

Beat Transfer Water Problem!



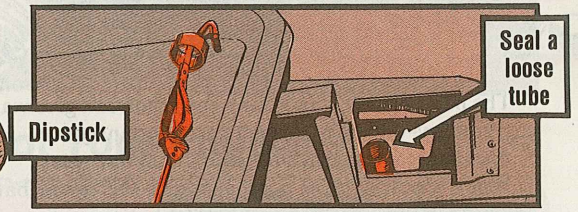
Water in your Goat's transfer case rusts and corrodes the gears and gearbox—but it doesn't need to happen!

You can keep water out of the transfer. DA Pam 750-31 tells how—see "Get (on) the (Dip) Stick" on Page 49.

That's only part of the story, tho . . .

High Pressure Wash

Never shoot high pressure water toward the dipstick. The stick will raise and let water in. Before every wash, make sure the stick is seated.



Loose Tube

Loose dipstick tubes are common on Goats. The gap is small, but it lets water seep into the transfer case.

Your mech can seal a loose tube with sealant, NSN 8030-00-081-2337, and adhesive. NSN 8040-00-843-0802, like so:

- Take out the tube. Clean it and the transfer opening carefully.
- Apply sealant on both surfaces.
- Put back the tube.
- Add a bead of adhesive around the base of the tube.

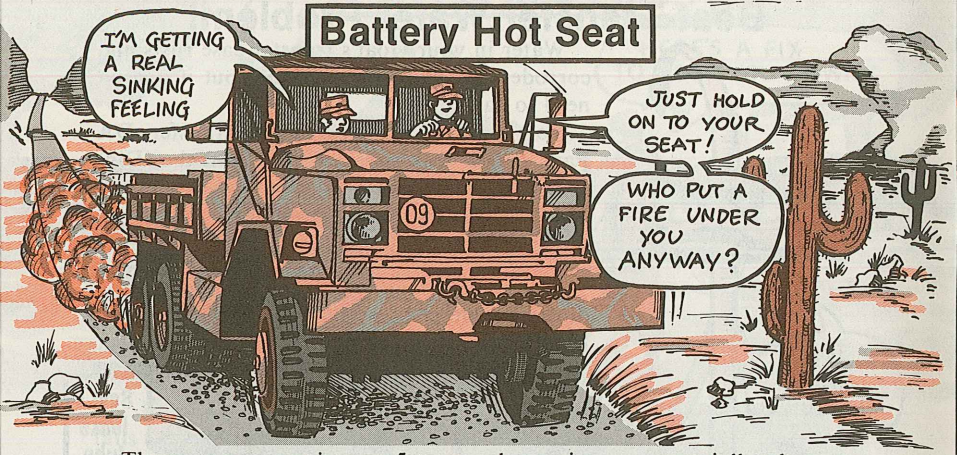
Brake Hazard

The bad news is, there are still some Gama Goats out there with brake pedals that rub the steering column. The pedal can hang up causing a safety hazard.

The good news is, there's a fix to move the brake pedal out of the way to stop the rubbing.

So if your Goat's brake pedal rubs the steering column, report it pronto! Your mech will turn it in to DS for repair. Supplement 1 to MWO 9-2320-242-50-1 has the fix.

Battery Hot Seat



The passenger seat in your 5-ton truck can give way, especially when you carry heavy-weight passengers cross-country.

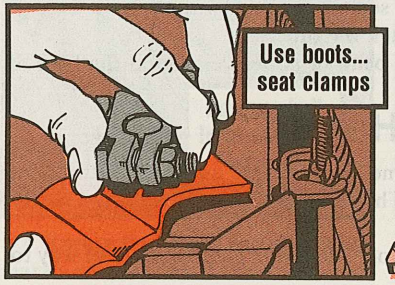
A collapsed seat can turn into a real hot seat!

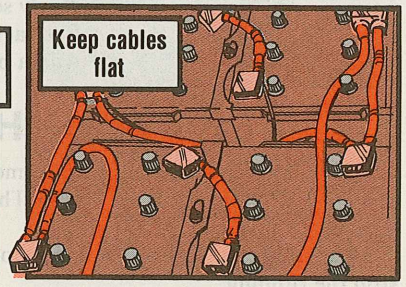
When the seat gives way, it forces the metal battery box cover down against the batteries' terminals. The batteries short out.

Also, the weight of the seat and passengers on the batteries' posts and filler caps breaks them and pushes them into the batteries.

To head off problems, do this:

- Make sure your batteries are seated and clamped down.
- Put rubber boots, NSN 2590-00-999-9867, on all the terminals. Boots will insulate the terminals in case the cover does hit them.
- Put the clamps well down on the battery posts.
- Push the cables down flat against the top of the batteries as you tighten the bolts.





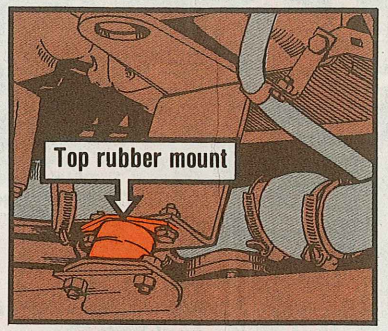
Check the seat and battery box cover from time to time. If either shows signs of breaking, replace it. You can get a new seat with NSN 2540-01-082-7510 or a new battery box cover with NSN 2590-01-130-8045.

Radiators Need Bushings

Rubber bushings for mounting radiators on 5-ton multifuel trucks are hard to find in TM 9-2320-211-20P. But if you install a radiator without them, the radiator will vibrate and wear holes in the top or bottom of the tank.

The bottom bushings are not illustrated in TM 9-2320-211-20P, but they're listed on Page 2-48 under NSN 5365-00-911-5634.

The top rubber mount is listed on Page 2-48 with NSN 2930-00-919-2875. The mount is coded for gasoline engine trucks, but that's wrong. It's only for multifuels. And pay no mind to Item 22 of Figure 41–that's not the top mount.

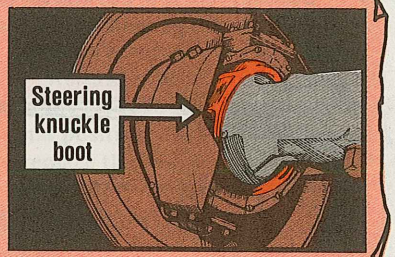


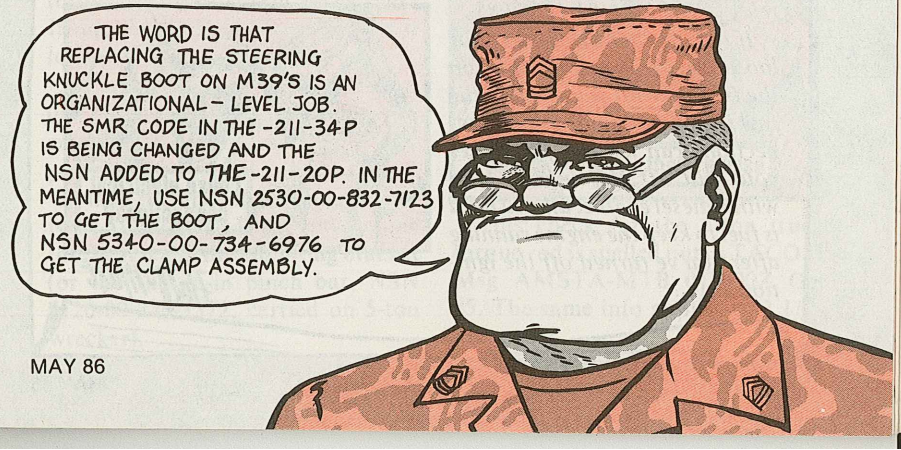
Boot Your Knuckles

Dear Half-Mast,

According to TM 9-2320-211-34P, steering knuckle boots on M39-series 5-ton trucks are DS-level. On M809-series 5-tonners, replacing the same boots is an organizational-level job. What's the word?

CW2 J. E. H.





CUCV Trucks . . .

Starters Keep Starting

Dear Half-Mast,

We're having shutdown problems with our CUCV's. When we shut off the engine, it keeps running or tries to re-start itself.

We've regapped the starter relay points and this helps temporarily, then it's back to the old "re-start" problem.

Sometimes, too, the starter engages while the engine's running. Got any ideas as to what's wrong?

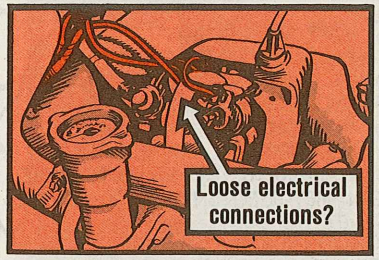
SP4 S. L. C.

Dear Specialist S. L. C.,

Sounds like your starter relays are from a bad batch that's plagued the CUCV fleet.

Some relays had the point gap set too close, so vibration or motion caused them to engage. Replace the bummer with a newly designed relay, NSN 2920-01-192-7985.

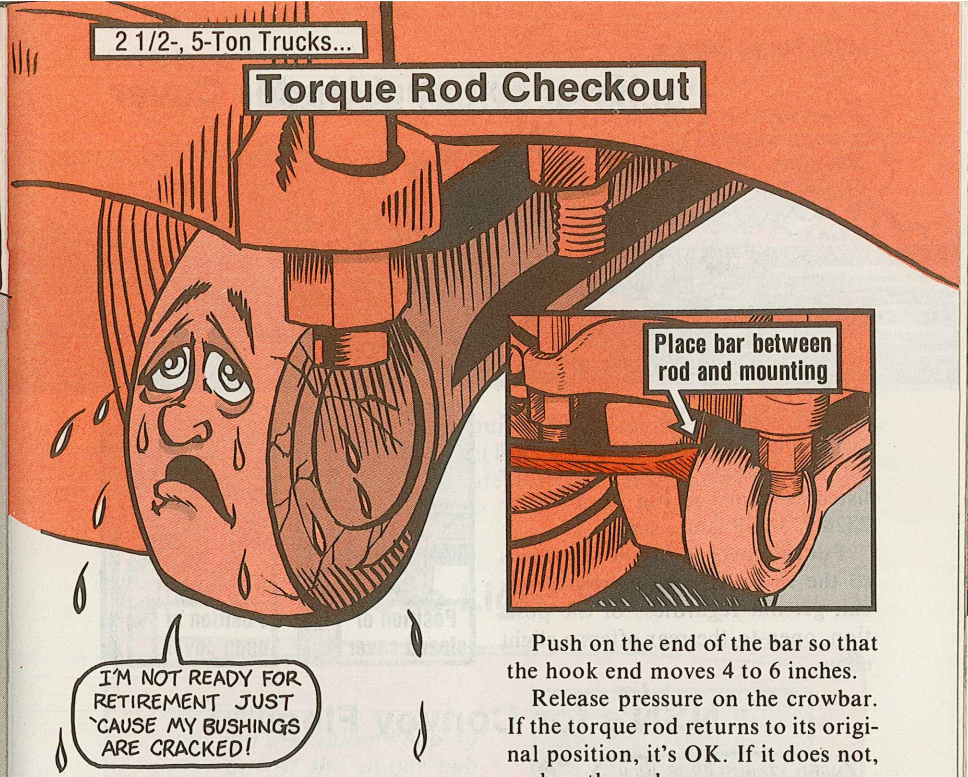
If that doesn't help, check for loose electrical connections on the fuel shut-off solenoid on the fuel injection pump. Loose connections can let fuel flow after you shut off the engine. And with a diesel engine, all you need is fuel to keep the engine running after you've turned off the ignition key.

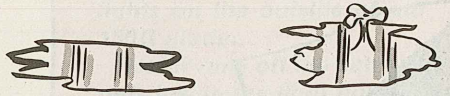


Half-Mast

2 1/2-, 5-Ton Trucks...

Torque Rod Checkout





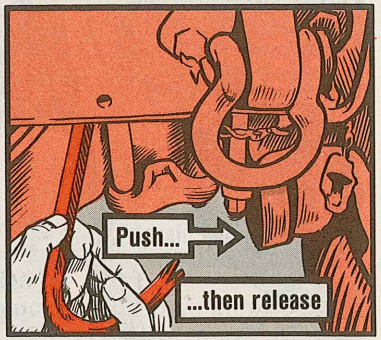
Hold one before you replace that torque rod on a 2 1/2- or 5-ton truck! It may be more serviceable than it looks.

A lot of rods are being replaced just because the rubber bushings are cracked or separated. Here's how you can get a reading on the rods:

Place the end of a 3-ft crowbar, NSN 5120-00-242-0762, between the torque rod and the mounting bracket (or use the 36-in pinch bar, NSN 5120-00-224-1372, carried on 5-ton wrecker).

Push on the end of the bar so that the hook end moves 4 to 6 inches.

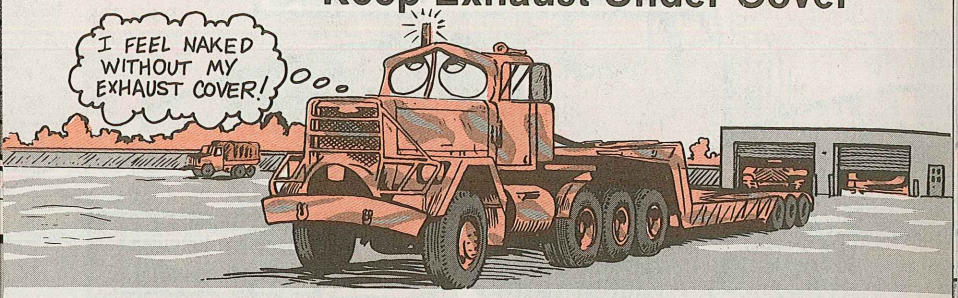
Release pressure on the crowbar. If the torque rod returns to its original position, it's OK. If it does not, replace the rod.



This check for the 5-ton truck torque rod is spelled out in TACOM Msg AMSTA-MTB 012000Z Oct 85. The same info applies to 2 1/2-ton trucks.

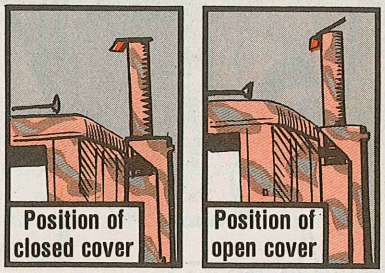
M915-Series Trucks . . .

Keep Exhaust Under Cover

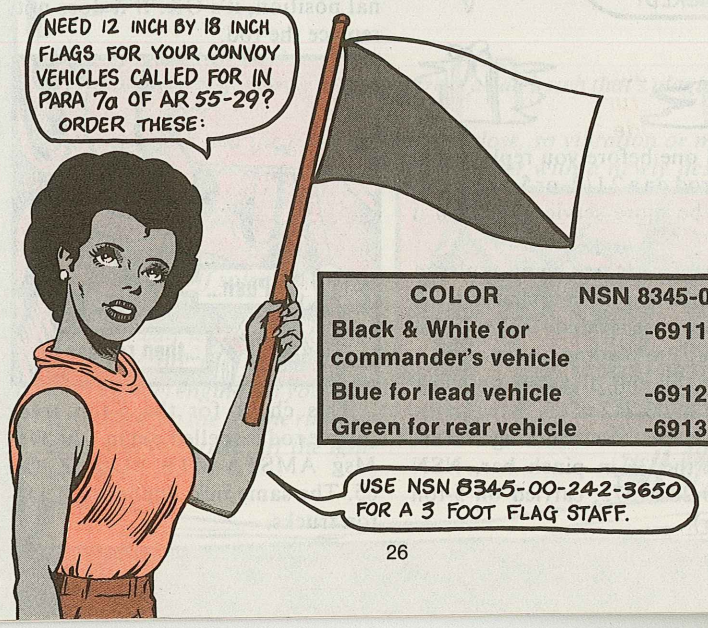


NSN 2990-00-089-2079 brings the cover that fits the 5-in exhaust pipe on M915-series trucks. The cover listed as Item 1 in Fig 15 of TM 9-2320-273-20P is too small.

Put the cover on so the cap opens to the rear. Although exhaust gas can get out regardless of the position, open-to-the-rear offers a slight edge.



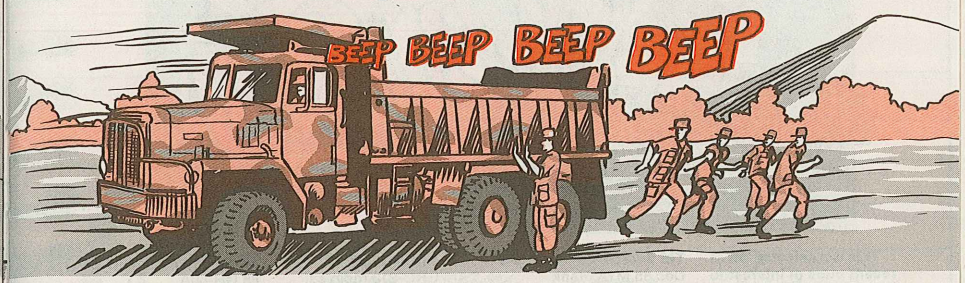
NSN's for Convoy Flags



COLOR	NSN 8345-00-543
Black & White for commander's vehicle	-6911
Blue for lead vehicle	-6912
Green for rear vehicle	-6913

F5070 Dump Trucks . . .

Backup Alarm Available



Need a backup alarm horn for your F5070 dump truck? It's not in TM 5-3805-254-14&P1/2, but you can get it with NSN 2590-01-084-1606 if your unit commander OK's its use for safety reasons. Installation instructions come with it.

130G-Series Graders . . .

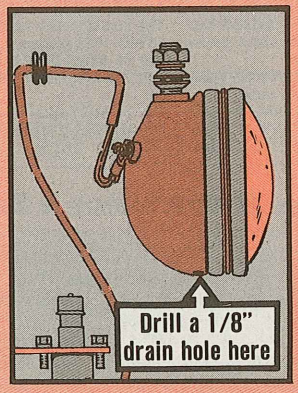
Cab Light Fix

Dear Editor,

We had a problem keeping water out of the upper cab lights on the outside of our 130G grader.

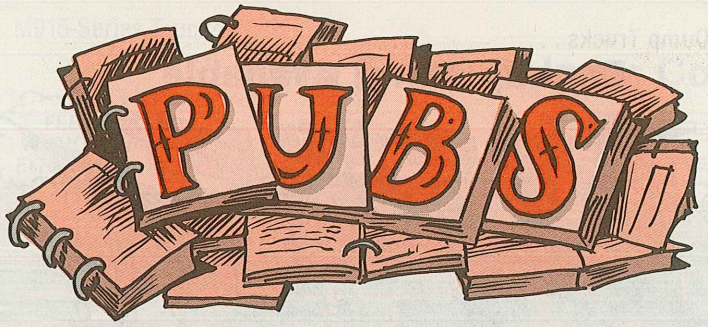
Water runs off the cab and gets inside the light housing through the wire lead connection.

I've solved the problem by drilling an 1/8-in hole in the bottom of the light housing. This lets water drain out and stops corrosion and lamp failure.



Leonard Johnson
Ft Leonard Wood, MO

(Editor's Note: You might want to put a dab of paint around the drain hole to help stop rust, and seal the wire connection with silicone adhesive.)



This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer printout provided by The Adjutant General.

TM 3-6665-307-10 Sep 85 Chemical agent, M256 detector kit

TM 9-1425-628-24P Nov 85 Air conditioning unit, HD-1053/GSG-11 (V) and generator set, DED, PU-768/GSG-11 (V)

TM 9-1430-588-20-2 Feb AN/MPQ-49 radar set

TM 9-1430-1526-24P Jan HAWK

TM 9-2330-210-14&P Feb M118A1/M119A1 6-ton semi-trailer

TM 9-2350-264-20-1-2-3 Dec 85 M1A1 tank

TM 9-2350-264-20-1-3-1 thru -3 Dec 85 M1A1 tank

TM 9-2350-264-20-1-3-5 Dec 85 M1A1 tank

TM 9-2350-264-20-2-2-1 Nov 85 M1A1 tank

TM 9-2350-264-20-2-2-3 Nov 85 M1A1 tank

TM 9-2350-264-20-2-3-1 Dec 85 M1A1 tank

TM 9-2350-267-2OP Jan M992 ammo carrier

TM 9-4935-628-24P Nov 85 Air conditioning unit test set, 11552099, and prime power unit test set, 11552084

TM 9-4935-1545-24P Dec 85 AN/TSM-169 remote control system

TM 9-5855-253-10 Nov 85 AN/UAS-11 night sight set

TM 11-5805-699-12 Sep 85 MD-1023 modem

TM 11-5820-919-10-HR Jan AN/PRC-104A radio set

TM 11-5820-923-10-HR Feb AN/GRC-213 radio set

TM 11-5820-923-12 Feb AN/GRC-213 radio set

TM 11-5820-924-10-HR Feb AN/GRC-193A radio set

TM 11-5820-924-13 Feb AN/GRC-193A radio set

TM 11-5821-244-20P Dec 85 AN/ARC-54 radio set

TM 11-5821-318-12 Jan RT-1354 receiver transmitter

TM 11-5985-373-40-1 Jan CU-2064 antenna coupler

TM 11-5895-861-20P Nov 85 CP-1527 communications computer

TM 11-5895-1094-14 Jan AN/FYQ-89 digital data terminal

TM 11-6625-3143-24P Nov 85 SG-1219 signal generator

TM 55-1520-217-PM Dec 85 CH-54A and CH-54B

TB 55-4920-237-20-1 Dec 85 UH-60A

SC 5180-90-CL-N01-HR Nov 85 TE 50-B tool kit

SC 5180-90-CL-N48-HR Jan Lineman's tool kit

STP 5-62F12-SM Mar Crane operator

FM 5-25 Mar Explosives and demolitions

FM 23-14 Dec 85 M249 Squad automatic weapon

AR 190-51 Mar Security of Army property at unit and installation level

AR 702-4C Jan Quality assurance manual for clothing, textiles and life support

AR 750-22 May 85 AOAP

AR 750-37 Mar Sample data collection

FT 25-A-1 Apr 84 M2/M3 25-MM gun, M242

Maintenance & Safety-of-Use Messages

AMCCOM 86-5—M8 chemical agent alarm, cell block assemblies, NSN 6665-00-136-7181, AMSMC-MAR-C 271555Z Feb 86.

AMCCOM 86-6—M3 heaters, NSN 4240-00-807-6856, AMSMC-MAR-C 051625Z Mar 86.

TACOM 86-5—HEMTT vehicle family brake hoses, AMSTA-MTC 101350Z Feb 86.

TACOM 86-6—HMMWV vehicle family brake pedal assemblies, AMSTA-QWL 101430Z Feb 86.

TACOM 86-7—M48A5 AVLB launchers, NSN 5420-01-076-6096 and M60A1 AVLB launchers, NSN 5420-00-889-2020, AMSTA-MCA 122000Z Feb 86.

TACOM 86-9—M88 and M88A1 medium recovery vehicles, AMSTA-MCB 082000Z Feb 86.

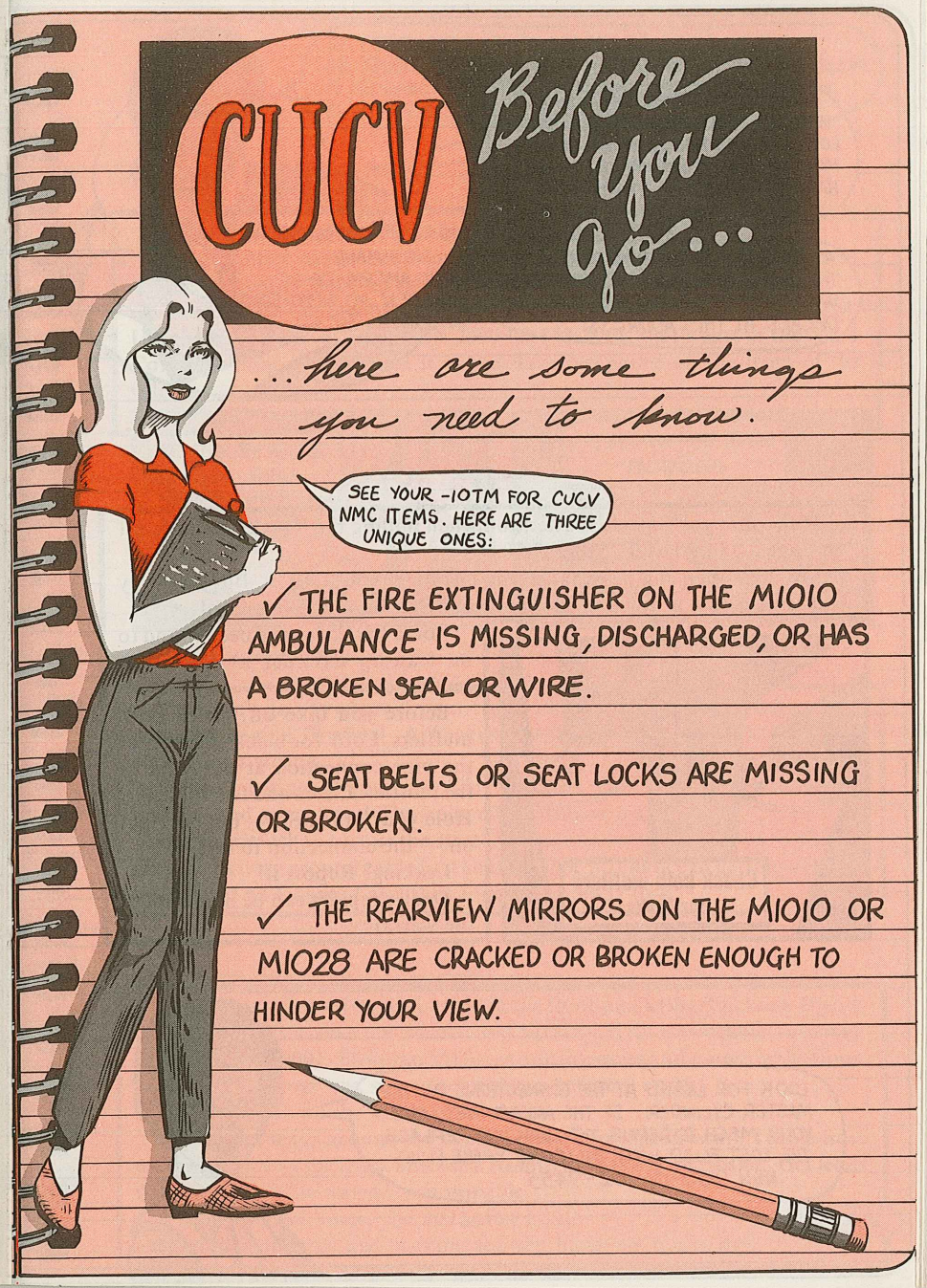
TACOM 86-12—M88A1 medium recovery vehicles, follow-one-message, AMSTA-MCB 061500Z Mar 86.

TROSCOM SOU-MES-01-86—Duct-type M68 portable gasoline 250,000 BTU heaters, NSN's 4520-00-001-7726 and 4520-01-167-6532, AMSTP-MES 141725Z Feb 86.

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

SMART Message

SMART Msg #69—Reduced damage to tank ammo during transfer operations, DALO-PLR 181940Z Feb 86.



SOME CUCV'S, THOSE WITH VEHICLE IDENTIFICATION NUMBERS LOWER THAN FF307276 ON CARGO MODELS AND FF106110 ON M1009'S HAVE A VOLTMETER THAT READS WRONG.

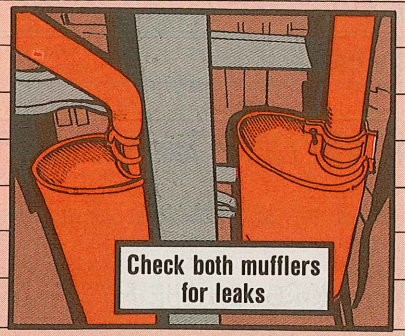
AN OVERLAY DECAL THAT EXTENDS THE GREEN RANGE OF THE VOLTMETER WILL SOLVE THE PROBLEM. ORDER DECALS AT THIS ADDRESS:

US ARMY TANK-AUTOMOTIVE COMMAND
ATTN: AMCPM-TV-LC
WARREN, MI 48397-5000

Double Trouble!

Make sure you pay close attention when pulling the PMCS in Table 2-1 on Page 2-18 of TM 9-2320-289-10.

Any sign of an engine exhaust leak deadlines your CUCV. But the really bad news is that a leak can deadline **you!** Carbon monoxide kills!



Some CUCV's have been found to be leaking exhaust at the front muffler connection!

Before you take off, check both mufflers. Look for black smudges at the pipe connection at the front of the muffler. Listen and feel for leaks. Hold your hand near — but not right on — the connection to feel.

Leaking? Report it!

Dealer repairs can be made under the warranty.

Master Cylinder Leak

LOOK FOR LEAKS AT THE CONNECTIONS ON THE MASTER CYLINDER. IF THE AREA'S WET, GET YOUR MECH TO REPAIR THE LEAK AND REPLACE THE LOST FLUID WITH SILICONE BRAKE FLUID, NSN 9150-01-102-9455

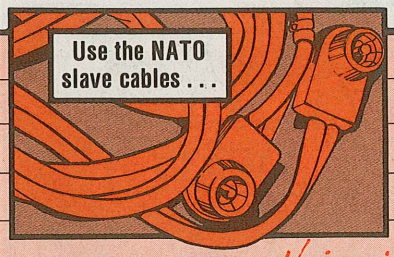
IF THE STARTER WON'T CRANK, CRANKS ALL THE TIME, OR CRANKS WHILE THE VEHICLE IS RUNNING, THE PROBLEM IS PROBABLY THE STARTER RELAY. GET YOUR MECH TO REPLACE IT WITH NSN 2920-01-192-7985.

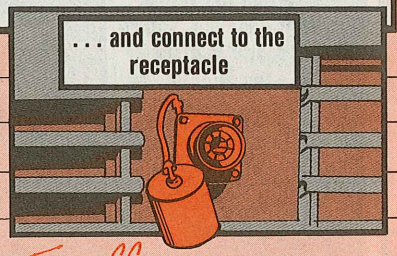
Don't Jump Start 'em

Hold it! Don't use jumper cables to slave-start your CUCV.

Using jumper cables can blow up the batteries, ruin the alternator or voltage regulator, burn up the wiring or even start a fire.

Check all the emergency starting procedures in Para 2-20 of our -10 TM. Use the NATO slave cable, NSN 2590-00-148-7961, that's part of the No. 1 Common shop set. Connect it to the slave receptacle on the front of the vehicle.





Noise is Tip-off

You won't go anywhere if your truck's starter fails to make full contact with the engine flywheel. A heckuva racket may be the first clue that something's wrong.

This can happen if your new CUCV comes with loose starter mounting bolts — and some have! The bolts may break or drop out.

Get your mech to torque the starter mounting bolts. He'll need to disconnect the battery ground cable first so there'll be no chance of getting a shock. Bolts must be loosened and then torqued to 30-37 lb-ft.

Prevent Floor Rust

Floor rust is caused by water held in the floor mat's fiber backing. If your command OK's it, take out the mat and backing. If it's serviceable, turn it in. Follow TB 43-0001-39-4 (Jan 85) for rerouting wires and painting the floor.

If you can't toss 'em, solve the problem before it starts:

- Never hose out the inside of the truck.
- Look for leaks around the windshield, doors and firewall. Turn a hose on the outside of the truck and use a flashlight to check the inside. Get leaks fixed — under the warranty, if possible.
- Always check under the mats after a rain.

Finally, if the mat and backing get wet, hang 'em out to dry.

P.S MORE

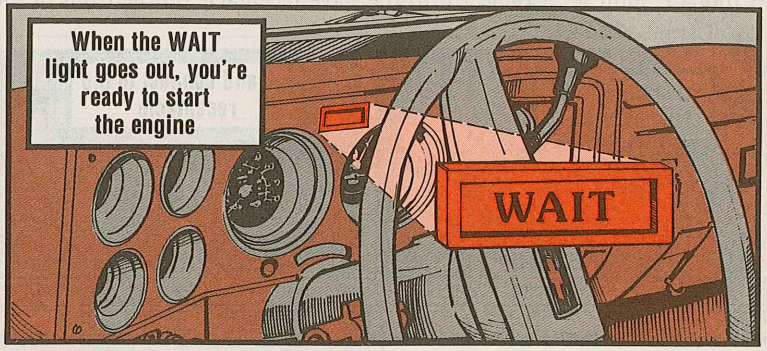
Feelin' Warm Now

You're off to a rocky start if you don't let the glow plugs do their job.

Your CUCV uses engine compression to heat the air to ignite the fuel. If the engine is cold, the air might not get hot enough. The cylinders need to be preheated.

That's the job of the glow plugs—small heating elements seated in each cylinder.

Your job as the vehicle operator, is to watch the WAIT light on the dashboard. The WAIT light is above and a little to the right of the speedometer.



Warm-up starts when you turn the key ON — no further! Once the key is ON, the WAIT light will light. It's telling you to stop — be patient — turn the key no further. When the WAIT light goes out, you're ready to start the engine.

Never race the engine after it starts. The engine is still cold.

If the WAIT light doesn't go out, get your mechanic on the job. He'll check the glow plugs, relay and the control unit to find the problem.

If you're restarting a warm engine, the WAIT light may not come on or may just flicker during starting. Don't worry unless it comes on and stays on.

Poor starting procedures will put your CUCV on the ropes. Watch the WAIT light and you'll be ready to answer the bell for the next round of driving.

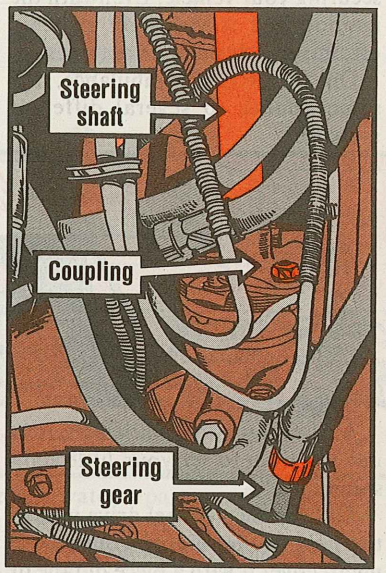
Mirror Not Needed

Don't sweat it if the inside mirror breaks or is missing. It's no longer required. Make sure both outside mirrors are OK, tho. This info's in TACOM Msg. AMSTA-MTA 080800Z Aug 85.

Steer Toward Safety!

Loose steering gear mounting bolts can take all of the fun out of your day if you fail to notice — and report — trouble in the early stages:

- Gear noise — rattle or "chuckle"
- Steering wheel kick-back — jerk — or loose steering
- Binding in the steering linkage or steering wheel



Any of these can be the beginning of real trouble, such as steering gear separation from the frame . . . rupture of connecting hydraulic lines . . . or loss of steering power assist . . . and maybe an accident as you try to control steering!

Play it safe. It takes only a minute or so to check for loose steering gear mounting before you move out. While the engine's warming up — transmission in PARK, parking brake ON —get somebody to turn the steering wheel back and forth.

Look down on top of the steering gear. Watch for movement.

Loose? Get your mechanic to torque the mounting bolts to 80 lb-ft.

Hold it! Even if there's no steering gear movement, you're not out of the woods! If steering doesn't feel right, sound right or work right, something's wrong somewhere. Get it checked out — it's your neck!

Hard to Steer?

Front and rear springs may get the "shakes" during shakedown.

Some spring U-bolts didn't get the right torque at the factory. Bolts get looser and looser. Then alignment clips and spring leaves shift out of line. Clips bend. Rivets and springs break.

The front left spring may rub against the steering connecting arm when the steering wheel is turned, too. This means a hard-to-steer truck.

Get your support to check out those U-bolts!

P.S MORE

Battery Power Thief

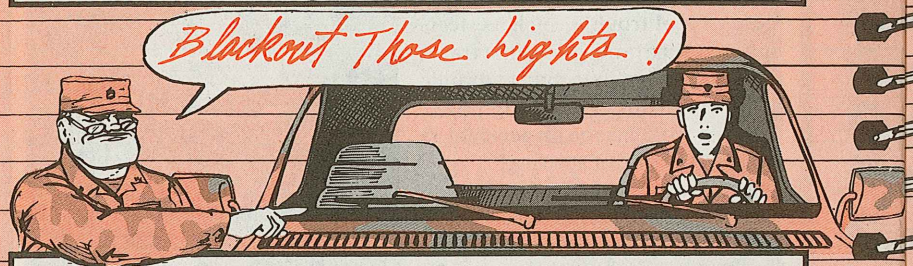
Are the batteries loosing charge for no apparent reason?

Could be you're leaving the blackout light switch ON after securing your vehicle. Even with the ignition and service light switches off, this will drain your batteries.

On the M1010 ambulance, the same applies to several different switches. They are:

- Gas particulate filter unit
- Focus lights
- Overhead fluorescent light
- Air conditioner vent blower motor
- Patient heater switch
- Arctic kit control box

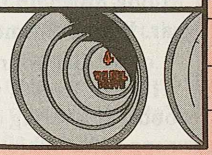
Turn these switches off when not in use.



A blackout situation is definitely not the time to let your little light shine.

To keep the 4-wheel drive indicator light from ruining your whole night, cover it with a piece of tape or cardboard.

Several other engine warning lights can also be annoying, but they're only on temporarily until the engine starts. If your commander says OK, tape over them too during blackout operation.



Tie That Binds

Rear blackout marker light wiring on some CUCV's hangs below the bumper. It snags and gets ripped off as you drive over rough terrain. If the wiring's hanging, report it. Your mech can tie the wiring to the bumper bar brace with an electrical tie-down strap, NSN 5975-00-570-9598.

CUCV Cleaning

Never use steam or hot water to clean a rustproofed CUCV. A high pressure water wash will do the trick. You can tell if your truck is rustproofed by the rubbery coating under the wheel wells and body.

Tire Pressure Changes

Here's an update of the tire pressures listed in Table 1-1 of TM 9-2320-289-10 and on the data plate on the truck:

Model	Front	Rear
M1009	40	40
M1008	45	65
M1008A1	45	65
M1028 (without commo shelter)	45	65
M1028A1 (without commo shelter)	45	65
M1031	45	65
M1010	45	80
M1028 (with commo shelter)	45	80
M1028A1 (with commo shelter)	45	80

This info is in TACOM Msg AMSTA-MTA 191500Z Dec 85.

Get Water at the Source

If you have to drain water from the fuel-water separator often, you can bet you have water in your fuel tank.

You can drain that water with the built-in siphon line. You'll need an AOAP syringe, NSN 6515-00-727-0008, and about 4 feet of 5/16-in. plastic tubing, NSN 4720-00-410-4290.

The siphon tube on an M1009 is at the top of the frame just behind the right rear wheel. For all other models, the tube is above the inside edge of the left frame rail under the cargo body just behind the cab.

To start, remove the fuel tank cap. Then remove the protective cap on the siphon tube. Don't lose it — you'll need it later!

Push the plastic tubing over the siphon tube and attach the AOAP syringe to the other end of the hose.

Hold the syringe over a pail or bucket on the ground. Pull the syringe's plunger out in one swift, smooth move.

Keep the syringe below the level of the line and let fuel drain until you get clear fuel.

To stop draining, put the plunger back in. Take the tubing off the siphon tube, replace the protective cap and the fuel tank cap.

PS MORE

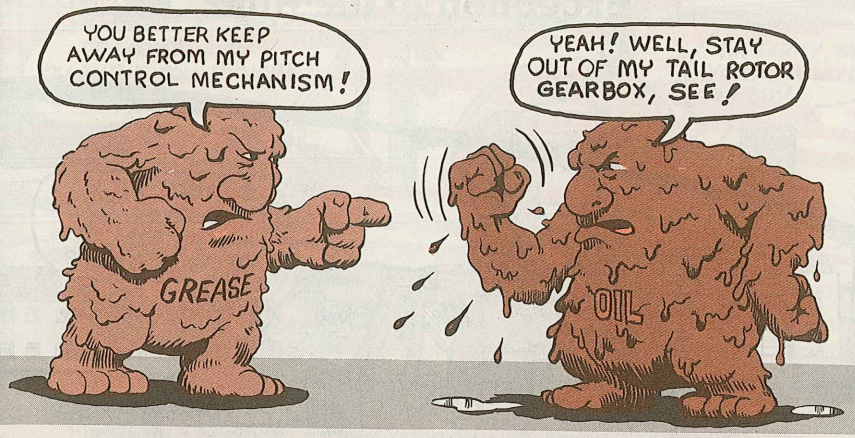
Tailgate Glass

One or the Other!

Keep the locking hubs on both front wheels matched up — both in LOCK or both in FREE. Driving with one in LOCK and one in FREE will cause a differential failure.

OH-58A&C . . .

Grease and Oil Don't Mix



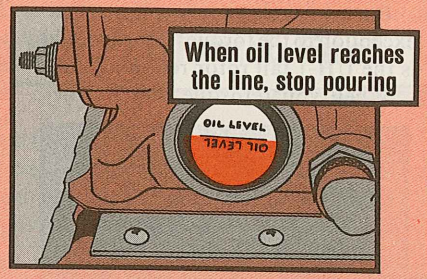
Dear Windy,

Here're a couple of points about lubing tail rotor components that you might want to pass along to Kiowa mechs. Some of them are overfilling the tail rotor gearbox with lube oil and over-greasing the bearing inside the pitch control mechanism. What happens in either case is all bad.

When they overfill the gearbox, oil spills out onto the pitch change tube and soaks the trunnion bearing. It also runs into the pitch control housing and oil soaks those bearings.

You have to take the pitch change mechanism apart, clean it real good and grease it again with aircraft grease, NSN 9150-00-944-8953.

Some mechs use too much grease on the bearing, Item 19 in Fig 5-48 of TM 55-1520-228-23-1. It gets into the boot, Item 18, and the boot pumps the excess grease right into the gearbox and contaminates it. Then they have to flush the gearbox to get the grease out.



SFC Jess W. France
Hunter Army Airfield, GA

You've said it all. Thanks for the tip. Windy

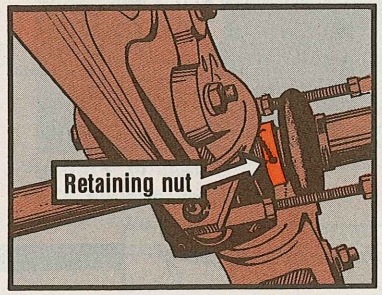
UH-1 . . .

Exception to the Rule

The general rule on torquing and retorquing is to back off the fastener before tightening with a torque wrench.

But every rule has exceptions. One exception to the torque/retorque rule is the UH-1 tail rotor retaining nut.

When you retorque that nut between 5-10 hours of flight after installing the tail rotor, you do **not** back off the nut first.



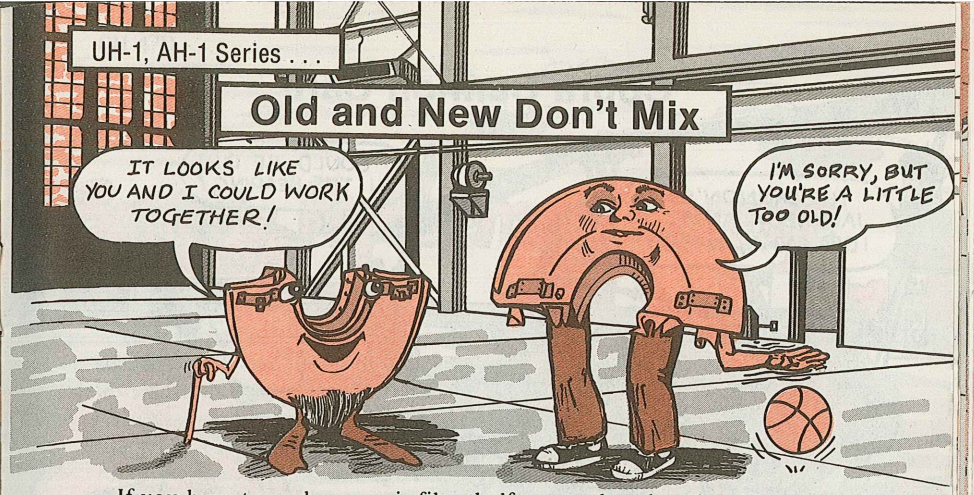
Like the Note on Page 5-119 of TM 55-1520-210-23-1 says, you retorque by turning in the tightening direction only. The idea is to correct any torque loss that may have occurred as a result of split cone seating.

In this particular case, if you backed off the nut before retorquing, you'd set up a new torque situation that would have to be verified again and again.

But this is a special situation. Unless your TM says otherwise, you back off on the fastener before retightening with a torque wrench.

UH-1, AH-1 Series . . .

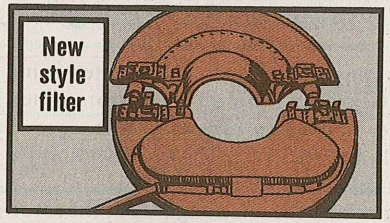
Old and New Don't Mix



If you have to replace an air filter half, remember that the old and new filter halves don't mix.

Fig 107 of TM 55-1520-210-23P-1 gives NSN 2945-00-442-2539 for the lower half and 2945-00-442-2544 for the upper.

Those are the new-style filter halves. The parts manual says they replace the older models, NSN's 2945-00-917-7073 and -7074.



But the old and new types don't work together. So if you still have the old kind, stay with them until stocks are exhausted. Then ask for the others.

Of course, you won't order both halves—old or new—if you only need to replace one part.

UH-1 . . .

Ground Handling Won't Disturb Fuel

Dear Half-Mast,

Para 2-86 of TM 55-1520-210-10 says to let the fuel in our Hueys settle after refueling before taking pre-flight fuel samples. Is there any need to let the fuel settle for a while after groundhandling the aircraft before we take a fuel sample?

B.R.L.

Dear B.R.L.,

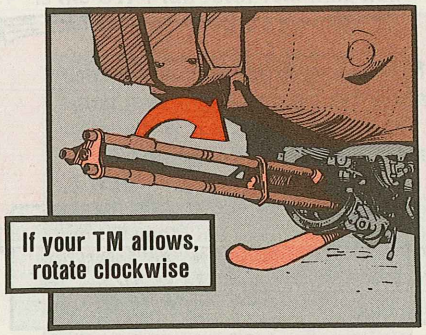
No. The amount of fuel agitation resulting from moving an aircraft on the ground is not enough to affect fuel sampling. *Half-Mast*

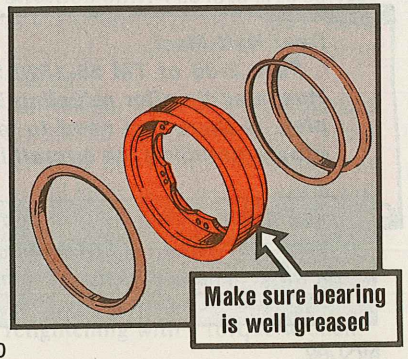
Cobra Cannon Care

Just because your Cobra's 20-MM cannon is not fired very often is no reason to ignore it, bird mechs. That cannon is no different from other systems when it comes to maintenance—it needs regular attention.

Keep the cannon in top form by pulling PMCS like it says in Section II, Chap 3, of TM 9-1090-206-12. Lube it like the LO says.

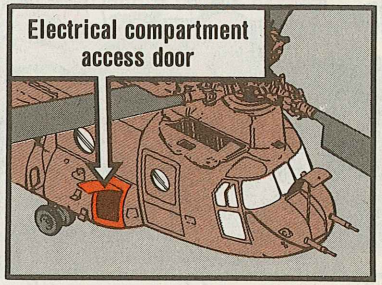
Be sure you give the annular bearing behind the retaining ring of the rotor assembly a good coating of GIA. While you're at it, make sure the retaining ring is seated properly. That's what keeps grease in and dirt out.





Battery Replacement Change

How about that! The aircraft headshed says to extend the 90-day inspection and replacement of CH-47D batteries to 120 days. A change to Sequence 1 of Calender Inspections/ Maintenance Actions on Page 1-289 of TM 55-1520-240-23-1 will have this info but the headshed says to move out on it now.



1-92 INSPECTION (Continued) **1-92**

Calendar Inspection/Maintenance Actions

SEQ. NO.	FREQUENCY	INSPECTION REQUIREMENT
1.	~~90 days~~ 120 days	Remove battery for inspection and serviceability bench check. (Refer to TM 11-6140-203-14-2 and TM 11-1520-240-20.)
2.	12 months	Weight check engine fire extinguisher system bottles. Inspect bottles for

AVIATION MESSAGES

CAT 1 EIR Phone AUTOVON 693-2066 (24 hours)

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

AH-64-86-01, SOF, Emergency, Verification of steel pin installation in SPADS, 122140Z Jan 86.

CH-54-86-01, SOF, Technical, One-time and recurring inspection of input couplings, 221500Z Jan 86.

OH-58A-86-01, and OH-6A-86-01, SOF, Maintenance Mandatory, Revision to inspection of the T63-A-700 turbine engine compressor on all OH-58A and OH-6A, 110300Z Jan 86.

SOU-AH-1-86-01, SOU-UH-1-86-01, Adapter, reaction torque, rotor head mast nut, NSN 5120-00-619-9776, PN PD2660, 232040Z Jan 86.

SOU-UH-60A-86-01, Airframe eyebolt PN 70209-02136-102, 312330Z Jan 86.

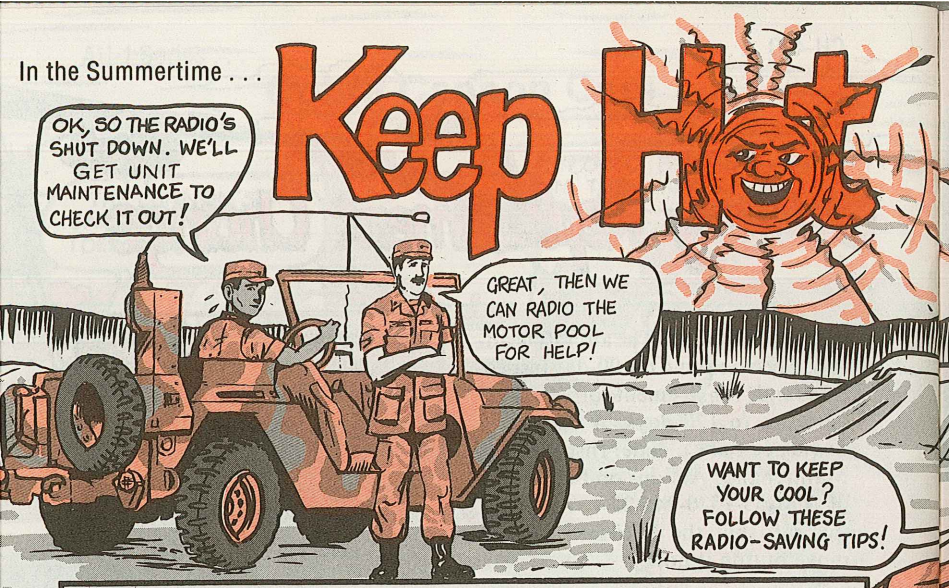
MIM-UH-60A-86-ME-01, Beryllium copper droop stop health hazards, 232035Z Jan 86.

MIM-UH-60A-86-ME-02, Pitch horn retirement life, 232030Z Jan 86.

MIM-GEN-86-ME-01, Hysol epoxy adhesive EA 9309, NSN 8040-01-012-8749, 081900Z Jan 86.

In the Summertime . . .

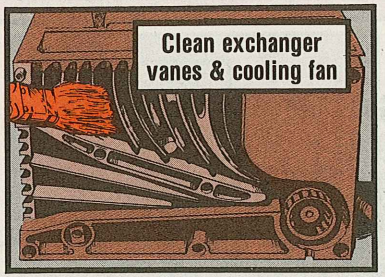
Keep Hot Radios Cool



Heat from the inside plus heat from the outside is a double whammy that shuts down AN/VRC-12-series radio sets.

PM is the potion you need to head off heat-related shutdowns.

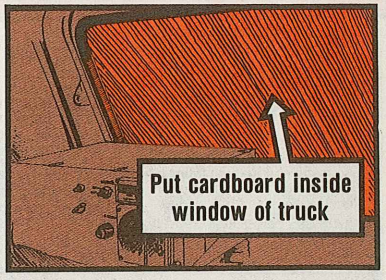
DON'T BE SHY about calling in unit maintenance to clean up your radio when you're operating in dusty areas. They'll sweep the heat-holding dirt off the power transistor assembly and heat exchanger vanes.



You can also tell them to eyeball the cooling fan. It can get so clogged with dirt it won't turn.

Make sure they replace the side panels after they clean the vanes. The panels keep the set cool by directing the fan's cooling breeze where it does the most good.

FIND SOME SHADE for your vehicle, if possible. Anything to keep sunlight off the radio. That might include putting a piece of cardboard in the side window of your M1009 truck.



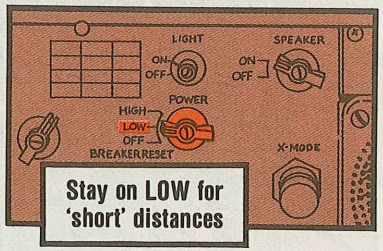
Some troopers use wet rags to keep their sets cool. No problem as long as the radios are buttoned up tight with all screws snugged down.

Wet sponges will also keep your set cool. Lay the sponges on top of the radio.

PILE NO BDU SHIRTS, TM's, maps, etc., on top of the radio, tho. They keep heat inside.

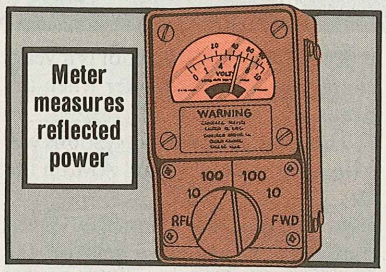
SAVE YOUR BREATH when transmitting. The radio puts out a lot more heat when you're talking. So keep transmissions short.

Use LOW power if you can. For ranges less than 15 miles, LOW power is perfect. It draws less current, so it builds up less heat.



When you need longer range, of course, use HIGH. Remember to switch back to LOW for later.

WATCH YOUR REFLECTIONS. Have unit maintenance check out your sets at least quarterly. They'll make sure you have the proper balance between forward and reflected power. Too much reflected power not only builds up heat, it damages the transmitter.



They'll also test the voltage output from the vehicle. Excess power (over 30 volts) makes things hot for your radio.

Things Are Heating Up

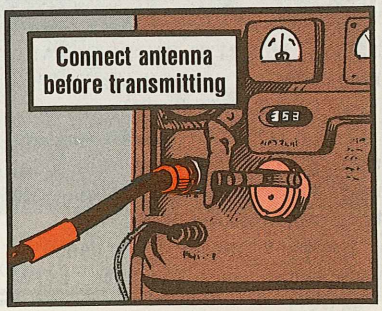
Keeping your radio cool is a year-round job. It gets tougher when the heat's on.

These summertime suggestions will help keep your powerful AM on the air:

- Let the radio breathe. Keep pubs, papers and extra gear off the case. Some heat escapes this way.

Most heat, though, is sent on its way by the amplifier blowers. Make sure they are working and that blower vents are clear.

Make sure there's an antenna connected to the radio set before you



transmit. Then check the whip antenna's mast base to be sure the contact is clean. If there's corrosion, chances are good the radio's RF output is being reflected to the amplifier. That extra heat is a radio killer.

If corrosion has set in, call on unit maintenance to clean it up.

A wire brush or sand paper cleans the outside. A bore brush cleans inside the contact. Once it's clean, coat the contact with silicone, NSN 6850-00-880-7616.

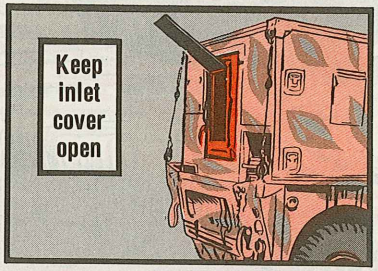
- Tune and load the radio according to TM 11-5820-520-10. You get only two minutes in TUNE to make final adjustments. That builds up a lot of heat. Using more than two minutes risks damage to the radio.

If you can't make it, let the set cool off in STAND BY for 5 minutes before going back to TUNE.

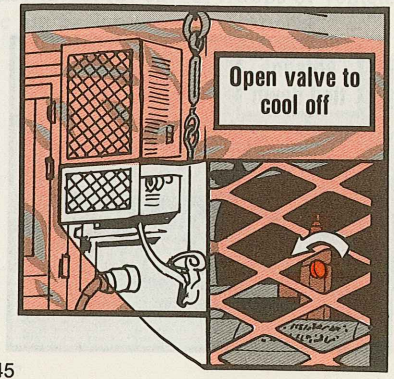
While operating, put the set in STAND BY any time you plan to stop transmitting for an hour or so. If you'll be off longer than that, shut the radio down—by the book, of course.

If your Angry-106 is inside a shelter, here are a couple of other coolers to try:

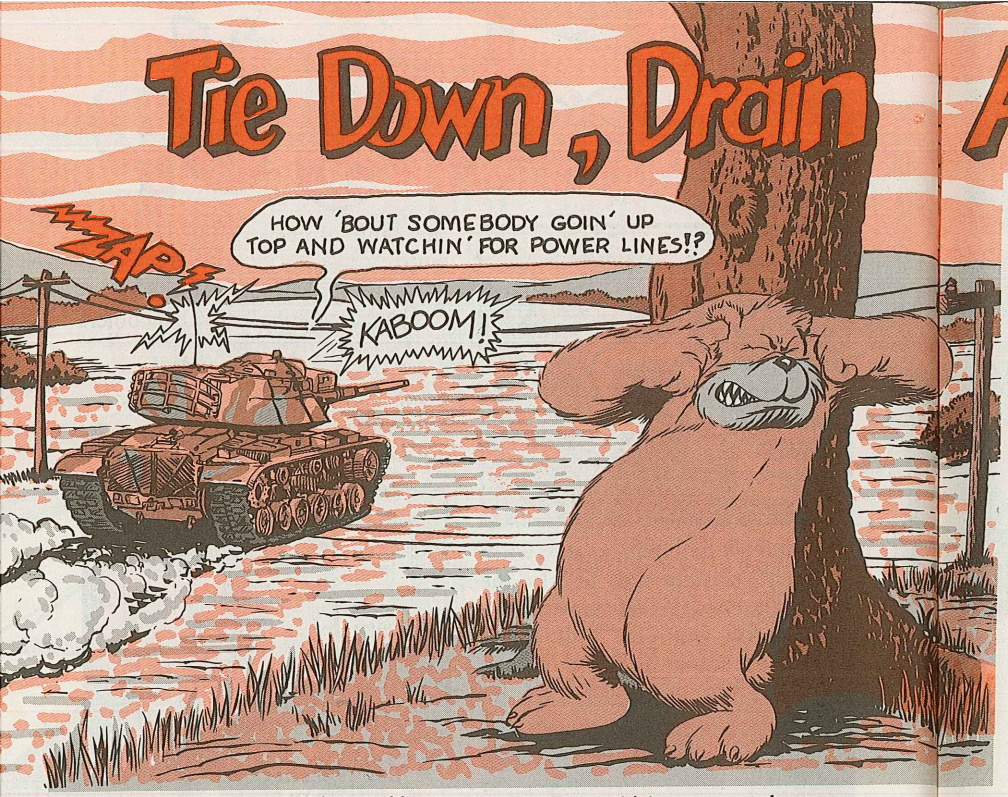
- Keep the shelter door inlet cover open to let air into the shelter. Keep the shelter exhaust vents open to let hot air out.



- If your shelter has an air conditioner, use it. Close vents and inlets, of course. Make sure you open the receiver valve on the unit. That valve lets coolant out of the holding tank. Turn the valve counterclockwise.

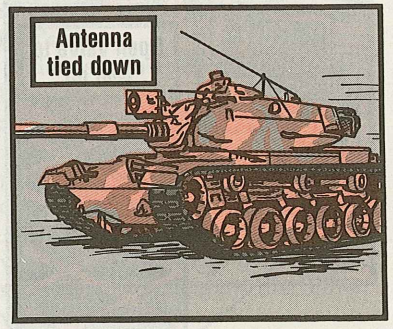


Tie Down, Drain



You've got to look high and low to take care of your whip antenna.

On the high side, make sure the antenna is tied down any time the vehicle moves. Pull it down to a 45-60° angle.



Combat vehicle crewmen, that means you, for sure. Your antenna rides high where a loose whip can easily contact an electrical power line.

That power can travel down the whip and into your ammo-carrying-vehicle. The electricity can explode the ammo.

You don't have time to look for power lines when you're travelling cross-country.

Remember to put the antenna under the tiedown clip, not into it. You might lose a whip or two, but you and your crew will be safe.

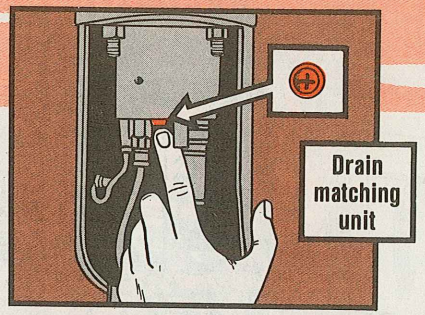
The tiedown assembly, NSN 5820-00-908-6416, is listed on Page C-3 of the antenna's pub, TM 11-5985-262-14.

AS-1729

On the low side, be sure to drain your MX-6707 matching unit at least monthly, per the radio's TM 11-5820-401-10-1 and -2.

Drain more often in wet weather, or when wide swings in temperature create condensation. Of course, you also drain it after fording.

When you remove the screw, look for the O-ring. The screw comes with an O-ring and should always have one.



Without an O-ring, it loses the good seal you need to keep water and condensation out.

If the O-ring's missing, order a new screw with NSN 5305-01-100-0244. It's Item 14 in Fig 1 of the antenna's -24P.

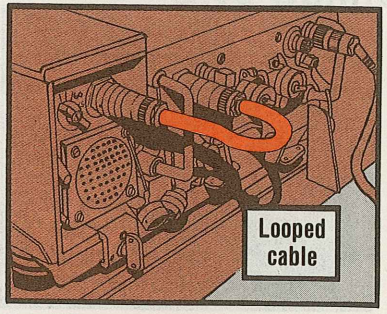
OA-3633 Amp-Power Supply . . .

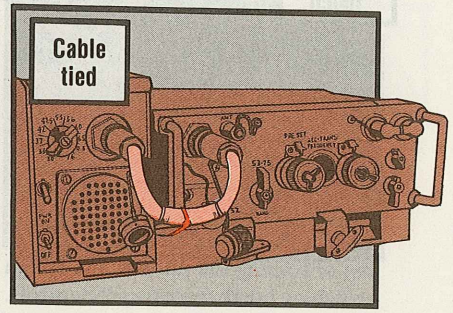
Tied To Be Fit

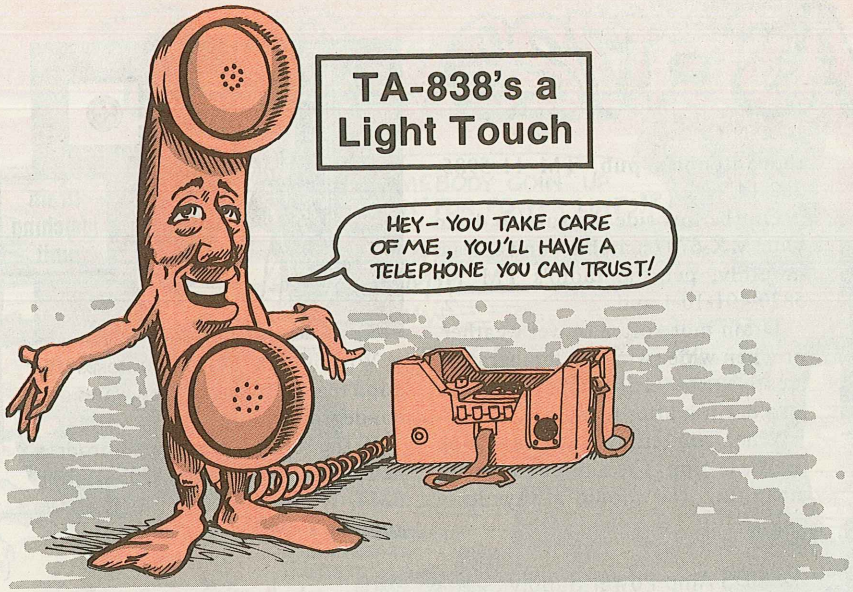
A piece of cord is just the thing to save power receptacles and front panels on your AM 2060 amplifier-power supply and its Receiver-Transmitter (RT).

Use the cord to tie the 11-in CX-4655 cable to the RT's panel guard. This tie-down foils the receptacles' biggest enemies:

- The looped cable looks like a handle, and some troops use it as one. They yank the assembly out of its mount and carry it by that convenient "handle." Crack goes the connector!
- Left untied, the cable is a too-easy target for cargo, troops or vehicle seats. One tossed duffle bag can wipe out both receptacles at once!



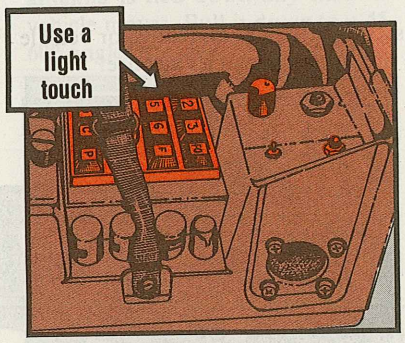




Abuse and neglect mean having to say you're sorry—a lot.

The TA-838 telephone is rugged, of course, but rough stuff and water damage will still put it out of commission.

First to go are the on/off toggle switch, the ring indicator light and the ring volume control knob. Stacking or tossing the phones and rough switching break these fragile controls.

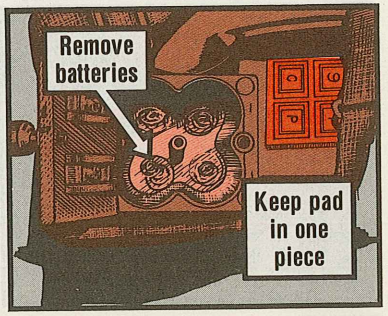


Use the light touch of a finger on the phone's keyset pad. A pencil, pen or other sharp object can poke a hole in the pad. The pad can also easily be torn away from the case.

Water then gets inside the set, starting corrosion.

Water can also get in the battery box if it's not sealed tightly.

Never leave batteries inside the phone when you're not using it. They'll corrode.



You can burn up your meteorological data processing group's computer by feeding it the wrong paper.

It needs the heat-sensitive paper, NSN 7530-01-037-3308, called for in your pubs. Keep a supply on hand.

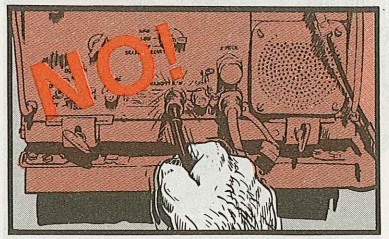
Regular "adding machine" paper is too coarse. The OL-192's thermal printer will burn it. The ash fills up the burning mechanism, burning out the sensor or jamming up the printer so the paper can't feed.

Accept no substitutes. Use Advice Code 2B in Card Columns 65 and 66 of your supply request if you get a sub. Specify the Hewlett-Packard paper (FSCM 28480) your computer came with.

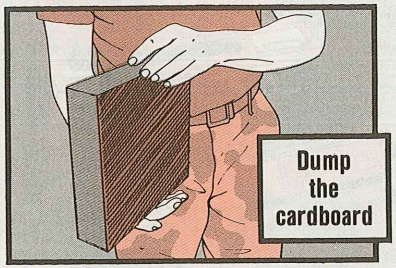
Give Connector a Turn

You're doing your commo cables a good turn any time you use the connector to put them on or take them off.

Never grab the cable behind the connector. When you twist the insulation, you break wiring inside, killing the cable.



Before you reload your Electronic Line Printer (ELP) with paper, be sure you've tossed out the paper's cardboard backing.



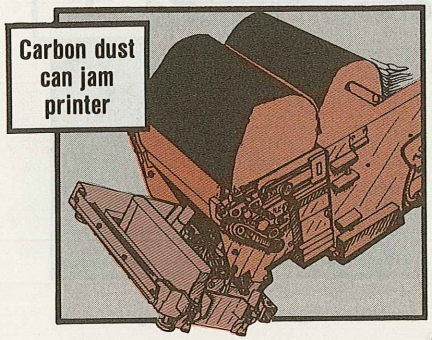
If you don't, the PAPER LOW light will never come on. That extra thickness added by the cardboard makes the ELP think it still has paper to print on.

Once the paper's gone, tho, the ELP is printing on a bare helix. Too much of that will ruin the printing surface.

CLEAN THE ELP

When you're loading paper—or at least every 8 hours—give the ELP a good cleaning.

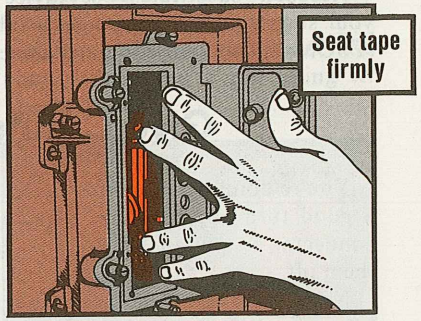
Carbon dust created by the printing process can jam the helix bearings and stop your printer.



MTU NEEDS A FIRM HAND

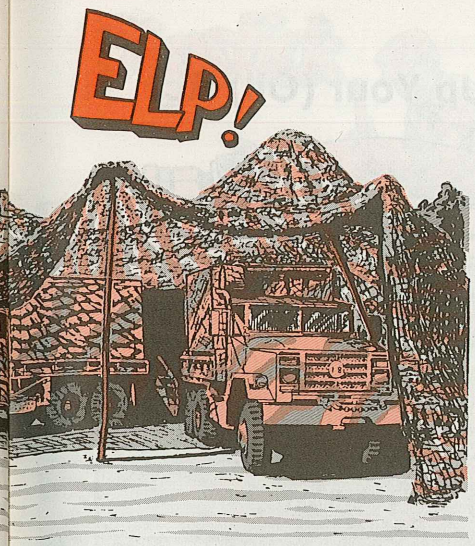
Seat the tape cartridge firmly when you load your Magnetic Tape Unit (MTU).

If it's not seated, you'll get an indication of a fault in the system. You—and your support—will waste time looking for a problem you don't have.



RE-BOLTING DEVELOPMENT

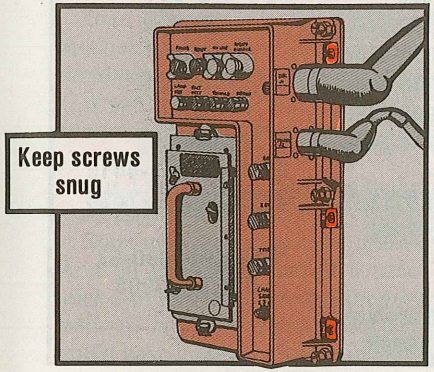
Some TACFIRE shelters are shy the bolts that hold the air-conditioning unit in place.



That could let the unit slide off its rack onto the truck's canvas top and into the cab.

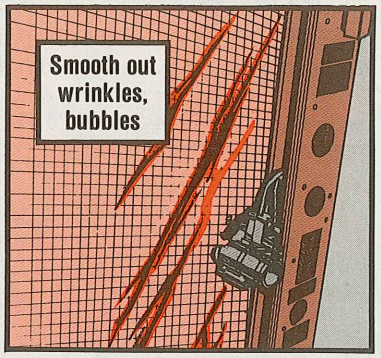
Eyeball your mounting. If it needs bolts, tell your DS. They'll install the hardware shown in TM 11-7440-242-23P.

Other fasteners to watch are those that hold your components in their cases. Even the vibration from unit moves can loosen these captive screws.



MAPPING MAINTENANCE

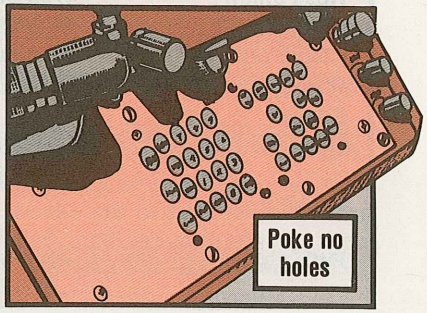
Keep the plastic overlay on your digital plotter map smooth. A ripple or bubble can snag the map's write head assembly. That can damage your equipment or give you wrong plotting data.



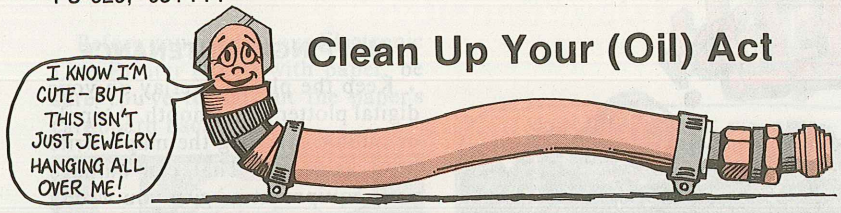
BE A SOFT TOUCH

Sharp objects—like fingernails or pens—are no-no's on the communications control unit and digital message device keyboards.

The soft membrane covering the board is meant for finger touches, not pokes by sharp objects. Once the pad loses its seal, moisture can get in and damage the gear.



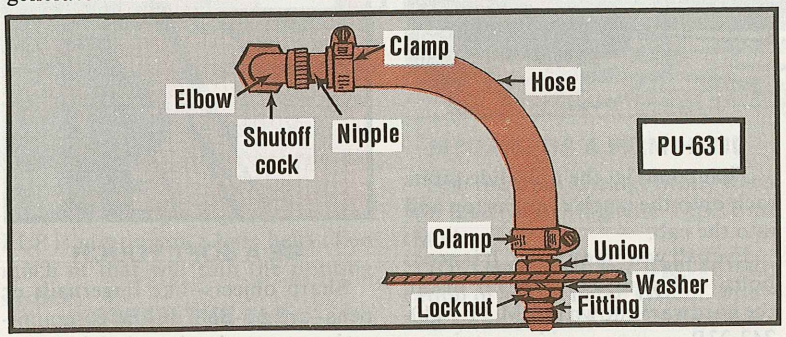
Clean Up Your (Oil) Act



Draining oil from your trailer-mounted 5-KW generator set can get messy if the drain hose is leaking or missing.

An oil slick on your trailer bed can send an unwary trooper sprawling—maybe onto an operating or red-hot engine.

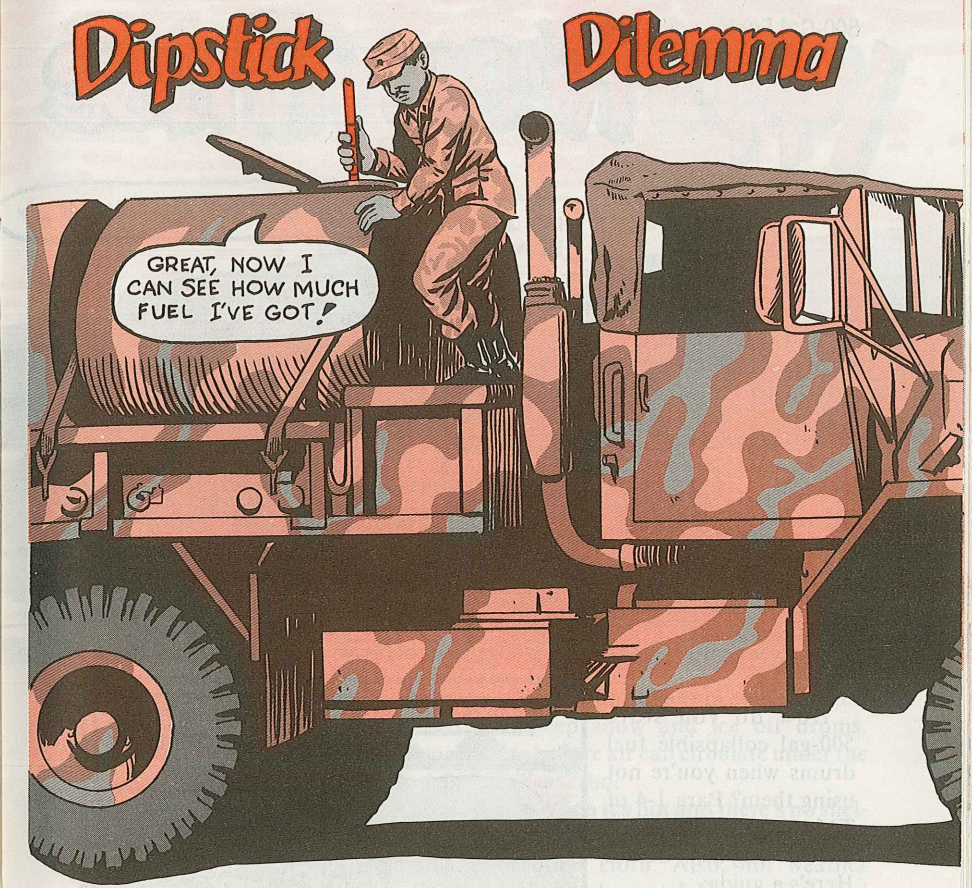
Parts for the drain were left out of the breakdowns for PU-629 and -631 generator sets in TM 5-6115-365-15.



Order these items, using a RIC of A12 on your DD Form 1348-6 part number requests:

	NSN/PN	
PART	PU-629	PU-631
Hose nipple	4730-00-196-1493	Same
Hose union	4730-00-804-0544	Same
Shutoff cock	4820-00-136-1085	Same
Clamp (2)	4730-00-908-3193	Same
Washer	5310-00-754-2005	Same
Elbow	--	4730-00-253-4413
Hose	PN 13218E0153-20 FSCM 97403	4720-01-073-7435
Locknut	--	PN MS51860-57 FSCM 96906
Fitting	PN MS39321-VI0 FSCM 96906	--

Dipstick Dilemma



Get fuel measuring stick, NSN 5210-01-083-2926, to keep track of how much fuel—in gallons or liters—you dispense from 600 gallon fuel pods on mil-design TPU's, NSN 4930-00-426-9960.

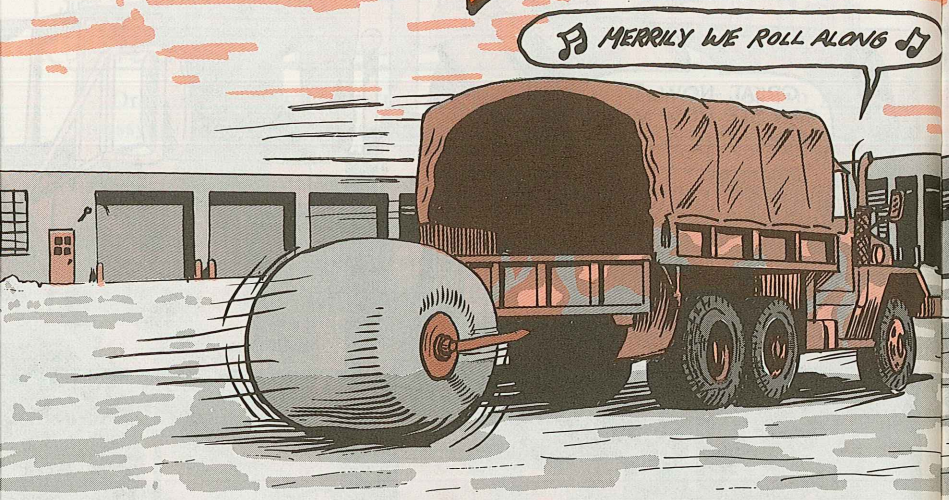
If you have a commercial design TPU—such as the Highland Industries Model 2000, NSN 4930-00-877-8678—the dipstick reading will be off. The shape of the tank is different.

But don't despair. You can make a fuel measuring stick for the commercial design pod.

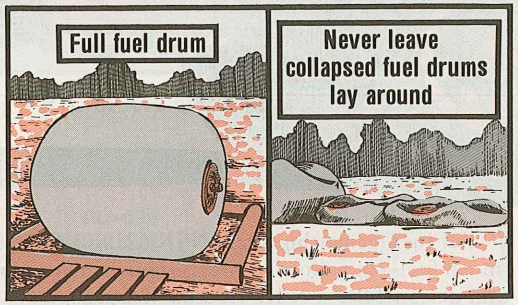
Start with an empty tank. Park on the most level surface you can find. Add 50 gallons of fuel at a time. Take the mil design fuel measuring stick—or any long wooden stick—and mark it after each 50 gallons. Use a knife or anything sharp enough to nick the wood. When the tank's full, you'll have a custommade dipstick notched at 50-gal increments.

500-Gal Fuel
Drum Storage...

Keep Those Fat Drums Happy



How do you store 500-gal collapsible fuel drums when you're not using them? Para 1-4 of TM 10-8110-201-14&P doesn't tell you in detail. Here's a guide:



• Store the drums full of fuel, like it says in the TM. The fabric lasts longer when drums aren't being constantly collapsed, then expanded—especially in cold weather, when the drums get brittle and crack.

• Store them empty if local safety regs say not to fill them with fuel. But, never stack other drums or equipment on top. That causes wear or cracking.

• Never fill the drums with air. There will always be a little fuel left after you've drained them. Vapors inside the drums can make for an explosion.

• Store drums indoors, if possible, in a dark, cool, well-ventilated area. Empty or full, keep them away from heaters, steam pipes and radiators—any kind of heat that could damage the fabric or start a fire. Get your safety officer to tell you what fire safety precautions and equipment are required by local regulations.

Protect the drums from tears and punctures, too. Choose a fairly smooth surface, away from anything sharp.

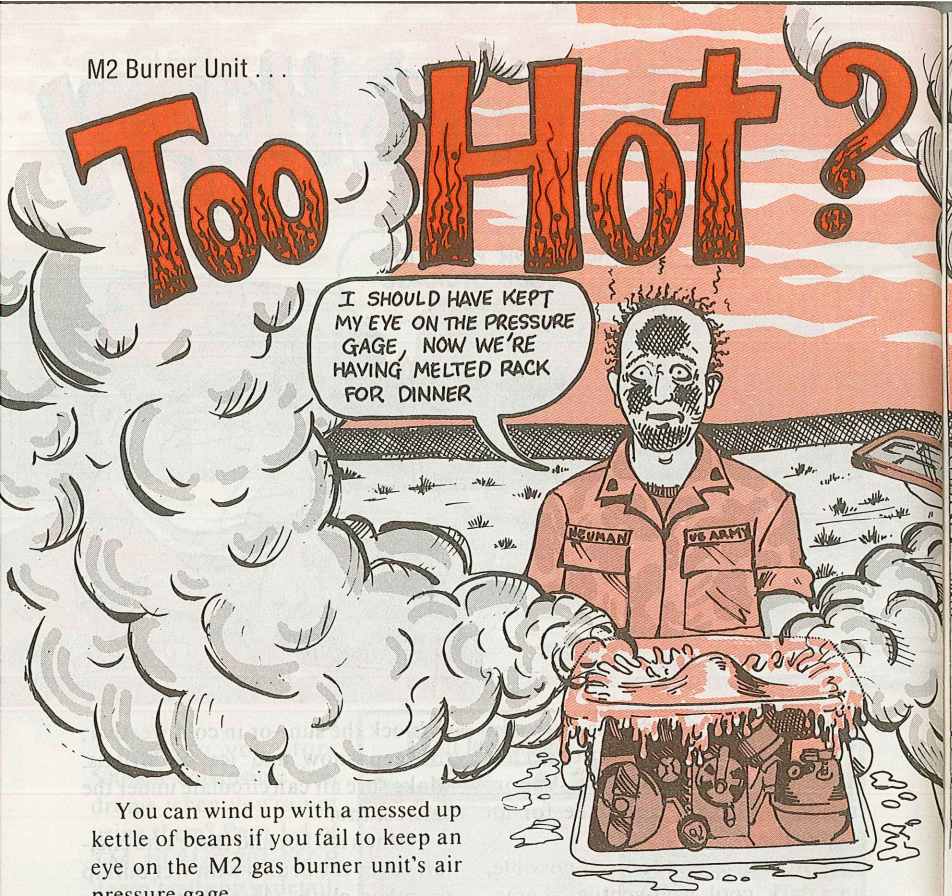
• If you store drums outside, keep them out of direct sunlight or they'll dry out and crack. Use a tent or tarp to block the sun—or in cold weather, to keep snow and ice off drums. Make sure air can circulate under the canvas, tho.

• When it's hot and there's no shelter, cover the drums with wet burlap or other cloth. Also, hot weather makes fuel expand. Drain a little fuel from the drums to keep down pressure.

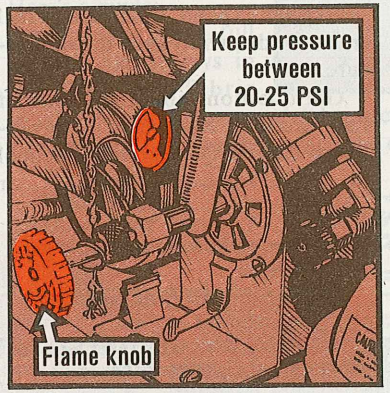
Got questions about any kind of fuel handling equipment or procedures? Call the Quartermaster School at AUTOVON 687-1235/3427, or write:

Advanced Petroleum Logistics Division
Petroleum and Field Services Department
US Army Quartermaster School
Ft Lee, VA 23801-5402

Too Hot?



You can wind up with a messed up kettle of beans if you fail to keep an eye on the M2 gas burner unit's air pressure gage.



If pressure builds up above 25 PSI and stays there, you can have a rack meltdown. This high pressure adds up to hotter cooking temperatures and . . . WHAMMO! . . . there goes the meal, dumped when the middle, bottom or both cooking racks melt.

So, make sure the pressure gage stays between 20 and 25 PSI.

If it reaches 25 PSI, turn the flame valve knob clockwise until the flame is about one-half size and let it burn that way for half an hour, like it says on Page 2-24 of TM 10-7360-204-13&P.

Cool It!

If pressure goes above 25 PSI, turn off the burner unit.

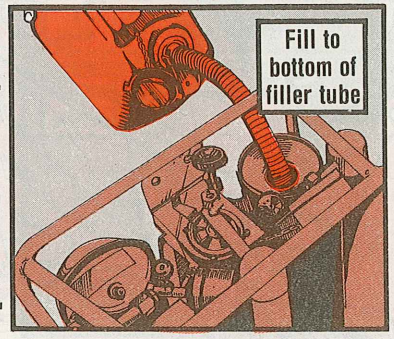
Then, take the unit out of the field range or cabinet.

Let it cool before relighting the unit, then put it back in the cabinet.

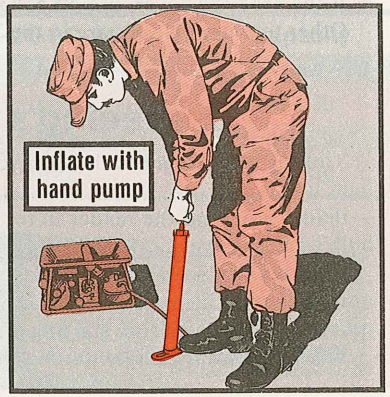
Here are some other tips that'll keep you cooking with a safer burner unit:

Never mix up the middle rack with the bottom one. The aluminum middle rack is not made to take the heat like the steel one on the bottom.

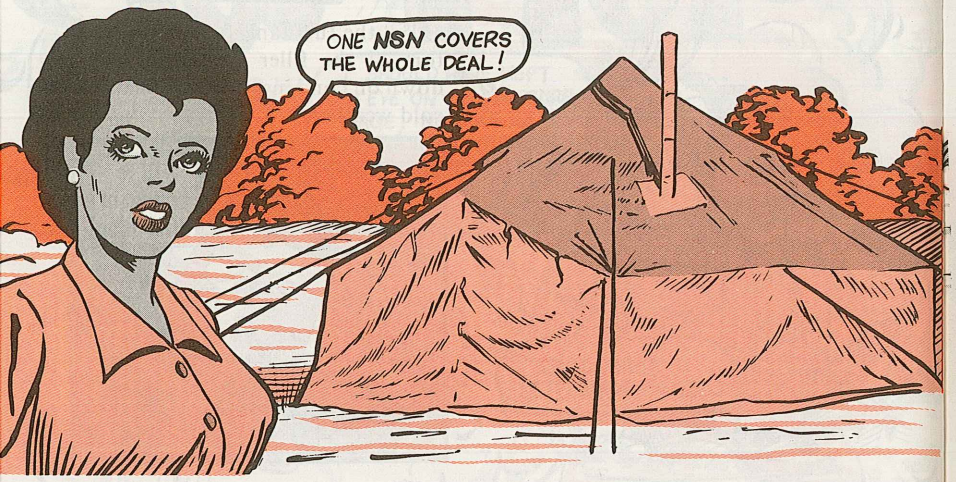
Fill the fuel tank full–to the bottom of the filler tube. This'll cut down on condensation, especially in cold weather.



When you're using the hand inflating pump, NSN 4320-00-852-9036, stop pumping when the pressure gage reads 6-8 PSI. Never use a compressor or an auxiliary air supply hose from a vehicle. They put out too much pressure.



Arctic Tent NSN's



The good news is, you can now get a complete 10-man arctic tent under one NSN. NSN 8340-01-059-4075 gets you the tent, cover, liner, pins and poles.

NSN 8340-00-262-3684, listed in Change 1 to TM 10-8340-222-10 for the tent, cover and liner, is for the tent only.

If you need the liner, use NSN 8340-00-262-3698.

If the need the cover, use NSN 8340-00-241-8435.

Other tent item NSN's are in the TM change.

Seeing's Believing

You say you put a new bulb in your microfiche reader but it still won't light up?

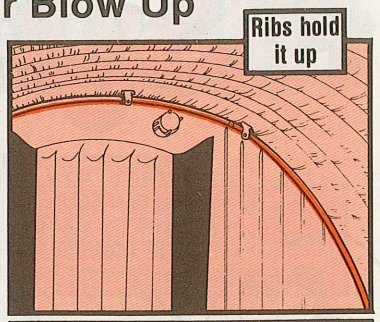
Before you send the reader in for repair, make sure you've replaced the bulb's access cover.

Most readers have an interlock switch that keeps the bulb from lighting until the cover is in place. That keeps dust and dirt out of the set. It also prevents a hot bulb from starting a fire.

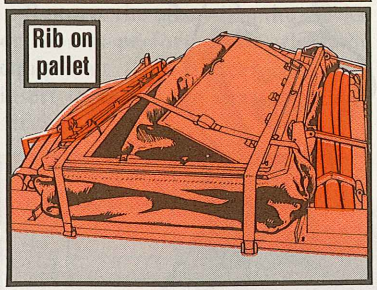
You close the switch by putting the cover back where it belongs.

M51 Shelter Blow Up

Dear Half-Mast,
Our M51 CB shelters won't stay inflated without the use of the utility trailer. Are they supposed to?
SSG J.D.



Dear Sergeant J.D.,
No! The shelter's not designed to stay inflated unless the utility trailer is operating. It will stay up if you install the supports, but it will sag.
Half-Mast



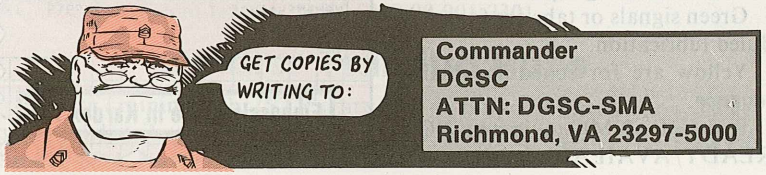
Ice Chests . . .

Cool TM's

Field ice chests, NSN 4110-00-142-2445 (200-lb capacity) and 4110-00-640-1941 (400-lb capacity), are made by several manufacturers.

Here're the commercial-type pubs:

Manufacturer	TM-DGSC-4110-	Capacity
Brenner Metal Products	554	200-lb and 400-lb
Auto Skate Company	425	400-lb
MGR Equipment Corporation	508	400-lb
R.S.P. Industries	522	400-lb



Signals for DD Forms 314

Need signal tabs for scheduled service reminders on your DD Forms 314?

You can use metal tabs, plastic tabs or embossing tape.

Green signals or tabs are for scheduled lubrication.

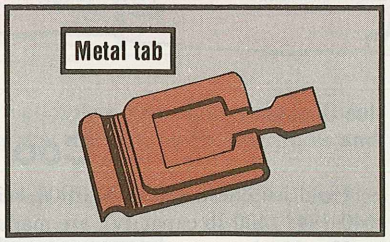
Yellow are for scheduled maintenance.

Red are for NMC equipment NOT READY/AVAILABLE signals.

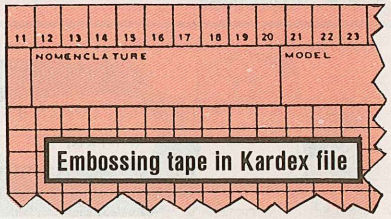
Metal tabs can be used whether you keep your 314's in a drawer, file or KARDEX file. Just clip them over the 314 date block, in or out of a file.

Get the metal clip-on tabs with these NSN's. They come 100 each per NSN.

Green	7510-00-285-5809
Yellow	7510-00-263-8843
Red	7510-00-263-8841

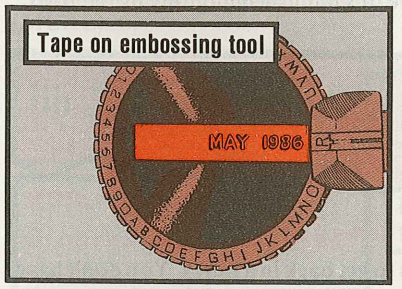


Embossing tape comes in 1/2-in by 12-ft rolls. Cut tabs in 3/16-in pieces for sliding in and out of the KARDEX plastic over the date blocks. Do not remove the adhesive from the back of the tape.



Here are tape NSN's:

Green	7510-00-849-1138
Yellow	7510-00-846-0133
Red	7510-00-849-1139

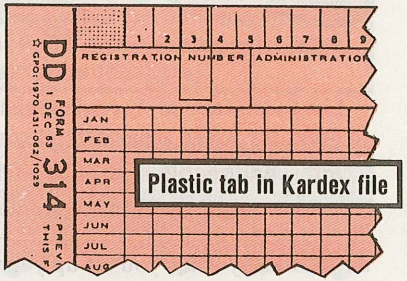


Plastic tabs for use with KARDEX files come in boxes of 100. The tabs are perforated so you can crack them off. They have a lip on one end which catches and holds onto the 314.

Here are tab NSN's:

Green	7510-00-183-6472
Yellow	7510-00-183-6474
Red	7510-00-183-6473

Remove the tabs when the service or lube is performed or when the equipment fault is corrected. Reinsert them for the next scheduled service.



Lantern Battery NSN

Use NSN 6135-00-334-4500 to get the non-rechargeable battery for your AC/DC flourescent lantern, NSN 6230-00-901-7301.

Soldier Training Pubs

Soldier Training Pubs (STP's) are now on pinpoint distribution. To get on initial distribution, use DA Forms 12-11D-R through 12-11G-R in DA Cir 310-85-4, Nov 85.

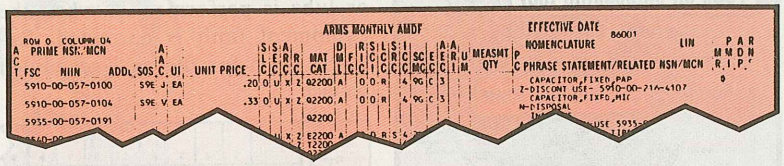
Used Together, Ordered

When you order supplies, you need the latest information. That means your microfiche publications have to be current.

Here're the pubs you need and how to get 'em:

Army Master Data File (AMDF):

This pub has your basic supply ordering information--NSN, price, unit of issue, source of supply (SOS) and more. It's published monthly by the AMC Catalog Data Activity (CDA).

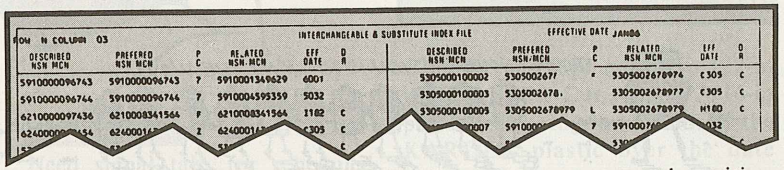


Automatic Return Items List (ARIL):

Lists items the supply system needs to get back in a hurry. You don't have to order the ARIL separately. It comes with the AMDF four times a year.

Interchangeable and Substitute (I&S) Index and Group Files:

Look here for substitute and interchangeable NSN's. These microfiche are printed once a month and are mailed with the AMDF. You get them automatically when you set up your AMDF account, same as the ARIL.

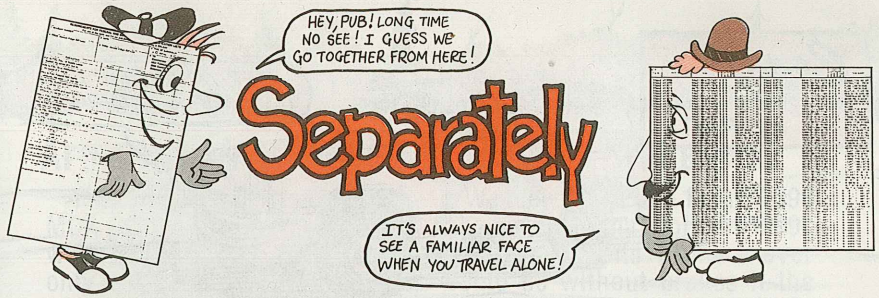


To get on distribution for CDA publications, set up an account by writing to:

Commander
USAMC Catalog Data Activity
ATTN: AMXCA-DL
New Cumberland Army Depot
New Cumberland, PA
17070-5010

Or call:

	0715-1500 EST	AFTER HOURS
AUTOVON 977-	6741	7431
Commercial (717) 782-	6741	7431
FTS 589-	6741	7431



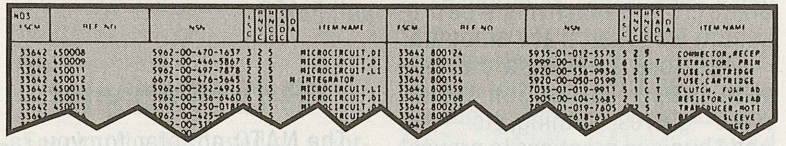
Call the same numbers if you don't get a publication after you've set up your account.

Another useful publication is the three-part Master Cross Reference List (MCRL).

MCRL-1:
Crosses part numbers to NSN's.

MCRL-2:
Crosses NSN's to part numbers.

MCRL-3:
Lists part numbers and NSN's supplied by a particular manufacturer. The numbers are grouped by Federal Supply Codes for Manufacturers (FSCM's).



You get the MCRL through your regular publications channels, using DA Form 12-21-R. All three parts are published quarterly.

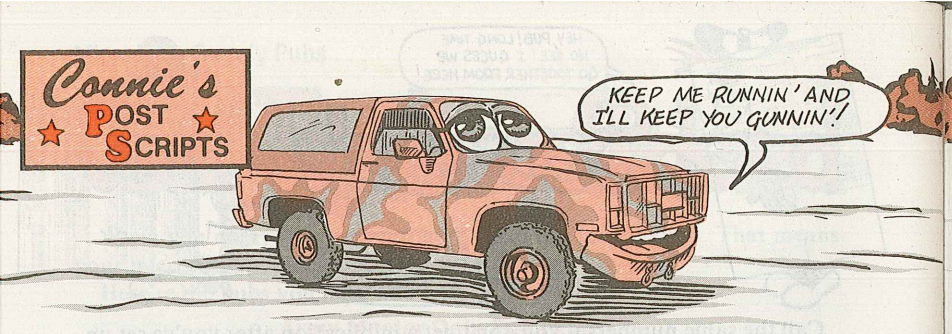
REQUIREMENTS FOR FEDERAL AND DA SUPPLY CATALOG IDENTIFICATION LISTS
For use of this form, see DA Cir 310-85-4; the proponent agency is OACSIM

1. ACCOUNT NUMBER	2. DATE	3. TYPE OF SUBMISSION a. ☐ INITIAL b. ☐ CHANGE
4. FROM: *(Include 9-Digit ZIP Code)*	5. THRU: *(Include 9-Digit ZIP Code)*	6. TO: Commander USA Publications Center 2800 Eastern Blvd Baltimore, MD 21220-2896

PUBLICATION	BLOCK	PUBLICATION	BLOCK
Ir...	8)		
Ir... Ammunition Codes, H3-... Vol 9)	9)		

DA Form 12-21-R

Check out DA Pam 310-1 for SB's, SC's and other publications you need to keep your unit in parts and supplies. Get your pubs clerk to order them for you.



FRH Is Safe to Use

The good news is, Fire Resistant Hydraulic Fluid MIL-H-46170B (FRH) is safe to use when proper personal protective measures are taken.

Warning labels on cans of FRH and, soon, on cans of MIL-H-6083 (OHT) are required by OSHA because of the potential inpurity—ortho isomer of tricresyl phosphate (TCP)—which might be present in less than trace amounts.

Therefore, FRH is safe to use with proper protection equipment—gloves, clothing, etc.—and good hygiene practices to prevent inhalation, ingestion, or contact with the skin.

Natick Hotline

Got a question or supply problem with food, clothing, individual equipment, tentage or rigid wall shelters? Call the Natick Research, Development and Engineering Center hotline at AUTOVON 256-5341.

Small Arms PMCS

All small arms PMCS—except Before/During/After PMCS—have been moved to quarterly. That's the word from AMCCOM for all small arms up to and including .50 cal machine guns. Where your TM says weekly or monthly, quarterly PMCS will do. . .unless you spot corrosion on a weapon. Then immediately pull PMCS.

PP-1578 Adapter

The NATO adapter for you radiac detector charger is NSN 6665-01-077-2986. It's shown on Page 3 of TB Sig 226-8.

M88A1 Toggle Switch

Use NSN 5930-01-034-6586 to get the accessories panel generator cutout toggle switch. The NSN shown for Item 1 of Fig 62 in Change 4 to TM 9-2350-256-20P is wrong.

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

Armament Quarterlies

That TACOM message (AMSTA-MCA 242100Z Jan 85) doing away with quarterly services applies only to the chassis or hull portion of combat vehicles. AMCCOM message AMSMC-MAL 271300Z Jan 86 reminds owners of the following vehicles that armament quarterlies still apply. The vehicles affected and the TM's are:

M109A1/A3 SP howitzers (TM 9-2350-217-20N)

M109A2 SP howitzers (TM 2350-303-20-2)

M578 recovery vehicles (TM 9-2350-238-20)

M110A2 SP howitzers (TM 9-2350-304-20)

Microfiche Case

Forcing the lid closed on a portable microfiche reader bends or breaks the lens and lamp head—even dents or scratches the viewing screen.

So back off with the muscle.

Make sure pencils and other items are taken out of the head's storage space before shutting the reader case.

When you lock the latches, snug 'em to the case. A loose latch will get banged, bent or broken.

M198—Brakeless?

We blew it on Page 13 in PS 398 when we said that both the M198 howitzer and its prime mover would be without brakes if the brake hose on the gun were pinched and leaked. Just the howitzer would be brakeless, since the line is a hydraulic line, not an air line. At any rate, be real careful towing an M198 and make sure you've got enough air pressure (at least 65 PSI) in the prime mover to release the gun's brakes any time you're in motion.

HOTLINE Change

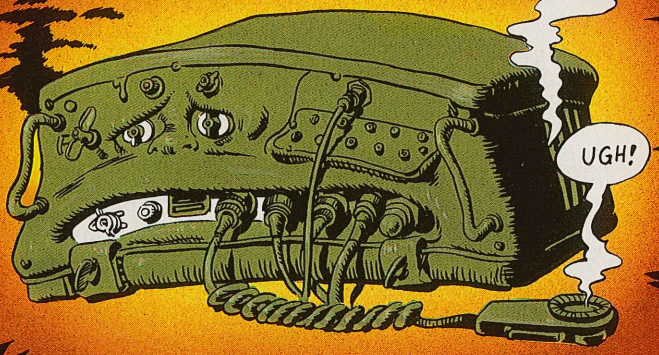
The folks at Letterkenny Army Depot have changed their hotline number to AUTOVON 570-9693, Commercial (717) 267-9693. They handle calls for all howitzers, M578, FAAR, FADAC, ground guidance and shop/test equipment for I-HAWK and Nike-Hercules.

22BM Crane

You can get a complete boom stop for your 22BM crane with NSN 3815-00-111-6646. This is the "next higher assembly" that the SMR code for Item 3 of Fig 50 of TM 5-3810-289-20P refers to. The stop is useable on either side.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1986—646-008/40006

PLEASE



TURN OFF
YOUR RADIO
SETS BEFORE
YOU START
UP YOUR
ENGINE

SAY AGAIN ??

...AND TURN OFF YOUR RADIOS
BEFORE YOU TURN OFF YOUR ENGINE!