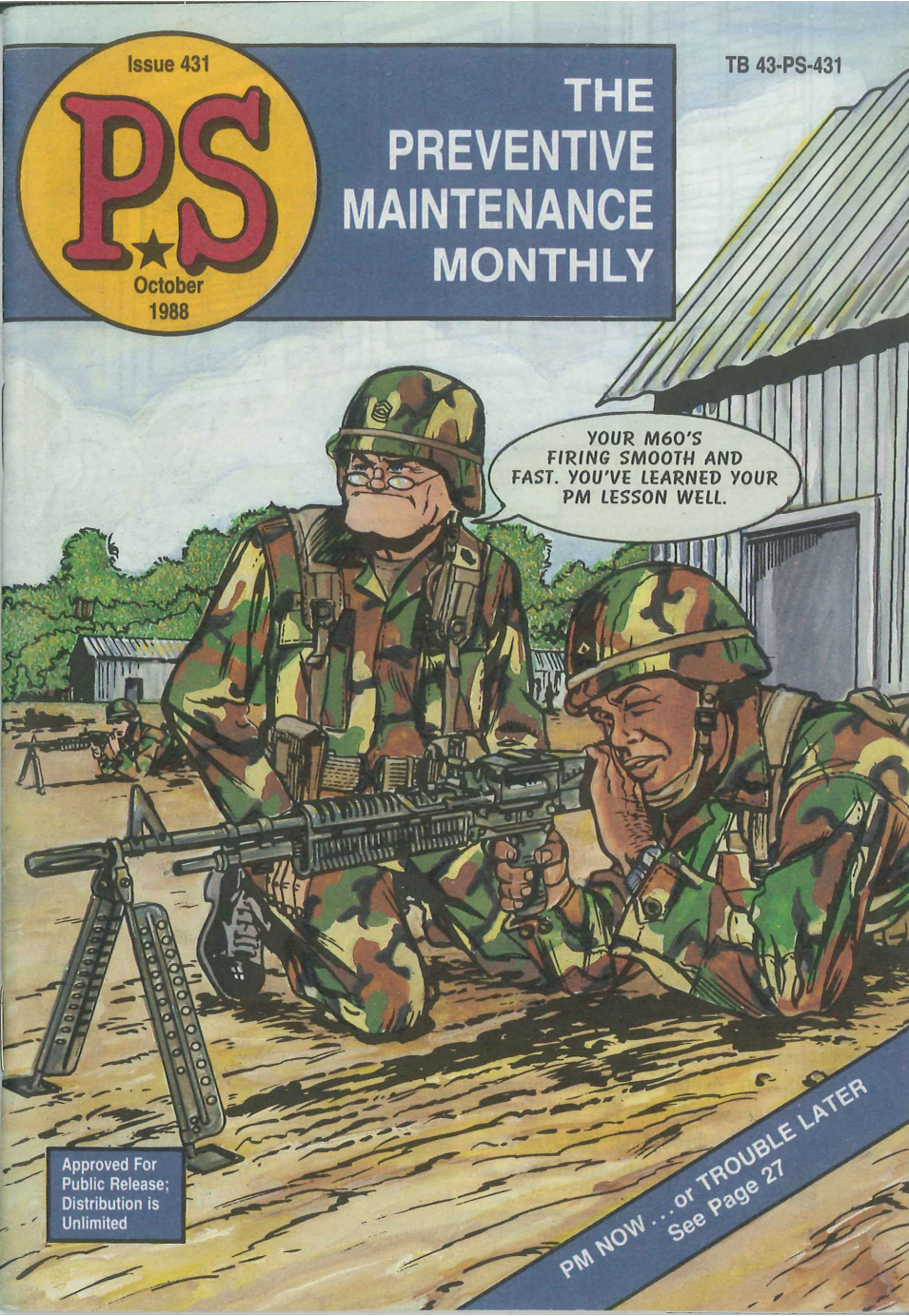
Issue 431

PS

October 1988

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-431



PM NOW . . . or TROUBLE LATER

See Page 27

LAO's the WAY TO GO

When you get snagged on a maintenance or supply problem, help is as close as your telephone.

Your local Logistic Assistance Office (LAO) of the US Army Materiel Command is staffed with Logistic Assistance Representatives (LAR's) who can help you solve most maintenance and supply problems.

These LAR's are on-site troubleshooters for the equipment managers. If they don't have the answers you're looking for, they know where to get them. They have hotlines to the equipment engineers, depots and pubs people.

If you're not already acquainted with your local LAO or know how to contact them, check out Table J-2 of DA Pam 738-750 in the latest Maintenance Management UPDATE. It's a list of all LAO's throughout the Army and includes their location, address and phone numbers.

PS THE **PREVENTIVE MAINTENANCE** MONTHLY

TB 43-PS-431, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

ISSUE 431 OCTOBER 1988

You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems, questions or comments on material published in PS. Just write to:

MSG Half-Mast
The Preventive Maintenance Monthly
Lexington, KY 40511-5101

By Order of the Secretary of the Army:

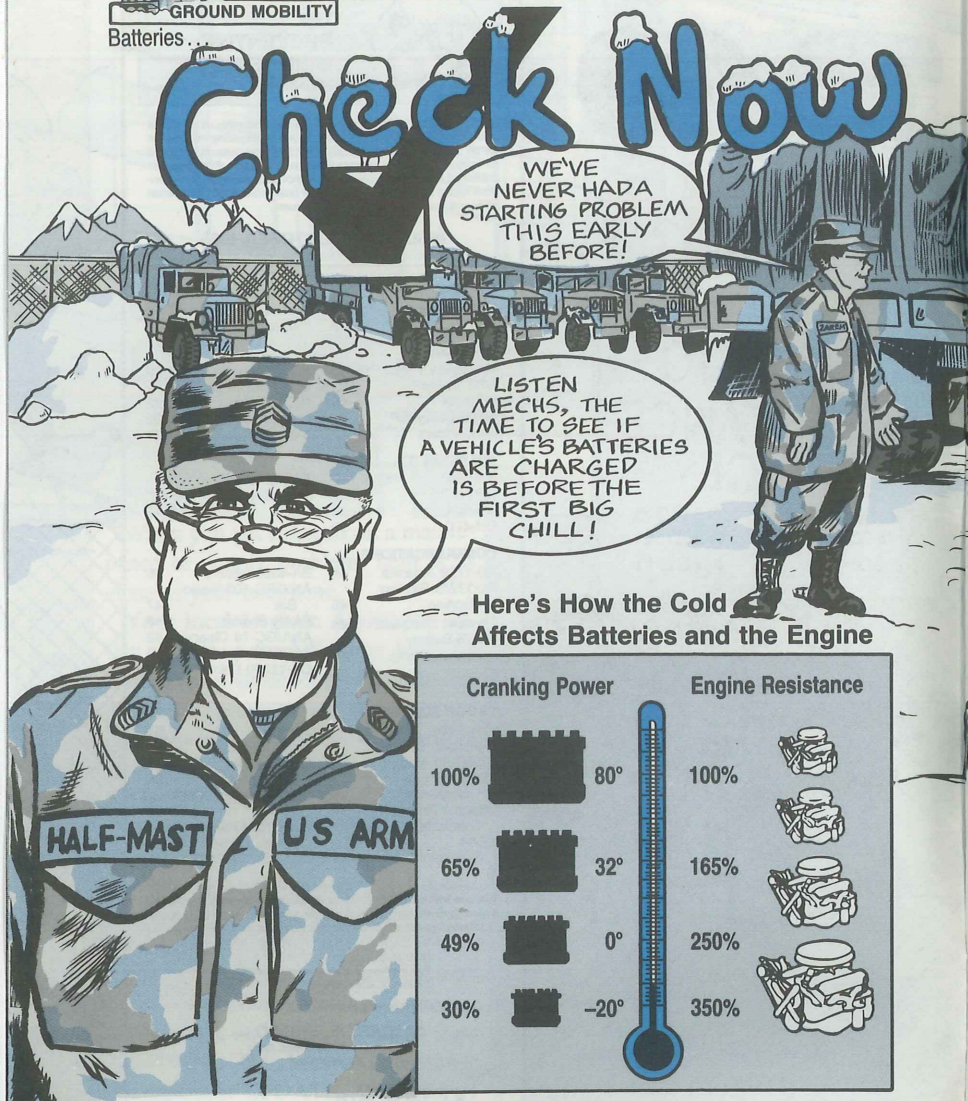
CARL E. VUONO
General, United States Army
Chief of Staff

Official:

R.L. DILWORTH
Brigadier General, United States Army
The Adjutant General

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Washington, D.C. Second Class Postage is paid at the Lexington, KY post office and at additional mailing offices.
Postmaster: Send address changes to Cdr. US Army Pubs Ctr, 2800 Eastern Blvd, Baltimore, MD 21220-2896.

Check Now Start Later



Here's How the Cold Affects Batteries and the Engine

Cold temps sap battery strength faster than Kryptonite works on Superman. For example, a fully charged battery has only 65 percent of its cranking power at 32°F. That drops to 40 percent when the mercury hits 0°F.

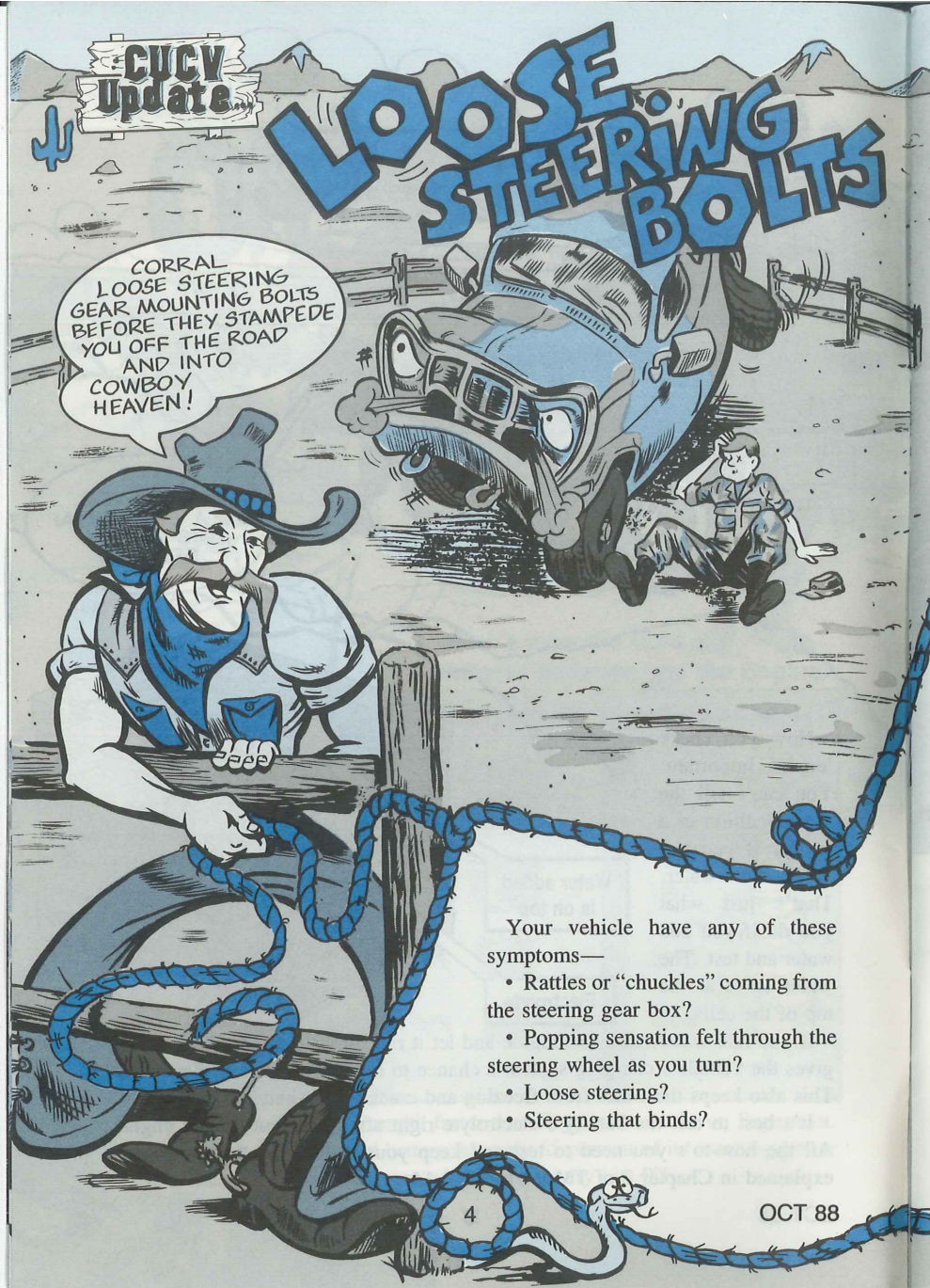
How you check 'em is important. You can't tell the true condition of a battery if you test only the water. That's just what you do if you add water and test. The water stays at the top of the cells.

If you add water, start the engine and let it run for at least 15 minutes. This gives the vehicle's charging system a chance to mix the water and electrolyte. This also keeps the water from freezing and cracking the battery.

It's best to test the battery's electrolyte right after you shut off the engine. All the how-to's you need to test and keep your batteries in full charge are explained in Chapter 3 of TM 9-6140-200-14.

CUCV Update

LOOSE STEERING BOLTS



Your vehicle have any of these symptoms—

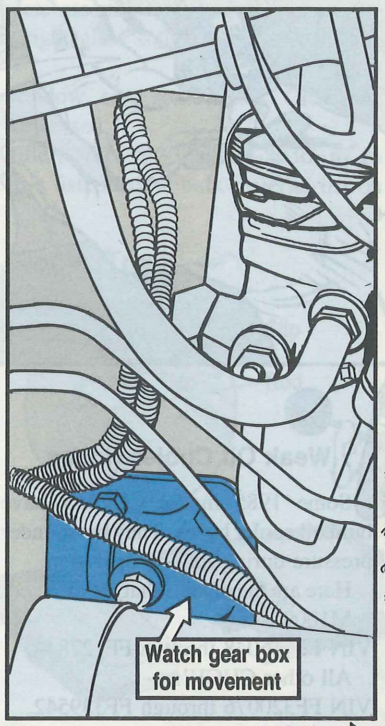
- Rattles or "chuckles" coming from the steering gear box?
- Popping sensation felt through the steering wheel as you turn?
- Loose steering?
- Steering that binds?

If so, it could be the beginning of a herd of problems, such as bolts dropping out and the steering gear separating from the frame . . . ruptured hydraulic hoses . . . or loss of steering power assist and brake assist.

The stakes are high, so don't gamble. Take a minute to check for a loose steering gear mounting before you hit the trail. Here's what to do:

- Set the parking brake.
- Start your vehicle and leave the transmission in PARK.
- Get one of your partners to turn the steering wheel back and forth while the engine's running.
- Look down on the top of the steering gear box. Watch for movement.

See any? Get your mechanic to torque the mounting bolts to 75 lb-ft. This is different than the torque shown in Table 2-5 of TM 9-2320-289-20. The new torque's in TACOM Msg AMSTA-MTA 081345Z Mar 88. Get a copy from your TACOM LAR.



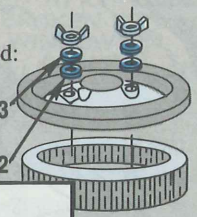
Air Cleaner Washer NSN

Need to order a replacement air cleaner mounting stud washer?

The single rubber-and-steel washer that came on the CUCV has been replaced by a rubber washer and a steel washer. And the rubber washer, Item 1 in Fig 12 of TM 9-2320-289-20P, is too small.

Here's what you need:

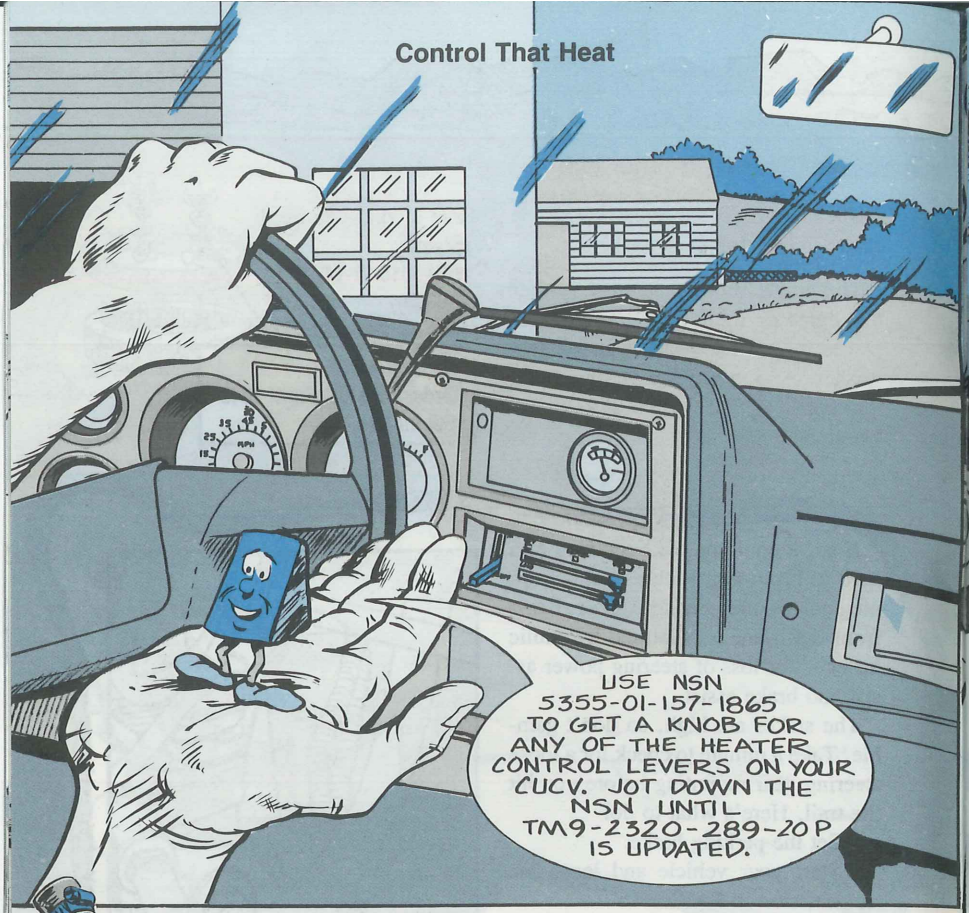
(Steel)
NSN 5310-01-147-8743
(Rubber)
***NSN 5310-00-772-6982**



***Not on AMDF**
Order on a DD Form 1348-6
S9I for 99¢

P.S MORE

Control That Heat



Weak Oil Cooler Hoses

Some 1985 model CUCV's have bum oil cooler hoses. They burst under pressure during routine operation.

Here are the models that are affected:

M1009's—

VIN FF115048 through FF127844.

All other CUCV's—

VIN FF320076 through FF339542.

If your vehicle's VIN is in this list, do this:

- Eyeball the date code stamped on the hose. If it's 2654, replace the hose.
- Also, replace any oil cooler hose with an unreadable date code or with no date code stamped on it.

You'll find more on this in TACOM Msg AMSTA-MTA 211300Z Mar 88. If you don't have a copy, see your TACOM LAR or write to MSG Half-Mast.

Vent Glass Saves $$$

The glass is not shown with the complete assemblies in Figure 122 in TM 9-2320-289-20P. Instead, you'll find the right glass shown as Item 2 and the left as Item 4 in Figure 137.

So next time you have a broken vent window, save some bucks. Order just the glass if the rest of the assembly can be reused.

You'll also need some glass channel filler, NSN 5330-00-753-8036, to go between the glass and the metal frame. It's listed in the bulk material list on Page 2-409 of the -20P.

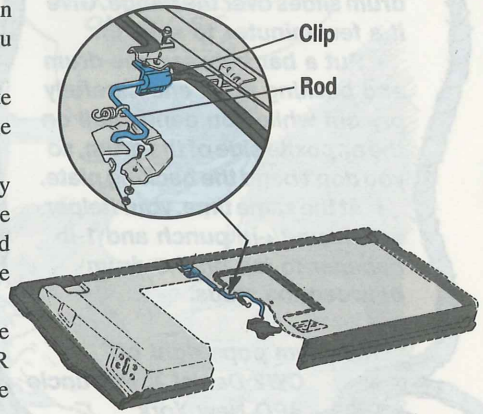
Keep Tailgate Latch on Track

The guide clip on the blockout rod on the M1009 tailgate comes loose and you can't unlatch and lower the tailgate.

If you get a vehicle with a tailgate that won't unlatch, take a look at the blockout rod and clip.

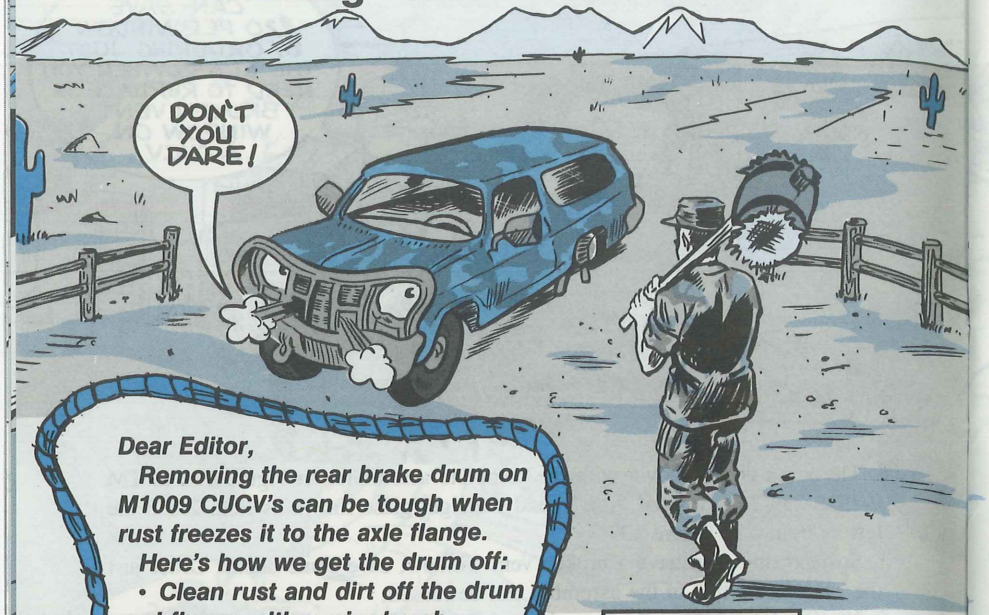
Move the rod. It should slide freely through the clip. Bends can put side force on the clip, loosening it, and keeping the rod from unlatching the tailgate.

Also, straighten the rod to remove side forces. You can also use WTR grease to lube the rod and other tailgate latch parts.



(P.S.) MORE

Freeing Frozen Brake Drums



Dear Editor,

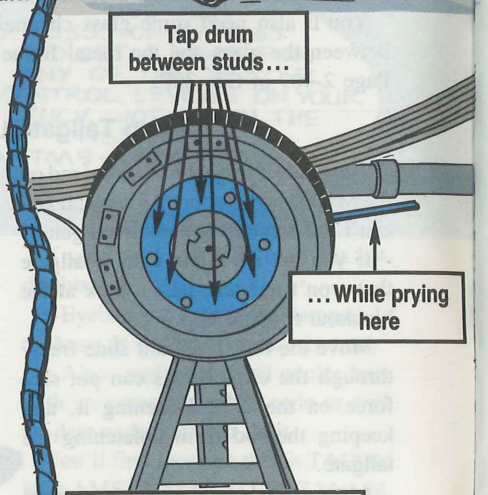
Removing the rear brake drum on M1009 CUCV's can be tough when rust freezes it to the axle flange.

Here's how we get the drum off:

- *Clean rust and dirt off the drum and flange with a wire brush.*
- *File off any burrs on the flange.*
- *Squirt penetrating oil, NSN 6850-00-973-9091, where the drum slides over the flange. Give it a few minutes to soak in.*
- *Put a bar between the drum and backing plate and carefully pry out while you gently pull on the opposite side of the drum, so you don't bend the backing plate.*
- *At the same time, your helper will use a ¼-in punch and 1-lb hammer to tap on the drum between the studs.*

The drum pops right off!

CW2 Daniel T. Petruncio
APO New York



Editor's Note:
Thanks for the tip.

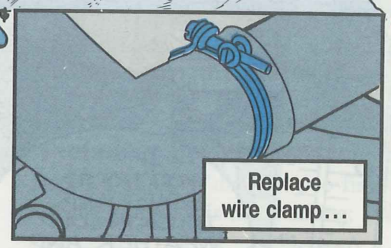
PS END

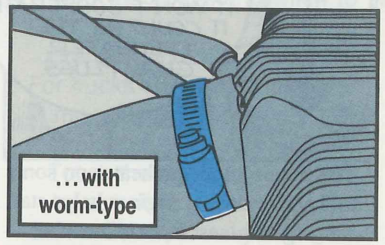
Clamp Change Prevents...

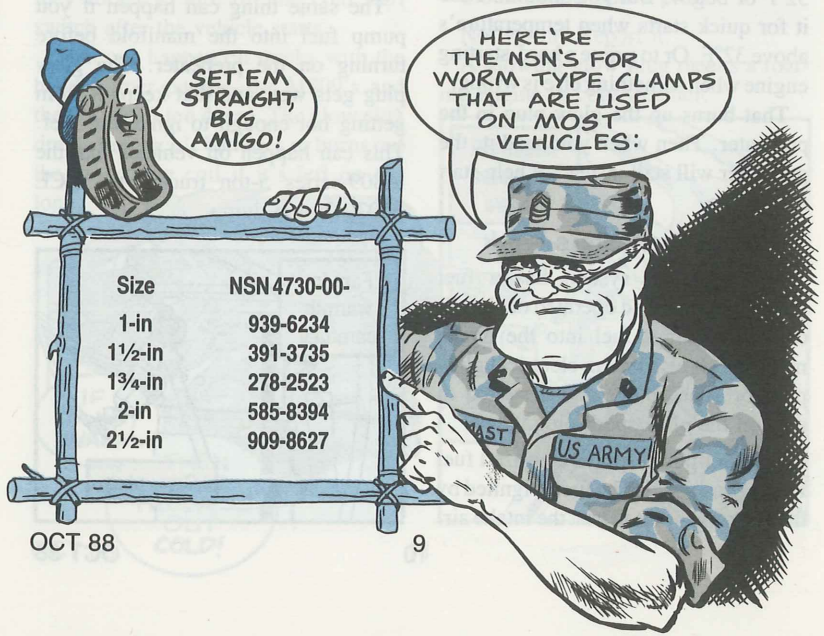
HOSE LEAKS

A leaky radiator hose can rain on any mechanic's parade. Leaks can be avoided if you replace the wire hose clamp used on many vehicles with a worm-type clamp any time you pull off a hose.

A wire clamp should be used only once on a radiator hose. It leaves deep grooves in the hose and it's hard to get back on tight enough to hold. The worm-type is wider and can be tightened so the hose won't leak.

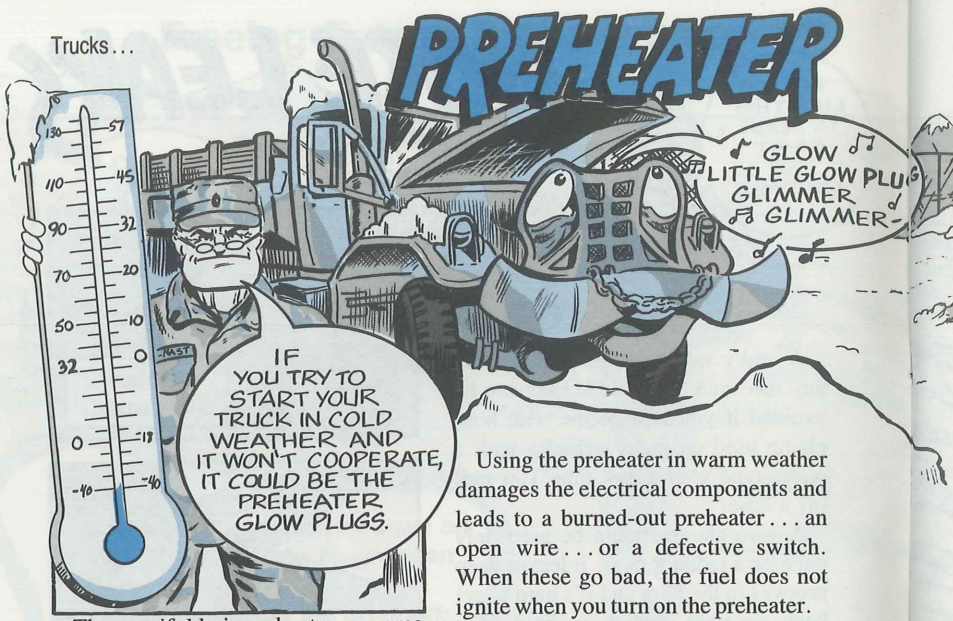






Size	NSN 4730-00-
1-in	939-6234
1½-in	391-3735
1¾-in	278-2523
2-in	585-8394
2½-in	909-8627

PREHEATER



The manifold air preheater on some diesel and multifuel engines helps start those big engines in cold weather—32°F or below. But you shouldn't use it for quick starts when temperature's above 32°F. Or to prime a hard-starting engine when something else is wrong.

That burns up the glow plug in the preheater. Then when you need it, the preheater will stall instead of help start the engine.

How Preheaters Work

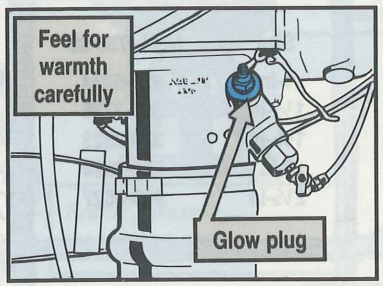
The preheater system has a fuel pump—either hand operated or electrical—that pumps fuel into the intake manifold. It also has an electrical glow plug or spark plug, and a switch to turn on the glow/spark plug.

The fuel pump sprays atomized fuel into the manifold. The fuel is ignited by the plug and burns to heat the intake air.

Using the preheater in warm weather damages the electrical components and leads to a burned-out preheater . . . an open wire . . . or a defective switch. When these go bad, the fuel does not ignite when you turn on the preheater.

Raw fuel gets in the cylinders and makes the engine hard to start, and can cause hydrostatic lock.

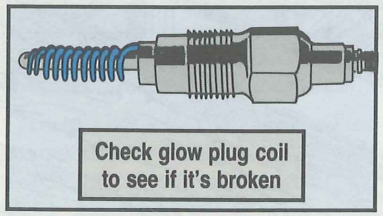
The same thing can happen if you pump fuel into the manifold before turning on the preheater. The glow plug gets wet, and that keeps it from getting hot enough to ignite the fuel. This can happen on vehicles like the M809-series 5-ton trucks, the CCE F5070 20-ton dump.



USE AND ABUSE!

Glow Plugs

The preheater glow plug will drain the batteries if the glow plug is left on too long.



Some drivers turn on the cold start switch but forget the primer pump. Or, they forget to turn off the cold start switch after the vehicle starts.

This can happen on trucks with the hand primer pump—the M809's and the F5070 20-ton dump. The glow plug drains the truck's batteries or burns out the glow plug coil if it's left on too long.

Preheater System Check

Here's a quick 'n 'dirty way to find out if the preheater is not working:

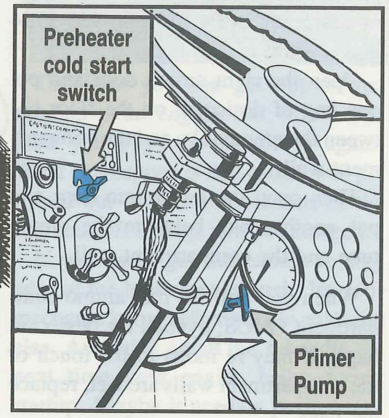
Turn the cold-start switch to ON.

Preheat about 30 seconds. For trucks with the hand primer pump, give the pump only 1 or 2 strokes.

Touch the manifold—carefully—to see if it gets warm. On Gama Goats, touch the engine block at the spark plug.

Not warm? Report it.

A glowing glow plug means a roaring engine in cold weather.



Keep On-board Ammo Dry

Humidity in the hull ammo compartment means rust and corrosion for on-board ammo, whether your M1 stays uploaded all the time or only during exercises.

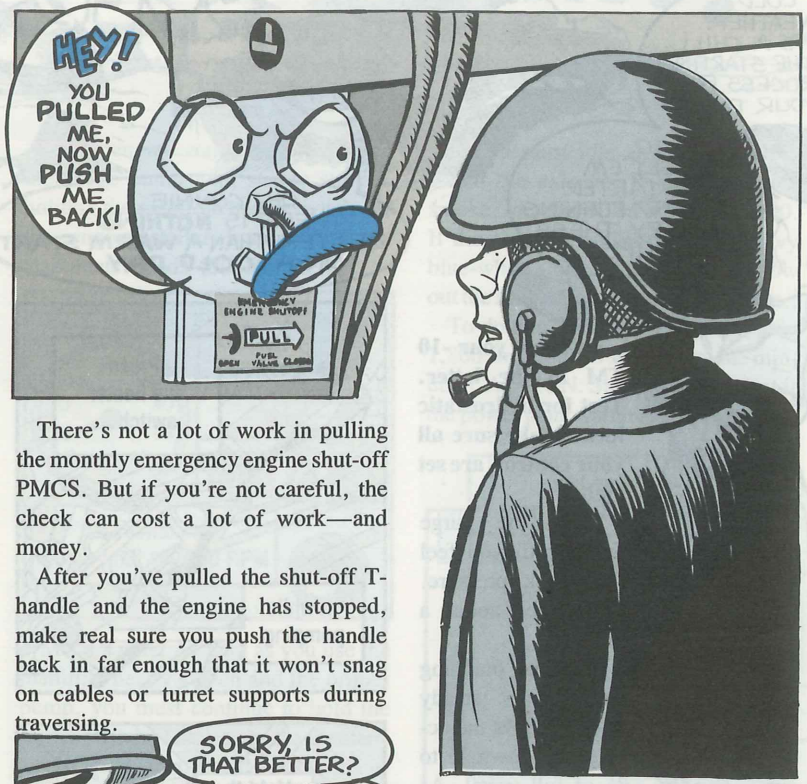
You can help stop rust and corrosion by cleaning and drying the ammo compartment, then adding a couple of bags of desiccant. NSN 6850-00-935-9794 gets a drum of 240 bags.

Open the right ammo door and put one bag of desiccant on the floor between the ammo tube and the compartment wall.

Then open the left ammo door and put another bag between the ammo tube and the compartment wall.

When you pull the hull ammo compartment PMCS, eyeball the desiccant bags. If they're moist to the touch or the compartment walls are wet, replace the bags.

Push Fuel Handle After Pulling



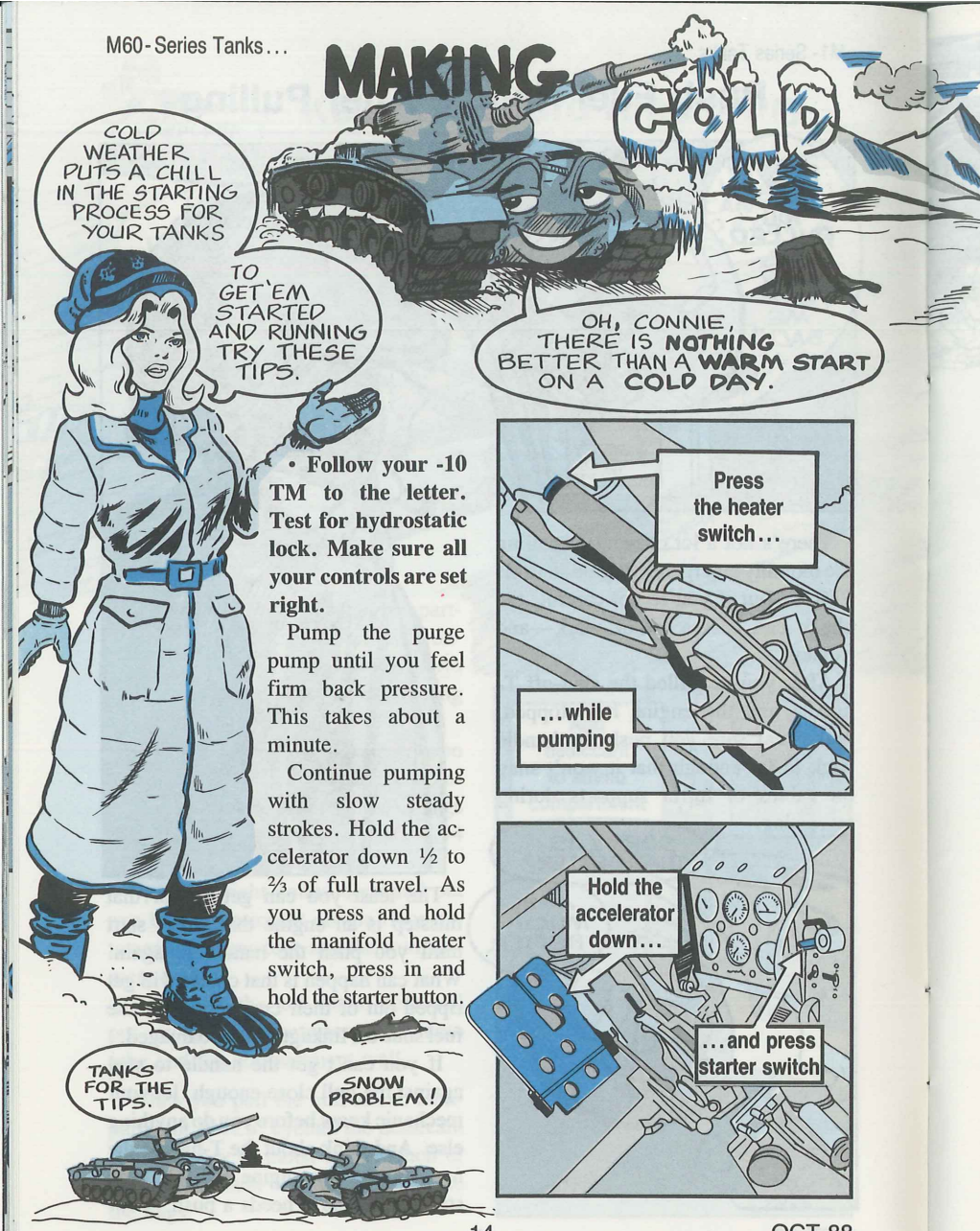
There's not a lot of work in pulling the monthly emergency engine shut-off PMCS. But if you're not careful, the check can cost a lot of work—and money.

After you've pulled the shut-off T-handle and the engine has stopped, make real sure you push the handle back in far enough that it won't snag on cables or turret supports during traversing.

The least you can get out of that misstep is an engine that won't start until you push the handle in again. What can happen is that cables will get ripped out of their connections or the fuel shut-off linkage will be damaged.

If you can't get the handle to stay against the hull close enough, let your mechanic know before you do anything else. And think about the T-handle the next time your engine balks during startup. Maybe it needs a push.

MAKING COLD STARTS RIGHT!

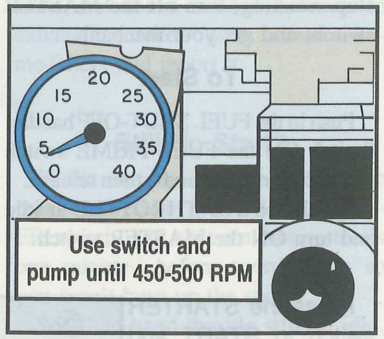


• **Follow your -10 TM to the letter. Test for hydrostatic lock. Make sure all your controls are set right.**

Pump the purge pump until you feel firm back pressure. This takes about a minute.

Continue pumping with slow steady strokes. Hold the accelerator down ½ to ⅔ of full travel. As you press and hold the manifold heater switch, press in and hold the starter button.

If the engine starts, keep pumping the purge pump with steady strokes, holding the manifold heater switch and the engine starter button until the tachometer reads 450–500 RPM.



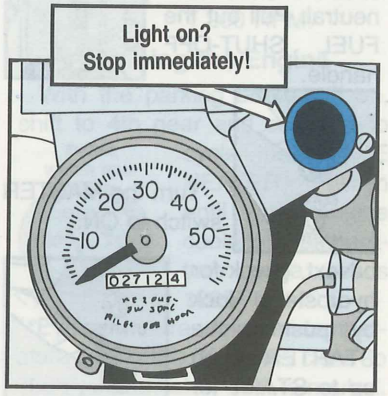
Make a note: As long as you use the manifold heater switch and the primer pump, you must continue to hold the starter switch. That's because the starter electrical circuit controls the manifold heater's current.

Once the engine is running smoothly at about 700 RPM, stop pumping. Release the heater manifold switch and starter button, and increase RPM to 1,000–1,200 for the warmup period.

During warmup and afterward, don't idle at less than 700 RPM. Low-RPM idling causes engine cooling, not heating. When you idle your engine for long periods, use high idle—1,500–1,600 RPM.

If you must idle at a lower speed, watch the exhaust. If you see white smoke, increase RPM to 1,500–1,600. If the engine misfires or blows heavy blue-white smoke, you'll have to blow out the induction and exhaust systems.

To do that, increase RPM to 1,600–1,800 for about 30 seconds to one minute. CAUTION: Stop the engine fast if the power plant warning light comes on.



If the engine won't start, stop cranking after 15 seconds. Wait 3–5 minutes and try again. If it still won't start, don't grind away on the starter. It'll burn up and you don't need that problem.

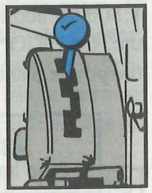
Follow the troubleshooting procedures in the -10 TM to get the tank started. If that doesn't work, call your mechanic.

COLD STARTS

Hard starts in cold weather are part of life with M109-series howitzers. Following the good words in TM 9-2350-311-10 helps, but it's not enough.

Here's exactly how to make a cold start:

First, set the parking brake and shift the transmission to neutral. Pull out the FUEL SHUT-OFF handle.



Turn the MASTER switch to ON.

Next, check for hydrostatic lock by pushing the STARTER switch up to START for a couple of seconds, then release it.

Repeat a couple of times while checking for symptoms of hydrostatic lock:

- The engine starts to turn over, then stops or binds
- The starter makes a clicking noise

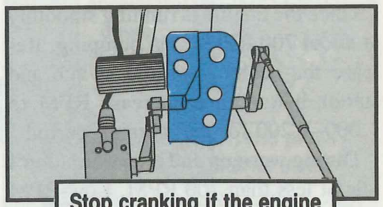
If you think the engine is locked, stop cranking, turn off the MASTER switch, and get your mechanic.

To Start

Push in the FUEL SHUT-OFF handle. Switch ON the FUEL PRIME switch and hold for 45 seconds, then release.

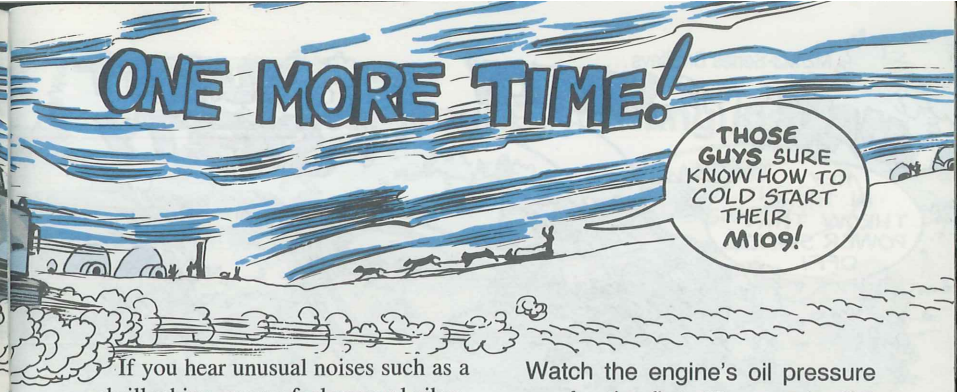
Set the HAND THROTTLE at idle and turn ON the MASTER switch.

Press the STARTER switch to START and the FLAME HEATER switch to ON at the same time for about 30 seconds. (Never run the starter longer than 30 seconds.)



Stop cranking if the engine starts. Do not depress or pump the foot throttle while trying to start.

ONE MORE TIME!



If you hear unusual noises such as a shrill whine, or you feel unusual vibrations and see a sudden increase in exhaust smoke, shut down immediately and report it.

Still No Start?

If the engine doesn't start, stop cranking, release the FLAME HEATER switch, and wait a minute—that's one minute—before trying again so you won't burn up the starter.

With the hand throttle still on idle, press the STARTER switch and cycle the FLAME HEATER switch ON for 10 seconds and OFF for 3–4 seconds. Don't use the foot throttle.

If the engine doesn't start, wait a minute and try again. Repeat this step two more times, waiting at least one minute between each attempt.

If the engine doesn't start after four attempts, call in your mechanic. Don't make more than four tries, even in good weather. You'll run down your batteries and burn up the starter.

After It's Running

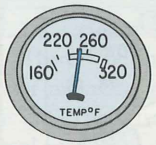
When the engine starts, release the switches.

Watch the engine's oil pressure gage for the first 15 seconds. If it doesn't come up to 5–30 PSI at 550–600 RPM, stop the engine—NOW!—and report it. But, if the oil pressure's OK, set the hand throttle for 1,200 RPM.

Warming the Engine

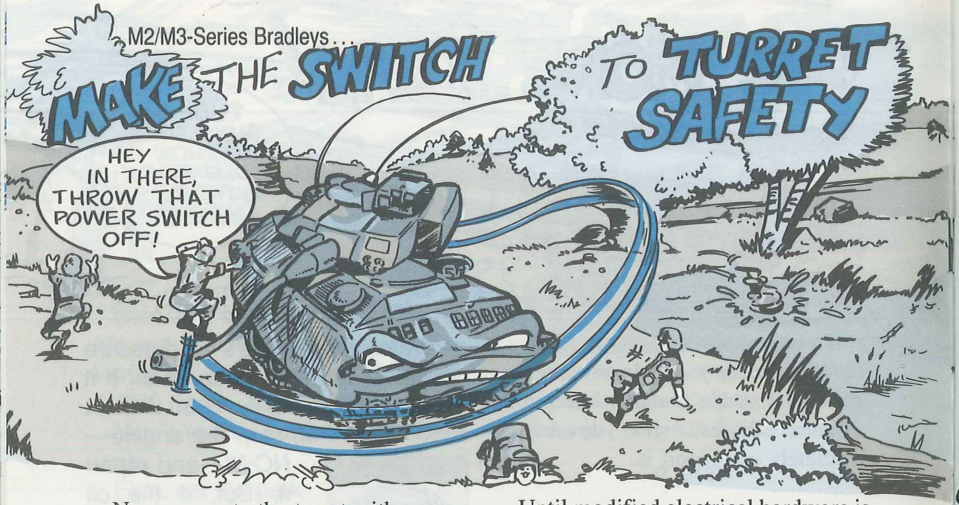
With the parking brake still on, shift to 4th gear and continue to cycle the FLAME HEATER switch until the engine coolant temperature gage reads 120°F to 140°F.

Eyeball the transmission temperature gage, tho. If it gets close to 300°F, immediately shift to neutral. When the transmission temperature goes back to 220°F to 240°F, shift to 4th gear again. Then continue to warm up the engine.



TEMP
TRANSMISSION OIL

Shift into neutral and set the hand throttle back to IDLE. You're good to go.



Never operate the turret with power when the turret relay box circuit breaker switch is OFF.

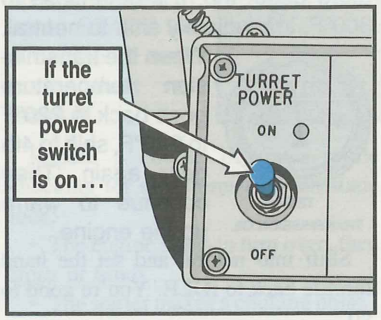
When that switch is OFF, the deck clearance system is shut down.

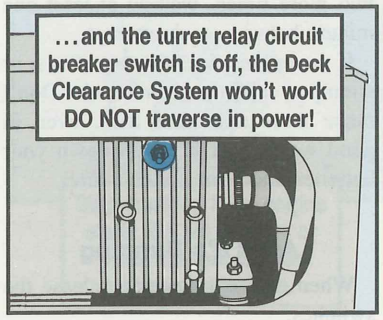
Rotating the turret then would mean the gun barrel could hit the rear deck, or hit an open hatch or a soldier "heads out" of an open hatch. The TOW launcher could hit an opened cargo hatch.

At the least, you'd have equipment damage; at the worst, someone would be injured.

Until modified electrical hardware is installed in your Bradleys, do not use the turret in the power mode when the circuit breaker switch is OFF. Rotate the turret with manual controls, raising the gun as needed to clear hatches or the deck.

For more information, contact your local AMCCOM Logistic Assistance Representative for a copy of AMCCOM Msg AMSMC-MA 221530Z Jan 88.



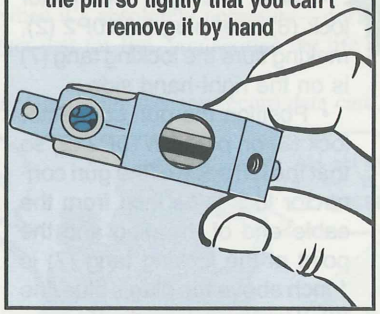


Coax Rear Mount Pin Hangups

A good lick with something heavy has been known to make balky gear work right, but don't try it on the rear mount pin on your Bradley's coax machine gun.

If that pin won't stay in place just by pushing it up, as described on Page 3-101 of TM 9-2350-252-10-2, leave the heavy hand off

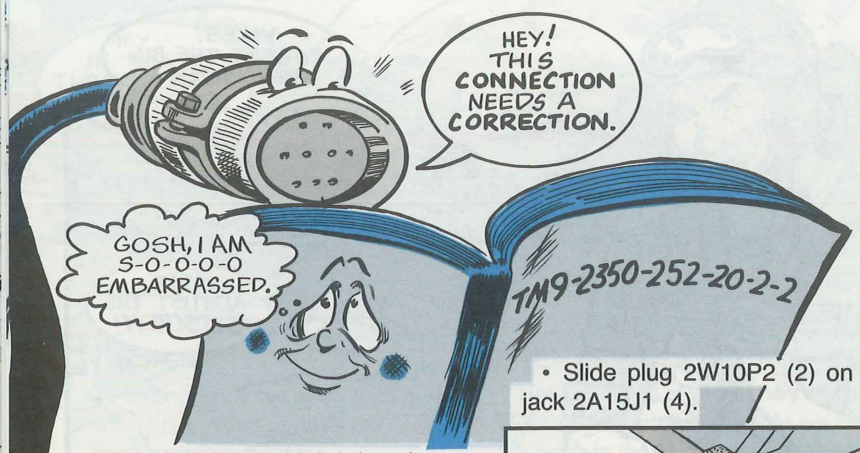
Instead, adjust the setscrew in the mount. Tighten the setscrew just enough to hold the pin. Don't jam the pin so tightly that you can't remove it by hand



There's not much room around the rear mount to get at the pin to punch it out. The setscrew's so soft it strips real easy. You don't need this trouble, so avoid it.

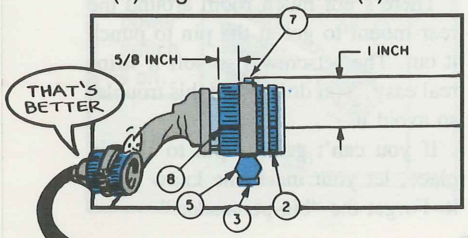
If you can't get the pin to stay in place, let your mechanic know about it. Forget the "big persuader."

Locking In the M242 Connection

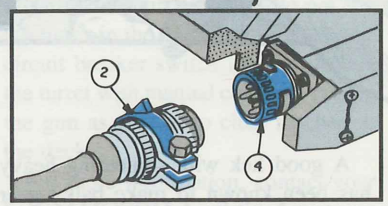


TM 9-2350-252-20-2-2 doesn't connect right on installing the M242 automatic gun connector lock. Change Pages 5-185 and 5-186 like so:

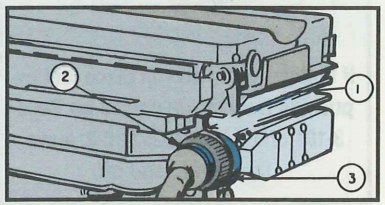
- Slide the gun connector lock (3) over plug 2W10P2 (2), making sure the locking tang (7) is on the right-hand side.
- Position the gun connector lock (3) on plug 2W10P2 (2) so that the left edge of the gun connector lock is 5/8 inch from the cable end of the plug and the point of the locking tang (7) is 1 inch above the plug's blue line (8). Tighten the screw (5).



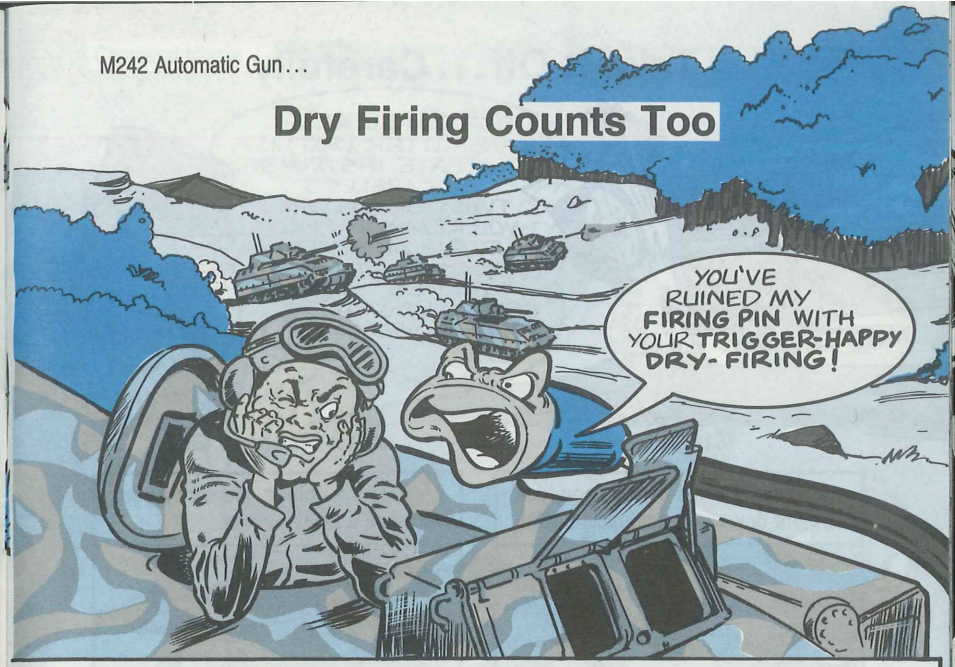
- Slide plug 2W10P2 (2) on jack 2A15J1 (4).



- Rotate plug 2W10P2 (2) and the connector lock (3) clockwise until it's fully seated. The blue line should align with the center line of the drive motor heat sink.
- Lock down the feeder lock handle (1).
- Close the gun cover.
- Install the gun guard.



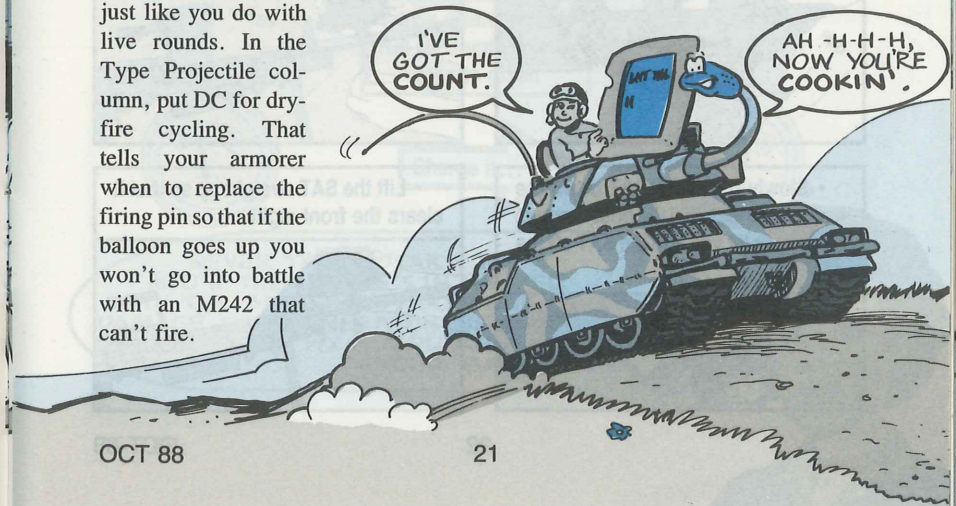
Dry Firing Counts Too



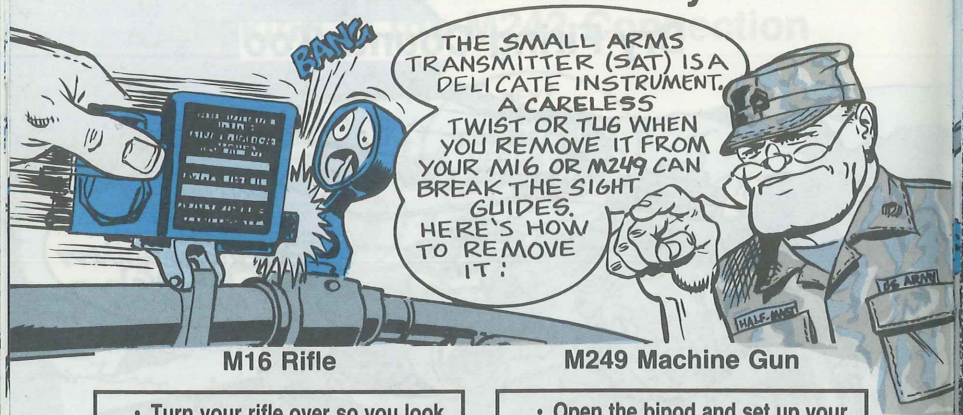
Firing is firing when it comes to keeping track of how many rounds your M242 shoots. Dry firing wears out the firing pin just as much as live firing.

That's why you should dry fire only when it's absolutely necessary—during PMCS and training. If you pull the trigger just for fun, you shorten the life of the firing pin.

Keep track of how many times you dry fire on the weapon record data card, just like you do with live rounds. In the Type Projectile column, put DC for dry-fire cycling. That tells your armorer when to replace the firing pin so that if the balloon goes up you won't go into battle with an M242 that can't fire.

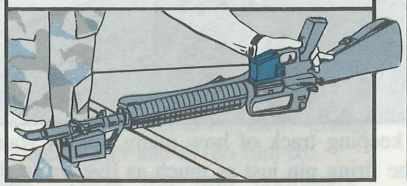


Take It Off... Carefully

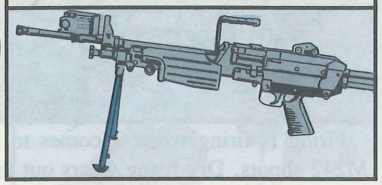


M16 Rifle **M249 Machine Gun**

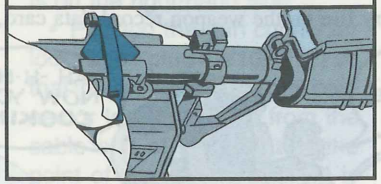
- Turn your rifle over so you look straight down at the magazine well.



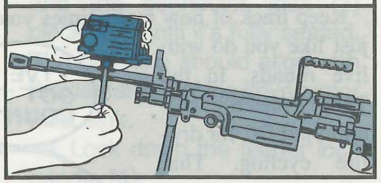
- Open the bipod and set up your M249 on a level surface.



- Release the SAT's diamond-shaped clamp and spring clamp.

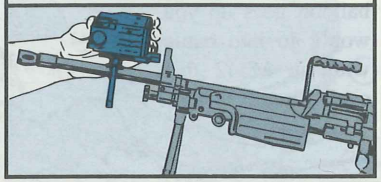


- Release the SAT's diamond-shaped clamp and spring clamp.

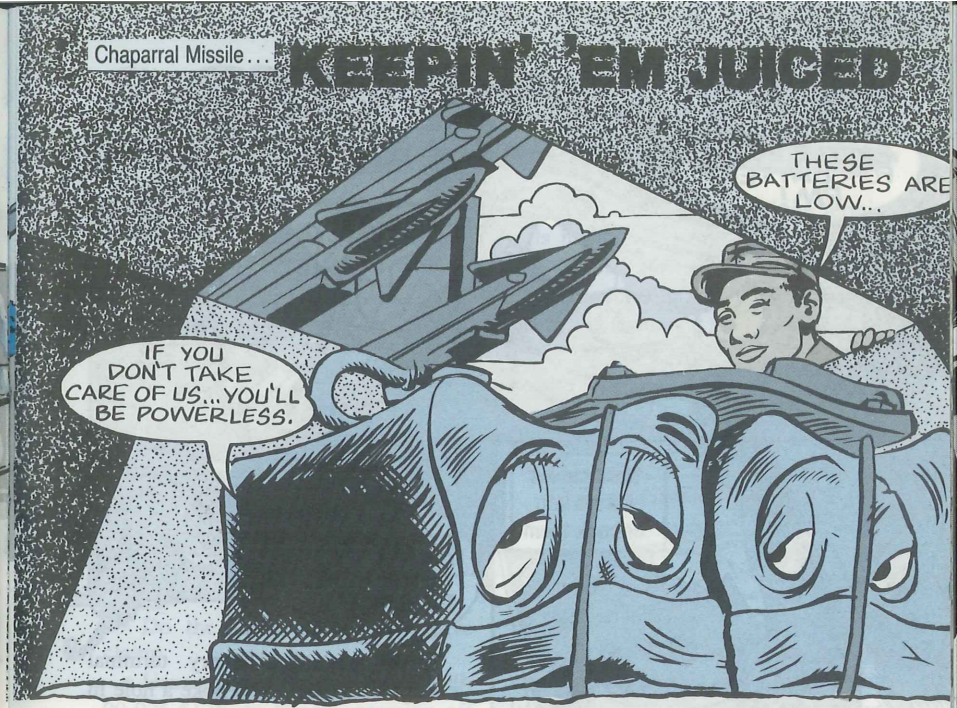


- Slowly move the SAT down the front sight post until the post narrows enough to let you slip the SAT off the post.

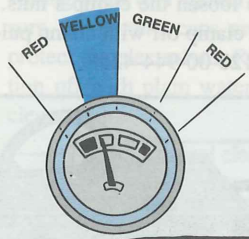
- Lift the SAT straight up so that it clears the front sight.



KEEPIN' 'EM JUICED

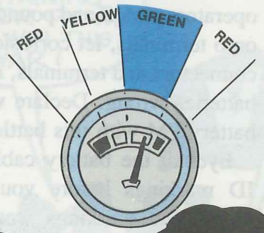


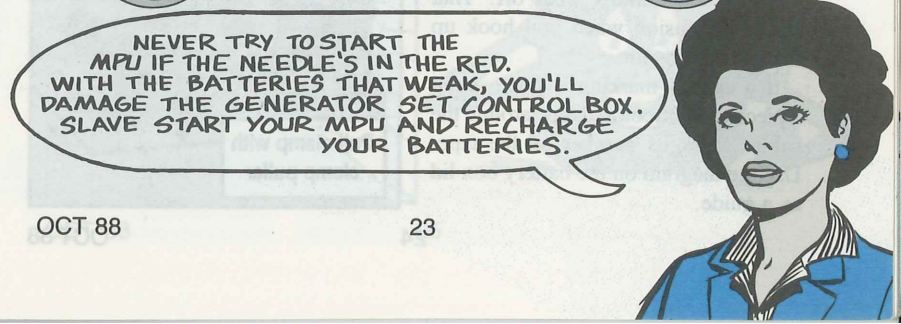
The four launching station batteries run down fast. Daily, when you're operating, turn on the master power switch and eyeball the battery indicator. Once the needle gets to the lower yellow zone, start and run the main power unit (MPU) until the needle goes to the green zone . . . usually 15–30 minutes.

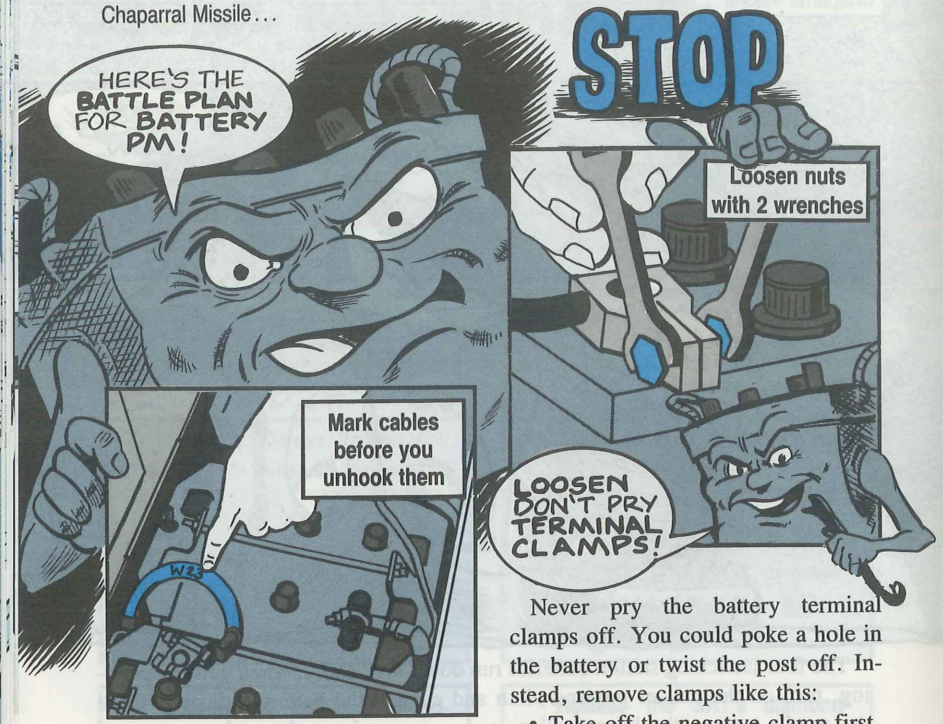


Yellow means time to run MPU until needle goes to green

Charge it...







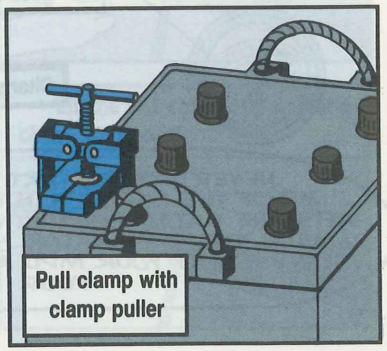
Lots of Chaparral launching station batteries are being killed because operators pry off and pound connectors onto terminals, let corrosion eat away connectors and terminals, and hook up batteries wrong. Declare war on poor battery PM with this battle plan.

Eyeball the battery cables for their ID markings before you disconnect them. The markings wear off. That causes confusion when you hook up the batteries again.

If a cable's marking is gone, wrap a piece of light-colored tape around the cable. Mark its number on the tape. Use the diagram on the battery box lid as a guide.

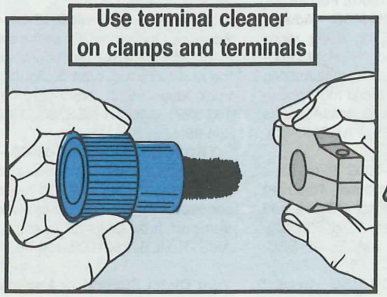
Never pry the battery terminal clamps off. You could poke a hole in the battery or twist the post off. Instead, remove clamps like this:

- Take off the negative clamp first. Use ½-in and 9/16-in open end wrenches to loosen the clamp's nuts.
- Pull the clamp off with clamp puller, NSN 5120-00-944-4268.

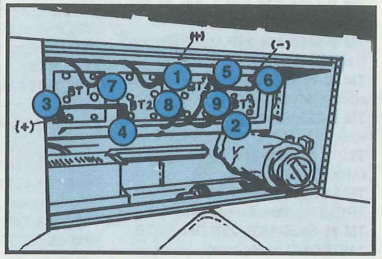


BATTERING BATTERIES!

- Do the same with the positive clamp.
- Use a terminal cleaner, NSN 5120-00-926-5175, to knock corrosion off battery terminals and clamps.
- Clean battery terminals and cable clamps with a solution of ½ pound of baking soda to 1 gallon of water. Be sure the battery caps are on tight to protect the electrolyte. Rinse the solution off with plain water. Dry with a clean cloth.



- Make sure all the positive terminals have lug covers, NSN 5940-00-738-6272.
- Connect the battery cables in the following order:



- Never hammer terminal clamps on. That damages the clamp and terminal. Spread the clamps to make them fit. If you don't have a spreader, your support can make you one from 1-in bar stock.

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 3-4240-323-20&P Apr M14 protective entrance

TM 9-1425-386-10-HR Mar Pershing II missile

TM 9-1425-646-24P-1 Apr MLRS launcher, M270

TM 9-1450-394-24P Mar Pershing II missile system

TM 9-1450-646-24P May MLRS carrier, M993

TM 9-2320-218-1-1 Aug Truck, ¼-ton

TM 9-2350-311-24P-1 May M109A2/A3 howitzer

TM 11-5820-938-12-2 Mar AN/TRQ-37 radio receiver set

TM 11-5820-1020-23P Dec 87 TD-1427(V)1/U multiplexer

TM 11-5895-1376-23P Apr OB-105/MSC-66(V) multiplexer-demultiplexer group

TM 11-6130-471-13&P Apr PU-724B/G static inverter

TM 11-6350-288-12 Dec 87 C-10434/GSQ code programmer

TM 38-L32-14 Jun DS4 users manual

TM 55-1520-237-23-1 AVUM and AVIM wiring data manual for UH-60A/EH-60A

TB 55-1520-238-20-36 May Revision to AH-64A tail rotor swashplate assembly time between overhaul (TBO)

TB 55-1520-240-20-22 May Inspection of CH-47D engine cross shaft assemblies

UPDATE 5-13 Mar All ranks personnel #13

UPDATE 7-14 Jun Enlisted ranks personnel #14

SMART Message

SMART MSG #81—Announces that units can now challenge the inclusion of a repair part on DA Pams 710-2-117 through 710-2-120, Consolidated Mandatory Parts Lists.

AUDIO-VISUAL STUFF
Available at battalion or Post Learning Center

Films, TV Tapes

TVT 9-40 M88A1 recovery vehicle, powered equipment, part 2 (main winch)

TVT 6-116 Start/stop procedures for the AN/TPS-25 radar (is replaced by TVT 6-17)

TVT 6-123 Emplacement of the AN/TPQ-36 radar firefinder AN/TPQ-36 emplacement (is replaced by TVT 6-19)

TVT 6-124 March order of the AN/TPQ-36 radar firefinder AN/TPQ-36 March order (is replaced by TVT 6-18)

TEC Lessons

104-093-7822-F Display system vertical sweep circuits

104-093-7826-F AC circuits

242-301-6702-A Prepare a plot of an oblique aerial photographic mission

242-301-6723-A Determine height graphically on high oblique photography

242-301-6737-A Selecting aerial reconnaissance and surveillance assets

Maintenance & Safety-Of-Use Messages

AMCCOM SOU-MSG—Operational, Items to replace unsafe ladder on Shop Equipment, general purpose repair, semitrailer mounted, LIN T10549 and Shop Equipment, organizational repair, truck mounted, LIN T13152, AMSMC-MA, 021900Z Feb 88.

AMCCOM SOU-MSG—Advisory, Cautions DS on using recoil spring compressor, NSN 4933-00-393-0240, when disassembling tank gun mount recoil mechanism on M60 series tanks, M48A5 tanks and M728 CEV, AMSMC-MA, 081930Z Jun 88.

CECOM SOU-MSG 88-06-02—Mandatory, Operational, Requires antenna tip caps for RC-292 and OE-254 antennas, NSN 5985-00-497-8554, AMSEL-SF-SEC, 231800Z Jun 88.

MICOM SOU-MSG—Inspect MLRS rocket pod before shipment, AMSMI-LC-ME-L, 071800Z Jun 88.

MICOM SOU-MSG—One time inspection of filters, PN10272347, PN10272348 and PN10272349-1 on Patriot, radar set semitrailer mounted, NSN 1430-01-087-6330, AMSMI-LC-AM, 161415Z Jun 88.

TACOM SOU-MSG-88-14—Advisory, Technical/Maintenance, Possible shock hazard on NATO slave cables used on wheeled and tracked tactical vehicles, AMSTA-M, 042000Z May 88.

TACOM SOU-MSG-88-25—Advisory, Operational, Cautions operators of M939/M939A1-series vehicles about putting gear on the parking brake valve lever arm which engages the spring brake while the vehicle is moving, AMSTA-M, 241500Z Jun 88.

TACOM SOU-MSG-88-27—One time inspection of tires on M1009 CUCV, AMSTA-M, 241600Z Jun 88.

TACOM MSG—Follow-on to SOU-MSG-88-27, Retain M1009 CUCV tires at installation for a minimum of an additional 60 days, AMSTA-FHC, 131400Z Jul 88.

TACOM SOU-MSG-88-26—Advisory, Operational, Reports sudden acceleration during operation of non-tactical vehicle (NTV), White-GM tractor w/tilt cab, NSN 2320-01-090-7782, contract DAAE07-87-C-1868, AMSTA-M, 241830Z Jun 88.

TROSCOM MSG-88-21—Maintenance Advisory, Gives fix to allow easier disengagement of the closed circuit refueling nozzle, NSN 4930-01-194-2625, part of the forward area refueling (FARE), from aircraft, AMSTR-MES, 172100Z Jun 88.

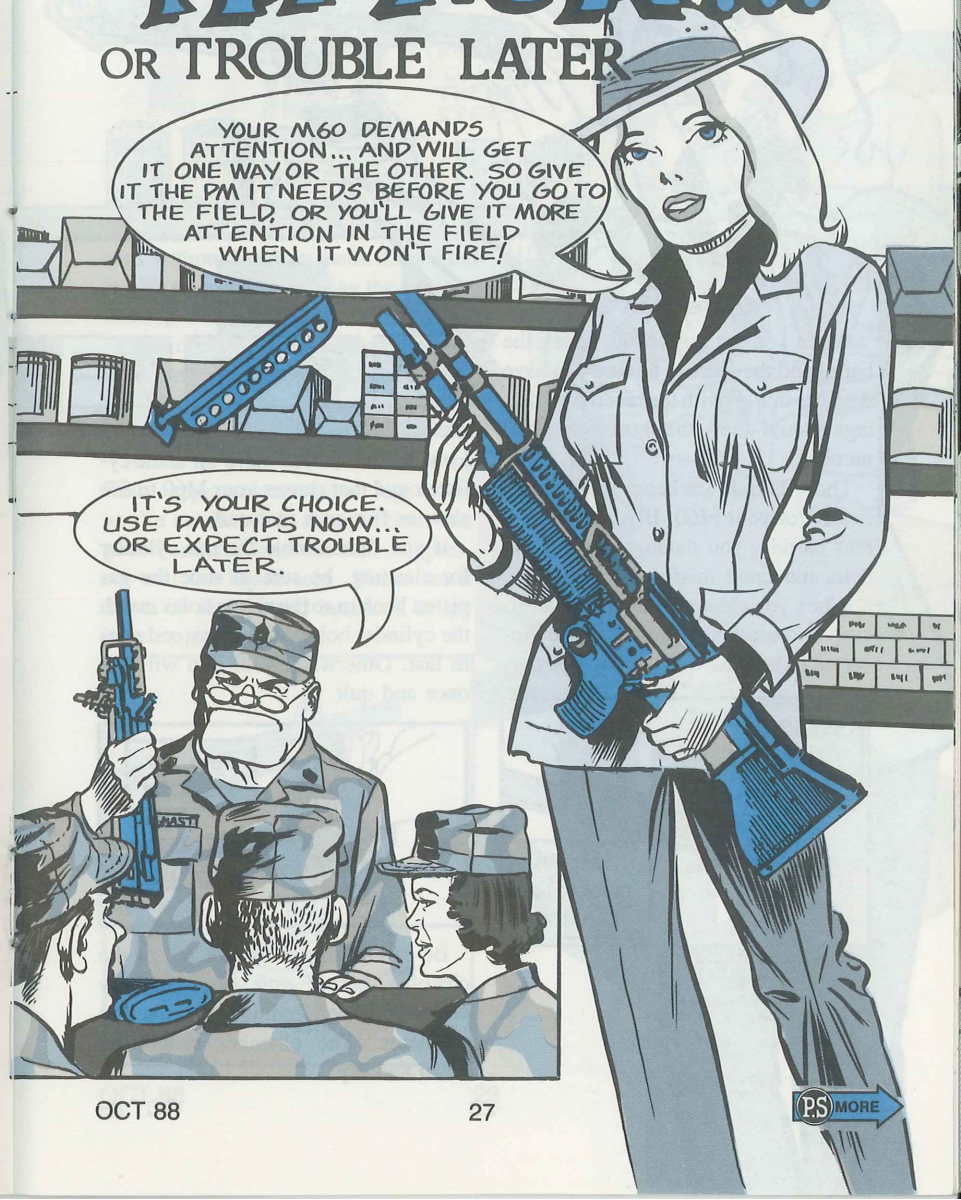
TROSCOM SOU-MES-15-88—Advisory, Operational, Changes the standard operating procedure for the roof turret valve on firefighting truck, Model 2500L, NSN 4210-01-193-3621, AMSTR-MES, 302000Z Jun 88.

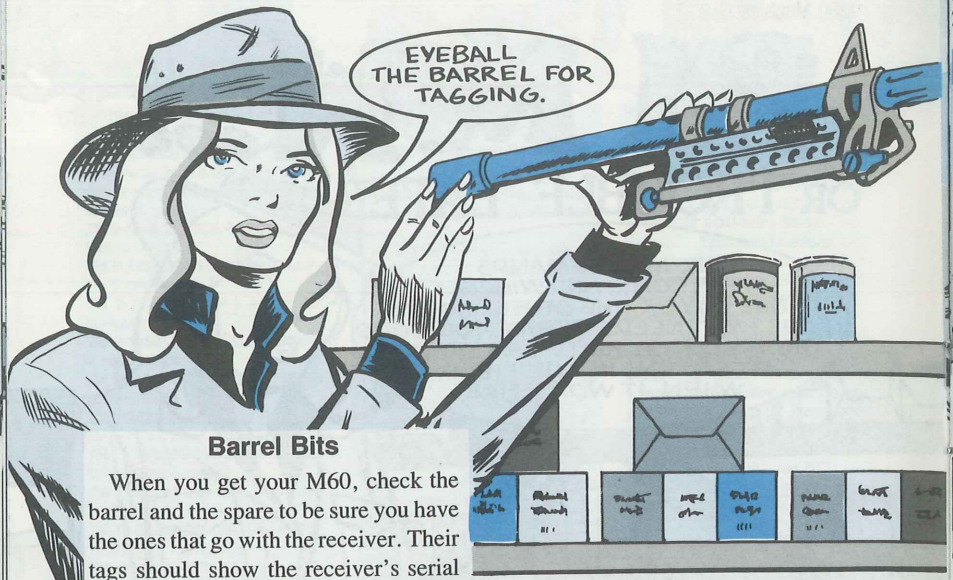
TROSCOM SOU-MES-16-88—Advisory, Operational, Advises all users of the 3,000 and 5,000 gallon semitrailer mounted water tanks to transport these tanks full or empty, AMSTR-MES, 282100Z Jun 88.

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

M60 Machine Gun...

PM NOW... OR TROUBLE LATER



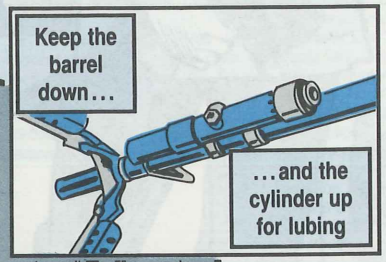


Barrel Bits

When you get your M60, check the barrel and the spare to be sure you have the ones that go with the receiver. Their tags should show the receiver's serial number.

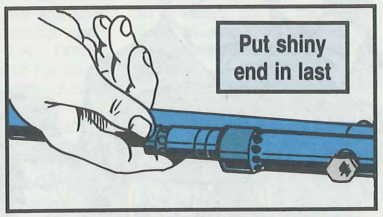
Those barrels are headspaced specifically for your M60. If you use different barrels, you damage barrels and bolts and cause misfires.

When you clean and lube the barrel, keep the barrel down and the gas cylinder up to keep lube out of the cylinder.

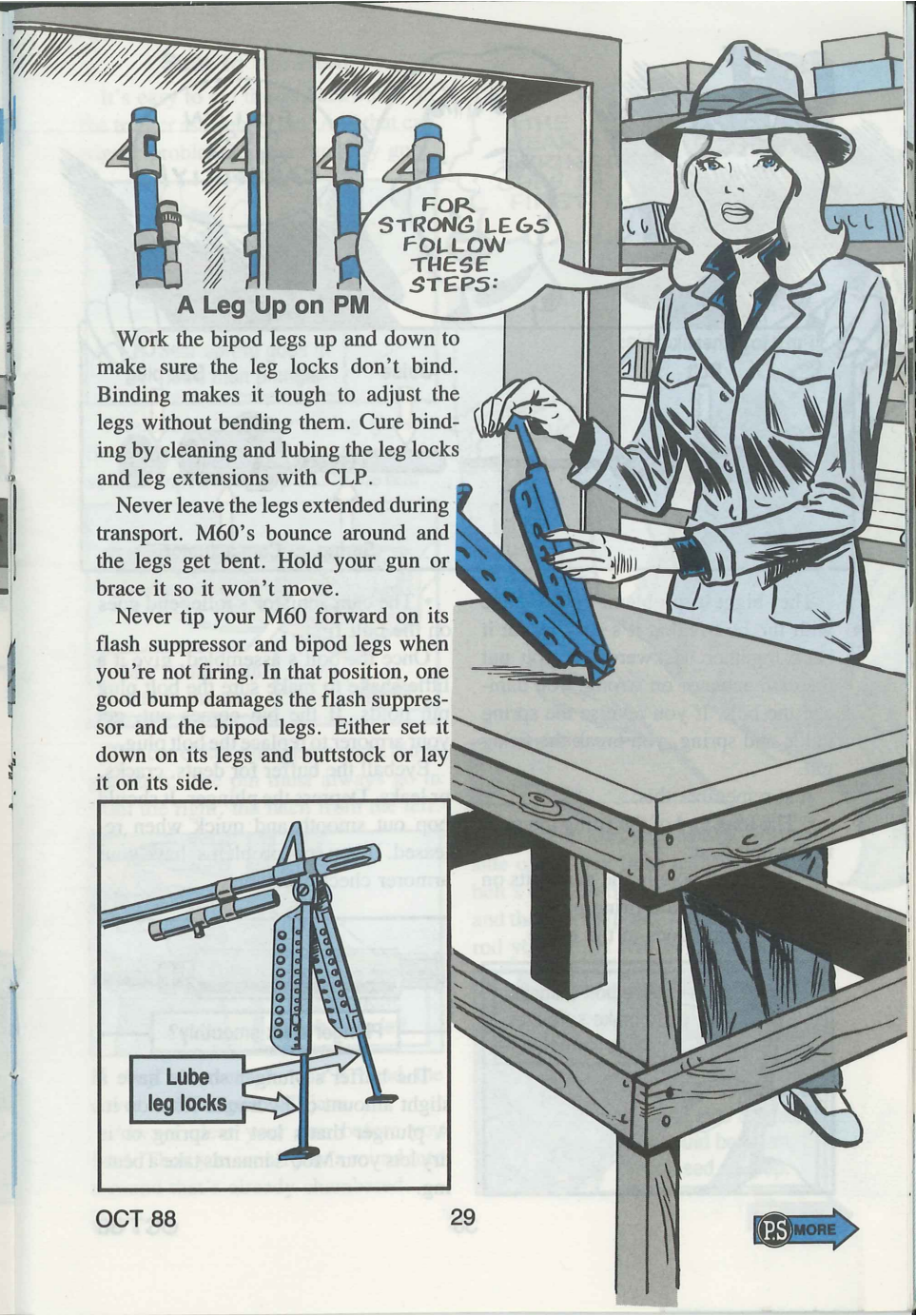


Lube causes carbon build-up in the cylinder and that causes your M60 to fire slow or fire once and quit.

If you disassemble the gas cylinder for cleaning, be sure to slide the gas piston back in so the piston holes match the cylinder holes—the shiny end goes in last. Otherwise, your gun will fire once and quit.



Be careful to get all lube out of the chamber before you fire. An oily chamber causes feeding and extracting problems. The chamber should be clean and dry.



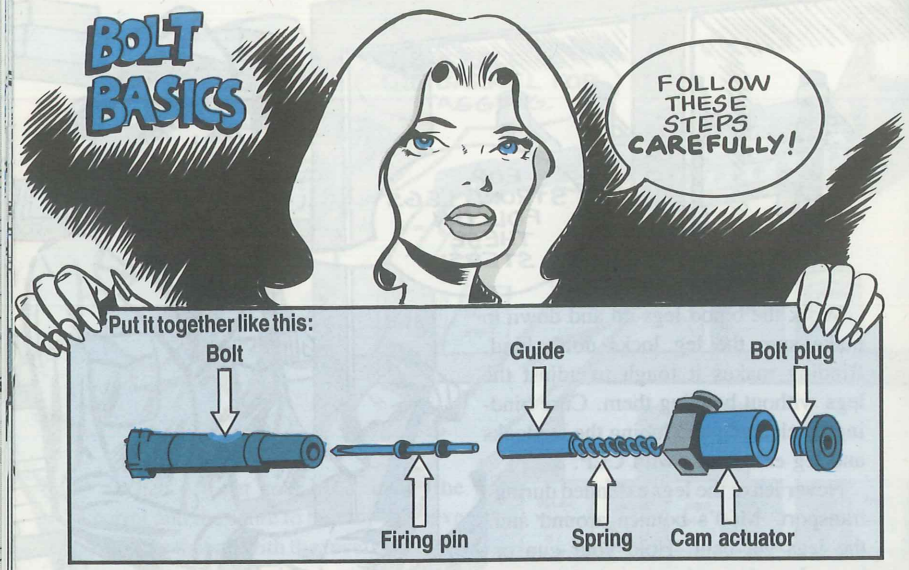
A Leg Up on PM

Work the bipod legs up and down to make sure the leg locks don't bind. Binding makes it tough to adjust the legs without bending them. Cure binding by cleaning and lubing the leg locks and leg extensions with CLP.

Never leave the legs extended during transport. M60's bounce around and the legs get bent. Hold your gun or brace it so it won't move.

Never tip your M60 forward on its flash suppressor and bipod legs when you're not firing. In that position, one good bump damages the flash suppressor and the bipod legs. Either set it down on its legs and buttstock or lay it on its side.

P.S. MORE



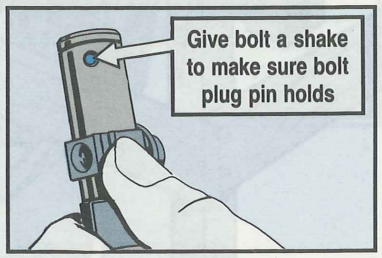
The biggest problem you'll have with the bolt is that it's easy to put it back together backwards. If you put the cam actuator on wrong, you damage the bolt. If you reverse the spring guide and spring, you break the firing pin.

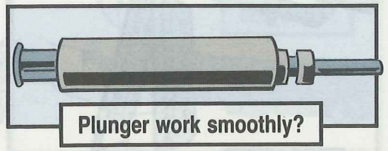
Just remember this:

- The long end of the firing pin goes in the bolt first.
- The small hole in the guide fits on the short end of the firing pin.
- The spring goes in the guide.
- The cam actuator's roller end goes on the bolt first.

Once the bolt's assembled, give it a little shake to make sure the bolt plug pin holds. If the pin comes out, get your armorer to replace the bolt plug.

Eyeball the buffer for dents, cracks, or leaks. Depress the plunger. It should pop out smooth and quick when released. If you spot problems, have your armorer check them out.



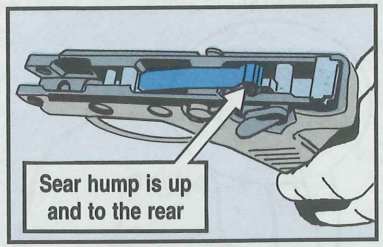


The buffer's plunger should have a slight amount of hydraulic fluid on it. A plunger that's lost its spring or is dry lets your M60's innards take a beating.

Sear to the Rear

It's easy to get things backwards on the trigger assembly, too. And that can trigger problems like a runaway gun.

Remember, the sear spring goes in first, then the plunger. Put the sear in so its humped end is up and to the rear.

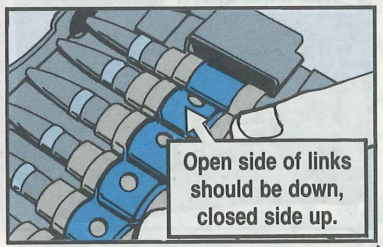


The cover has a hinge pin and a hinge pin latch. The pin must always go in from the right, the latch from the left.

If they're reversed, you'll bend the cover and the gun will jam.

Always clear your gun before you load. Then you won't jam a round into a round that's already chambered.

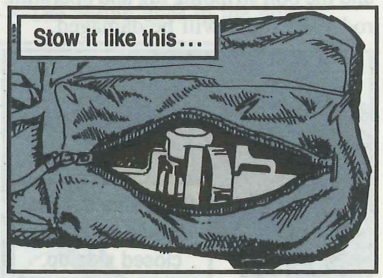
Be sure to load your M60 so the open side of the belt links are down. If the belt's upside-down, the gun won't feed and the bolt stripping lug and operating rod yoke roller will be damaged.

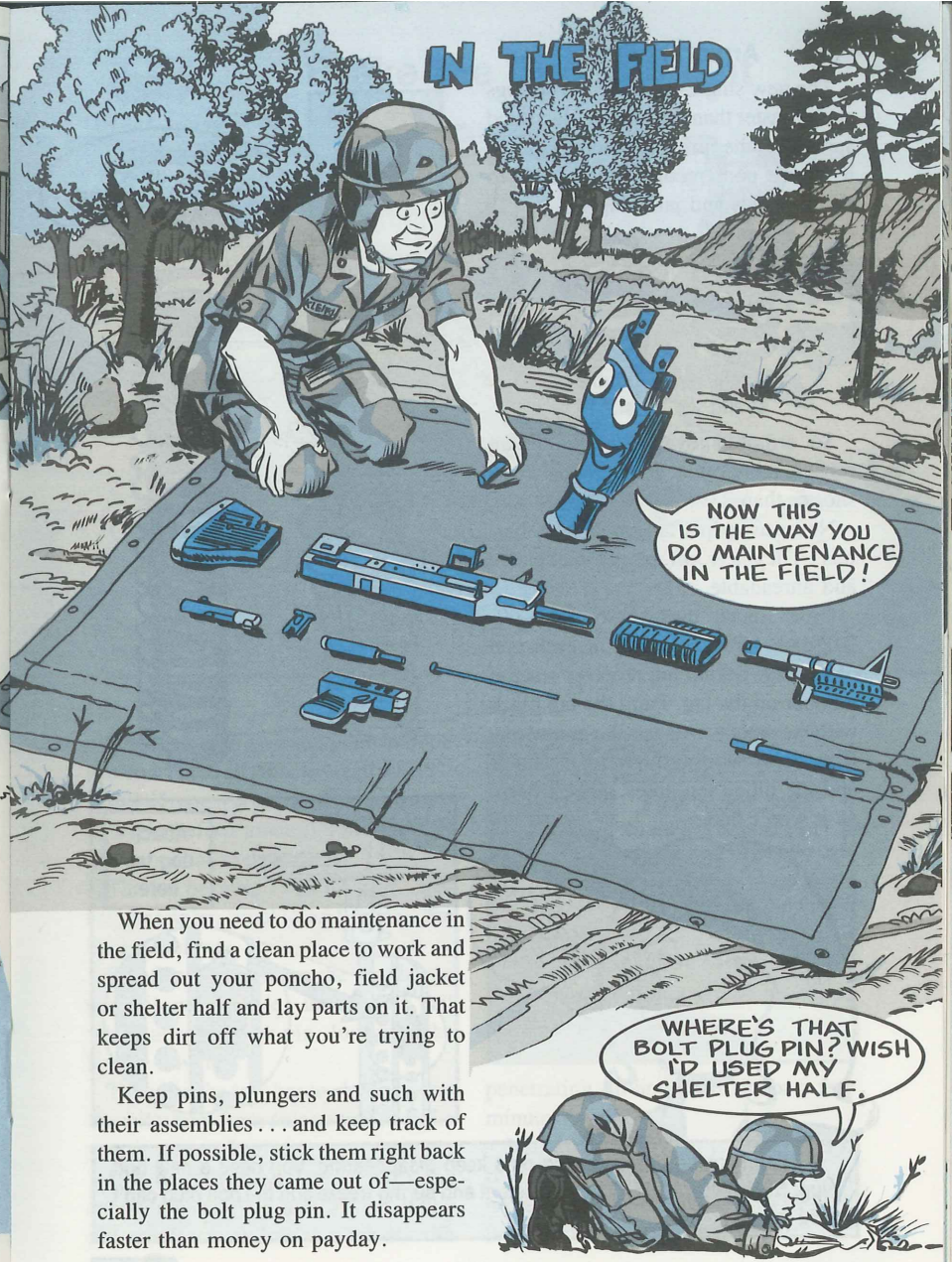


PS MORE

If you ever get a runaway gun, have the assistant gunner quickly twist the ammo belt to either side to break the belt and stop the gun.

When you're through firing, wrap your M60's traversing and elevating (T&E) mechanism in a clean rag and stow it in the spare barrel case. That protects it from rust, snags, bangs, and rough handling that can damage it or throw it out of calibration.





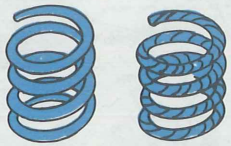
When you need to do maintenance in the field, find a clean place to work and spread out your poncho, field jacket or shelter half and lay parts on it. That keeps dirt off what you're trying to clean.

Keep pins, plungers and such with their assemblies . . . and keep track of them. If possible, stick them right back in the places they came out of—especially the bolt plug pin. It disappears faster than money on payday.

P.S. MORE

Armorers Only

The new single-strand recoil springs shrink faster than the old double-strand springs. If the spring shrinks too much, it causes poor recoil, which leads to double feeds and jamming.

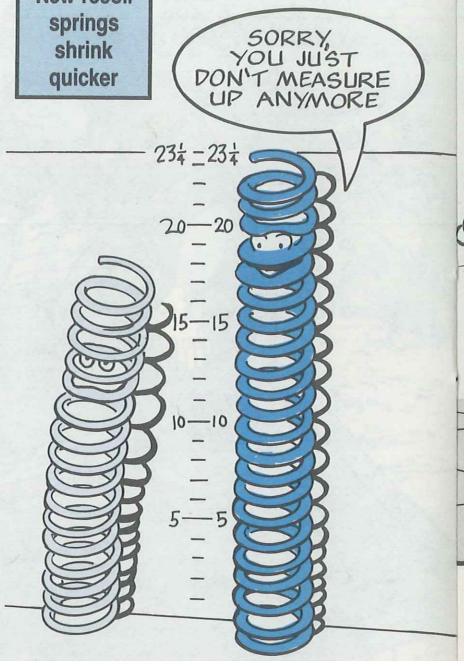


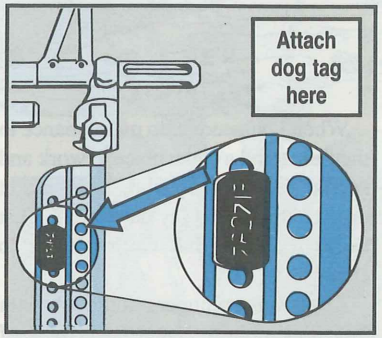
Single-strand | Double-strand

So, armorers, eyeball the new recoil springs more often. If a spring shrinks shorter than 23¼ inches, replace it.

Never use paper tags to ID M60 barrels. They tear off or get oil-soaked and unreadable.

Order metal tags, NSN 8465-00-242-4804. Punch a hole in each end of the tag. Stamp the receiver's serial number on the tag. Paint the tag black with the paint you use on the gun cover. Run lacing wire through the tag holes and the bipod leg holes. Lace it tight so it won't rattle.

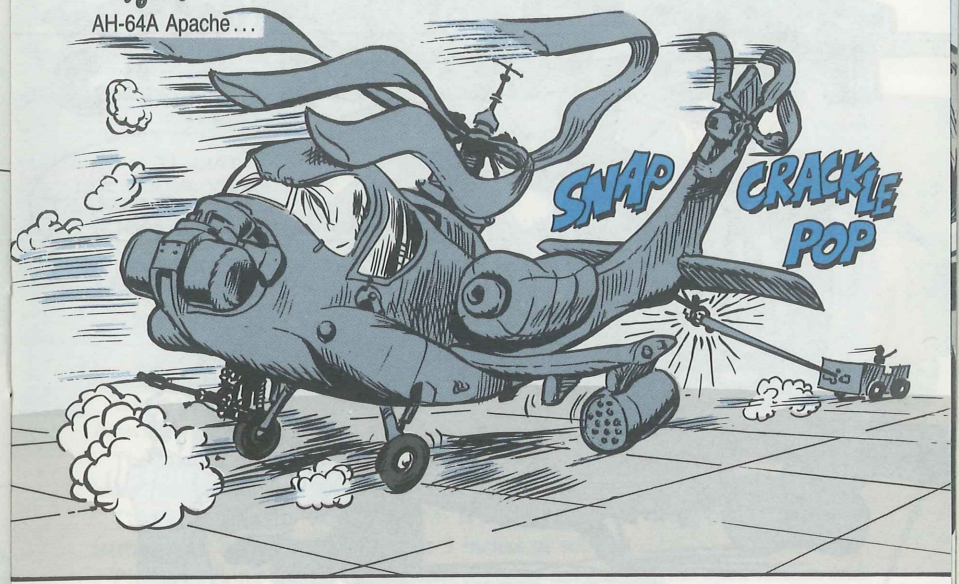




If M60 machine gun bolt plug pins keep disappearing, you need a new bolt plug, NSN 1005-01-185-0735. The detent and spring freeze and the bolt plug can't hold the pin.

PS END

Brake the Engagement

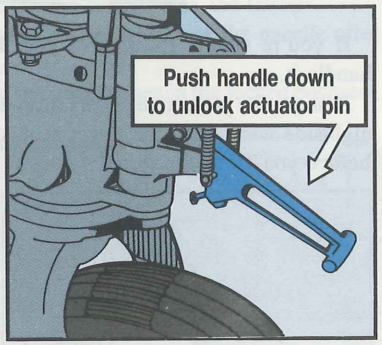


It doesn't take a mental giant to hook up a tow bar to an Apache's tail wheel.

But if you forget to disengage the lock pin before towing, you may feel like a mental midget.

That's because you'll hear that familiar snap, crackle and pop as the lock pin shears.

So after you hook up the tow bar to the tail wheel axle, unlock the tail wheel actuator lock pin. Just push the handle down.

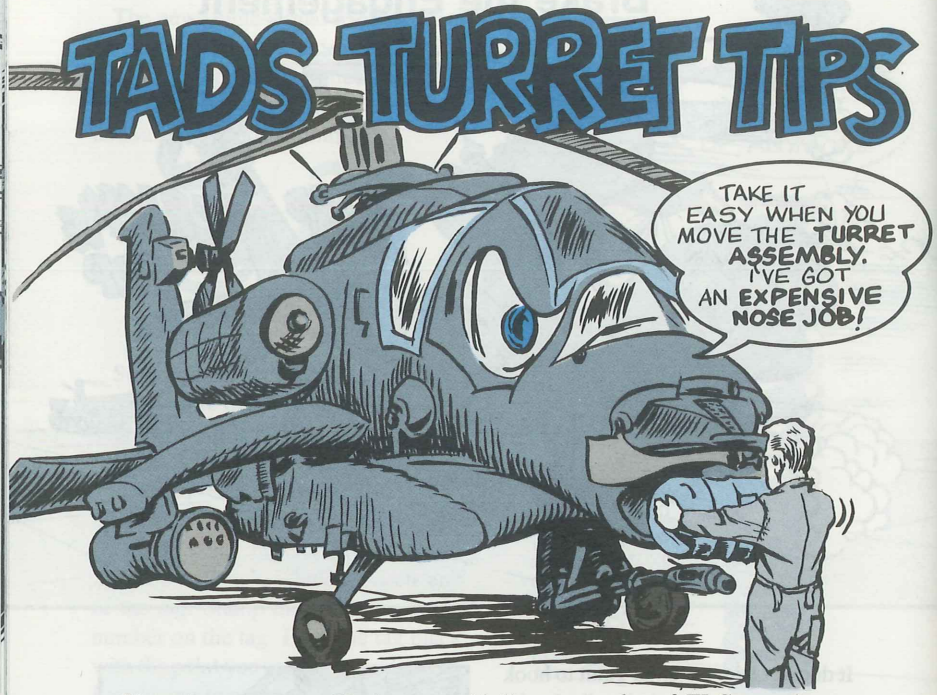


Then use the tow bar to slowly move the tail wheel from side to side to make sure it moves freely.

If it doesn't move freely, work the actuator handle up and down. If the pin won't move freely, soak it with penetrating oil and let it sit for a few minutes.

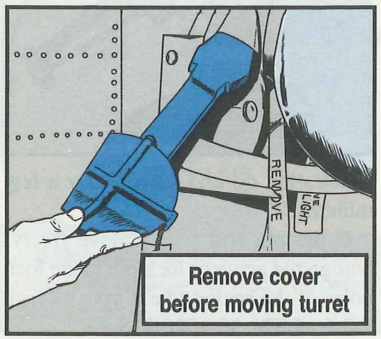
If the pin still won't move freely, realign the actuator lock pin in the lock holes of the socket like it says in Task 3-3-6 of TM 55-1520-238-23-2.

TADS TURRET TIPS



If you're smart, you'll give your bird's turret a lot of TLC any time you handle it.

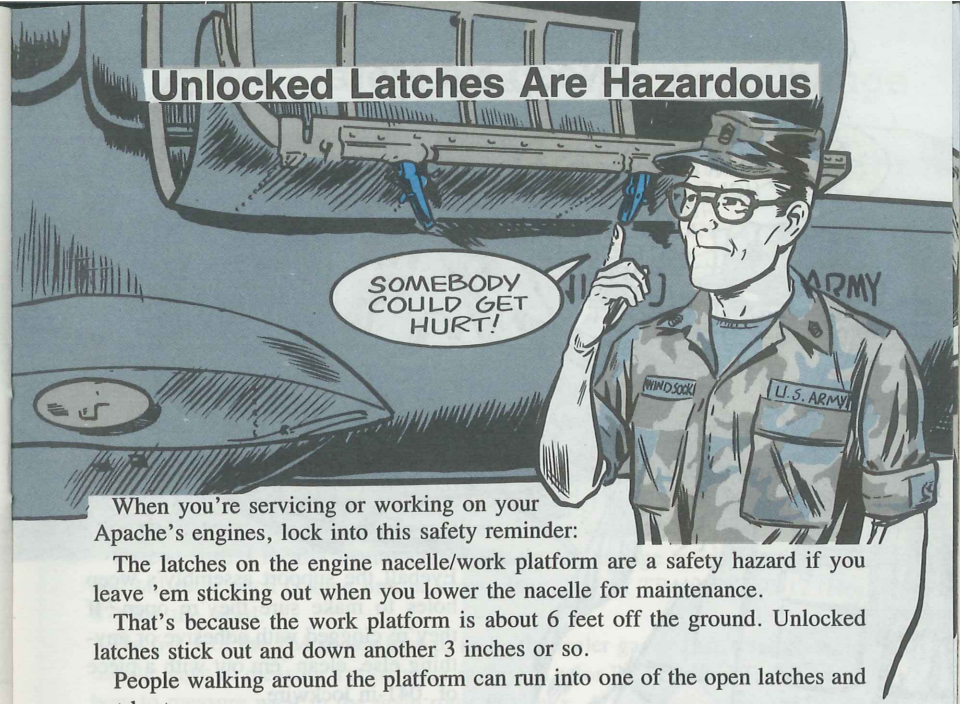
Remove the protective covers from the boresight window, dayside window and nightside window of the target acquisition designation sight (TADS) assembly **before** you move the turret.



If you forget to remove the covers, there's not enough clearance between TADS components to rotate the turret. If you try to force it, you could damage the system.

After you remove all three window covers and release the azimuth and elevation brakes, rotate the turret assembly very slowly, like it says in Task 4-2 of TM 9-1270-476-20-1. You could damage the turret if you rotate it too fast.

Unlocked Latches Are Hazardous



When you're servicing or working on your Apache's engines, lock into this safety reminder:

The latches on the engine nacelle/work platform are a safety hazard if you leave 'em sticking out when you lower the nacelle for maintenance.

That's because the work platform is about 6 feet off the ground. Unlocked latches stick out and down another 3 inches or so.

People walking around the platform can run into one of the open latches and get hurt.

So whenever you lower an engine nacelle, be sure to lock the latches.

Remember, though, to unlock the latches before you close the nacelle after maintenance.

If you forget and slam the nacelle closed with the latches in the locked position, you'll bend or break the latch pins.

Aviation Messages

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

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

AH-1-88-05, SOF, Maint Mandatory, daily inspection for the NVG MWO crosstube light mounting bracket, 061700Z Jun 88.

AH-1-88-06, SOF, Maint Mandatory, armament inspection deficiencies, 072000Z Jun 88.

T-42-88-02, SOF, Technical, install aluminum elevator fittings, 092000Z Jun 88.

CH-47-88-11, SOF, Technical, Ch-47D inspect pivot and swivel servo cyl, 092200Z Jun 88.

UH-1-88-03, SOF, Operational, aircraft op w/single fuel boost pump inop, 101800Z Jun 88.

UH-60-88-05, SOF, Maint Mandatory, maximum allowable operating time, 131700Z Jun 88.

CH-47-88-12, SOF, Maint Mandatory, CH-47D inspect 2nd retorque trans fan, 201830Z Jun 88.

AH-1-88-07, SOF, Technical, inspect all DA 2408-16 for select numbers of hubs, 291700Z Jun 88.

CH-47-88-MIM-04, Progressive phase maintenance accomplishment, 141700Z Jun 88.

OH-58-88-MIM-02, Main rotor trunnion centering screws, 201800Z Jun 88.

AH-64-88-MIM-10, One-time inspection TB on tail rotor swashplate drive link installations, 231700Z Jun 88.

AH-1-MIM-88-03/UH-1-MIM-88-03, Use of fuel/oil filter kit, 222100Z Jun 88.

OH-58 Kiowa...

Weep No More

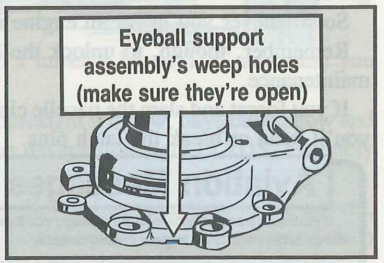
More is not better when you apply sealer to your Kiowa's swashplate and support assembly.

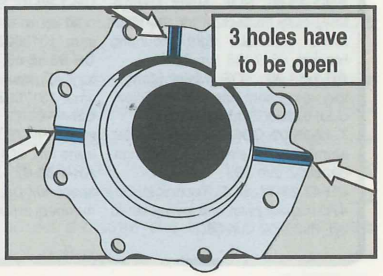
Fact is, if you get real sloppy, you'll plug up the weep holes in the support assembly. When that happens, there's no place for water inside the dust boot to escape.

To keep the weep holes from clogging, apply a thin bead of sealer, NSN 8030-00-753-5006, to just the outer edge of the assembled seal plate and liner, and to the mating area of the top case, like it says in Para 5-105f of TM 55-1520-228-23.

When the sealer is dry, use a sharp plastic scraper to remove any excess.

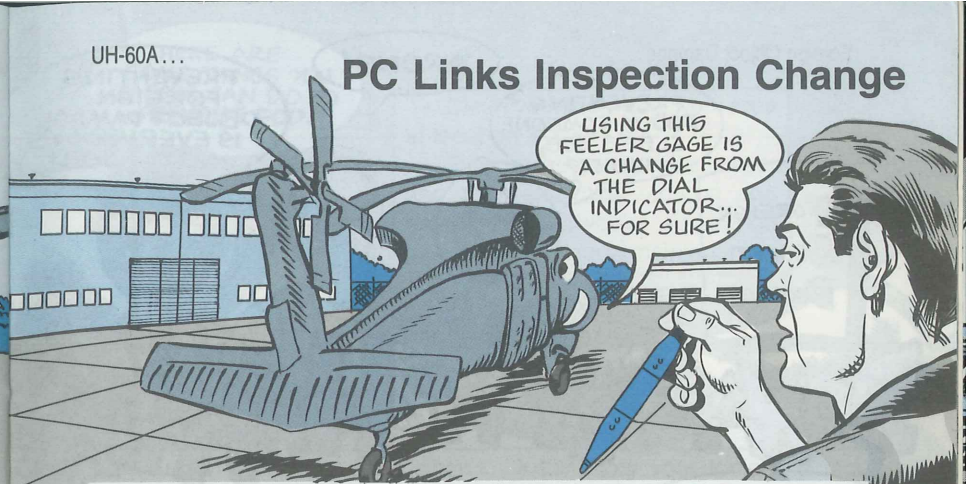
Eyeball the support assembly's weep holes to make sure they're open. If they're clogged with adhesive or anything else, clean 'em out with a piece of .041-in lockwire.





UH-60A...

PC Links Inspection Change



Inspection criteria in Tasks 6 and 11 of TM 55-1520-237-23-7 are changed. You no longer use the dial indicator to check Teflon wear in PC link bearings.

Instead, use a locally manufactured plastic feeler gage to inspect the main and tail rotor pitch change link bearings. Item 2-67 of TB 43-0001-3-12 (Dec 87) has the word.

Fig 6-1.1 of the TM shows how to make the feeler gage. Task 6 tells how to use the gage to measure Teflon wear in the tail rotor PC links and Task 11 tells how to measure wear in the main rotor PC links.

CH-47C...

Chafed Breather Lines?

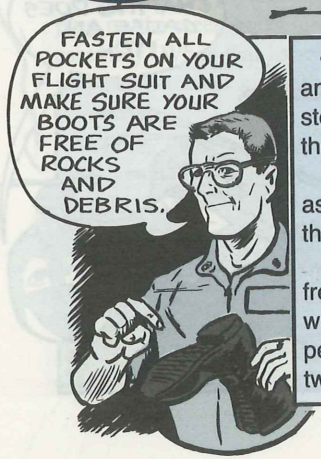
No need to get uptight about chafed transmission breather lines on your C model Chinooks.

Hoses, NSN 4720-01-251-9140, -9141, and -9142, have no pressure and they don't carry fluid. So the inspection criteria in Chap 7 of TM 55-1500-204-25/1 doesn't apply. In fact, as long as those lines are not worn thru, or kinked, they're still OK.

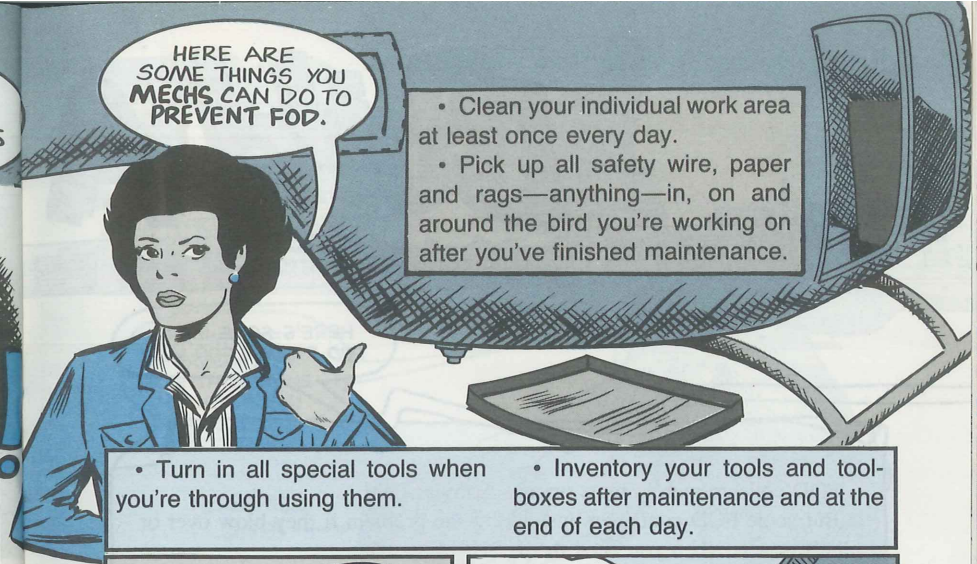
To keep chafed hoses in action, wrap them with antichafing tape, NSN 9330-01-101-7505.

If you find holes or if they're crimped, replace 'em.

- Before you start a preflight inspection, eyeball the area around your bird and pick up all loose objects, such as trash and grass.
- During preflights, pick up all loose objects ON your bird.

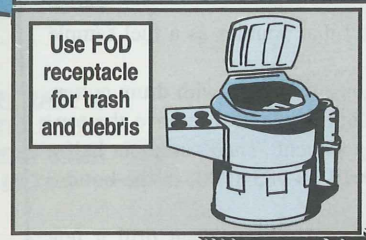


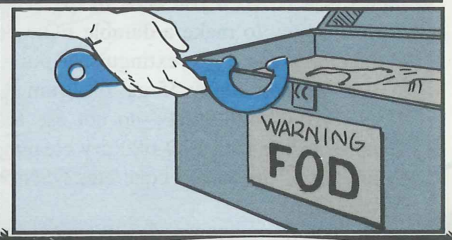
- Make sure toolboxes, tiedowns and helmet bags are properly stowed and secured before starting the engine(s).
- Install protective covers—such as engine and pitot covers—after the last mission of each day.
- Make sure the cockpit area is free of loose objects—like food wrappers and containers, pens and pencils—that can filter down between components or controls.

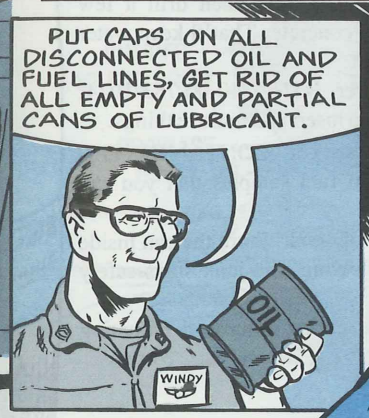


- Clean your individual work area at least once every day.
- Pick up all safety wire, paper and rags—anything—in, on and around the bird you're working on after you've finished maintenance.

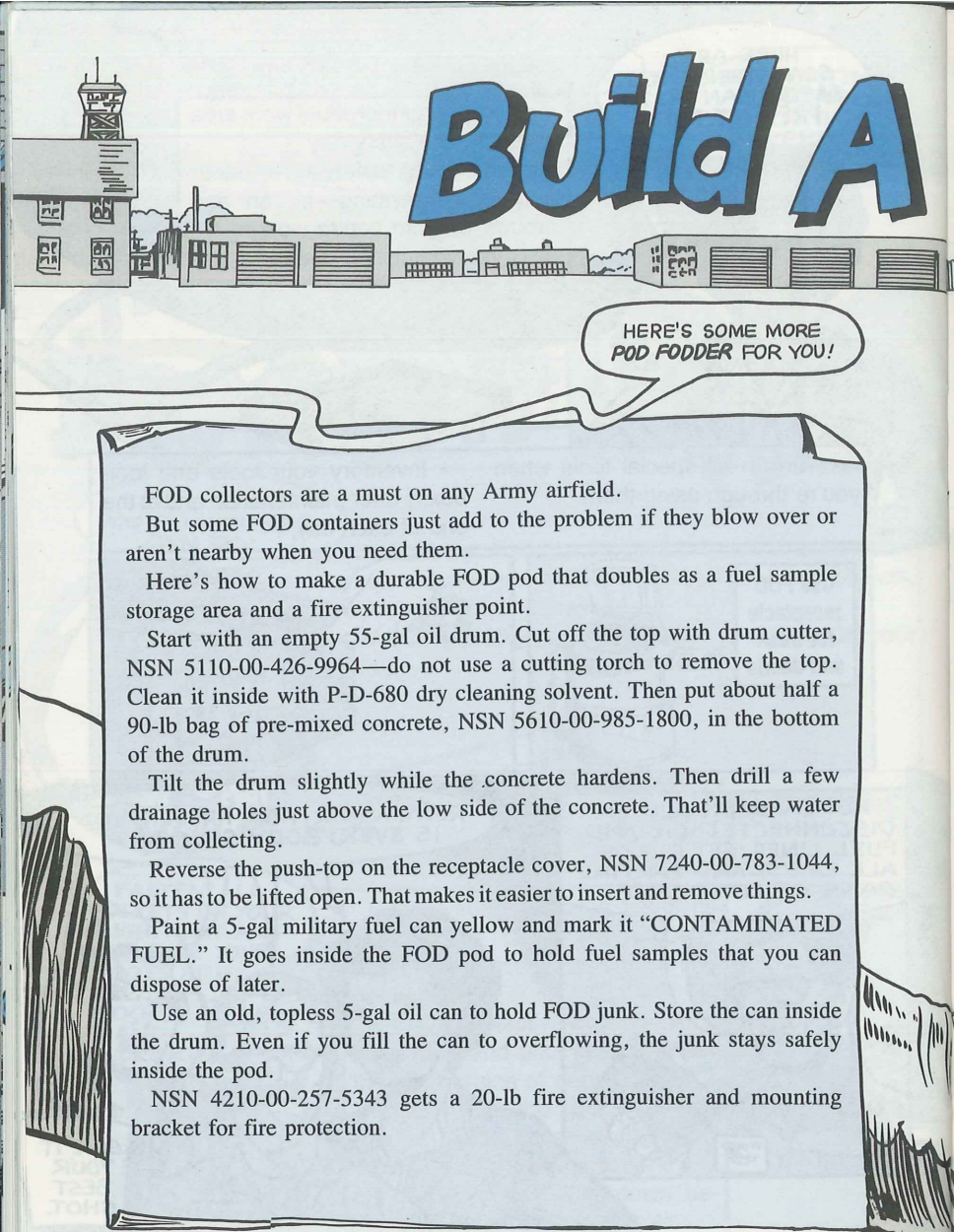
- Turn in all special tools when you're through using them.
- Inventory your tools and toolboxes after maintenance and at the end of each day.







Build A FOD Pod



FOD collectors are a must on any Army airfield.

But some FOD containers just add to the problem if they blow over or aren't nearby when you need them.

Here's how to make a durable FOD pod that doubles as a fuel sample storage area and a fire extinguisher point.

Start with an empty 55-gal oil drum. Cut off the top with drum cutter, NSN 5110-00-426-9964—do not use a cutting torch to remove the top. Clean it inside with P-D-680 dry cleaning solvent. Then put about half a 90-lb bag of pre-mixed concrete, NSN 5610-00-985-1800, in the bottom of the drum.

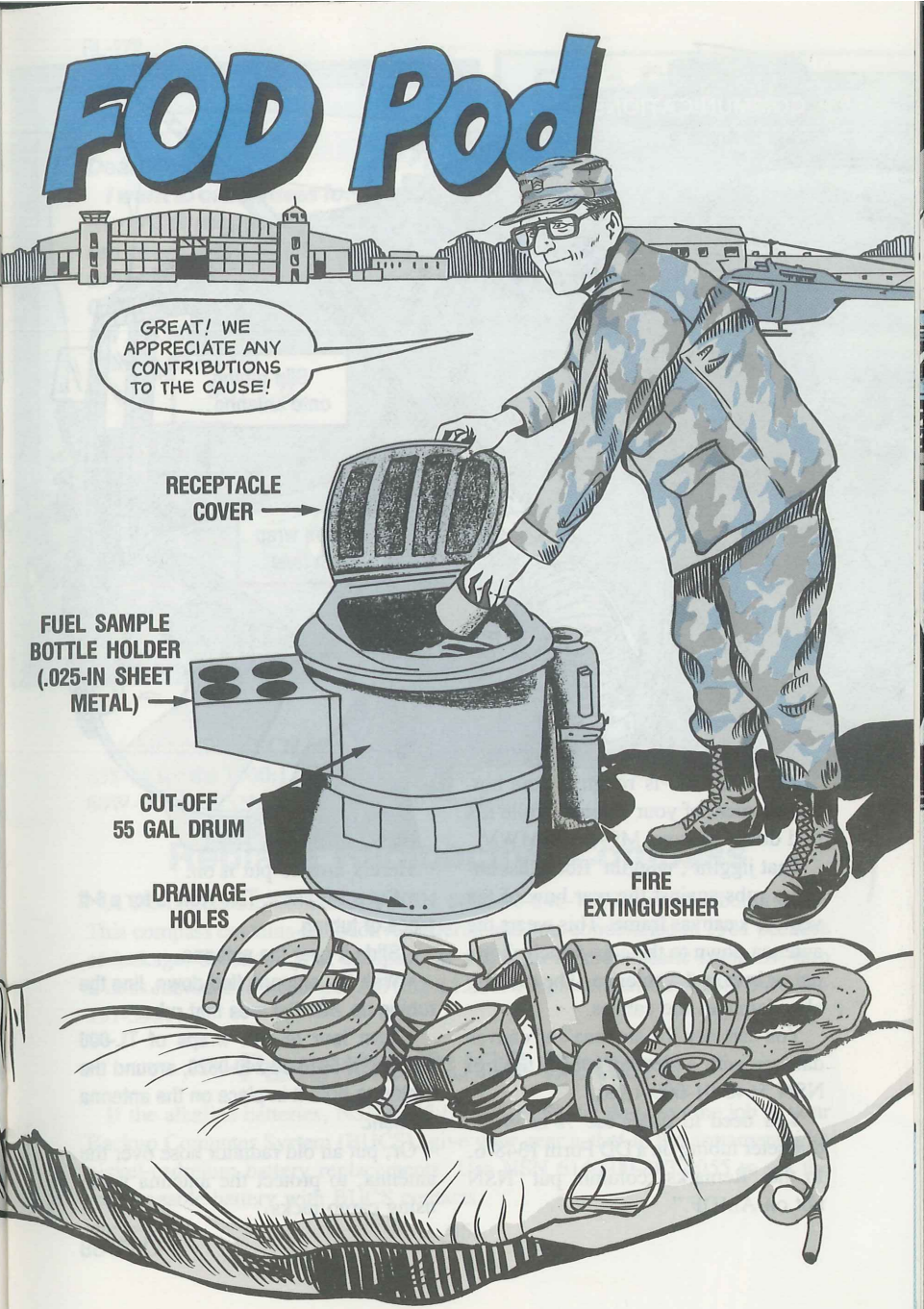
Tilt the drum slightly while the concrete hardens. Then drill a few drainage holes just above the low side of the concrete. That'll keep water from collecting.

Reverse the push-top on the receptacle cover, NSN 7240-00-783-1044, so it has to be lifted open. That makes it easier to insert and remove things.

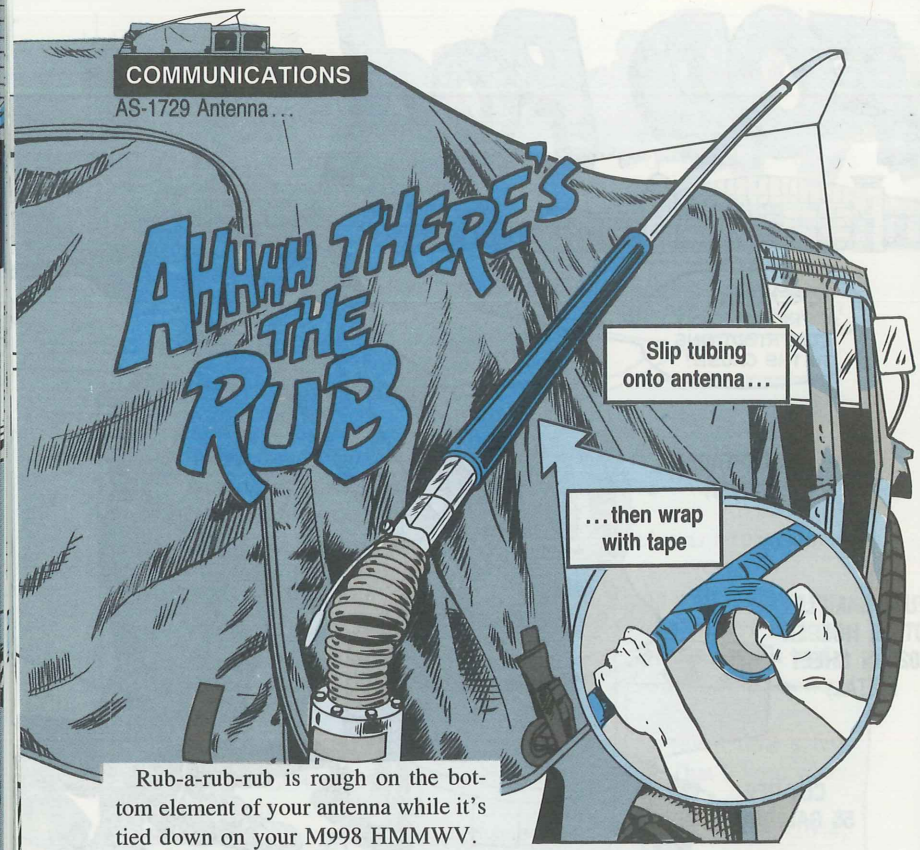
Paint a 5-gal military fuel can yellow and mark it "CONTAMINATED FUEL." It goes inside the FOD pod to hold fuel samples that you can dispose of later.

Use an old, topless 5-gal oil can to hold FOD junk. Store the can inside the drum. Even if you fill the can to overflowing, the junk stays safely inside the pod.

NSN 4210-00-257-5343 gets a 20-lb fire extinguisher and mounting bracket for fire protection.



AS-1729 Antenna...



Rub-a-rub-rub is rough on the bottom element of your antenna while it's tied down on your M998 HMMWV.

That jigglin', wigglin' fiberglass antenna rubs against the rear bow of the vehicle's canvas frame. This wears the antenna down to the core which shorts out or breaks the antenna. The rubbing also damages the canvas.

You can stop the antenna and canvas damage with a piece of rubber tubing, NSN 5640-01-009-1306.

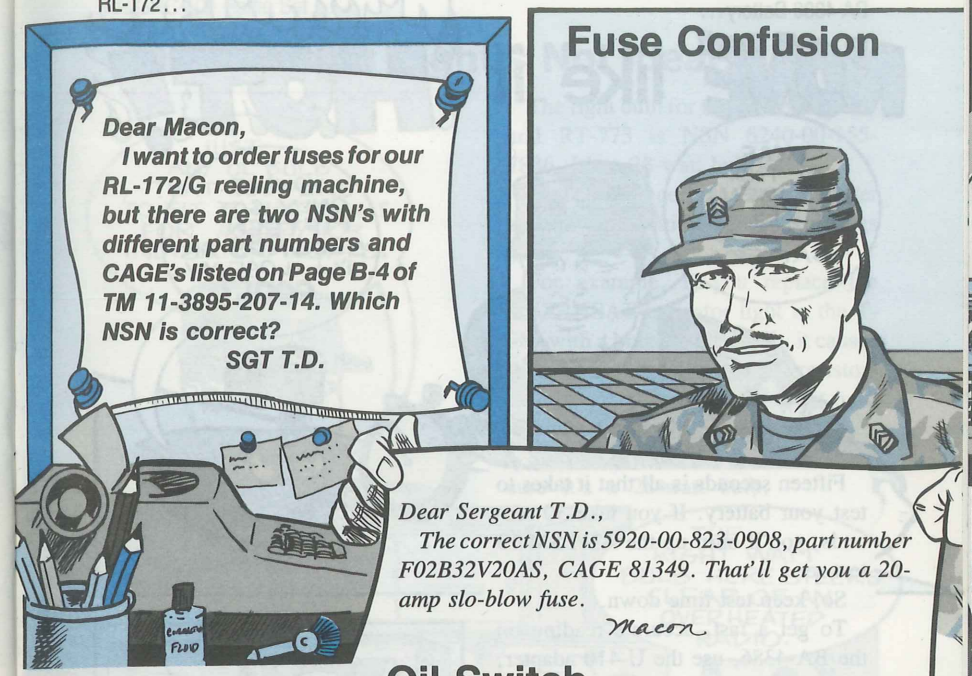
You need to order the ⅝-in inside diameter tubing on a DD Form 1348-6. In the "Remarks" column, put "NSN not on AMDF."

Here's how to put it on:

- **Cut a 1-ft piece. This NSN is for a 6-ft piece of tubing.**
- **Slide it over the antenna.**
- **With the antenna tied down, line the tubing up with the area that rubs.**
- **Turn four or five wraps of TL-600 tape, NSN 5970-00-240-0620, around the tubing to hold it in place on the antenna element.**

Or, put an old radiator hose over the antenna, to protect the antenna when using cargo racks.

Fuse Confusion



Oil Switch

Mobil lubricant SCH 629 oil called for in Table 5-1, Page 5-4 of TM 11-5985-358-14 for the 1000:1 azimuth drive speed decreaser is no longer available. Use 80W-90 oil, NSN 9150-01-035-5393, instead.

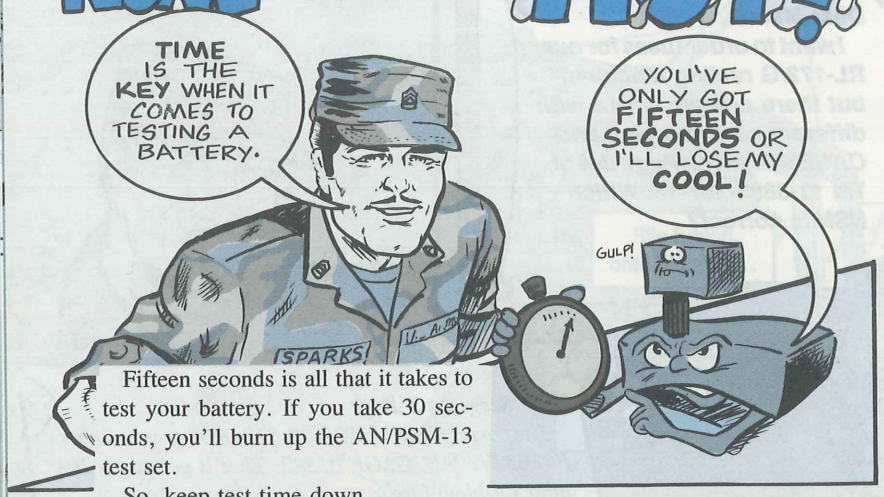
Replace Radioactive Compass

A lot of lensatic compasses, NSN 6605-00-846-7618, are still being used. This compass contains radioactive material and was condemned in 1981 because of leakage. So check your compass. If you have an old lensatic compass, turn it in as radioactive waste per AR 385-11. Get a replacement with NSN 6605-00-151-5337.

Pass the BUCS Battery

If the alkaline batteries, NSN 6135-00-826-4798, lie down on the job in your Backup Computer System (BUCS), give your gear a shot in the armament with nickel-cadmium battery replacements. Use NSN 6140-00-883-2055 to get the rechargeable battery with BUCS contacts.

NONE like it HOT!



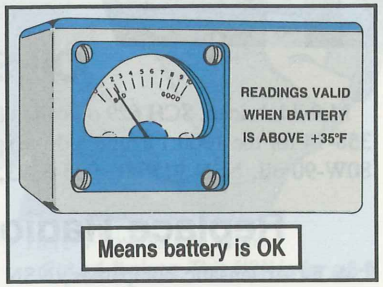
Fifteen seconds is all that it takes to test your battery. If you take 30 seconds, you'll burn up the AN/PSM-13 test set.

So, keep test time down.

To get a fast, accurate reading on the BA-4386, use the U-410 adapter, NSN 5935-01-083-0688.

If you have an old TS-1301 tester, put a decal, NSN 6625-01-160-4409, on the face of the tester to upgrade the reading. The decal's dividing line for good or bad batteries is 1.8. When the meter needle is here or above, the battery is good.

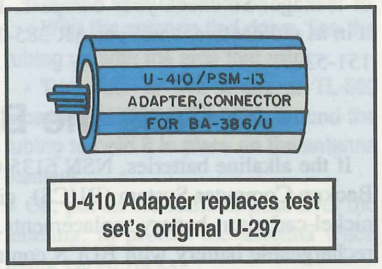
Make sure the face of the tester is clean and dry before you put on the decal.



Warning

Never test the BA-5598 battery—a lithium-sulfur dioxide which replaces the BA-4386—with the tester. It's dangerous. The lithium battery might explode.

There's no tester for the BA-5598.



Bright Light's Not Ideal!

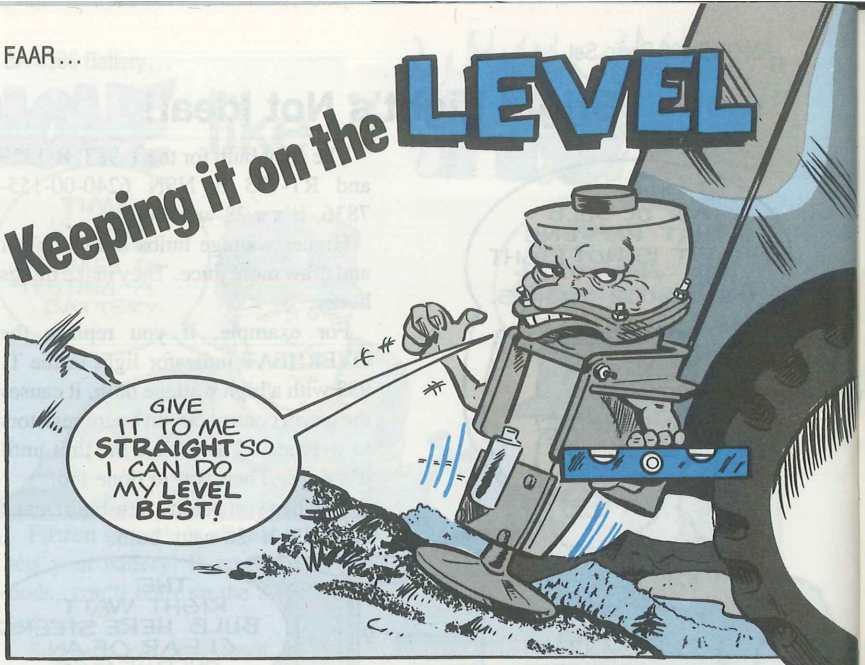
The right bulb for the T-983, R-1329 and RT-773 is NSN 6240-00-155-7836. It's a 28-watt bulb.

Higher wattage bulbs burn brighter and draw more juice. They make things hotter.

For example, if you replace the OVERHEAT indicator light in the T-983 with a high wattage bulb, it causes the alarm control circuit board resistors to overheat. That bakes the unit until it's done. Then you're done too.

So when you put in a new bulb, make sure it's a 28-watt bulb.

Keeping it on the LEVEL



Make sure you park the FAAR shelter and radar set where there's a chance to make it even—or level.

If you put up the antenna when the FAAR is not level, the antenna's pedestal gear and gear pin get worn out by the uneven antenna rotation. This can also damage the mast I-bolt.

Set up your radar set with no more than a 10-degree maximum slope to get true vertical position of the antenna. Can't find level ground? Level the rig like it says in Para 2-5 of TM 9-1430-588-10 (Feb 86).

The Right Cleaner for the Right Job

Use cleaning compound, NSN 6850-00-105-3084, to clean the rollers in your AN/UGC-74 communications terminal. The compound is listed in Section II of TM 11-5815-602-10-1. Other cleaners soften the rubber rollers, making them unserviceable.

Keep 'em Together

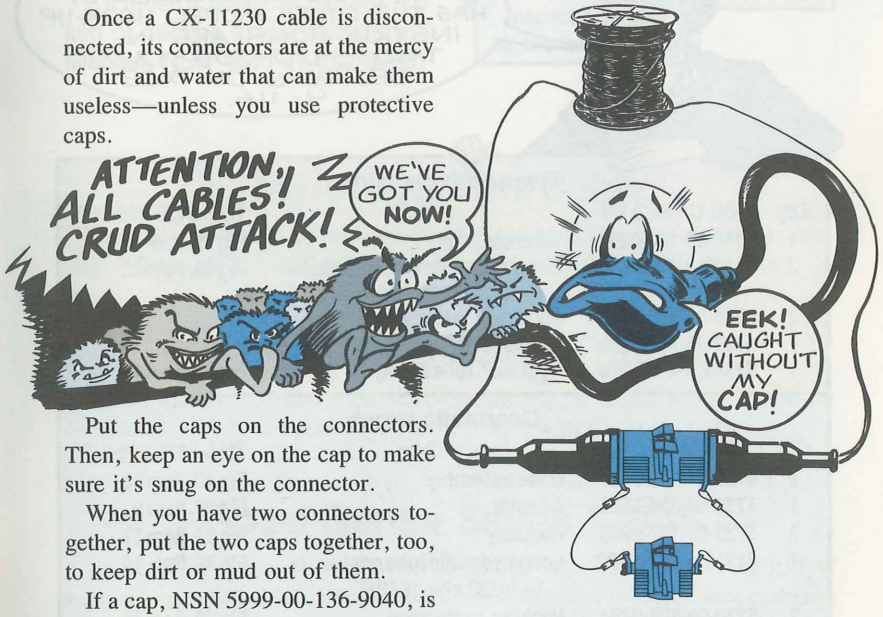
When an RT-524 is used with TACFIRE, support narrows the tuning deviation alignment to 5 mHz.

So, keep your TACFIRE teamed with the same RT in the system to make sure you can communicate.

If you have to turn the RT in for repair, tag it for "TACFIRE."

Cap Is Connector Protector

Once a CX-11230 cable is disconnected, its connectors are at the mercy of dirt and water that can make them useless—unless you use protective caps.



Put the caps on the connectors. Then, keep an eye on the cap to make sure it's snug on the connector.

When you have two connectors together, put the two caps together, too, to keep dirt or mud out of them.

If a cap, NSN 5999-00-136-9040, is missing, get your unit repairman to replace it, pronto.

Caps together keep out dirt

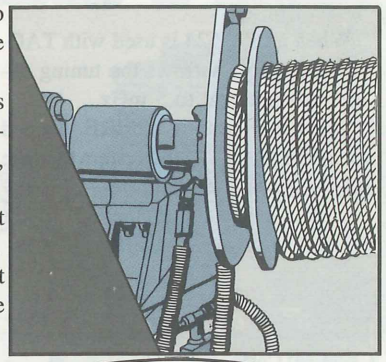
Rear Winch Subs

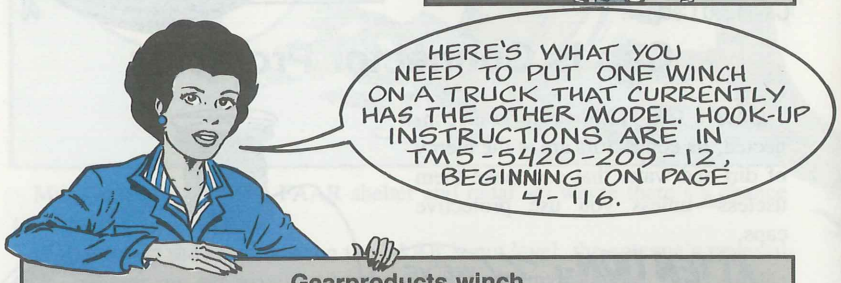
You have a choice when you need to replace the rear winch on a ribbon bridge transporter.

There are two different rear winches available—a Gearmatic winch, NSN 2590-01-003-2355, and a Gearproducts winch, NSN 2590-01-102-8802.

They're coded for specific models, but you can use either one on either transporter.

The winch mountings are the same, but there's a little difference in hooking up the hydraulic lines.





Gearproducts winch

Qty	NSN/CAGE & PN	Item	TM 5-5420-209-20P
1	4710-01-103-0282	Tube assembly	Fig 39, Item 18
2	81343, 8-10-080120	Short hydraulic tube connector 7/8 straight thread x 3/4-16 flareless	Fig 39, Item 22
2	5330-00-285-9842	Packing, preformed	
1	4730-00-727-8980	Tee, tube	
1	81343, 8-4-080203	Hydraulic tube fitting	Fig 39, Item 19

Gearmatic winch

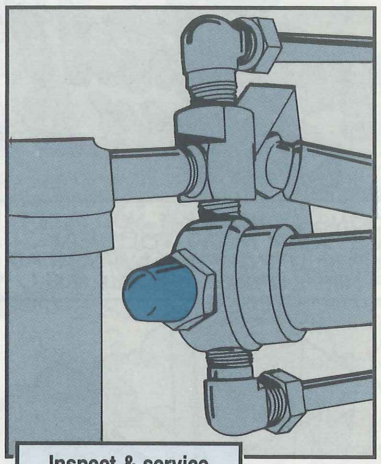
Qty	NSN/CAGE & PN	Item	TM 5-5420-209-20P
2	4720-01-262-5084	Hose assembly	Fig 40, Item 95
1	4730-00-836-3501	Adapter	Fig 39, Item 9
2	4730-00-137-9240	Reducer	Fig 39, Item 17
1	81343, 8-8-080122	Long hydraulic tube connector 1/2-in OD x 3/4-16 UNF	Fig 39, Item 14
2	5330-00-808-0794	Packing, preformed	Fig 39, Item 16
2	4730-01-006-5099	Elbow	Fig 39, Item 13
1	81343, 8-8-080120	Short hydraulic tube connector	Fig 39, Item 15

Air Silencer Short-Changed

TM 5-4310-452-14&P (Jul 87) is downright silent on when or how to inspect and service the air silencer on your 250 CFM Ingersoll-Rand air compressor.

Here's when and how to inspect and service the air silencer:

- Remove the silencer during quarterly service.
- Clean the filter mesh with mild detergent and warm water. Dry, using compressed air that does not exceed 30 PSI.
- Eyeball the mesh for broken or missing areas.
- If mesh is plastic or has any broken or missing areas, replace with silencer, NSN 4940-01-192-8269.



Inspect & service air silencer quarterly

M3A4 Ignition Cable

The NSN for the M3A4's ignition cable has been changed to 2920-01-256-9675. The cable is Item 1 on Page 4-1 in TM 3-1040-276-23P (Oct 85).

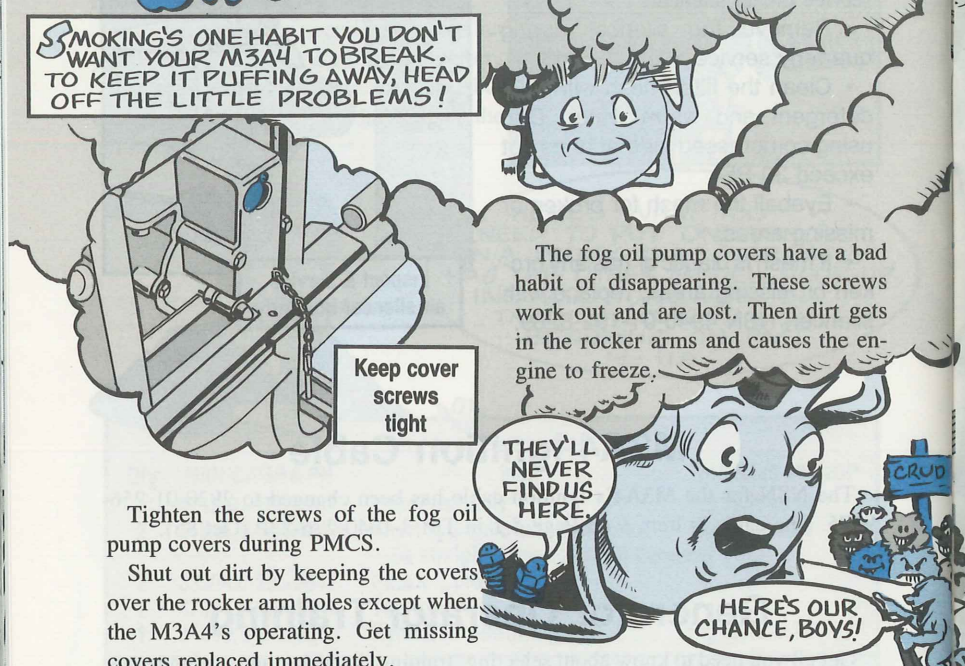
Generator Operator Training

Get all you need to know about selecting, training, licensing and testing power generation equipment operators from TB 600-1 with Change 3 (Nov 83).

Good Sense $aves Cent$

When the voltage regulator, NSN 6110-00-764-7621, on your 3-, 5-, or 10-KW generator goes bad, don't order a new one. The regulator is a repairable exchange (RX) item, so you can turn it in to your direct support for a serviceable one. You'll save turn-around time, and bucks for Uncle.

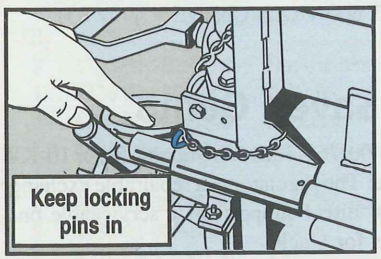
SMOKIN' LIKE A GENERATOR SHOULD!!



Tighten the screws of the fog oil pump covers during PMCS.

Shut out dirt by keeping the covers over the rocker arm holes except when the M3A4's operating. Get missing covers replaced immediately.

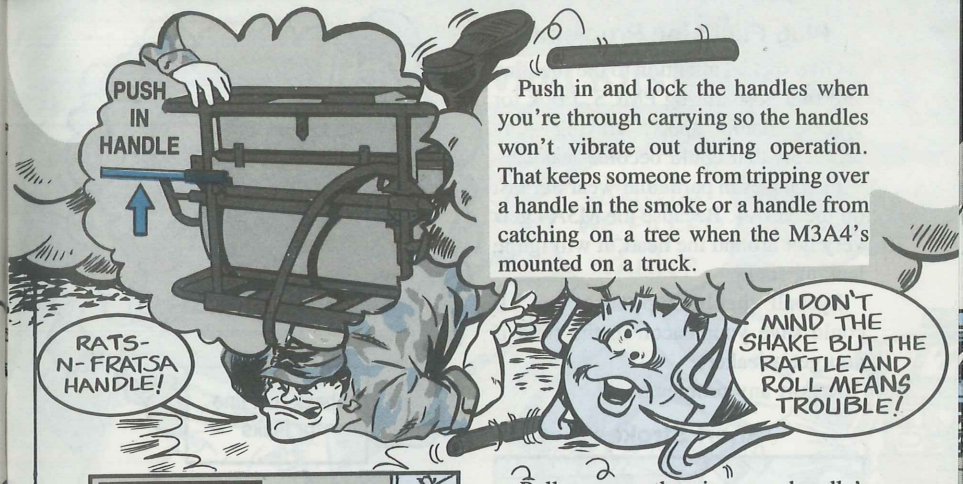
The fog oil pump covers have a bad habit of disappearing. These screws work out and are lost. Then dirt gets in the rocker arms and causes the engine to freeze.



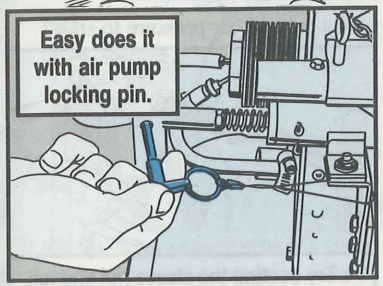
Lock in Locking Handles

Use locking pins for the carrying handle at all times—even when you're not carrying your M3A4.

The handles work fine without locking pins . . . as long as you're on level ground. But just a slight incline sends the generator sliding back on you or your partner.



Push in and lock the handles when you're through carrying so the handles won't vibrate out during operation. That keeps someone from tripping over a handle in the smoke or a handle from catching on a tree when the M3A4's mounted on a truck.



Pull easy on the air pump handle's locking pin.

If you yank the pin, it snaps its ring or restraining wire. Soon, no more locking pin.

Also take it easy with the float bowl adjustment knob. Pull it up gently. Never force it. It bends easily.

Keep the front cover latched during travel to protect all the M3A4's delicate parts.

Wrap Hose Around

Wrap your M3A4's hose around the top of the generator like your TM says.

If you save time by sticking the hose between the fuel tank and tool box, you scorch the hose on the hot air exhaust line. Time for a new hose.

PS MORE

Plug Fuel Line Problems

Give special attention to the fuel line and fuel hose during PMCS. Look for cracks, damp spots, fraying—any problems that could become leaks.

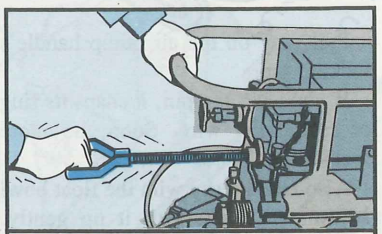
Fuel hoses in particular wear out fast on the M3A4. Because the M3A4 gets very hot around the head, it will ignite leaking fuel.

Eyeball the backup hose, too. It could save your bacon in the field if you get a leaker.

Report any problems.

Check fuel line for leaks

Short Strokes



Pump the magneto air pump handle with quick strokes of 6–8 inches.

That's even more important on the new M3A4 because its handle slides out of—and cracks—its housing more easily than the old generator.

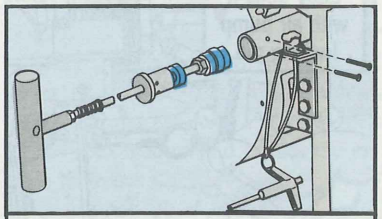
Don't push down on the magneto air pump handle—it will break!

During PMCS, gently pull out the magneto air pump handle to almost its full length. Eyeball it for cracks. Report any to your mech. That saves you a broken handle in the field.

For Mechs Only

TM 3-1040-276-23 says to do the PMCS lubrication procedures every 6 months. Strike that. AMCCOM now wants you to lube M3A4's every month.

Not enough air pressure to start?



Try coating the sleeve nut and felt washer in the air pump with oil.

Oil makes a better seal.

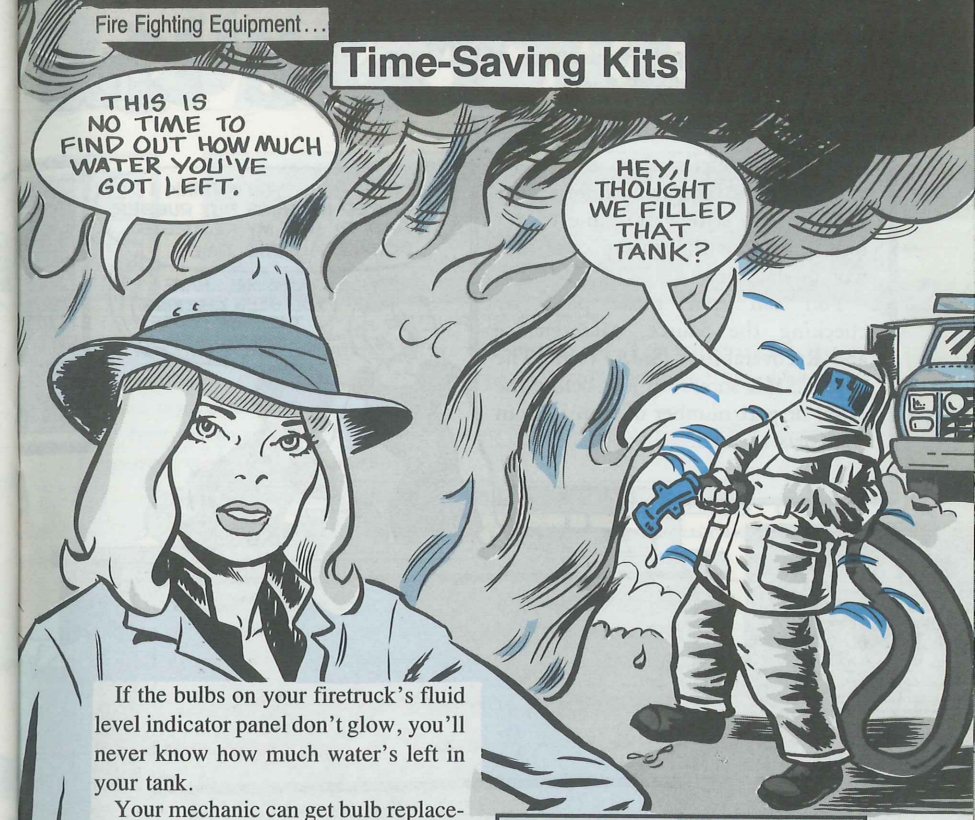
When you replace the copper gasket, NSN 5330-00-507-4900, in the interfacing ring of the combustion chamber, bend the gasket's tabs out. Otherwise, the gasket will come out next time the head's changed. That means leaking exhaust gas and overheating heads.

Tool Wrap Up

Always store tools in the toolbox wrapped in the tool roll. Because of its position, the toolbox gets a lot of heat. The tool roll keeps the tools from becoming finger-burning hot.

PS END

Time-Saving Kits



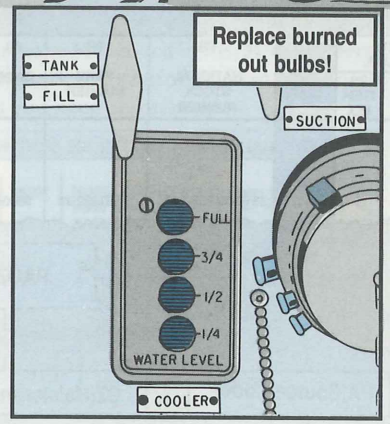
If the bulbs on your firetruck's fluid level indicator panel don't glow, you'll never know how much water's left in your tank.

Your mechanic can get bulb replacement kits for the MC Foam Fluidmeter with NSN 4210-01-271-6202 and for the Mark 5-series water level indicators with NSN 4210-01-271-6203.

The kits include bulbs for the cab and outside indicators, a replacement tool and instructions.

If the bulbs are good, but the indicator's still not working, you could have a bum module.

To test the module without removing it from the panel, use service kit NSN 4210-01-271-6204. Instructions come with the kit.

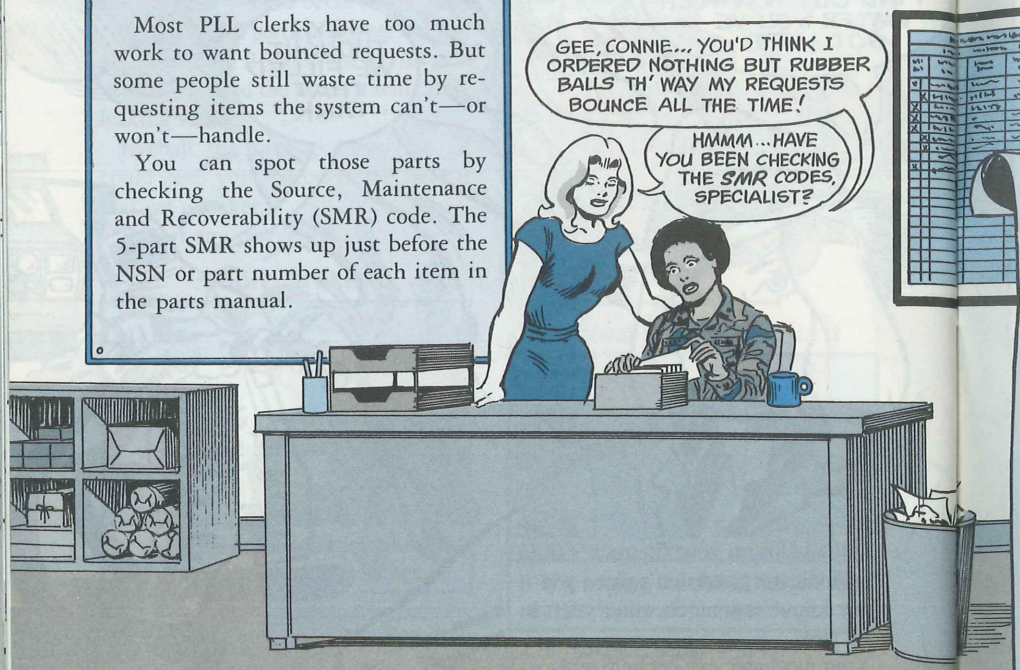


Supply Requests and SMR Codes...

Take the BOUNCE Out!

Most PLL clerks have too much work to want bounced requests. But some people still waste time by requesting items the system can't—or won't—handle.

You can spot those parts by checking the Source, Maintenance and Recoverability (SMR) code. The 5-part SMR shows up just before the NSN or part number of each item in the parts manual.



(1) ILLUS. (a) FIG NO.	(1) ILLUS. (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) CAGE	(6) DESCRIPTION / USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 05 – COOLING SYSTEM		
						0501 – RADIATOR		
49	1	PAOZZ	5310-00-959-1488	MS51922-21	96906	NUT, SELF-LOCKING AA	EA	8

PAOZZ

- PA (Source Code)
- OZ (Maintenance Code)
- Z (Recoverability Code)

SOURCE CODES

The first 2 places of the SMR are the source code. The source code tells you how or if the item is stocked in the supply system—and sometimes why a part does not have an NSN.

Items with source codes starting with P come from regular supply system sources with normal handling.

This item is supplied by and through regular sources.

PAozz	5305-00-269-2805	MS90726-62	96906	SCREW, CAP, HEXAGON HEAD

Source codes starting with K apply to items in kits. Forget about ordering those parts separately. They're not stocked—except in the kit. They probably won't have NSN's, either. If you need one, you'll have to order the whole kit.

This item is part of a kit. It is not stocked separately, so it has no NSN.

KFozz		8720762	19207	ROD, STAY (part of kit, P/N 8686888)

Items with M source codes must be fabricated or manufactured. The second letter tells you what level makes it. You make MO-coded items. M-coded items won't be stocked or have NSN's. Look at the description of the item in the parts manual for a list of parts or materials you need to make it.

You must make this item. Look here for info on what to use.

MOozz		10889991	19207	HOSE, NONMETALLIC: water tube to water pump (mfd from hose, NSN 4720 00-882-1738)

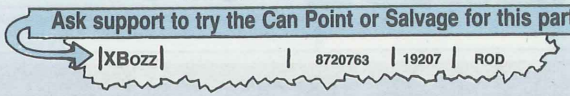
Source codes starting with A go on items that must be assembled. You put together the ones coded AO.

You put this item together.

AOozz		7370381	19207	RACK AND SEAT ASSEMBLY

P.S MORE

Parts with source codes starting with X are not stocked in the supply system. The second letter gives you special info on how to get those items.



XA tells you to order the next higher assembly.

XB says to ask your support to try the cannibalization point or salvage before ordering. No luck? Order using Advice Code 2A.

XD means the item isn't stocked. But once your request reaches them, the item's managers will try to get you one.

Items coded XB or XD take a long time to fill—if at all! And since they weren't figured for stockage, they probably won't have NSN's. If you need those items, you'll have to order by NSN or Commercial and Government Entity (CAGE) code and part number on a DD Form 1348-6.

MAINTENANCE CODES

The maintenance code covers the third and fourth places of the SMR.

The first letter of the maintenance code tells you who can remove, replace and use the item. A code of C or O in the third place of the SMR means you have the action.

The second letter of the maintenance code—fourth place of the SMR—tells you if the item's repairable and who does complete repair on it. That means the level authorized to do everything possible to that item. It does not mean lower maintenance levels do nothing to it. Your TM—the Maintenance Allocation Chart (MAC)—and the first part of the maintenance code tell you what you do with it.

The second letter—telling you who does total repair—shows up in the MR column of the Army Master Data File (AMDF).

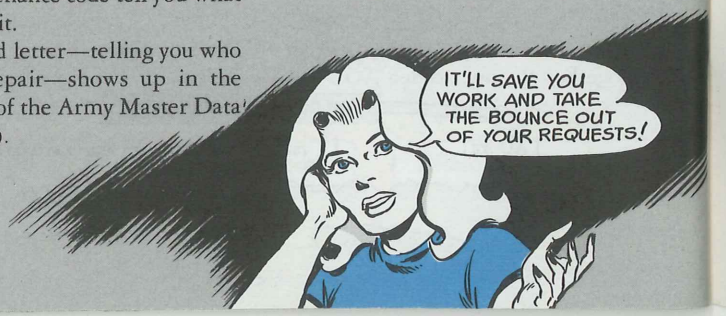
RECOVERABILITY CODES

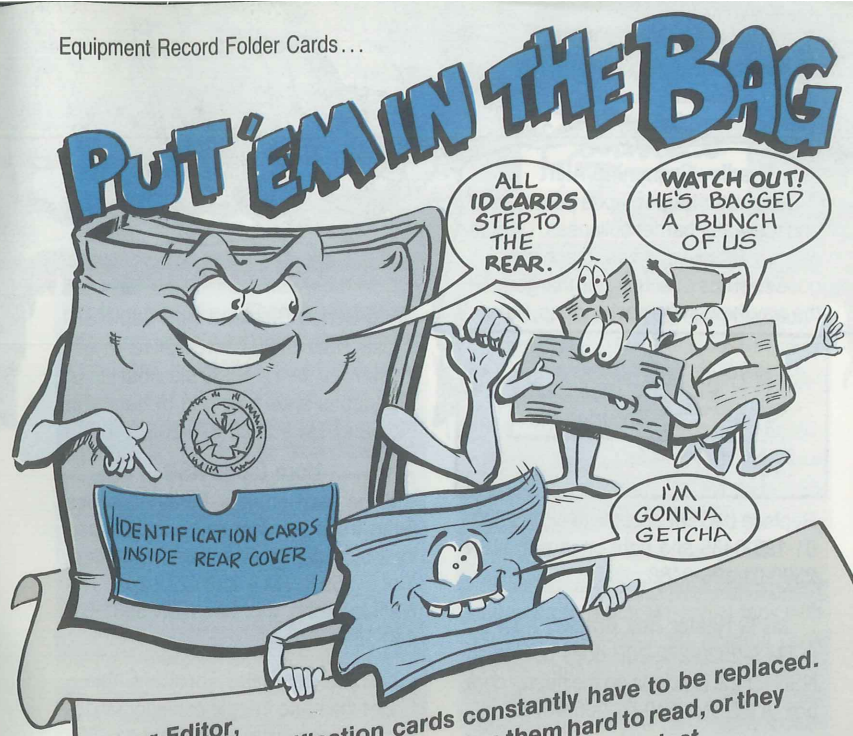
The last code in the SMR is the recoverability code. It tells you if the item is repairable and who gets rid of it when it cannot be fixed. Z means the item's not repairable and the level that replaces it also disposes of it. O tells you it can be repaired and—when it's beyond repair—you dispose of it.

Recoverability codes of F, H, D and A apply to repairable items disposed of at other levels or by special instructions.

Check the front of your parts manual for a complete list of codes and their meanings.

Learn to break the SMR Code.





Dear Editor,

Logbook identification cards constantly have to be replaced. They get wet and torn, which makes them hard to read, or they fall out of the equipment record folder and are lost.

Taping the pocket doesn't solve the problem because the tape gets ripped off.

I've come up with a simple solution. Put the cards inside an AOAP interlocking seal plastic bag, NSN 8105-00-837-7754. Keep the bag in the inside back cover.

Put a heavy card in the front pocket of the equipment record folder to identify where the cards are located.

Also, put transparent tape over the pencil entries so you can erase several times without putting a hole through the paper.

SFC Joseph F. Liberator
NEARNG
Omaha, NE

(Editor's note: Sounds like you bagged and locked that problem. Other can use it, too, with local command approval.)

Bradley Swimming Alert

Bum water barrier tripod posts break and the water barrier collapses. Look at all your Bradleys' posts, mechanics. A good post has a securing pin that goes all the way through the post and cap, like so:

Replace bad left posts with NSN 2590-01-198-0485 and right ones with NSN 2590-01-198-0486.

M939 Heater Box Bracket NSN

TM 9-2320-272-20P does not list an NSN for the brackets on the heater core box. It's NSN 2540-01-086-4674.

M939 Heater Seal NSN

Use NSN 5330-01-108-9119 to get the rubber seal that fits between the fresh air heater elbow and the vehicular heater canister assembly on your truck's hot water heater. Keep the seal and elbow together with adhesive, NSN 8040-00-262-9005. The rubber seal and adhesive are not shown in TM 9-2320-272-20P.

M939 V-Belt Set NSN

To get the matched set of V-belts for your 5-ton truck's power steering pump, order NSN 3030-00-832-4312. Jot it down for Item 6 in Fig 161 in TM 9-2320-272-20P.

M939-Series Blackout Rim Cap NSN

Use NSN 6220-01-107-2613 to get the rim cap for the M939 blackout lamp. The cap is shown as part of Item 4 in Fig 52 of TM 9-2320-272-20P.

Horn Diode NSN

If the horn on your M939/A1-series 5-ton truck has lost its honk, you can fix it by ordering diode assembly, Item 7 of Fig 59 in TM 9-2320-272-20P. The NSN is wrong, tho. Use NSN 5961-01-180-5634.

M915-Series Hand Throttle Cable

Get the hand throttle cable for M915-series trucks with NSN 2590-01-077-1475, CAGE 85757, PN 35214-2. This replaces the part number listed for Item 1 of Figure 16 in TM 9-2320-273-20P.

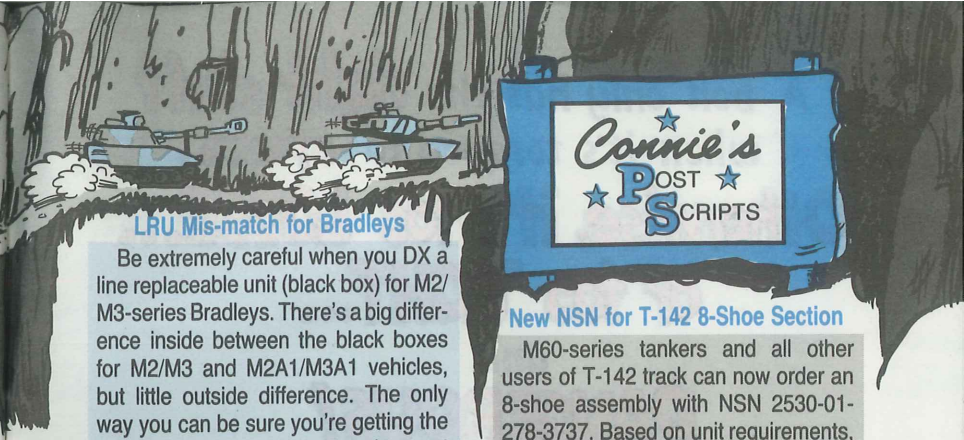
Door Weatherstripping NSN

Get the weatherstripping for the bottom of the door on M915-series trucks with NSN 5330-01-095-3719. For M915A1's, use NSN 5330-01-159-8513. Make a note of these NSN's until the -20P TM's are updated.

5-Ton Headlight $avings

Replace a burned-out headlamp on your 5-ton truck with NSN 6240-00-966-3831. It does the same job as light, NSN 6240-090-686-4168, but costs $15 less.

Would You Stake Your Life right now on



LRU Mis-match for Bradleys

Be extremely careful when you DX a line replaceable unit (black box) for M2/M3-series Bradleys. There's a big difference inside between the black boxes for M2/M3 and M2A1/M3A1 vehicles, but little outside difference. The only way you can be sure you're getting the right box is to match the data plate part number of the one you're turning in to the one you're picking up. Don't take a substitute—you'll damage a whole bunch more electronic gear.

PMCS Update for M2/M3, MLRS

Shock absorber PMCS checks No. 72 for M2/M3-series Bradleys and No. 59 for MLRS don't say anything about overheated or cold shocks as NMC criteria. They will, when the vehicle TM's are updated. Until then, check each shock carefully during the after-operation PMCS. If any one is too hot to touch or is cold, the shock is shot and your vehicle is NMC until the shock is replaced.

NSN for Centerguide Socket

Get a thinwall impact socket for M60-series tank track centerguides with NSN 5130-01-279-7924. It's a 6-pt, ¾-in square drive, 1 5/16-in socket that fits with ⅛-in to spare. It's great for installation. For removal of messed-up nuts, go with a 12-pt version, NSN 5130-01-279-5151.

New NSN for T-142 8-Shoe Section

M60-series tankers and all other users of T-142 track can now order an 8-shoe assembly with NSN 2530-01-278-3737. Based on unit requirements, ordering an assembly may make more sense than ordering individual shoes with NSN 2530-00-150-5897.

M1-Series Tank Matrix TB

End the confusion about which repair part goes to which M1-series tank with TB 9-2350-283-23-1, M1 Abrams Tank Family Configuration Matrix. The TB is set up in Maintenance Allocation Chart (MAC) order so you can quickly locate functional groups for easy part/component interchangeability among the M1, IPM1 and M1A1 tanks.

Trash Can Info

Get a plastic trash can for the AN/GSQ-80A message center with NSN 7520-01-005-9136. To get a metal one, order PN SC-D539454 CAGE 80063 on DD Form 1348-6 from RIC B16.

Oily Waste Trash Cans

Get a trash can to use for oily rags and such with NSN 7240-00-282-8411. It's a 6-gallon can that meets fire safety code requirements. It's authorized by CTA 50-970.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1988 — 548-004/80011

the Condition of Your Equipment?

A bolt only has the **right stuff** when it's torqued to **specs**.

Otherwise, it's too LOOSE... or too TIGHT... and DANGEROUS!

TORQUE M60-SERIES TANK END CONNECTORS TO 180–200 LB-FT
M1-SERIES TANKS GET 320–380 LB-FT

PIN: 06538G–000