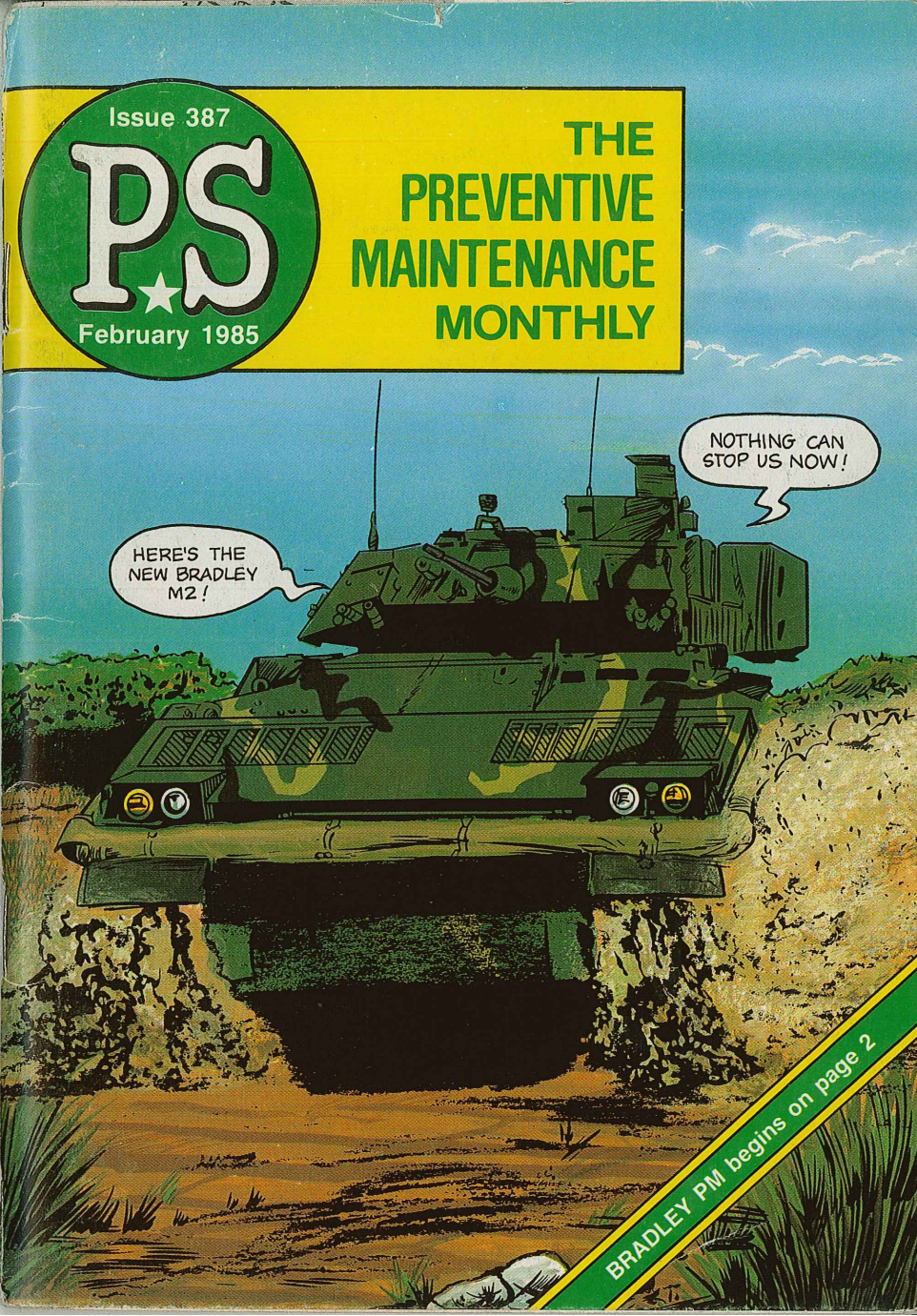
Issue 387

P.S

February 1985

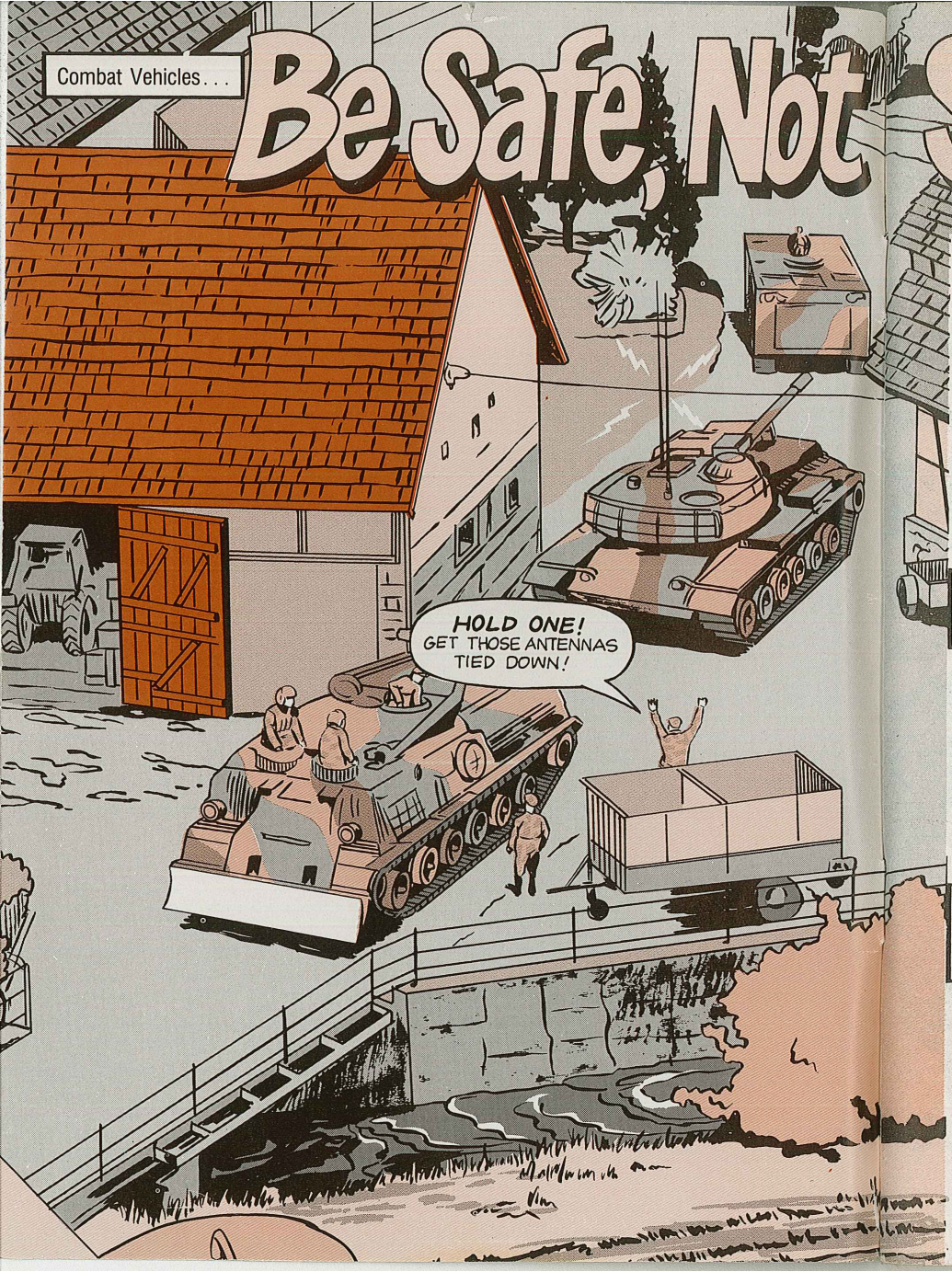
THE PREVENTIVE MAINTENANCE MONTHLY



BRADLEY PM begins on page 2

Combat Vehicles...

Be Safe, Not Sorry!

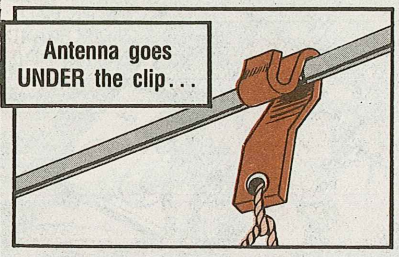


You're taking a chance, crewmen, if your antennas aren't tied down right!

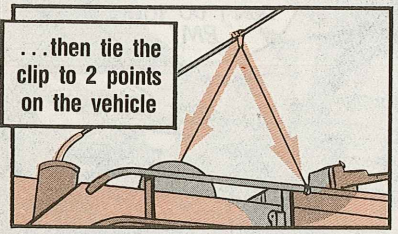
If an antenna comes loose and hits a high voltage power line, you could be seriously injured.

Make sure that antennas are tied down like TM 11-5820-401-10-2 says. It goes like this:

✓ Put antennas under the clips, not slipped into the top of them. An antenna can spring out without you knowing about it if it's just slipped into the clip.



✓ Use the triangle tie-down method. Once the antenna is clipped, tie the clip to two separate points on the vehicle.



That'll keep the antenna from swaying. Remember, tho, not to cross antennas when tying two or more of them down. You'll damage your radios.

PS THE PREVENTIVE MAINTENANCE MONTHLY

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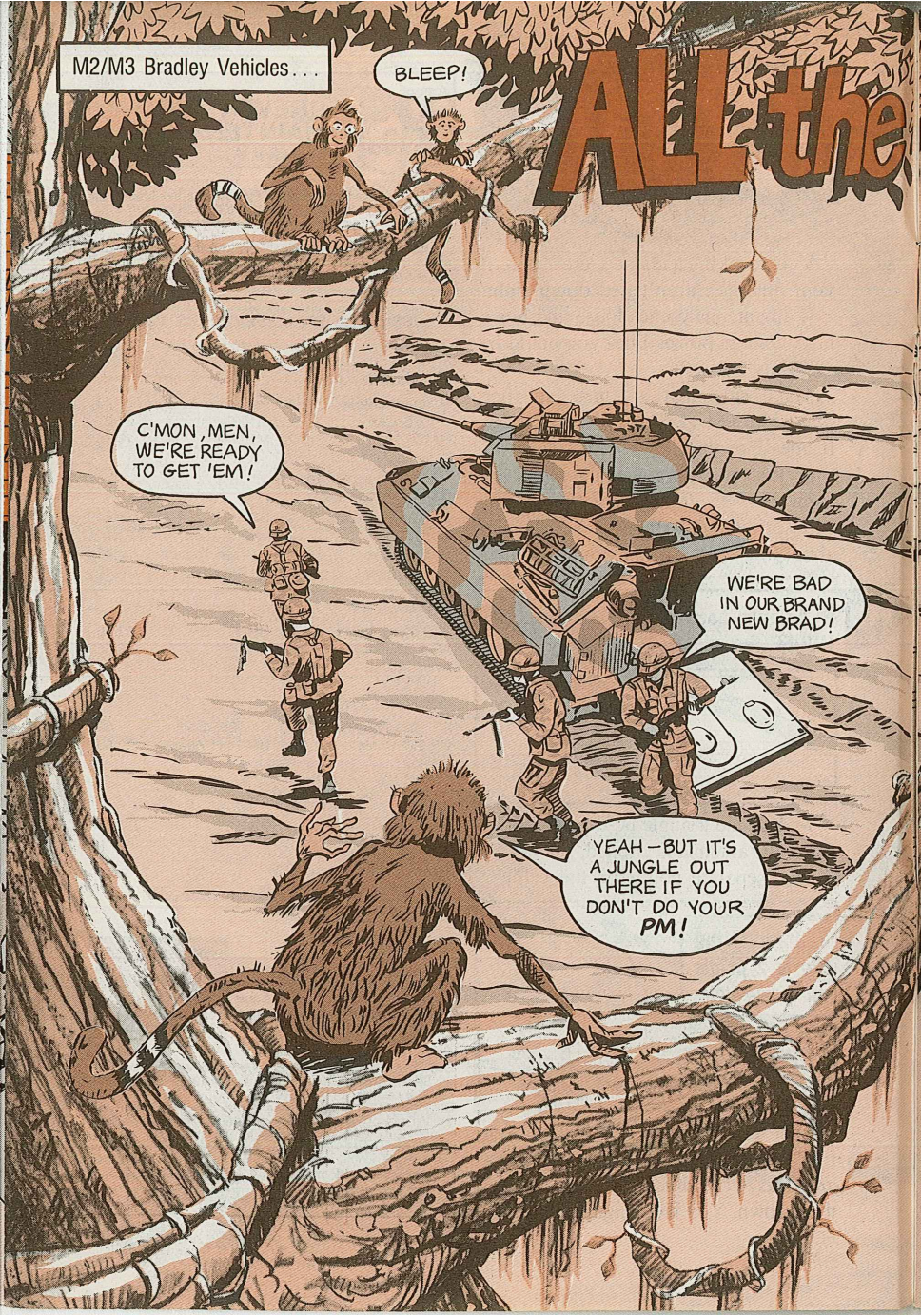
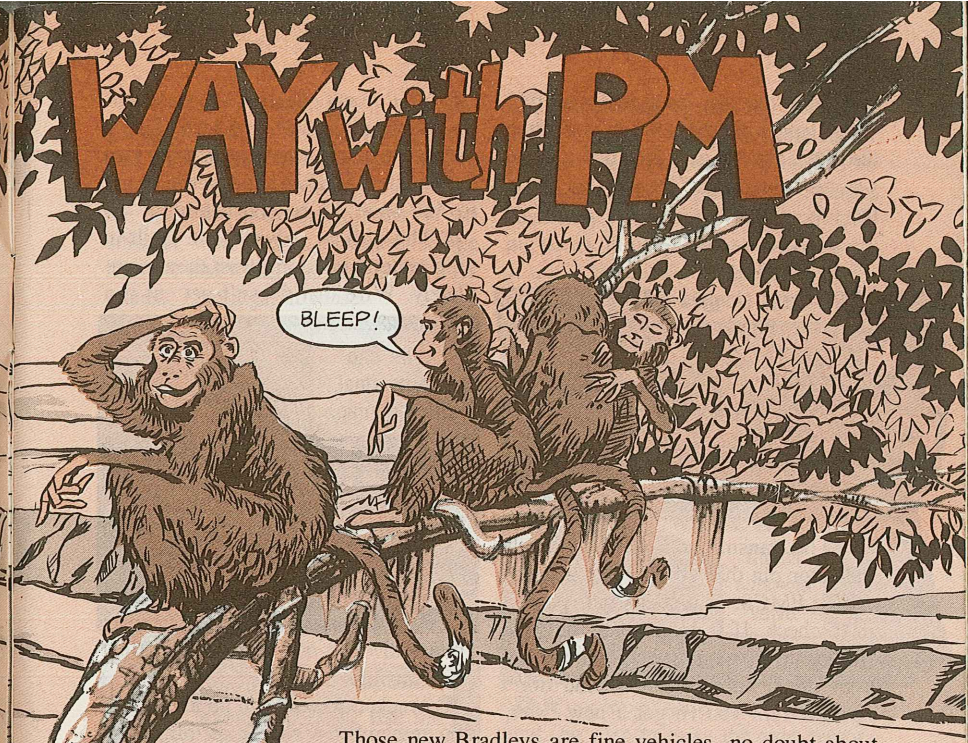
ALL the WAY with PM

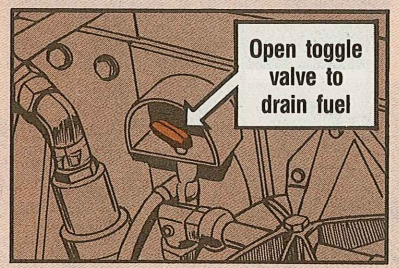




Those new Bradleys are fine vehicles, no doubt about it. Keep them that way with good care and on-target preventive maintenance. Here are loads of good tips so you can keep on tracking:

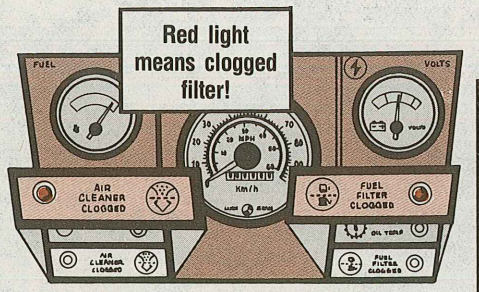
Weekly checks for batteries may not be often enough. You could have problems with loose connections, cracked battery cases from jarring, or low electrolyte levels. Check the batteries and their mounts more often.

Drain the fuel filter at least daily. The fuel tanks are real close to heat sources. One tank's under the turret and the other is next to the engine. Heat will cause condensation problems in all kinds of weather. If you find daily checks aren't enough, drain the filter more often.

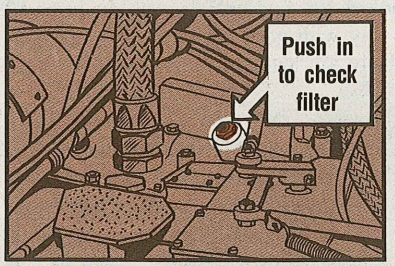


P.S. MORE

Both the air filter and the fuel filters have a red light to tell you when the filters are clogged. Shut down when you get a warning. Get your mech on the job.



The transmission oil filter has an indicator pin that you operators check during PMCS. If it sticks out, push it in to check. If it comes back out, the filter is dirty and must be replaced. Let your mech know about it, and don't operate until you've got a new filter.



You've got to keep the accelerator down when you go into a turn. That's because it takes engine power to turn the Bradley. It takes some getting used to, but soon it's second nature.

Those final drives have built-in wire cutters, but don't trust them completely. Wire that doesn't get cut can

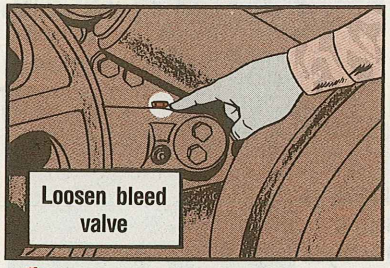
rip a seal open or chew into the final drive casing.

Track throwing can be avoided if you remember a couple of things:

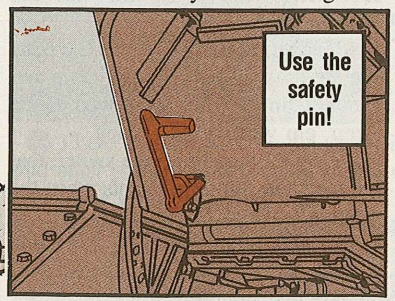
—Using pivot steer on sandy or rocky soil increases the chances of throwing a track.

—Rocks lodged between the track, the idler wheel and the tension adjuster can cause thrown tracks, bent parts and binding. Binding means overworked internal transmission and engine parts, which causes damage you don't need.

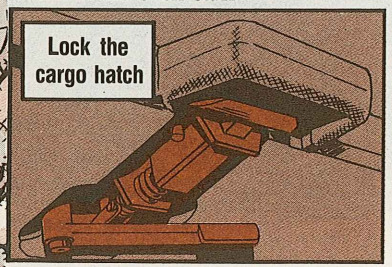
Correct track tension is very important. Check it often and by the book. TM 9-2350-252-10-1 has the word. If you need to adjust the tension, loosen the bleed valve on the adjuster. If the adjuster won't release, take a sledge hammer and whack the track at the idler wheel. That'll jar it loose.



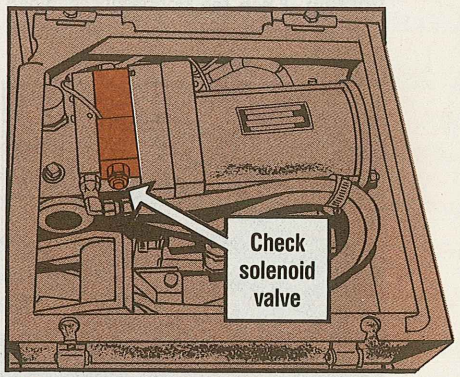
A couple of items on hatches—Always put the safety pin in the driver's hatch cover when you're running with



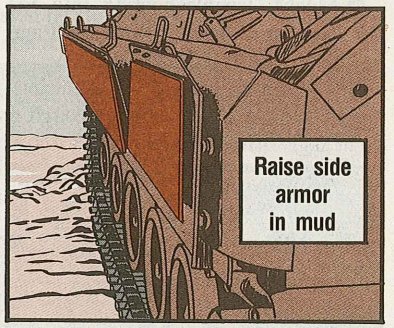
the cover in any raised position. Also, keep the cargo hatch lock lubed and it'll work better. The lock gets balky without the slick stuff.



If the ramp works sometimes, but not every time, check the ramp motor ground strap. It loosens in operation. If the connection gets loose enough, electricity will arc and burn the mounting screw in two. That means no ramp at all. Also check that the ramp solenoid valve is working.



If you're going to be running in the mud, be sure to raise the side armor. Mud can build up under the armor and above the track. It'll soon cause lots of

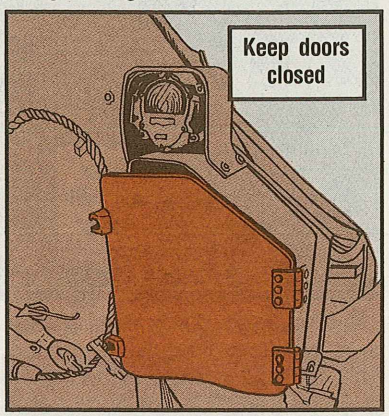


problems, even stopping the vehicle. On dry ground, however, don't run with the armor up. The mounting bolt inserts could loosen and the armor could fall on you.

P.S MORE

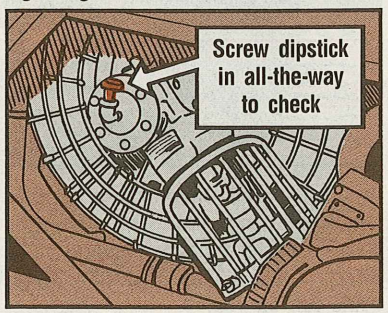
Mechs, if the horn doesn't work, check the wire where it rubs on the rear sponson box. Chances are there's a bare spot on the wire. Tape the area and secure the wire to the taillight wiring harness.

The vital storage space in the rear sponson boxes is useless if the boxes are torn up. Keep the doors closed when the vehicle's in motion, and be sure to use ground guides at all times.



Mechs, troubleshooting info for the personnel heater starts on Page 3-359 of TM 9-2350-252-20-1-1.

The cooling fan is mechanically driven off the engine PTO through a right angle drive. The oil check is vital.



Screw the dipstick in all the way to get a good check. Overfilling can increase oil pressure and blow the seals.

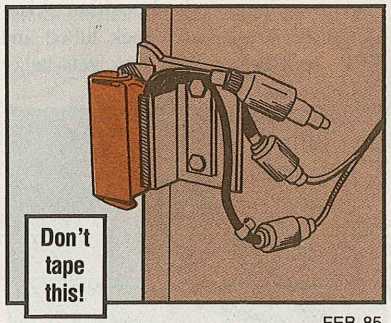
Also, the fan has two speeds to keep the engine cool. On demand, the fan runs at the faster speed, but slows down under normal conditions. Don't

be tempted, crews, to use the override button, which makes the fan run fast all the time.

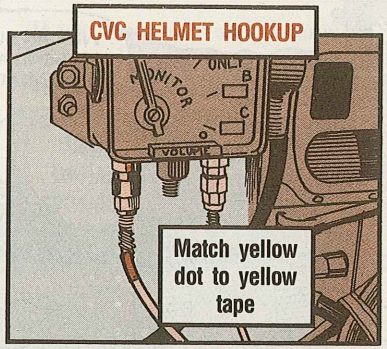
If you've got an overheating problem, troubleshoot it. Don't cop out with the override. The override wastes power, cuts performance and increases fan drive wear.

The left rear passenger's seat belts can get crushed between the ramp and the hull unless they're stowed right. Keep 'em where they belong.

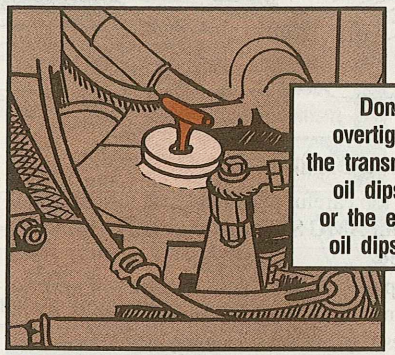
Don't tamper with the switch that turns off interior dome lights when the ramp is lowered. Some crews tape the switch so the lights stay on. Not only does that blow your light security, it'll damage the switch.

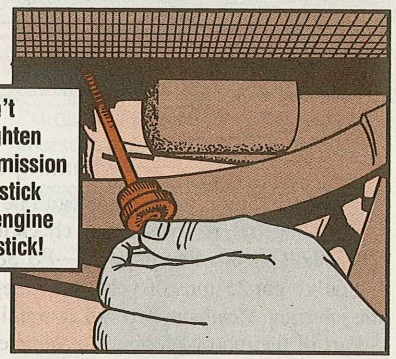


When hooking up your CVC helmets to the intercom system, control box, connect the long cord with the yellow band to the intercom jack point with the yellow dot and the short cord to the radio jack. Otherwise, you will be broadcasting on the radio when you think you're on the intercom.

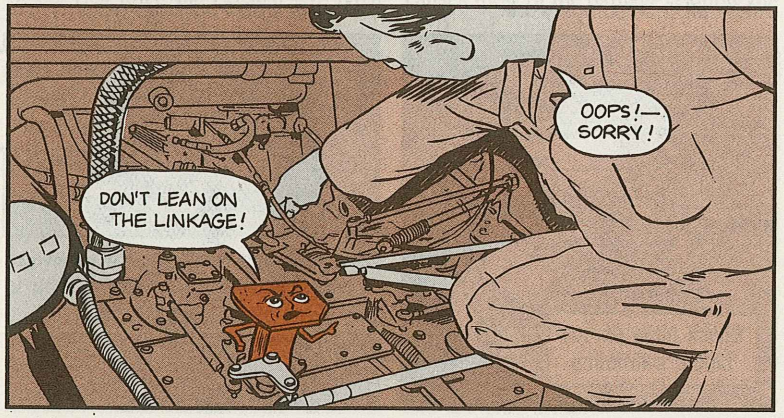


Don't overtighten the transmission and engine oil dipsticks. You'll mess up the seals and cause leaks.





There's a step plate on the transmission—use it. You can damage linkages and other parts mounted on the transmission by stepping on them. Bent linkages can cause erratic handling and loss of control.



PS MORE

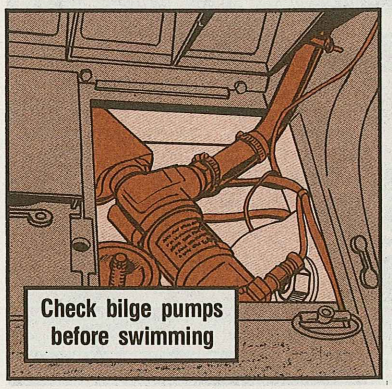
Swimming the Bradley

Safety, safety, safety. You can't be too careful when it comes to swimming the M2/M3. **Before swimming—check out AMC Safety-of-Use Msg AMCSF-E 231730Z Oct 84. See page 65—PS 386.**

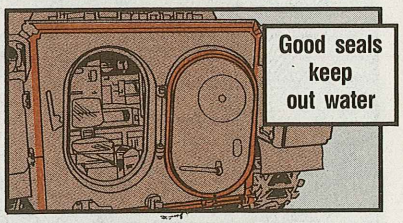
You've got 25 tons of vehicle to keep afloat, and it can be done—if you do the job right. Read and heed all swimming instructions in TM 9-2350-252-10-1.

Part of the job of keeping the vehicles dry involves maintenance. Check out these tips:

Make sure your bilge pumps are working. Don't even attempt to swim unless all four pumps work.

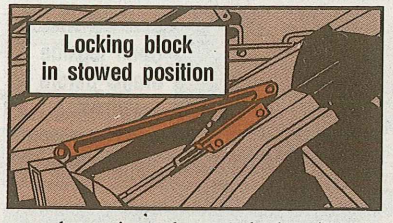


Make sure the ramp and ramp access door seals are in good shape. Rips, tears and gaps won't hold out water.

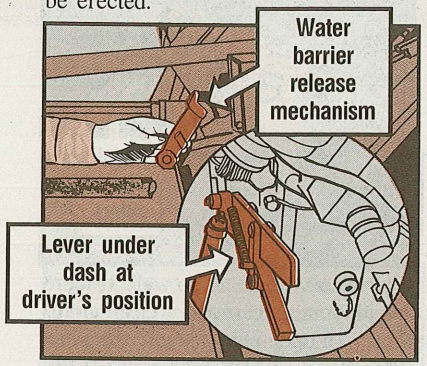


Mounting hardware for the water barrier and the trim vane must be in place and working every time you go swimming. This is especially true of the trim vane locking blocks and the water barrier release lever.

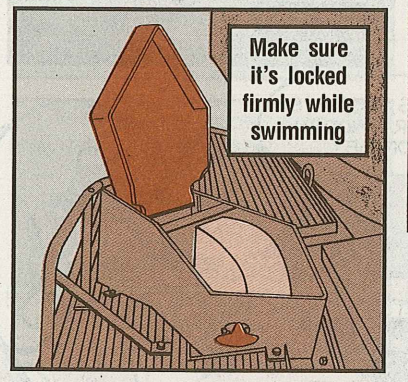
The locking blocks prevent the collapse of the side supports for the trim vane. The release lever locks the trim



vane brace into place so the barrier can be erected.

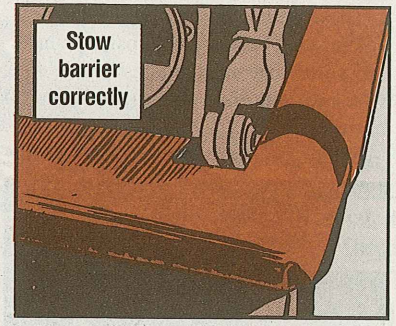


When the exhaust deflector is raised for swimming, make sure it's locked in place. If it falls, the exhaust will burn a hole in the barrier.



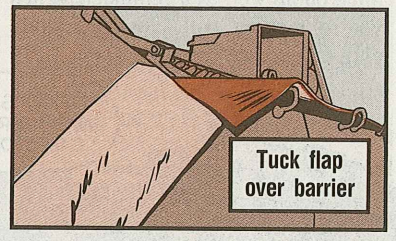
If you mess up with the hardware, you're **sunk**. It's that simple.

Check for holes or tears or other



damage to the water barrier material. A "curtain" that looks like a piece of Swiss cheese won't hold back much water.

Stowing the barrier after swimming causes most of the damage. Follow the –10 TM, making sure all edges are

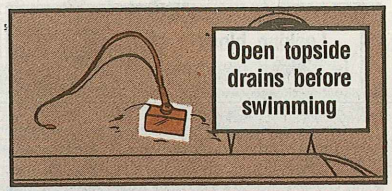


tucked in cleanly, especially those on the front corners. It helps if you use a hammer handle to push the barrier material into the gap between the hull and the side armor.

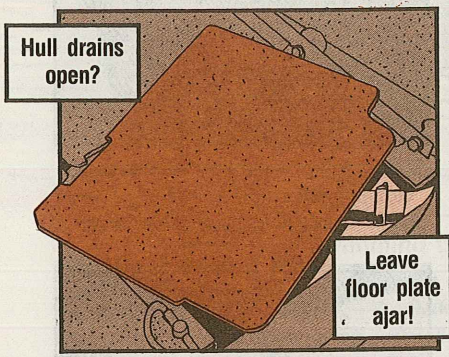
PS MORE

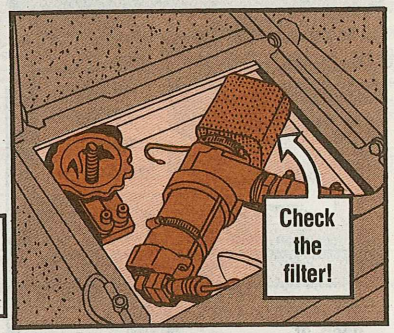
Also, make sure the material is dry before you stow it away. You don't need dry rot eating at your safety. Follow the procedures in your TM when using the drains, and keep them working right with an occasional squirt of oil.

Those on the bottom of the hull must be closed. Those on the topside, which let water that accumulates inside the water curtain drain into the hull, must be open.

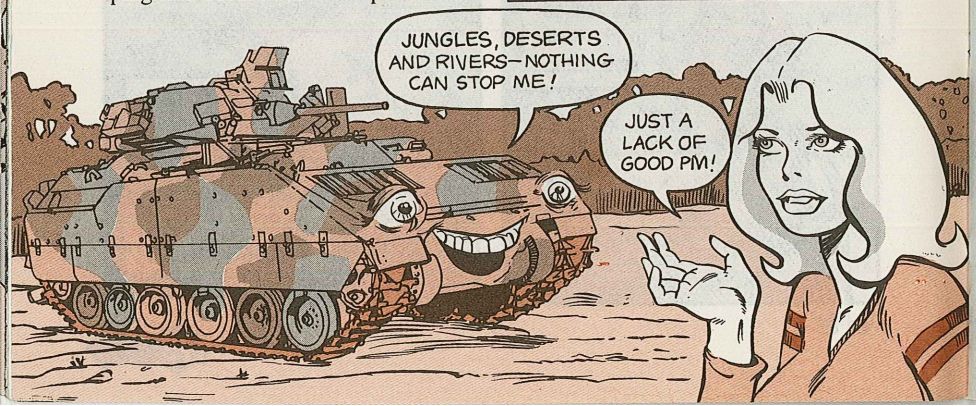


After you have opened the drain plugs or used the bilge pumps, raise the floor plates by the pump well. If there is silt or sand around the filter, take it out with your fingers and a clean cloth.

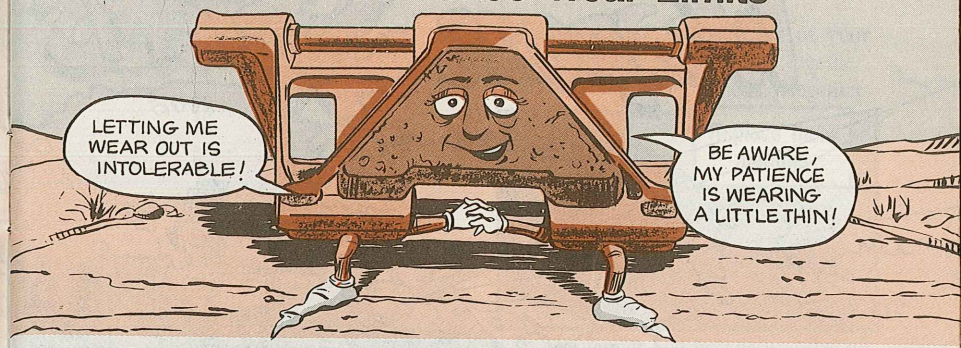




Before you move out, close the drain plugs. An open plug's screw shaft can bend when your vehicle hits a rock or log. So when you're on the line or in the motor pool with an open drain plug, keep the floor plate ajar over the bilge pump well as a reminder. When you're moving out, close the drain plug and secure the floor plate.



T157 Track Shoe Wear Limits

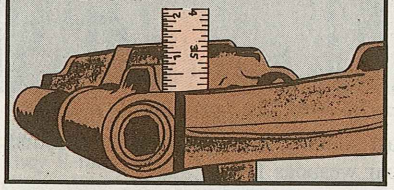


Wear tolerances for M2/M3 Bradley and MLRS track shoes have never made it into TM 9-2530-200-24 on track classification and wear standards.

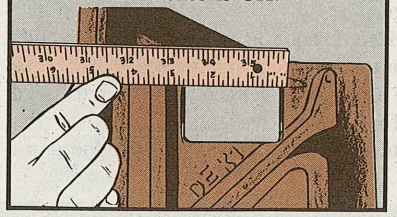
So how's a poor mechanic to know when enough wear is enough?

Step right up! Here are the wear limits for T157 track shoes.

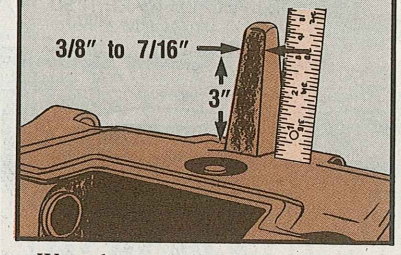
Grouser height: Measuring from the top of the bushing boss to the top of the grouser, 1/4 to 5/8 inch is OK.



Sprocket window wear: Up to 2-13/16 inches is OK.

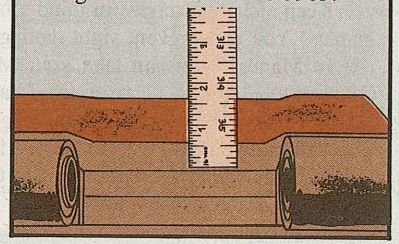


Centerguide thickness: Measured three inches up from the show surface and then across 3/8 to 7/16 inch is OK.



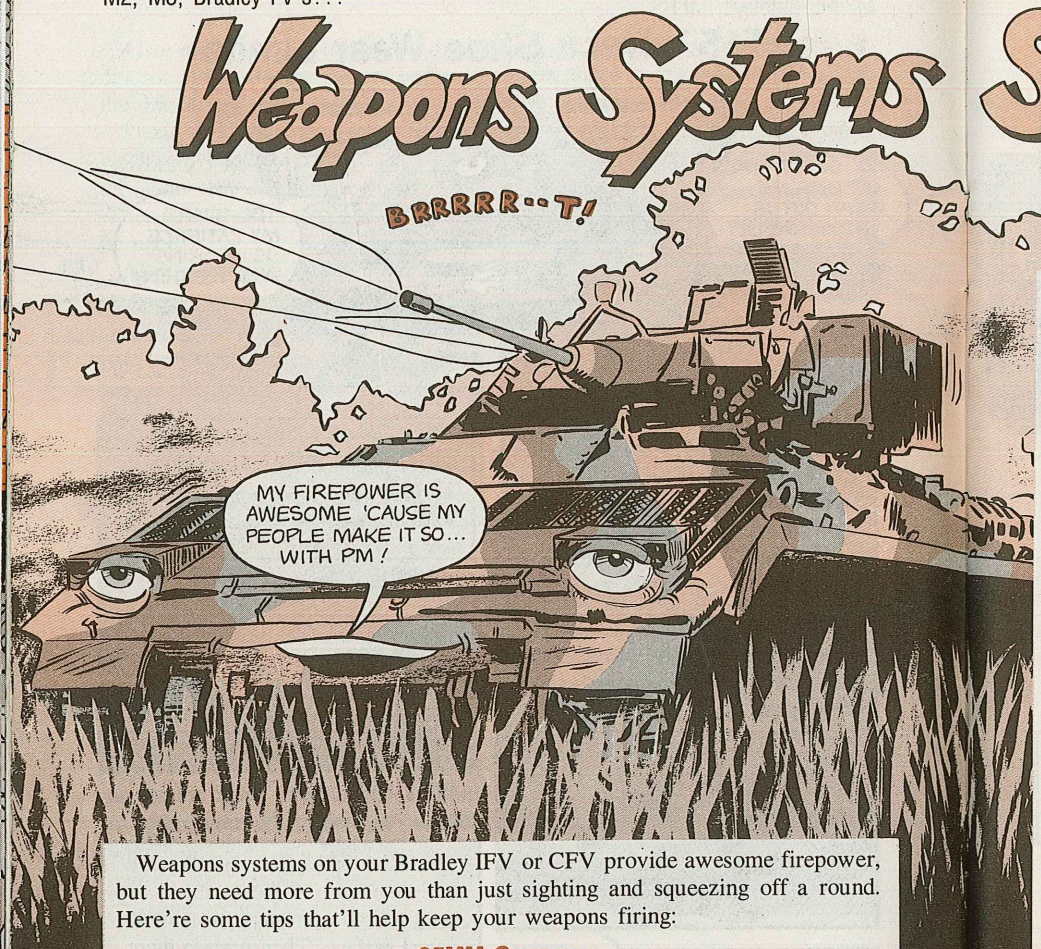
Wear beyond the lower tolerances means you discard the track shoes.

Track pads: OK until they are less than 1-11/16 inches thick, or until the grouser starts to mark a paved surface. Then replace them using NSN 2530-01-118-5965.



M2, M3, Bradley FV's...

Weapons Systems Savvy



Weapons systems on your Bradley IFV or CFV provide awesome firepower, but they need more from you than just sighting and squeezing off a round. Here're some tips that'll help keep your weapons firing:

25MM Cannon

Keep elevation modes in mind when you switch from or to automatic and manual. You can prevent sight damage.

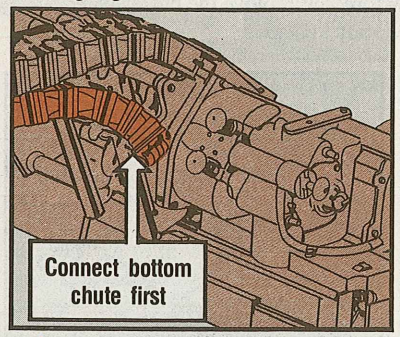
In Manual, you can take your M242 cannon and ISU (Integrated Sight Unit) up to 1050 mils... no sweat. In automatic, your sight raises to 1030 mils.

Don't stay at the upper limit too long unless your vehicle has been retrofitted. You can burn out the ISU motor. A fix is on the way.

Another sight saver: Before you turn on turret power, be sure the gun is not elevated above 1030 mils.

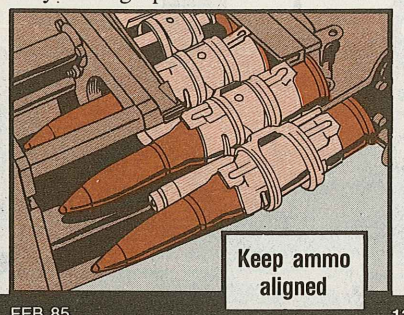
Feed Chutes

Be sure ammo feed chutes are connected before you raise or lower the cannon. That way, you prevent damage to dangling chutes.

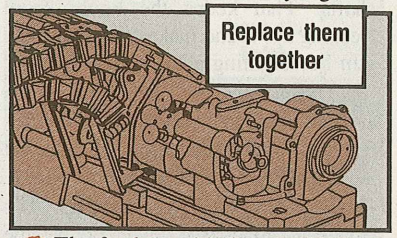


Attach the bottom chute first. It's a lot easier that way.

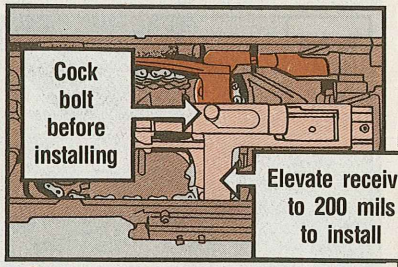
While you load, eyeball the ammo and links as they enter the feed tray slot. They've got to be aligned or they'll hang up.



The feeder and receiver of your cannon should be replaced together. They wear together... and stay together.



The feeder and bolt assemblies go in the receiver easiest if you elevate the receiver to about 200 mils.



Cock the bolt before you install it, or the cannon will jam.

When you install it, keep the bolt face towards the sear. It won't fit right and it won't work any other way.

The firing pin sleeve keeper can be tough to install. To ease the job, press down on the rear of the sleeve.

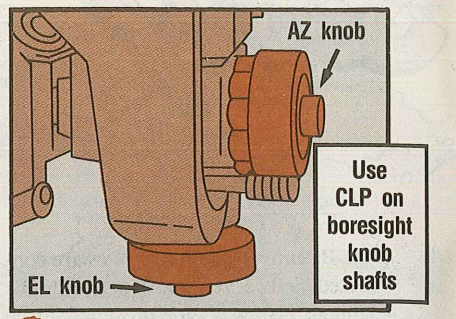
PS MORE

M240C MG

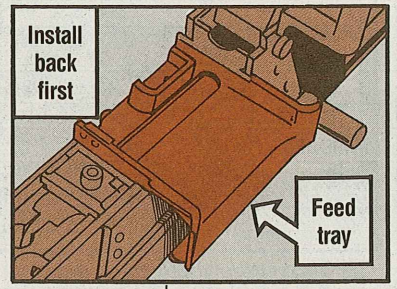
When you clean your M240C machine gun, put a few drops of CLP on the AZ and EL boresight knob shafts. That keeps the knobs from freezing up. . . and makes your machine gun boresighting a lot easier.

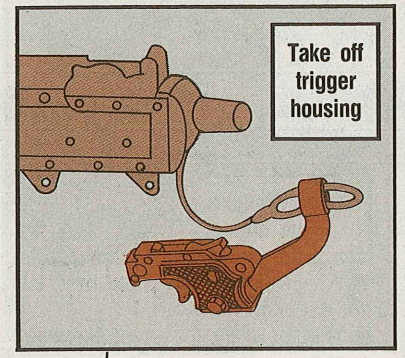
Clean brass and other debris from around the turret (plenum area) after firing. Among other things, it'll help you get to the boresight knobs more easily.

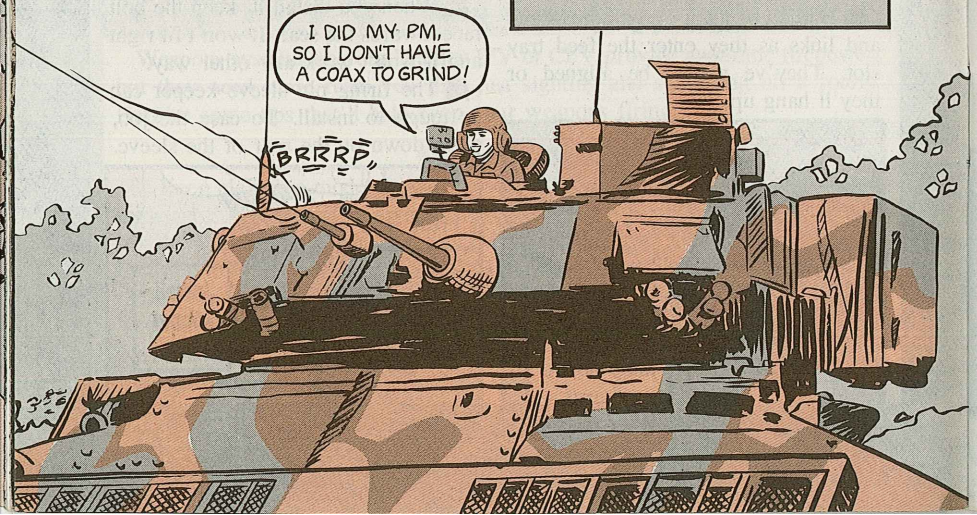
Assembly/disassembly aids: It's easier to attach the feed tray to the M240C if you first hook up the back of the feed tray to the weapon.



Take off the trigger housing before you remove the buffer plate. Save your knuckles.

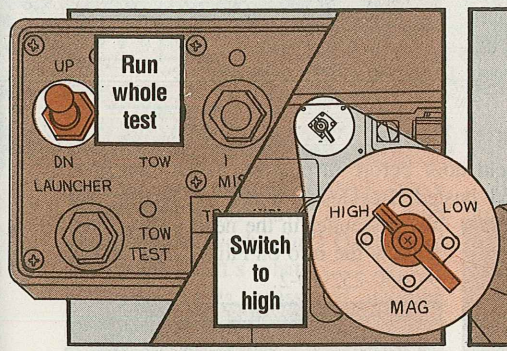






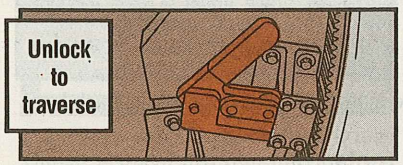
TOW System

When you do the TOW self-test, do the **whole** test without interruption (the full 12 seconds). Otherwise, you may not get true readings.

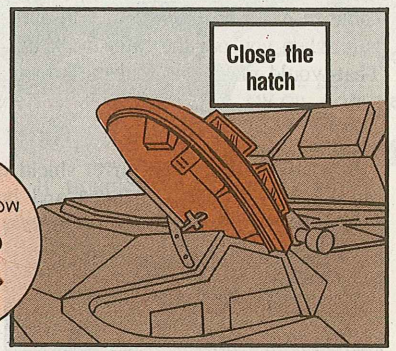


The sight must be in high power before the missile tube indicator lights will come on.

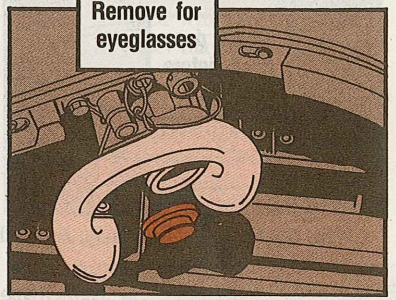
Unlock the turret travel lock first if you have to traverse the turret. The lock keeps the turret from traversing.



Close the driver's and cargo hatches before you fire the TOW missile.



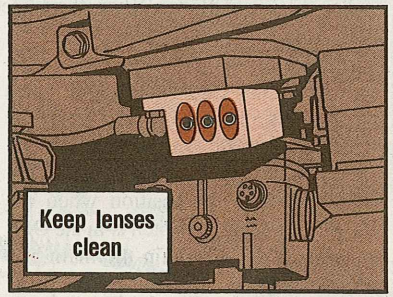
If you wear glasses, remove the sight eye rest so that you can sight in best.



Sensor-tivity

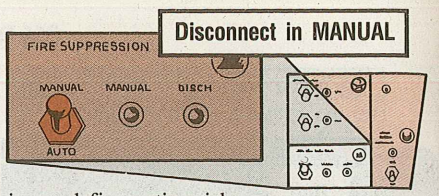
Sensors on the Bradley won't work with dirty lenses. Dirt could foul up your low ammo, fire, heat and light controls. Sensor lenses make a good voluntary addition to your pre-op checks.

A dirty lens will keep your low ammo light at the gunner's station from coming on. If you have that problem, the sensor lens is a good first check. Most of the time, dirt's the problem.



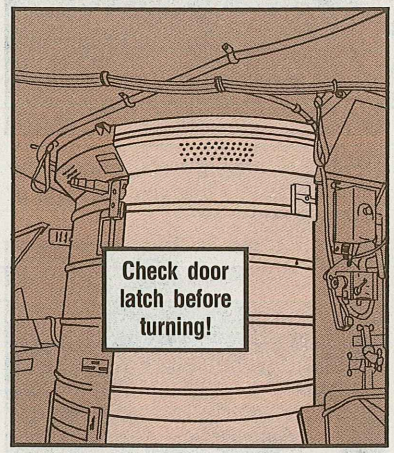
PS MORE

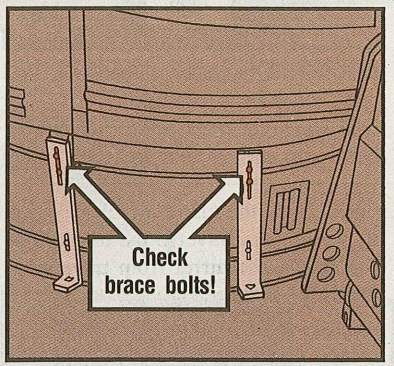
If you have to disconnect a fire sensor cable, do it with sensor control in the driver's compartment in the MANUAL position. If you remove the cable in AUTO, the system will activate when you put the cable back on. That would mean one real mess from triggered fire extinguishers.



Turret Taming

Shut and latch the turret shield door before turning the turret. An open door will get dented, banged and busted. Besides, it's not too healthy for the passenger in the nearby drop seat. Follow the info on Page 2-125 of TM 9-2350-252-10-2.





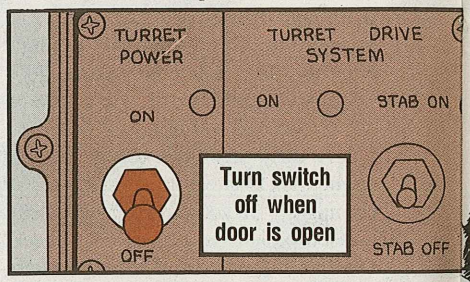
If the door won't slide evenly, adjust the track brace bolts to make the track level.

Store Tools

Pack your tools away. A loose screwdriver, or the like, can work its way under the turret floor. When the turret turns, the tool will poke a hole in the fuel tank.

Power Off...Always turn the TURRET POWER switch to OFF when the door is open. This will keep the turret from turning accidentally.

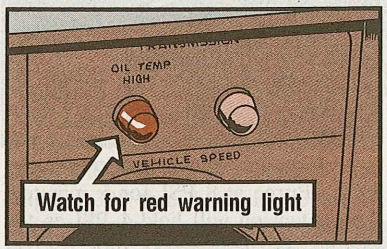
Never leave the TURRET POWER switch in the ON position when the MASTER POWER switch is in the OFF position. This will drain the main batteries as well as the turret power pack.



PS END

What does running through heavy brush and trees have to do with transmission overheating? Overheated oil coolers, that's what.

Leaves, twigs, grass and anything else kicked up during a mission can block off air to the transmission oil coolers. That means the oil temperature will shoot up fast. It'll trigger a warning light on the driver's control panel.



Drivers, don't overlook the warning signal! Without that transmission, you don't have a mission anymore.

TM 9-2350-255-10-3 gives you lots of information on troubleshooting when you get a warning light. Follow the directions.

Pay special attention to cooling off the engine before shutdown. Idle for a couple of minutes. Otherwise, even more heat will be absorbed by internal components.

If troubleshooting doesn't turn up an obvious problem, **don't be tempted to continue operations**. Call your mechanics.

Mechs, don't overlook the oil coolers. Pull the engine deck and check them out. Chances are they're clogged. Clean all the trash out.

You may even need to wash the coolers to get rid of dirt, especially if the dirt's mixed with oil. A couple of buckets of water may do the trick. But if you can't do the work in the field, get the tank back to the motor pool. Tow it (don't drive it) according to the word on Pages 2-378 thru 2-393 of TM 9-2350-255-10-2.

A "fried" transmission definitely makes a mission impossible.

Purging and Charging Update

All those electronic units—sights and laser rangefinders—are just expensive pieces of metal and glass, M1 mechs, unless they're purged and charged.

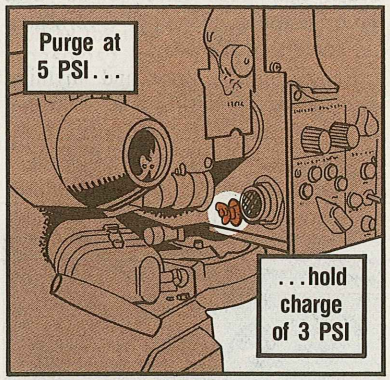
Not only must you purge and charge those components every 90 days, you've got to purge and charge 'em every time you open 'em for service or repair.

If you don't do the work every time, moisture and dirt can sneak in and put those components out of business.

And that means your tank will be out of business, too.

TM 9-2350-255-20-2-3-3 has all the info on purging and charging procedures.

Gunner's primary sight—Purge and charge at 5 PSI for 5 minutes. A relief valve will hold 3 PSI in the sight as a charge. See Pages 7-47 thru 7-51 of the TM.



Commander's extension to GPS—Purge at 8 PSI for 5 minutes. The extension will hold 4 PSI as the charge. See Pages 7-88 thru 7-90 in the TM.

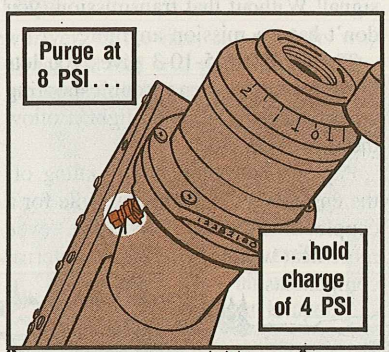
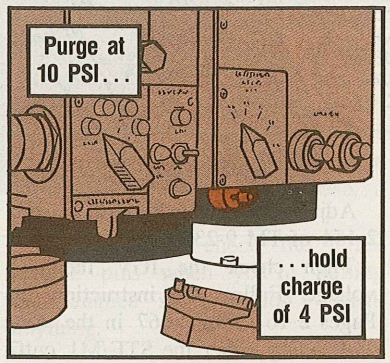
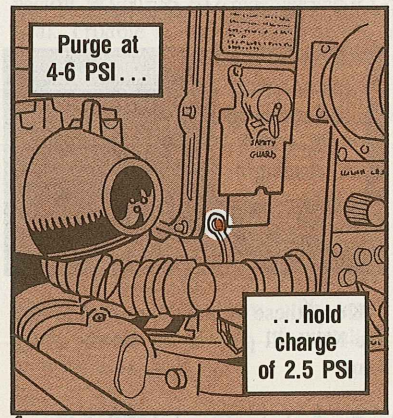


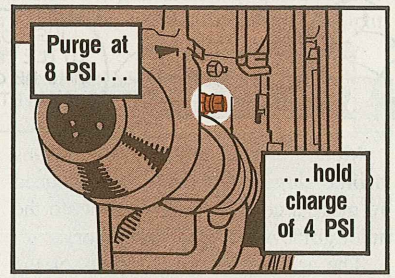
Image control unit—Purge at 10 PSI for 10 minutes. The unit must hold at least 4 PSI as the charge. See pages 7-372 thru 7-374 in the TM.



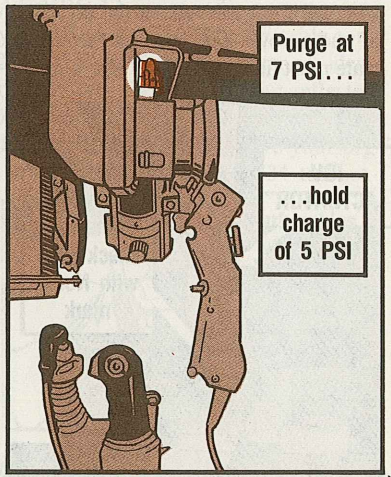
Laser rangefinder unit—Purge at 4-6 PSI for 5 minutes. The unit will hold about 2.5 PSI as the charge. See Pages 7-336 thru 7-341 in the TM.



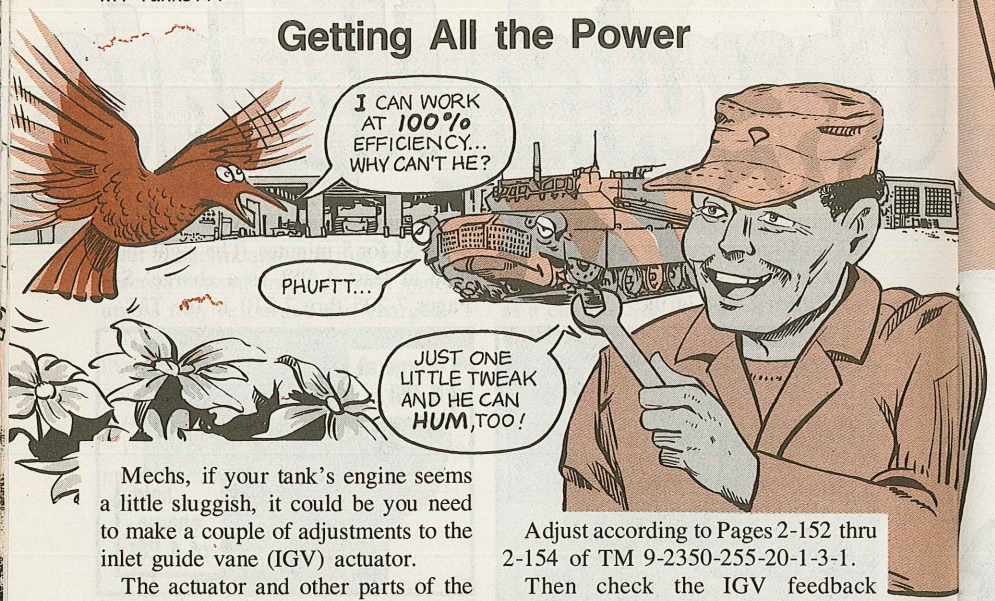
Gunner's auxiliary sight—Purge at 8 PSI for 5 minutes. The sight must hold at least 4 PSI as a charge. See Pages 7-206 thru 7-210 in the TM.



Commander's weapon station sight—Purge at no more than 7 PSI for 5 minutes. The sight must hold at least 5 PSI as a charge. See Pages 7-164 thru 7-166 in the TM.



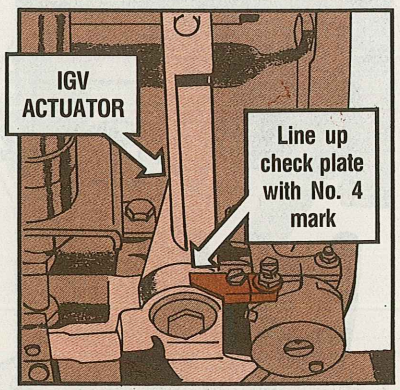
Getting All the Power



Mechs, if your tank's engine seems a little sluggish, it could be you need to make a couple of adjustments to the inlet guide vane (IGV) actuator.

The actuator and other parts of the fuel/air system make sure the right amounts of fuel and air are available for combustion to give drivers full power when they need it.

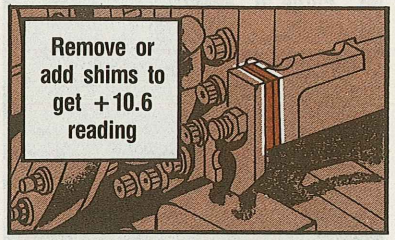
First, check the actuator. Push the lever all the way back in the direction of the arrow. The end of the check plate must line up with the No. 4 mark.



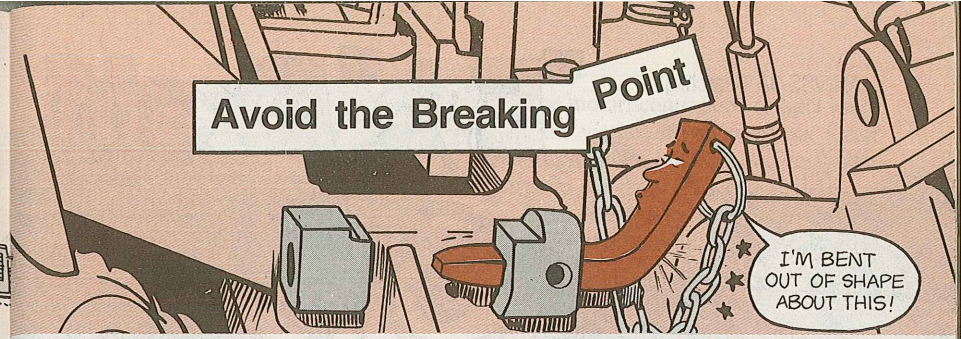
Adjust according to Pages 2-152 thru 2-154 of TM 9-2350-255-20-1-3-1.

Then check the IGV feedback voltage. Follow the instructions on Pages 2-161 thru 2-167 in the same TM, using either the STE/M1 outfit or a breakout box and groundhop interface kit.

Remove or add shims as needed to get readings between +10.2 and +11.0 volts. Exactly +10.6 is best.



Keep these adjustments in line and the M1 will put out the power every time.

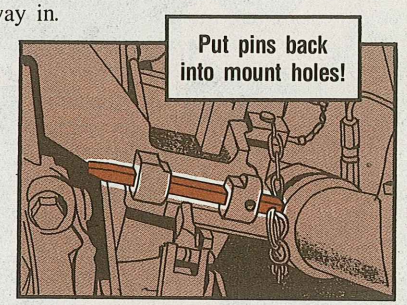


M1 gunners, save your trusty turret mechanic some unnecessary work and Uncle some money by securing the M240 machine gun mounting quick release pins. When you remove the M240 from its mounts, make sure the pins are put back into the mount holes... all the way in.

Otherwise, a loose pin can snag on the gunner's auxiliary sight body when the main gun is elevated or depressed.

That can mean a bent or broken pin or mount, or, in the worst case, a broken sight body.

Mechs, double-check the quick release pins when you're pulling maintenance so you don't break anything.



Fight RF Cable Switch

If you switch antenna cables on your AN/VRC-12-series radio components, you'll have transmitter problems. It's easy to make a mistake. The RF cable connectors to your R-442 receiver and RT-524 or -246 receiver-transmitter are identical. Trouble is, the antennas aren't. Your RT will receive fine, but reflected power from the receive antenna can KO RT circuits. Watch for a sharp drop in transmission range after hooking up the cables. If you get it, have your org repairman check your set out with an AN/URM-182 or AN/PRM-34 test set.

Be sure that at least 5 freqs in both A and B bands are tested. If high reflected power is found, switch the cables. That should clear up your transmission woes.

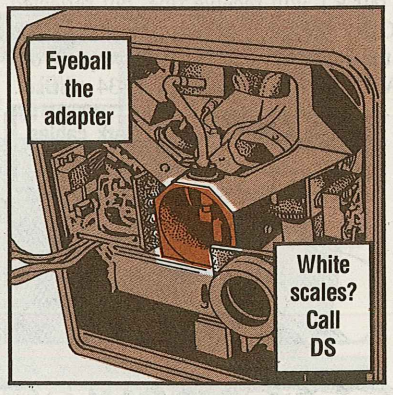
Once you've got cable and component mated, mark them with tape. That'll head off a case of mistaken identity next time.

AN/VSS-3A Searchlight...

"Eye" Exam Needed

If your tank's night eye has been idle or stored for awhile, be sure it gets a checkup before it's fired up.

Corrosion can form inside the infrared filter tube assembly. When you turn the light on, this corrosion can burn out the converter assembly, filter drive motor—or both. Get your org maintenance shop to open the rear cover and eyeball the lamp housing adapter.



Any white scale found inside the adapter is the tip-off to a possible seized-up IR filter. That light needs DS attention.

If it's clean, your org shop keeps it that way by giving the adapter a good rubdown before putting it away again.

It's a good idea to have the adapter wiped out after a night firing or other use when condensation is likely to form.

You can also head off corrosion by keeping the stream from a high-pressure water hose away from the searchlight.

The motor, control box or light itself are the victims if you overfuse. Keep the right fuses on hand and resist the urge to use the wrong fuse in a pinch.

Save yourself by keeping out of the back of the searchlight. There can be as many as 30,000 volts running through the light—and you, if you hit the wrong spot.

Also, protect those in front of your searchlight.

Your pubs tell you not to beam individuals closer than 320 meters. You should also keep from hitting other "friendly" tanks with the light. That beam can zap the image intensifier tubes of their night vision equipment.

Remember that as you come and go from night firing tables.

Other Sight Savers

When you shut the big light down, keep the vehicle power on until the blower stops. This cooling-off period keeps the xenon lamp from exploding.

Another searchlight killer is leaving the light on while you stop and restart the vehicle engine. The electrical surge blows transistors.

Testing Your Periscope..?

Turn Out the Lights

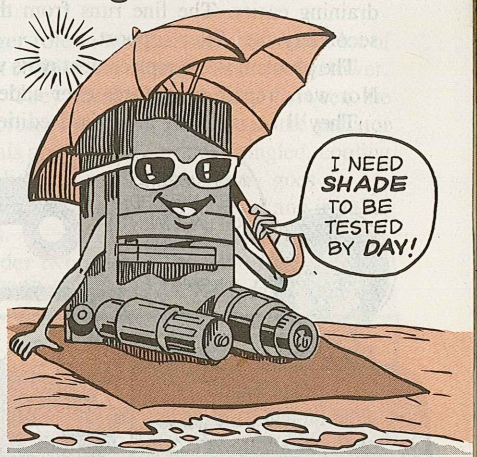
A daytime test won't tell you what shape your M32E1, 35E1 or 36E1 periscope is in...unless you keep it in the dark.

The elbow assembly's image intensifier uses available light to give you the big picture. When daylight hits the intensifier, it shuts itself down to head off damage. Test then, and you'll think the periscope is bad.

To test during the day, you have to shut out this light.

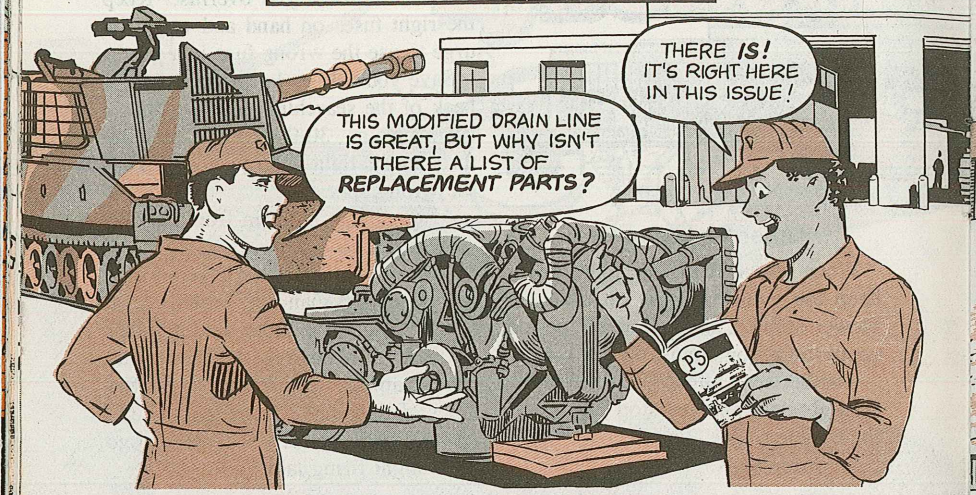
Keep it out by closing the ballistic shield. Test by turning the passive elbow's shutter lever OFF then ON again. That clears the tube.

You can keep the shield open and test if you cover the elbow with a sunlight shield, NSN 1240-00-406-1581. This NSN's not in your pubs yet but will be added.



This simple test can keep you from sending a good sight to support maintenance.

Fuel Filter Drain Parts

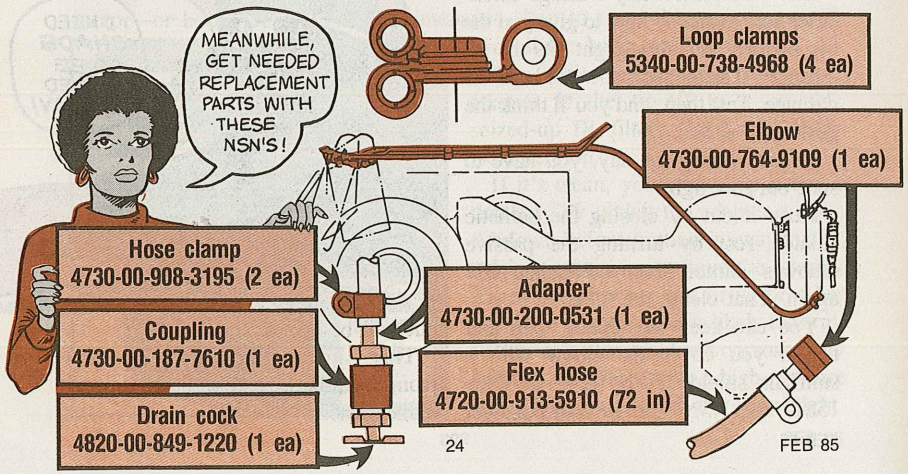


Finding replacement parts for the primary fuel filter drain line on your converted M109A3 may be a problem.

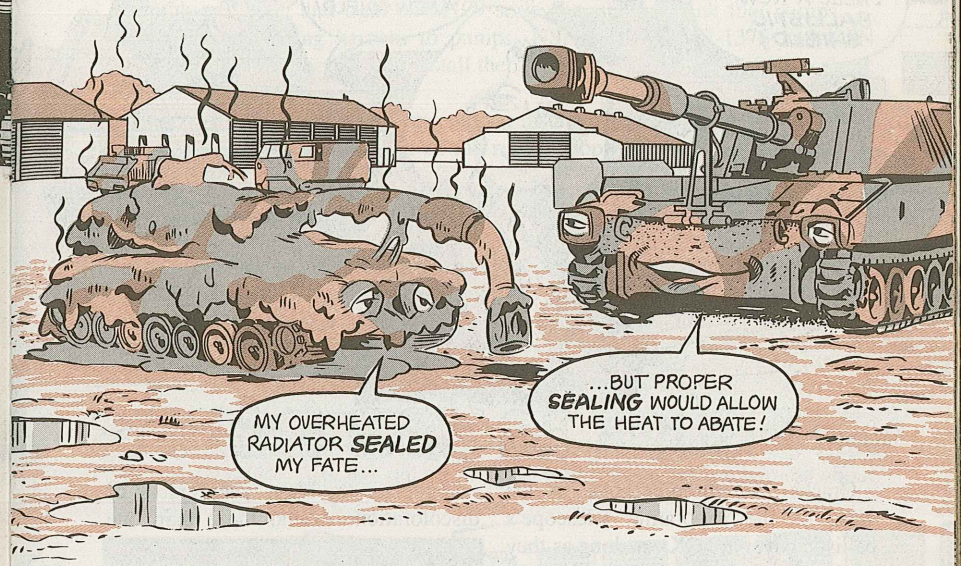
A modified drain line was added during depot conversion to make daily filter draining easier. The line runs from the filter housing to the backside of the secondary fuel filter support.

The problem is, no replacement parts were ever listed in TM 9-2350-217-24P-1. Nor were repair procedures ever added to TM 9-2350-217-20N.

They'll be included in revised editions of both manuals.



Shroud Seals Are Vital

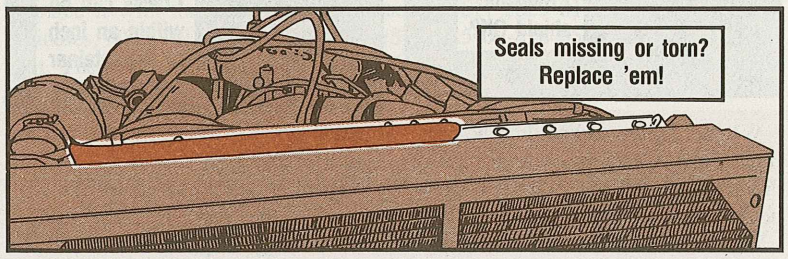


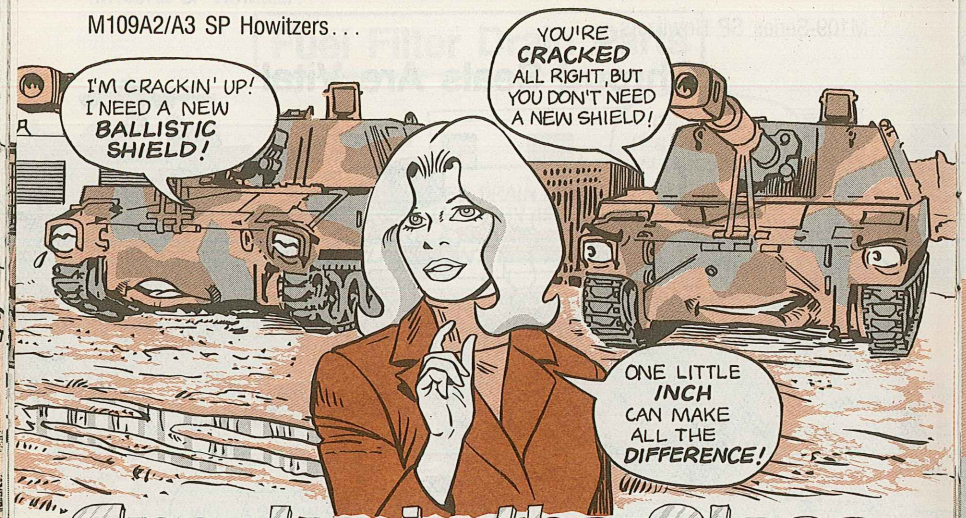
The radiator shroud seals play a bigger role in howitzer cooling than a lot of people realize. Many think the seals just cushion the radiator from the fan tower.

'Tis a far, far better thing they do. They form an air barrier between the radiator and fan tower. The barrier increases the air flow through the radiator to help keep your engine cool. If the seals are missing, torn or mangled, cooling air escapes around the sides of the radiator. Engine temperature goes up.

Check the shroud seals next time the pack's out. All the removal and installation instructions are in your -20 TM's.

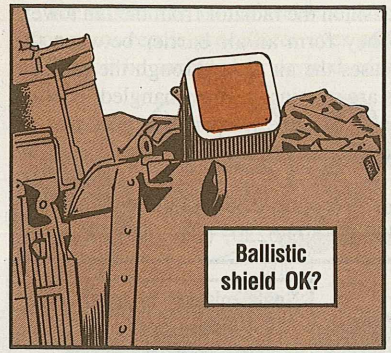
If your seals are missing or torn, order two seals, NSN 5330-00-102-9927, (right and left sides), and two, NSN 5330-00-899-5220, (top and bottom).

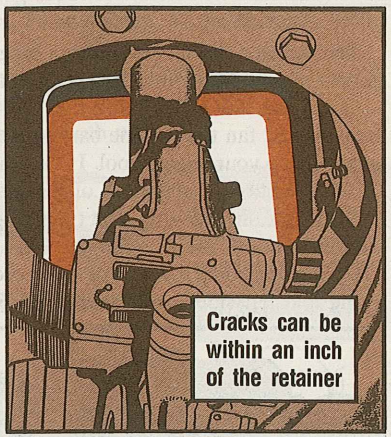




Cracks in the Glass

Cracks and discolorations in the glass of the panoramic telescope's ballistic cover are OK—as long as they don't affect the gunner's field of vision.





When it comes to knowing when to replace that glass, tho, whose field of vision counts? What's good for you may not be good for someone else, right?

Here's the word: have your support unit replace the glass when cracks or discolorations extend more than one inch from the glass retainer toward the center of the glass.

Cracks or discolorations are OK anywhere inside that one-inch margin around the glass plate.

Fuel Pump Grounding

Here's a lesson learned from some sad and frustrating experiences:

Make sure the ground strap connections between the motor and hanger assembly are right and tight on M109-series howitzer in-tank fuel pumps.

Connect the wiring harness to pumps, NSN 2910-00-782-1376 and NSN 2910-00-937-7435, before you install them. Turn on the master switch to check that the pump works.

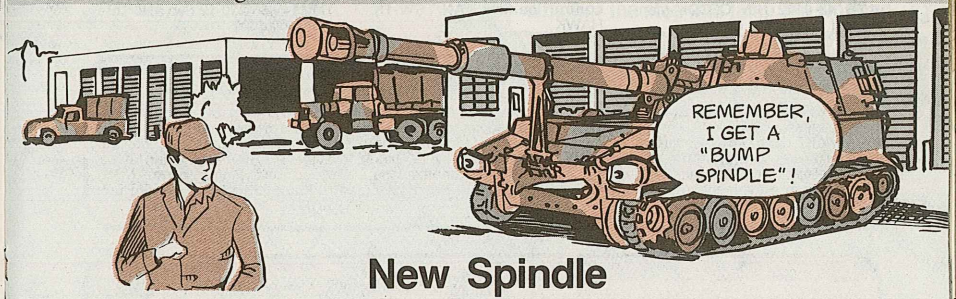
This will save yanking a pump you just installed and keep otherwise serviceable pumps on the job and out of the repair shop.

Mop-Up

Water left in the breech after swabbing can make for a slow burn on the next round, cannoneers. And a slow burn means a short round. Be sure to check the tube between rounds for an accumulation of water. If you see puddling of water, sop it up with your sponge or a clean rag.

Light Assembly NSN

Item 1 of Fig 46 in TM 9-2350-303-20P-1 is short on an NSN for the low coolant indicator light assembly for your M109A2 SP howitzer. NSN 2930-01-093-4314 gets the right assembly, which has a wiring harness about 18 inches long.

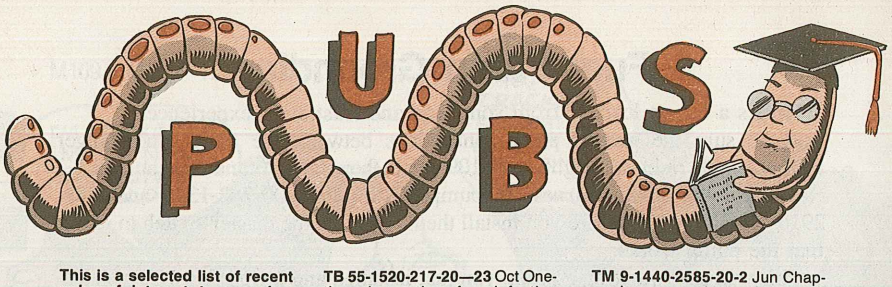


New Spindle

When the obturator spindle on your M109A2 or A3 SP howitzer wears out, replace it with the new "bump" spindle, NSN 1025-01-120-4511. The old spindles, NSN 1015-01-043-7484 or NSN 1025-00-818-0560, are being phased out. The new model gets its nickname from the two "bumps" on the obturator spindle front surface.

Traversing Part

Use NSN 4730-00-833-0508 to get a new pipe adapter for your M109-series howitzer's power traversing unit. It replaces NSN 4730-00-781-6530, shown as Item 3 of Fig 31 in TM 9-2350-217-20P-2. Now all M109's use the same adapter.



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.

Miscellaneous

FM 17-15 (Test) Oct Tank Platoon Division 86
FM 21-305 Sep Manual for the wheeled vehicle driver (AFM 77-2)
FM 57-220 Dec Basic parachuting techniques and training (TO 14D1-2-2)
LO 9-1450-646-12 Aug Multiple Launch Rocket System, M993
LO 9-2350-252-12 Aug M2/M3 Bradley fighting vehicle
STP 3-54C-TG Dec 54C, Smoke operations specialist
STP 5-51M34-SM Dec 51M, Firefighter
TB 43-0122 Nov CECOM-managed radioactive items
TB 55-1520-217-20—23 Oct One-time inspection for defective MS21251 brass turnbuckles CH-54A/B

Technical Manuals

TM 5-2330-360-14&P Dec M870 Lowbed CCE semitrailer CMI/Load King Model 403LF
TM 5-3805-240-20P Dec Parsons Model 624VL ditching machine
TM 5-3810-289-20P Dec Bucyrus-Erie 22BM crawler crane
TM 5-3810-303-10 Aug 40-ton crawler mtd crane Harnischfeger Model 5060
TM 9-1005-231-10 Nov M85 machine gun
TM 9-1425-475-23P Sep Hellfire
TM 9-1425-647-24P Oct Multiple Launch Rocket System
TM 9-1425-2586-10-HR Dec Chaparral
TM 9-1430-485-20P Oct Lance
TM 9-1430-1526-24P Dec Battery control central, AN/TSW-13, HAWK
TM 9-1440-2585-20-2 Jun Chaparral
TM 9-1450-646-10 Aug Multiple Launch Rocket System carrier, M993
TM 9-2330-211-14&P Sep Semitrailer, lowbed: M172 and M172A1
TM 9-2330-247-14&P Dec Chassis, trailer: general purpose, 3½-ton, M353
TM 9-2330-287-14&P Dec Trailer, bolster: 4-ton, M796 and M796A1
TM 9-2330-297-14&P Dec Chassis, coupleable semitrailer (MILVAN), 12-ton, 2-wheel and bogie assembly
TM 9-4910-571-12&P Oct STE/ICE
TM 9-6920-475-23P Sep Hellfire
TM 9-6940-477-24P Dec G/VLLD instructor set, G/VLLD student trainer set
TM 11-5841-288-24P Jul AN/APR-39(V) 2 radar signal, detecting set
TM 11-5855-249-20 Nov AN/VVS-2 driver's night vision viewers
TM 11-6665-230-12 Sep AN/PDR-27R radiac set

SMART Messages

Here are the latest SMART messages:

SMART Msg #44—Describes a quick way to get AMDF/LIF/MCRL-I info using automated data processing equipment (ADPE), DALO-PLR 161607Z Nov 84.

SMART Msg #45—Gives info about computations for determining operational readiness float (ORF) and repair cycle float (RCF) factors and authorizations, DALO-PLR 151626Z Nov 84.

SMART Msg #46—Announces deletion of yearly certification and reporting procedures for the .50 caliber M2 HB machine gun headspace and timing gage, NSN 1005-00-535-1217, DALO-PLR 161605Z Nov 84.

Maintenance Advisories

AMCCOM MA 84-24—Letter, Subject: .50 Cal M2 HB Machine Gun Headspace and Timing Gage, NSN 1005-00-535-1217, AMSMC-MAG-SD 30 Oct 84.

AMCCOM MA 84-25—Hood, CB Mask: Field M6A2 Used on the M17-Series Protective Mask, AMSMC-MAR-C 011605Z Nov 84.

TROSCOM SOU-MES-13, Safety Problems with M2/M2A Burner Units, AMSTR-MES 161600Z Nov 84.

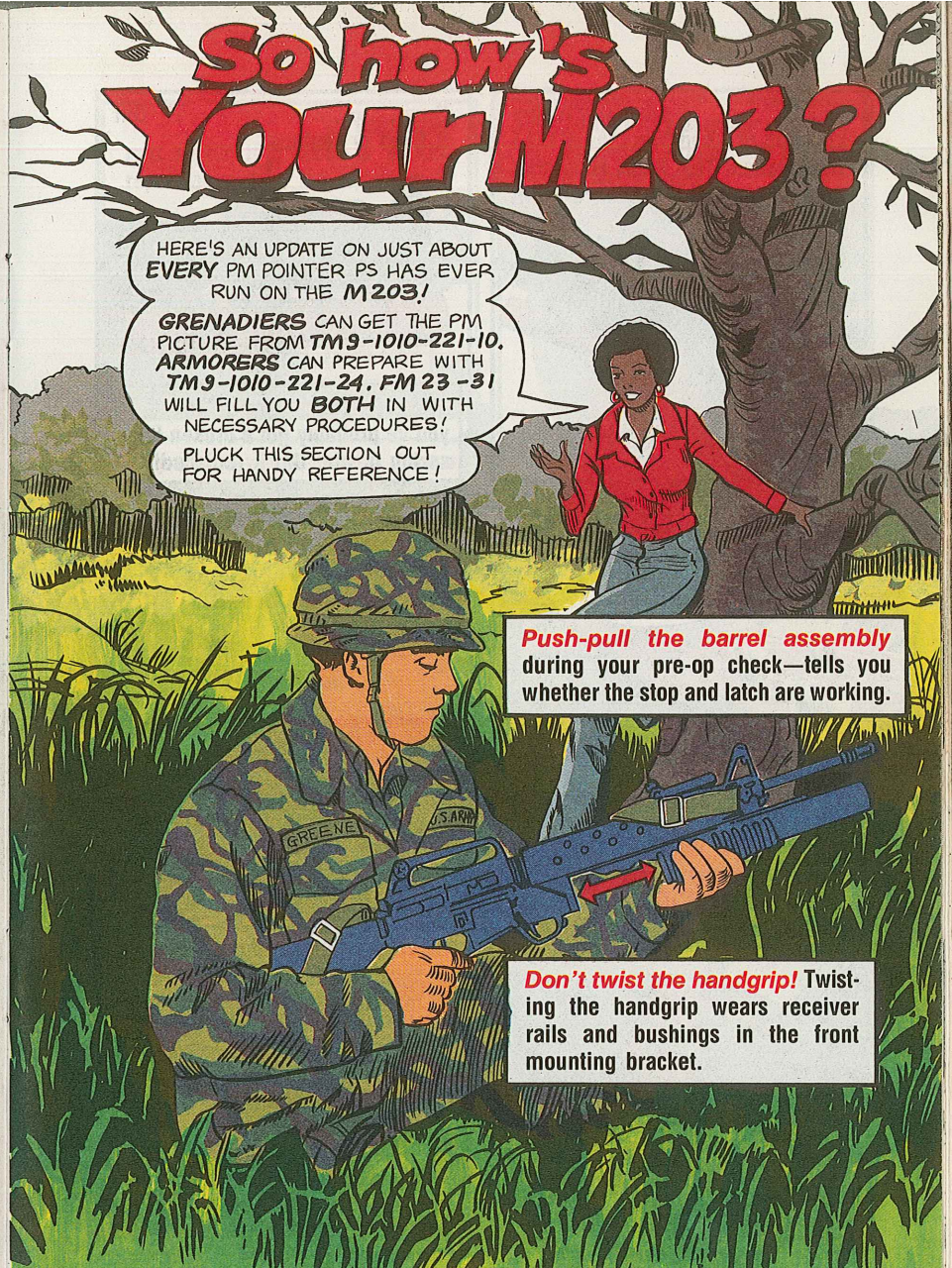
AMC-SOU—Brake Burnishing Procedures, M818, M52, M52A1 and M52A2 5-Ton Tactical Tractors, AMCSF-E 161200Z Oct 84.

AMC SOU—M871 Semitrailer (safety hazard when towed with M52-series tractors), AMCSF-E 131530Z Nov 84.

If you need a maintenance advisory, contact your direct support unit or your local Logistic Assistance Office (LAO).

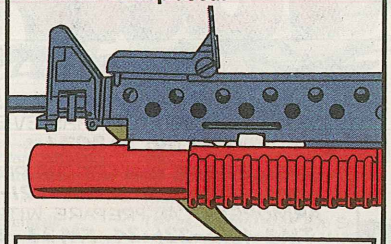
Grader Dipstick NSN—Again

Page 53 of PS 380 gives a bum NSN for a transmission dipstick for your Huber F1500M grader. Use NSN 6680-01-106-3458 to get the 18-inch dipstick you need.

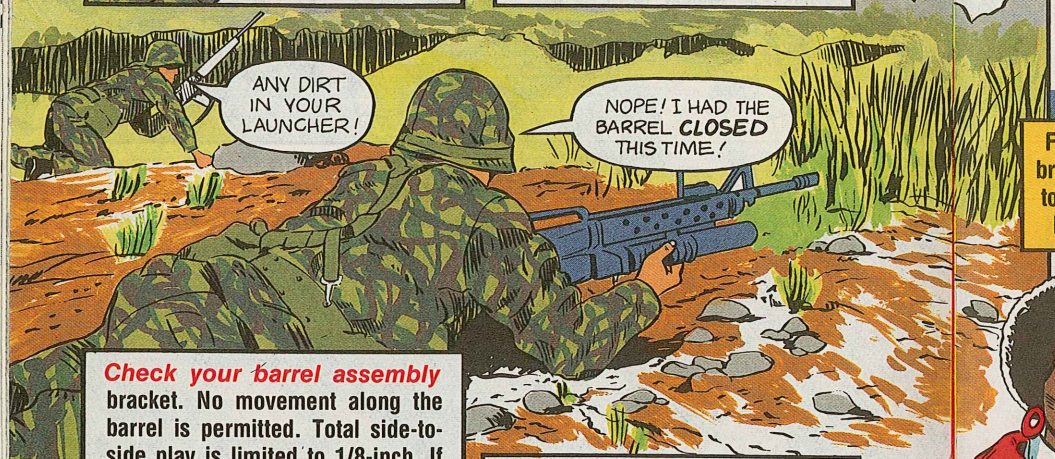


Close the barrel when you're thru cleaning or when firing the M16A1 rifle section. That helps keep crud out, particularly if you have to hit the dirt.

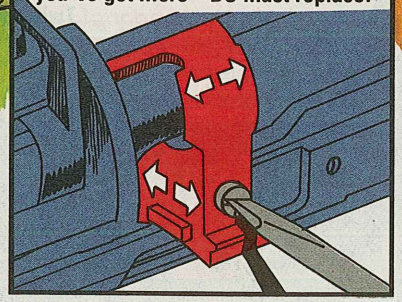
Barrel cracked or dented? Get it fixed or replaced.



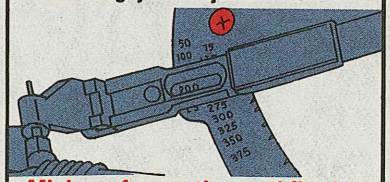
If the barrel's hard to move— you've probably got a broken latch spring or pin. Get it replaced!



Check your barrel assembly bracket. No movement along the barrel is permitted. Total side-to-side play is limited to 1/8-inch. If you've got more—DS must replace!

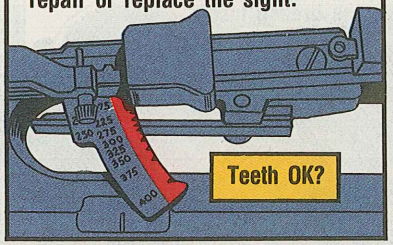


Quadrant Sight mounting must be tight! Use the correct screwdriver in making your adjustments.

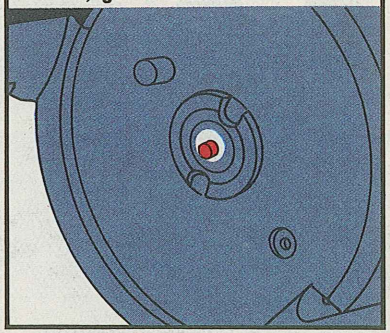


Mixing of crosstips and flattips can really screw up your screws!

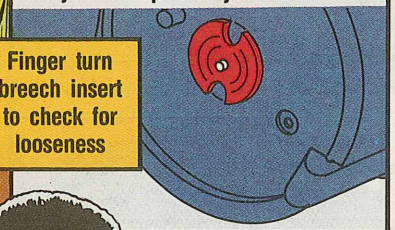
How're the teeth on your quadrant sight? If a tooth is broken, repair or replace the sight.

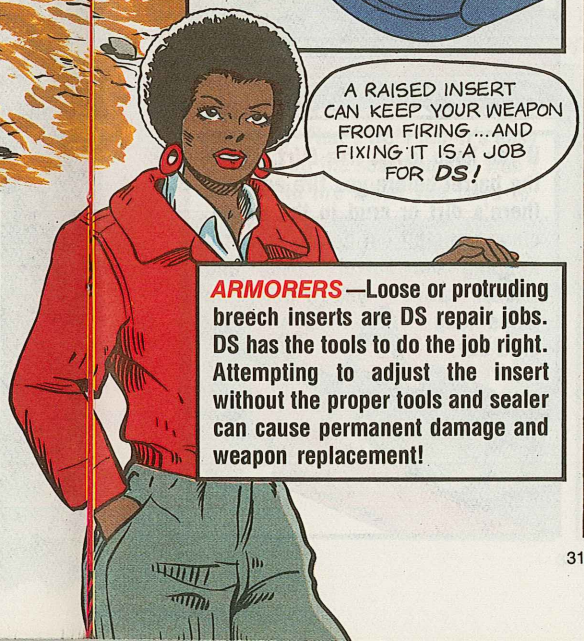


Protruding firing pins can puncture the cartridge primer. If it protrudes, get it fixed.



Is your Breech Insert loose when you turn it? Does it stick up above the breech face? If so, turn in your weapon to your armorer!



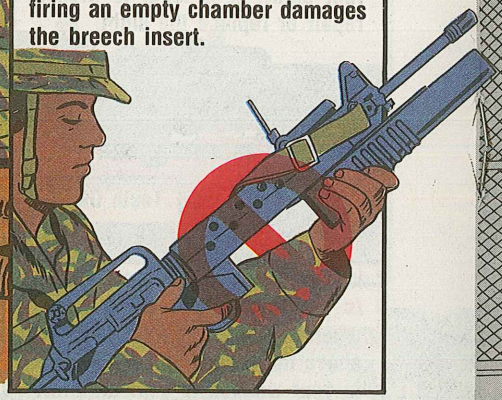


ARMORERS—Loose or protruding breech inserts are DS repair jobs. DS has the tools to do the job right. Attempting to adjust the insert without the proper tools and sealer can cause permanent damage and weapon replacement!

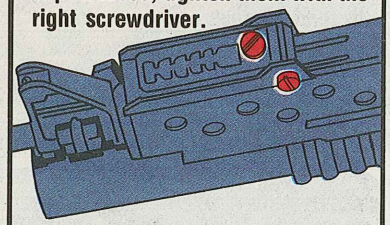
Before Firing—Always be sure the barrel is closed and locked. If your firing pin sticks or breaks, get a new one!

Never use a broken pin or try to force a stuck one to work.

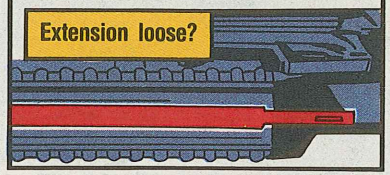
Only pull the trigger with a dummy or live round in the launcher. Dry firing an empty chamber damages the breech insert.



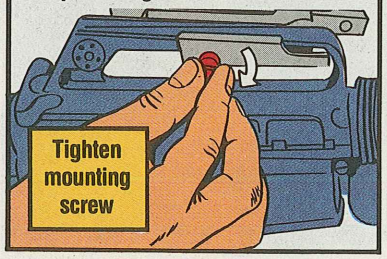
Off Target? Check the leaf sight windage and elevation screws. Loose screws cause the sight to slip. If loose, tighten them with the right screwdriver.



How's your barrel extension? Loose extensions bind the trigger—and keep you from firing. If your trigger balks–get with your armorer!



Check your quadrant sight. If it's loose, tighten mountings to keep on target.

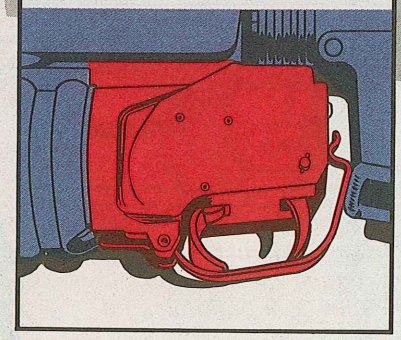


If you have to ***Hit the Dirt***, check the barrel before you fire again. If there's dirt or crud in the barrel, clean the stuff out before you fire. Keeping the barrel closed and latched when you're not firing helps keep crud out.

Post-op cleaning, lubing and storage take their toll of launchers.

Never try to pry the handguard off with a screwdriver or other makeshift tool. You'll crack it . . . and maybe even have to get a replacement.

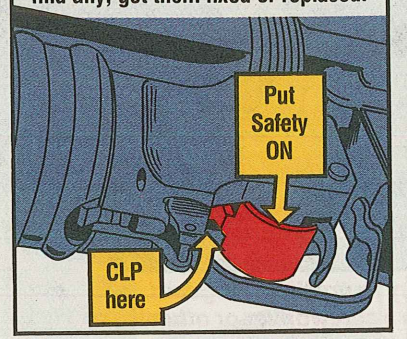
Never Take Apart the trigger assembly–That's DS's job–it's easy to screw up the sear and you won't be able to fire when you have to.



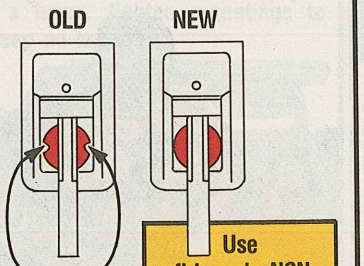
Use a little extra elbow grease as you clean the barrel after firing. Leave on a light coating of CLP. Uncleaned carbon, rust or crud can keep your rounds from seating.

Push the Safety ON, and put a couple of drops of CLP into the opening between the safety and receiver. Work the safety to spread the lube—this keeps the safety from jamming the next time you have to fire your launcher.

After firing or field exercises, check the barrel for cracks or dents. If you find any, get them fixed or replaced.



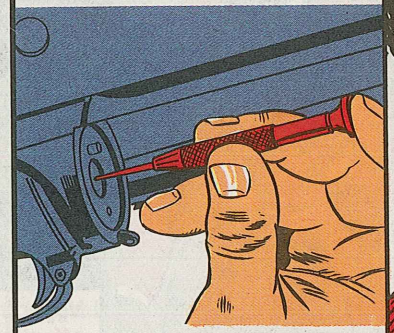
Armorers: Check the firing pins in all your launchers. All launchers should have the newer firing pins, NSN 1010-00-348-8433, which have no indents on the side. Old, indented pins should be replaced by support. The old pins have a bad habit of puncturing primers.



Reinstalling the backplate and follower is tricky.

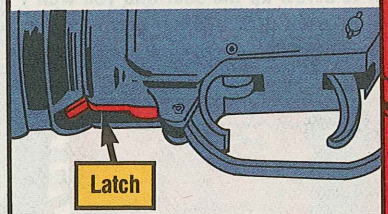
Install the follower and compress its springs enough to get the backplate and screw in place.

Insert your 3/32-in drive pin punch through the firing pin hole.



Push the firing pin into the receiver until it clicks...the rest is easy.

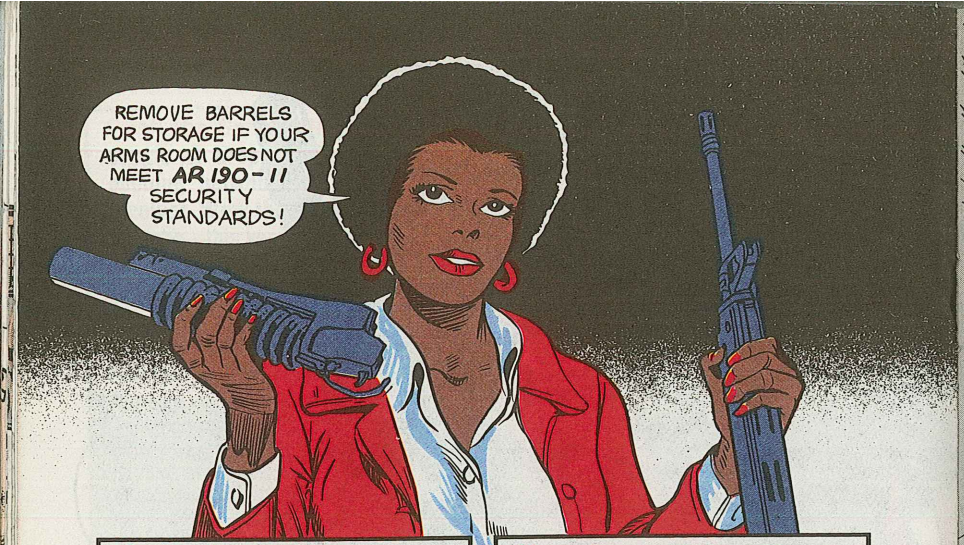
Install the barrel assembly, close and latch the barrel, and squeeze the trigger until the firing pin releases.



The metal on the follower tends to rust unless it gets regular cleaning and lubing. Take it out and clean it.

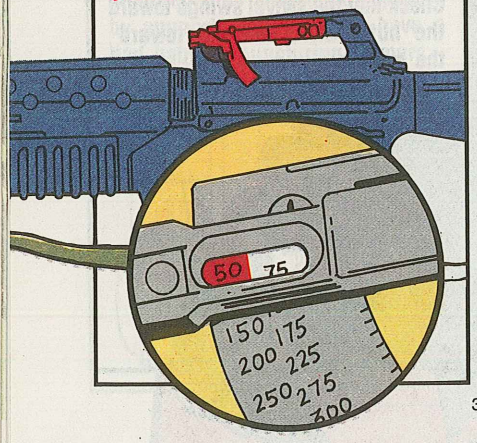
Insuring the sling swivel is mounted properly prevents damage to the swivel and mount—and improves the usefulness of your sling.

Check that the rivet which secures the swivel to the mount is to the rear (toward the buttstock end). Check that the swivel swings toward the buttstock...and not toward the muzzle.



If your Arms room meets security standards of AR 190-11, you can store your launchers in one piece. ***If not***, remove the barrels and lock them away in a separate storage spot.

When using the M12 rack for storage, put your quadrant sights in the 50-meter position —This prevents damage when you close the locking bar.



If you have modified M11 racks, put the sight between the 175- and 200-meter position. Try the locking bar easy-like to see what sight position clears the bar.

Locking bar positions on the modified M11's vary. If you can't clear the sight, remove and store the sight separately.

On the supply side, armorers can now get the new repairable quadrant sight with NSN 1010-01-122-9680. This more rugged model replaces NSN 1010-00-483-1155.

The Breech Insert tool, NSN 4933-00-481-3671, has been replaced by two tools.
NSN 4933-00-348-8434 gets you the firing pin protrusion gage, and NSN 5120-01-047-3294 gets the spanner wrench.

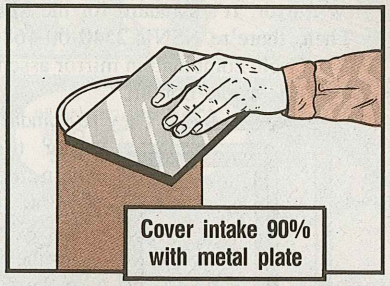
Air Cleaner Indicator Faulty?

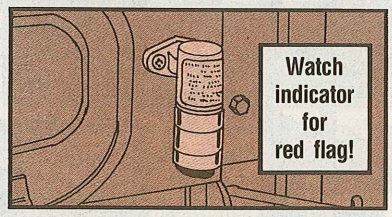
Sometimes it just doesn't seem to add up:

Black exhaust smoke tells you that your engine air cleaner's plugged with dirt. . . but the air cleaner indicator says it's not plugged.

Now there's a way to see if the indicator system is leaking or if the indicator is bad. The procedure's spelled out in TB 43-0001-39-7 (Oct 83), Page 2-56. It's simple:

- ☐ Take off the air cleaner rain cap.
- ☐ Run the engine at idle speed.
- ☐ Cover 90 percent of the air intake opening with a piece of 1/8-inch thick steel or aluminum.
- ☐ Have someone watch the indicator.





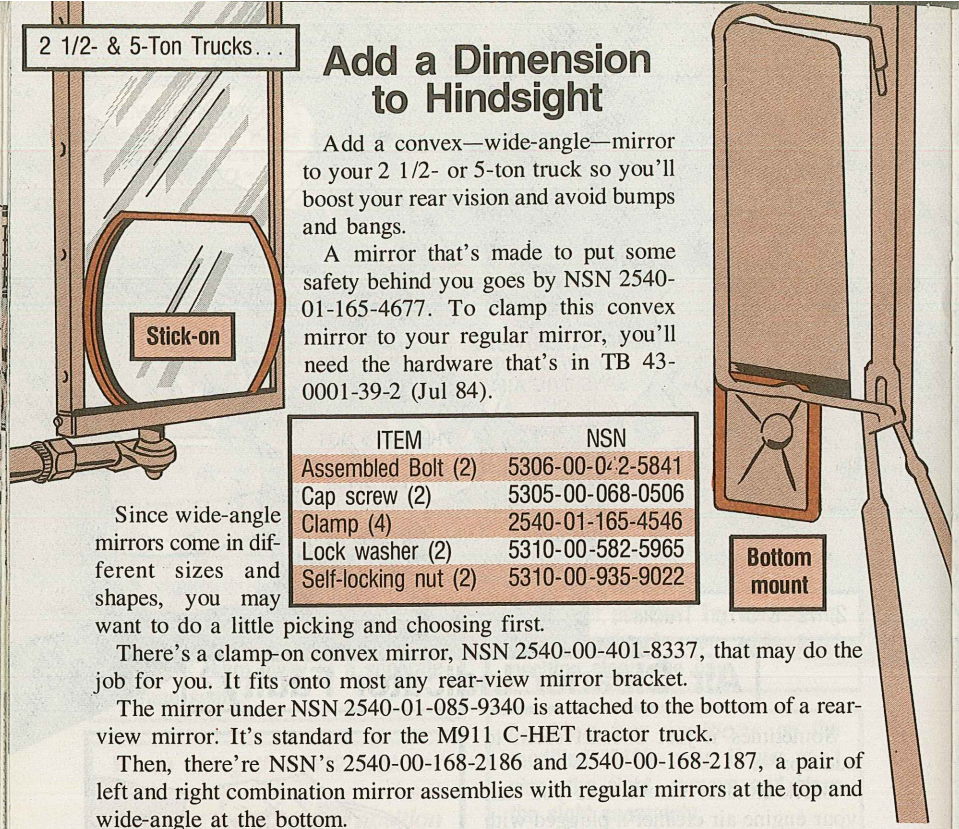
If the indicator fails to change from green to red, the indicator system is leaking or the indicator's faulty and needs to be replaced.

Add a Dimension to Hindsight

Add a convex—wide-angle—mirror to your 2 1/2- or 5-ton truck so you'll boost your rear vision and avoid bumps and bangs.

A mirror that's made to put some safety behind you goes by NSN 2540-01-165-4677. To clamp this convex mirror to your regular mirror, you'll need the hardware that's in TB 43-0001-39-2 (Jul 84).

ITEM	NSN
Assembled Bolt (2)	5306-00-0[illegible]2-5841
Cap screw (2)	5305-00-068-0506
Clamp (4)	2540-01-165-4546
Lock washer (2)	5310-00-582-5965
Self-locking nut (2)	5310-00-935-9022



Since wide-angle mirrors come in different sizes and shapes, you may want to do a little picking and choosing first.

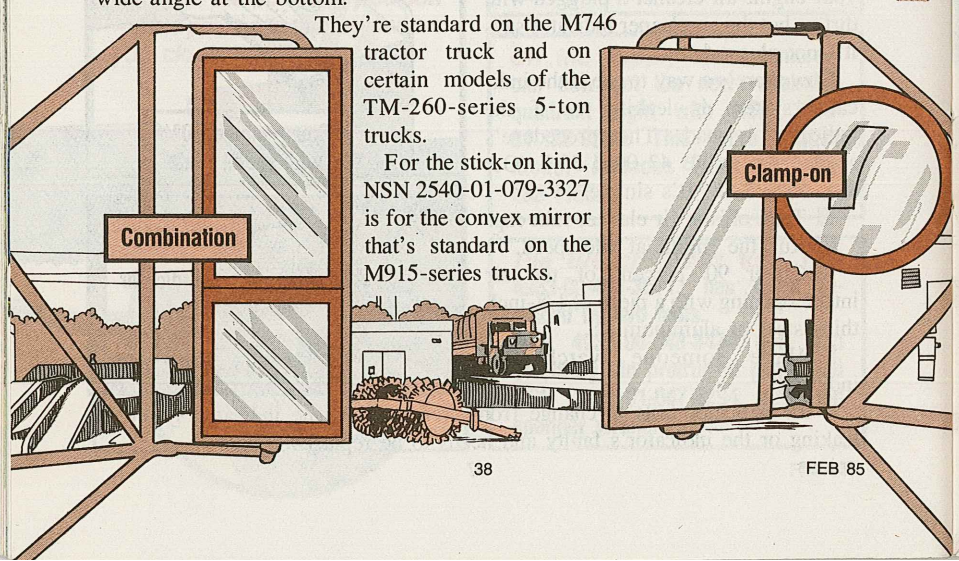
There's a clamp-on convex mirror, NSN 2540-00-401-8337, that may do the job for you. It fits onto most any rear-view mirror bracket.

The mirror under NSN 2540-01-085-9340 is attached to the bottom of a rear-view mirror. It's standard for the M911 C-HET tractor truck.

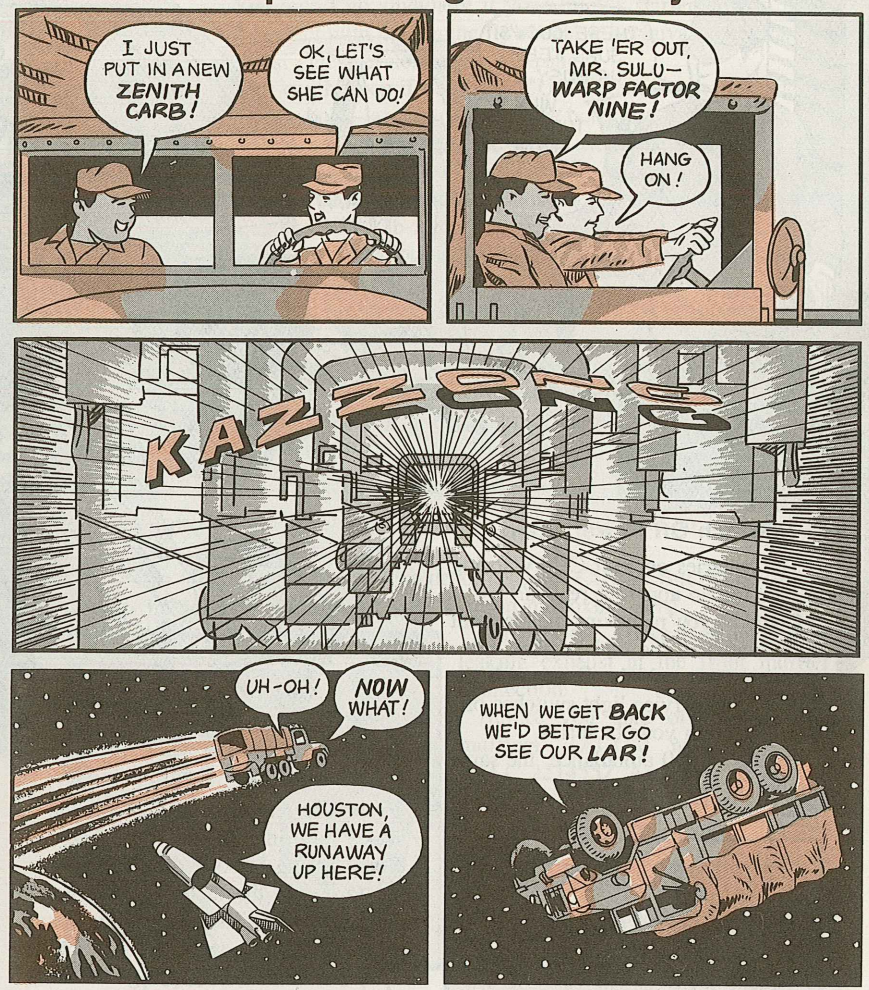
Then, there're NSN's 2540-00-168-2186 and 2540-00-168-2187, a pair of left and right combination mirror assemblies with regular mirrors at the top and wide-angle at the bottom.

They're standard on the M746 tractor truck and on certain models of the TM-260-series 5-ton trucks.

For the stick-on kind, NSN 2540-01-079-3327 is for the convex mirror that's standard on the M915-series trucks.



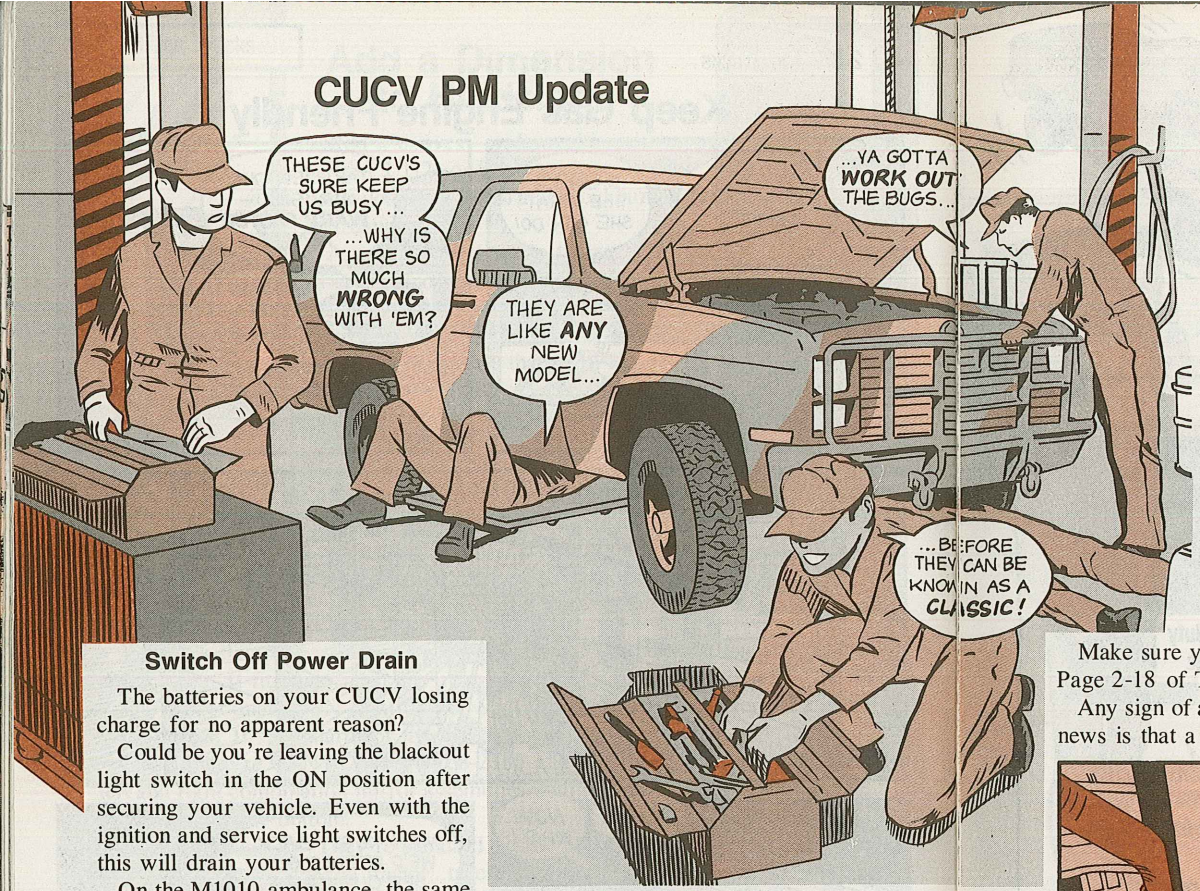
Keep Gas Engine Friendly



You mechs may create a monster when you replace the gasoline engine's Holly carburetor with a new Zenith carb. Because of a difference in the throttle linkage ball joint, the engine could go to full throttle speed when least expected.

There's a fix to head off this problem. All of the details are in TACOM Msg DSTRA-MTB 111500Z Jul 84. You can get the info from your Logistic Assistance Representative.

CUCV PM Update



Switch Off Power Drain

The batteries on your CUCV losing charge for no apparent reason?

Could be you're leaving the blackout light switch in the ON position 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

So don't get caught with an unexpected power failure at the wrong time. Turn these switches off when not in use.

Spring U-Bolts!

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!

Starter Mounting Bolts

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.

Your unit should put in a warranty claim for time spent inspecting and torquing. Uncle will be reimbursed by the manufacturer for this. A separate claim, on a DA Form 2407, is required for each vehicle inspected.

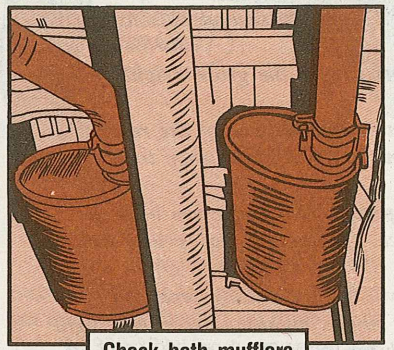
If the bolts loosen after torquing once, a warranty claim should be submitted to have the problem solved.

Also, broken or missing bolts can be replaced under the truck's warranty.

Exhaust Leaks

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!



Check both mufflers for leaks

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

Before you take off, check both mufflers. TACOM Msg AMCPM-TVLC 221455Z Aug 84 tells how to check them. See your LAR if you need a copy. 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.

CUCV Towing Update

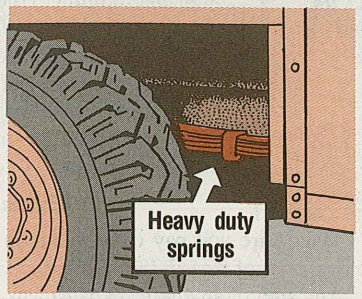
Flight line towing capacity for the M1009 3/4-ton is 10,000 pounds. This replaces the 3,000-lb limit in PS 382, Page 15. The new word's in TACOM Msg DRCPM-TVLC 161740Z Jul 84.

Weaving Problem

Dear Half-Mast,

While traveling at about 50 MPH, my M887 contact maintenance shop truck has a tendency to weave. It seems the rear-end suspension doesn't support the weight of the tools and equipment the truck carries. What can be done to correct this?

SGT R. J. J.



Dear Sergeant R. J. J.,

Assuming the steering system's OK, there are several reasons for the handling problems with your truck.

For one, there's overloading. ***Never exceed the gross weight of 8,000 pounds.***

Another is heavy tools and equipment ***stowed back of the rear axle.*** *Always put extra tools and equipment (not part of the shop truck) forward of the rear axle.*

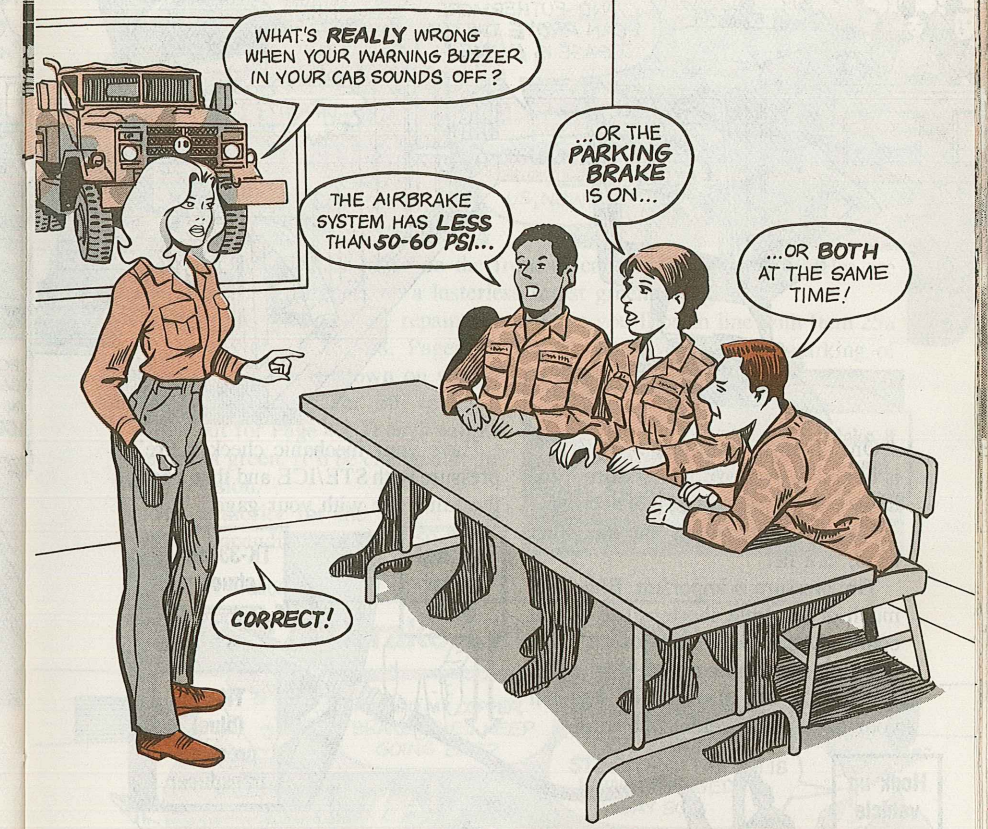
You could have the wrong rear springs. *Make sure you have the heavy-duty springs with 7 leaves each. Get these 7 leaf-springs with NSN 2510-01-089-7002.*

Wrong size or mismatched tires *will cause handling problems. The right tires are 9.50 x 16.5 tubeless, 10-ply, highway load range, light tracker tires, manufactured by Goodyear, NSN 2610-00-489-8085. If you use mud and snow tires, they should be Goodyear custom, extra-grip, miler tires, NSN 2610-00-489-8088.*

Keep the tire's cold inflation pressure at 45 PSI in the front and 55 PSI in the rear, like it says in TM 9-2320-266-10.

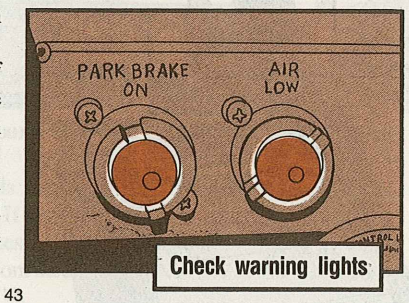
Half-Mast

Brake Warning Tip

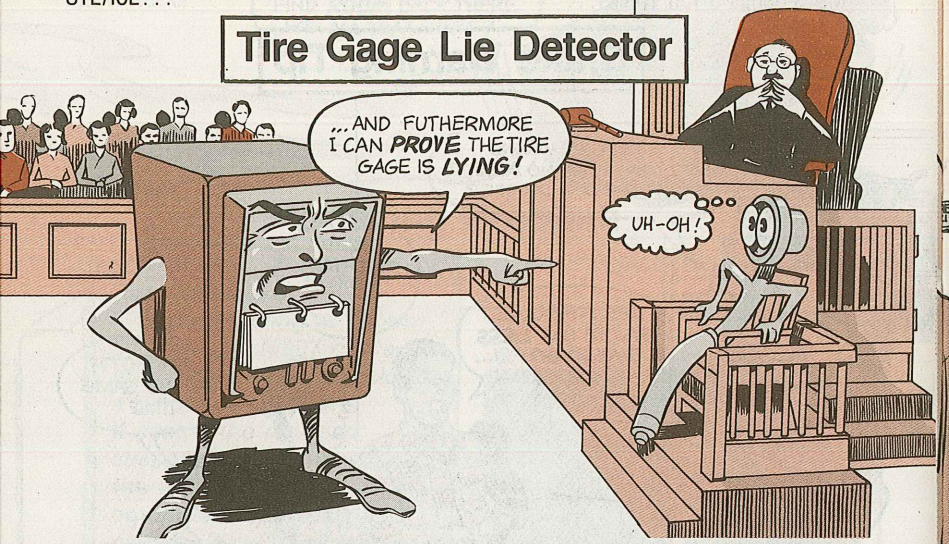


The buzzer has nothing to do with transmission oil temperature, so forget that part of Item 11 on Page 2-7 of TM 9-2320-272-10. A gage on the instrument panel gives transmission temperature.

When you hear the buzzer, check the parking brake warning light and low air pressure warning light. The one that's lit tells what's not fit!



Tire Gage Lie Detector



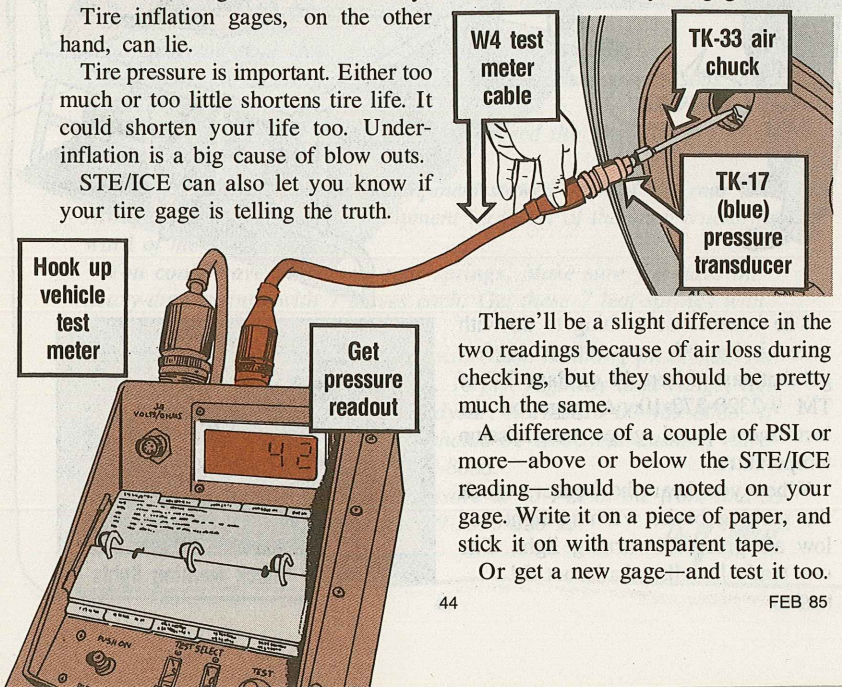
One of the many virtues of STE/ICE is its ability to check tire pressure. . and it does so with a great deal of accuracy.

Tire inflation gages, on the other hand, can lie.

Tire pressure is important. Either too much or too little shortens tire life. It could shorten your life too. Under-inflation is a big cause of blow outs.

STE/ICE can also let you know if your tire gage is telling the truth.

Have your mechanic check a tire's pressure with STE/ICE and then check the same tire with your gage.

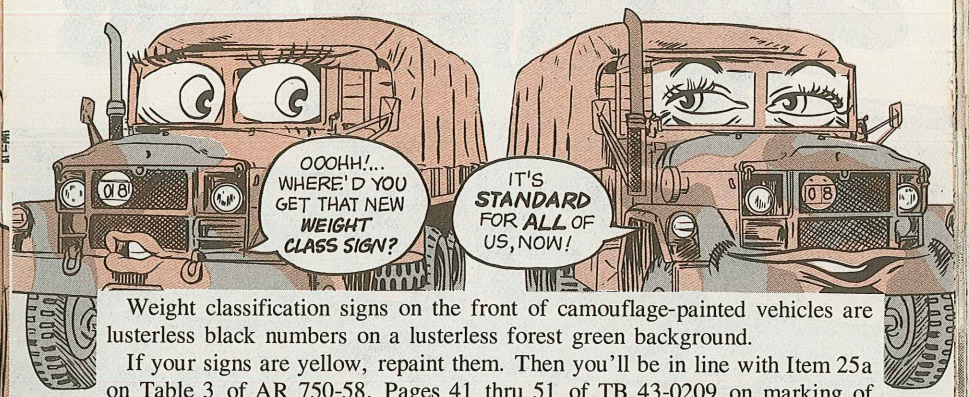


There'll be a slight difference in the two readings because of air loss during checking, but they should be pretty much the same.

A difference of a couple of PSI or more—above or below the STE/ICE reading—should be noted on your gage. Write it on a piece of paper, and stick it on with transparent tape.

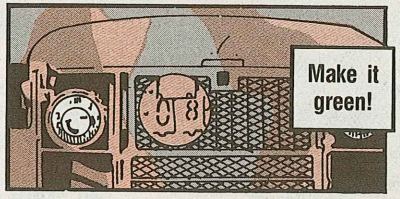
Or get a new gage—and test it too.

Green Is the Color



Weight classification signs on the front of camouflage-painted vehicles are lusterless black numbers on a lusterless forest green background.

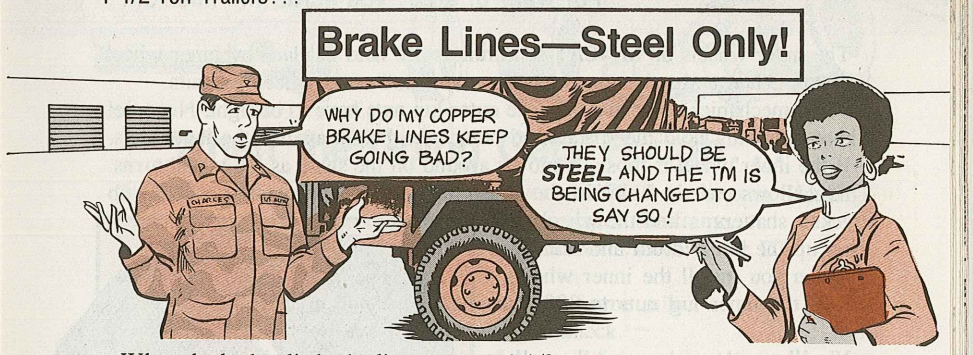
If your signs are yellow, repaint them. Then you'll be in line with Item 25a on Table 3 of AR 750-58. Pages 41 thru 51 of TB 43-0209 on marking of vehicles have the rundown on weight classification signs for all vehicles. Watch out for Page 43. It says yellow instead of green. It'll be changed in the next revision.



The authority for the weight class sign is Appendix A of CTA 50-970.

1 1/2-Ton Trailers...

Brake Lines—Steel Only!

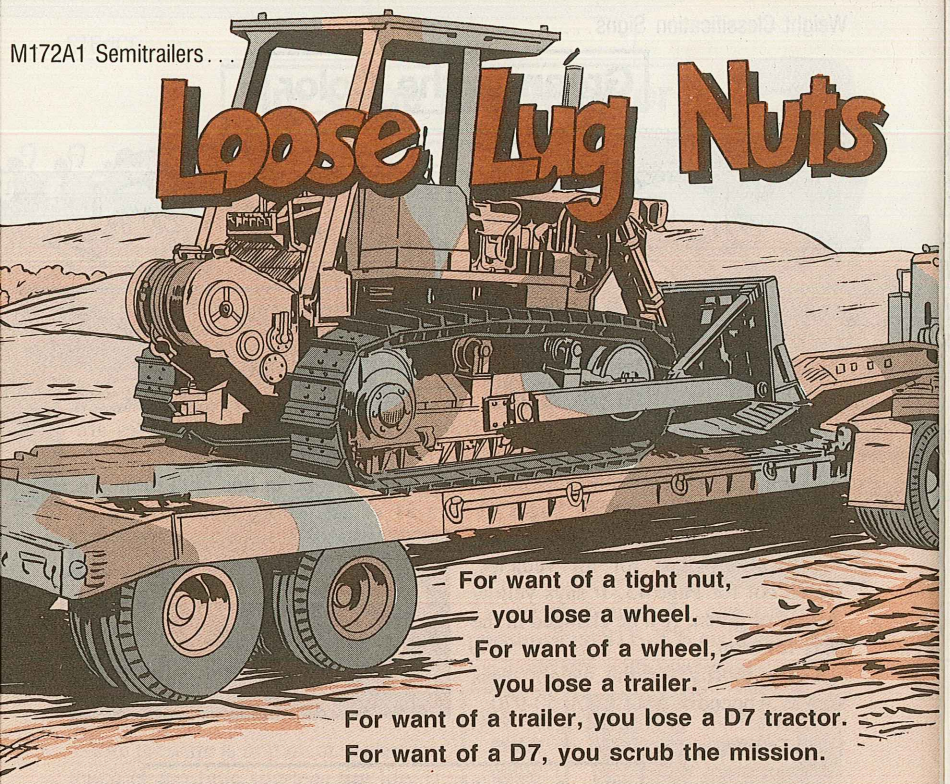


When the hydraulic brake lines on your 1 1/2-ton trailer go bad, replace them with steel, not copper lines.

TM 9-2330-213-14 is wrong. It calls for copper for both the left and right brake lines. C3 to the TM is wrong, too. It lists a bum NSN for the right brake line.

Here's the straight skinny. Both lines—shown as Item 6 in Fig C-21—are made by your DSU. They make them from steel tubing, NSN 4710-00-200-0284.

Loose Lug Nuts



The inner wheels on M172A1 semitrailers are held in place by inner wheel lug nuts. Then come the spacer, outer wheel and outer wheel lug nuts.

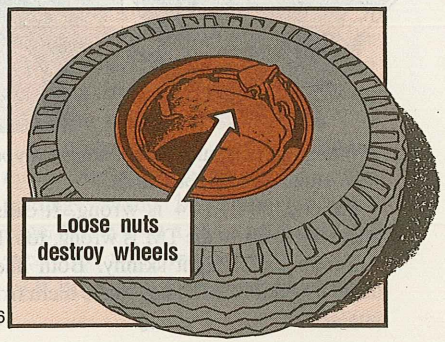
Some mechanics think that only the outer lug nuts have to be tight. Not true! Those nuts only hold the spacer and outer wheel tight against the inner nuts.

If the inner wheel is loose, it moves around on the studs as the wheel turns. This wallows out the holes in the wheel and builds up heat. The wheel web cracks . . shatters . . . and the wheel rim tears up the brake drum and brakes.

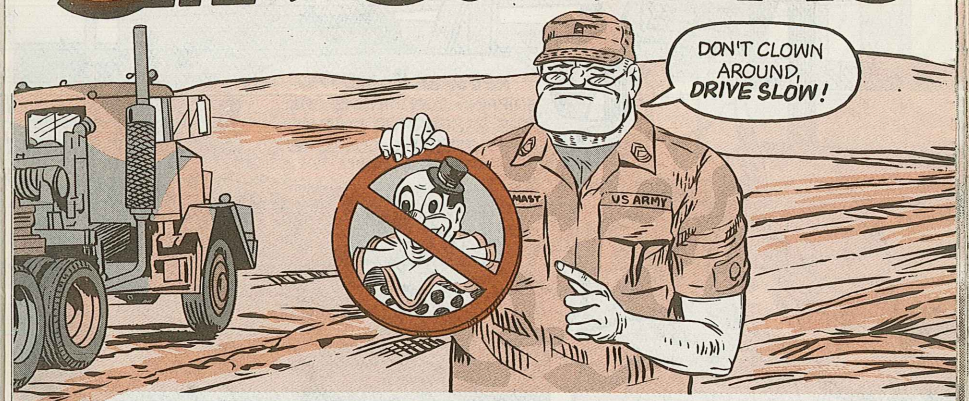
When you install the inner wheels, torque the inner lug nuts to 300-350 lb-ft.

You'll need a deep-well socket, NSN 5120-00-261-2821, to torque the inner nuts.

After the inner lug nuts are tight, put on the spacer, outer wheel and outer lug nuts. Tighten them to 450-500 lb-ft.

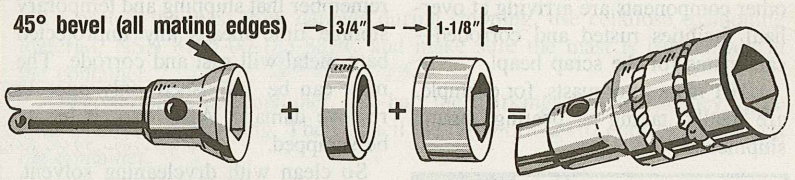


Sink Semitrailers



Homemade Lug Wrench

Your support can make an improvised lug wrench for changing tires on the road. They'll cut off part of the end of lug wrench, NSN 5120-00-316-9217, and weld in a piece of steel pipe like so:



When the Going Gets Rough . . .

A D7 Cat with a dozer and ROPS loads your M172A1 to the max. Hauling over rough roads or cross-country can bend or crack the frame.

Your trailer needs to be beefed up . . . reinforced . . . to carry the D7.

It needs:

—Gussets welded to the gooseneck and main frame rails.

—Plates welded to the frame under the gooseneck.

—Plates welded to the top and bottom of the main frame rails at the rear axles.

If your M172A1 is missing any of them, get your support to add them.

Slow = Go

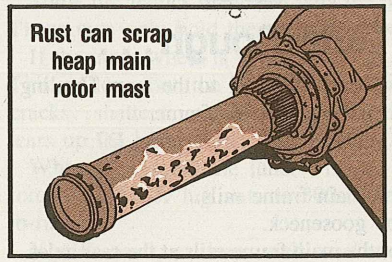
Keep the speed down when you have a full load.

On the highway, that means a top speed of 30 MPH. Cross-country, the max speed drops to 10 MPH.

Protect and Preserve with Proper Packing!

Aircraft engines, transmissions, main rotor masts, rotor blades and other components are arriving at overhaul facilities rusted and corroded—candidates for the scrap heap!

UH-1 main rotor masts, for example, are really taking a beating during shipment.



If you can't get a reusable metal shipping container, NSN 8145-00-083-8335, for the mast, use a wooden container. Chapter 3 in TM 38-230-2 shows how to make containers.

Before you pack the mast, per Para 6-140 of TM 55-1520-210-23-1, remember that shipping and temporary storage time means any unprotected bare metal will rust and corrode. The mast can be refinished only once to remove damage. After that, it has to be scrapped.

So clean with drycleaning solvent, P-D-680. Use dry, filtered, low-pressure air to remove the solvent from holes and crevices.

Next, coat the entire mast and bearings with a cold application of corrosion preventive compound, NSN 8030-00-~~231-2345~~.

Wrap the mast with greaseproof flexible barrier material, NSN 8135-00-224-8885, and secure it with pressure-sensitive tape, NSN 7510-00-663-0199. The wrap will prevent the preservative from rubbing off.

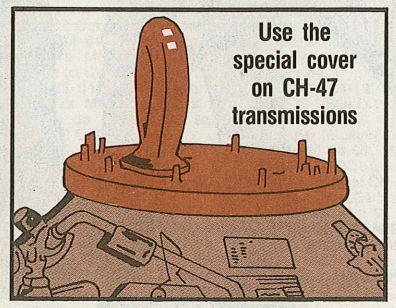
Be sure you include the DA Form 1577 repairable tag, DA Form 2410 component record and other records in the container. Use a greaseproof envelope for the paperwork.

To protect the mast from damage during shipping, use cellulose cushioning material, NSN 8135-00-183-8814, and make sure the mast is held firmly in the container.

After you close the container, eye-ball the markings to see that they agree with what you're shipping. Then stencil the DA Form 2410 control number on the container.

Protect Other Components

When packing an aircraft engine in a metal shipping container, use protective covers at the engine inlet and outlet. Those engine containers are moisture controlled. To keep them that way, be sure you add the right amount of desiccant, as explained on pages ~~20-22~~ of MIL-P-116~~G~~H. NSN 6850-00-264-6571 gets a drum of 300 8-unit bags; -6572 gets 150 bags with 16 units each.



When shipping CH-47 transmissions, use the special protective cover. The cover keeps moisture out of the transmission and holds the planetary gears safely in place.

Repair Containers

Keep your containers in serviceable condition. Clean inside and outside with water and detergent or by steam cleaning. That will get rid of all dirt, sand and grease that could get into the components you ship.

Replace damaged or missing hardware with the items listed in TB 55-8100-200-24 on maintenance of reusable containers.

The cover for the paperwork receptacle in the CH-47 rotor blade container must be secured. Without the attaching chain, the cover could be lost—and that important paperwork could be scattered to the four winds!

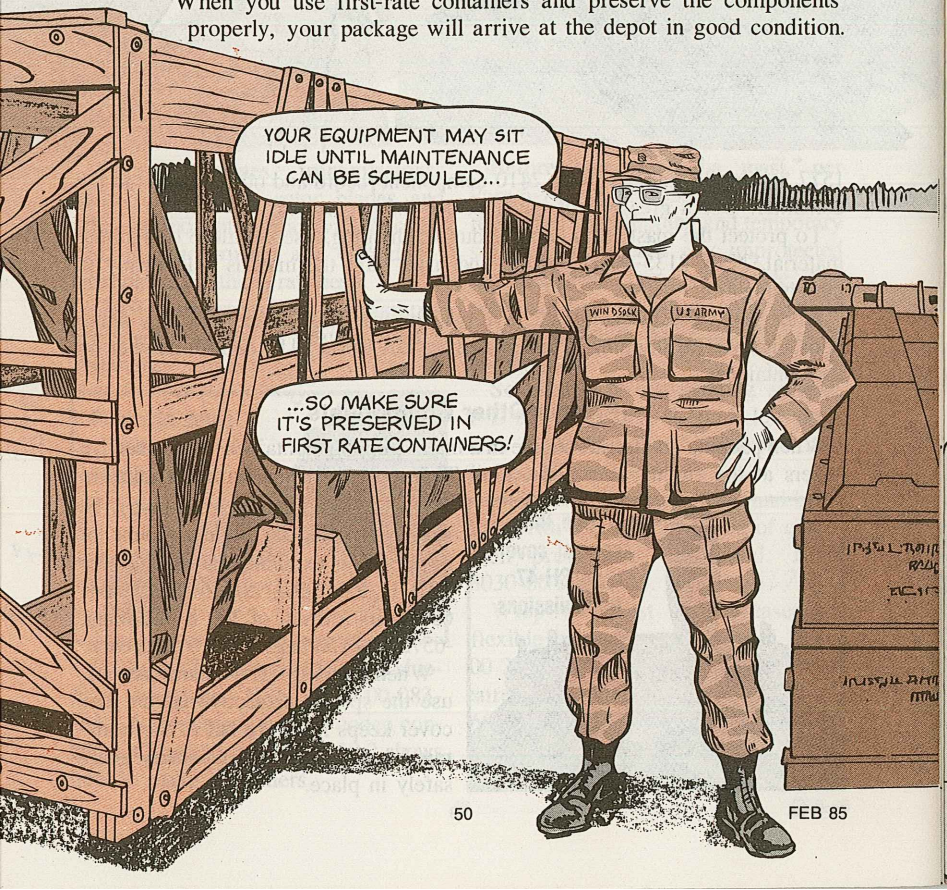
Replace faulty humidity indicators with NSN 6685-00-752-8240. A healthy indicator card shows blue or pink tint in the 50 percent circle.

Replace shock mounts that have cracks deeper than 1/32 inch.

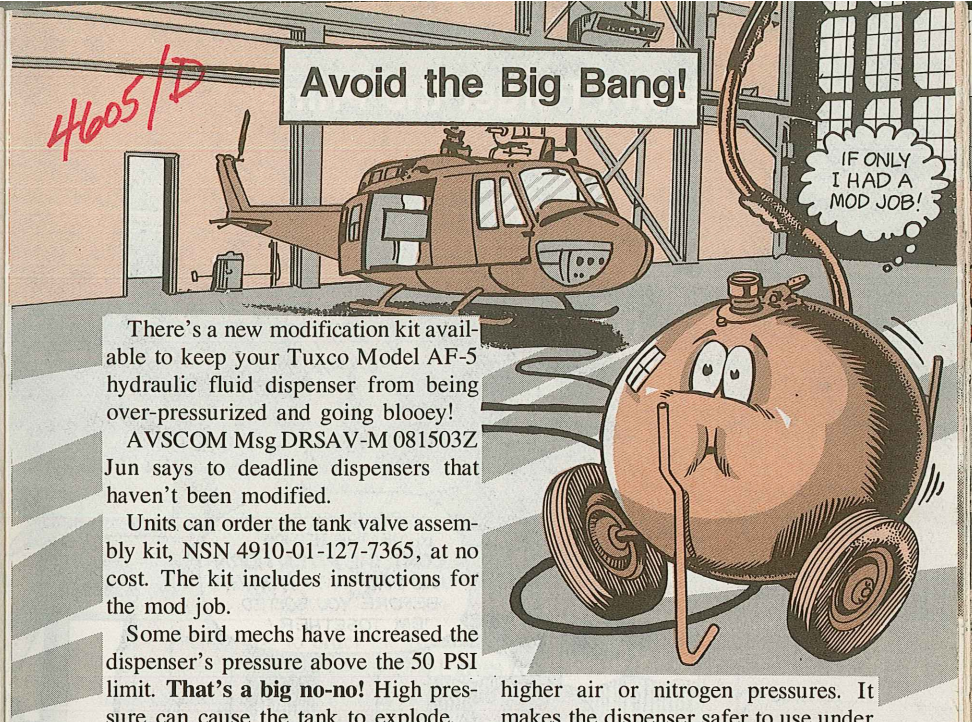
Replace contour cushions that have deteriorated or become damaged.

Change damaged gaskets, skids, fittings and adapters.

When you use first-rate containers and preserve the components properly, your package will arrive at the depot in good condition.



Avoid the Big Bang!



There's a new modification kit available to keep your Tuxco Model AF-5 hydraulic fluid dispenser from being over-pressurized and going blooey!

AVSCOM Msg DRSAV-M 081503Z Jun says to deadline dispensers that haven't been modified.

Units can order the tank valve assembly kit, NSN 4910-01-127-7365, at no cost. The kit includes instructions for the mod job.

Some bird mechs have increased the dispenser's pressure above the 50 PSI limit. **That's a big no-no!** High pressure can cause the tank to explode.

The modification won't let you use higher air or nitrogen pressures. It makes the dispenser safer to use under normal operations.

AVIATION MESSAGES

Cat 1 EIR Phone: AUTOVON 693-2066 (24 hours)

OV-1-84-05, SOF Technical, Defective MS21251 brass turnbuckles on OV-1/RV-1 series. 161950Z Oct 84.

OV-1-84-06, SOF Technical, OV-1D and RV-1D series, Inspection 53c51-27 propellers—barrel-slip nut interference. 241550Z Oct 84.

U-21-84-03, SOF Technical, Defective MS21251 brass turnbuckles on U-21/RU-21 series. 162010Z Oct 84.

UV-18-84-01, SOF Technical, Defective MS21251 brass turnbuckles on UV-18. 162005Z Oct 84.

C-12-84-01, SOF Technical, Defective MS21251 brass turnbuckles on C-12/RC-12 series. 162015Z Oct 84.

C-12-84-02, SOF Technical, Defective MS21251 brass turnbuckles on C-12/RC-12 series. 192040Z Oct 84.

U-8-84-01, SOF Technical, Defective MS21251 brass turnbuckles on U-8F. 161955Z Oct 84.

U-3-84-01, SOF Technical, Defective MS21251 brass turnbuckles on U-3 series. 162000Z Oct 84.

UH-1-84-10, SOF Maintenance Mandatory, special inspection of all UH-1 main rotor blades (except C/M models) for skin delamination. 241540Z Oct 84.

UH-60A-84-13, SOF Maintenance Mandatory, Black Hawk one-time inspection and replacement of tail rotor control cable brass turnbuckles MS21251. 301500Z Oct 84.

UH-60A-84-14, SOF Technical, Black Hawk one-time inspection tail rotor control cables. 301515Z Oct 84.

CH-47-84-12, SOF Technical, RCS CSGLD-1860, inspection of CH-47A/B/C aft transmission upper housing. 102105Z Oct 84.

CH-54-84-02, SOF Technical, RCS CSGLD-1860, one-time inspection of CH-54A/B for defective MS21251 brass turnbuckles. 102055Z Oct 84.

MIM-GEN-MEM-84-06, ALQ-144 IR Jammer maintenance update. 021130Z Oct 84.

MIM-UH-60A-MEM-84-07, UH-60A Black Hawk, flight with pilot's and co-pilot's doors removed. 121630Z Oct 84.

MIM-UH-60A-MEM-84-08, Securing of main rotor pitch change rod assemblies, during air transport. 121930Z Oct 84.

MIM-UH-60A-MEM-84-09, UH-60A Black Hawk change to powertrain manual, damage limits to main rotor pitch control rod and damper bearings. 151700Z Oct 84.

MIM-UH-60A-MEM-84-10, UH-60A Black Hawk maintenance crane and blade clamp device. 121925Z Oct 84.

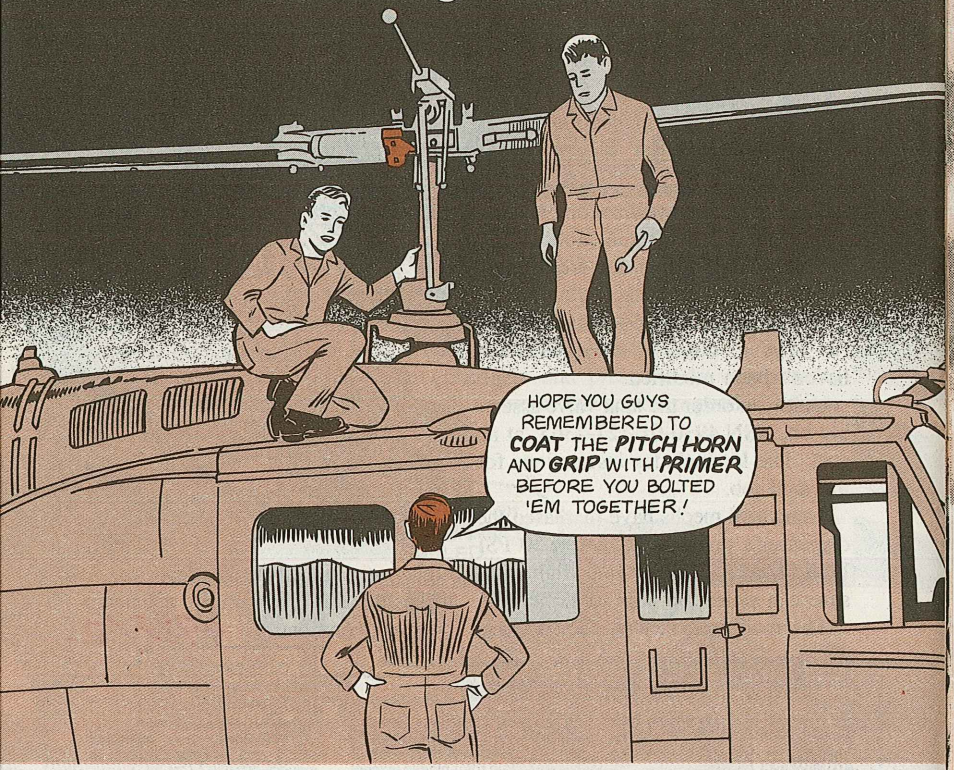
MIM-OH-58-84-MEM-05, OH-58A/C improper pylon support installation. 231430Z Oct 84.

MIM-CH-47-MEM-84-12, Defective MS21251 brass turnbuckles installed in CH-47. 171830Z Oct 84.

MIM-CH-47-MEM-84-13, Inspection of CH-47D forward transmission mounting nuts. 171840Z Oct 84.

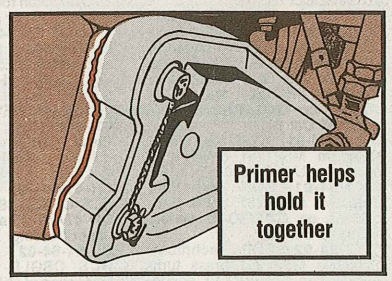
UH-1 Main Rotor Hub. . .

Don't Forget the Primer



Huey mechs, stick to the book when assembling your bird's main rotor hub—so the hub will stick together in flight.

Para 5-22h of TM 55-1520-210-23-1 says to coat the pitch horn and grip with primer, NSN 8010-00-297-0593. Then, while the primer's still wet, put the pitch horn on the grip and tighten it down.



Don't forget the primer—and don't wait 'til it's dry to join the pitch horn and grip.

The primer acts as an adhesive to keep the parts tightly together. Without that help, the chopper's vibrations could shake the hub apart.

4638

4638/D

AH-1, UH-1. . .

Clear the Air on Filters

4597/D

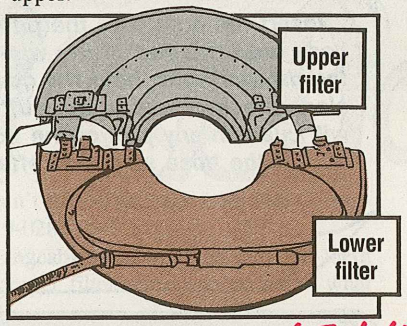
Cut thru the fog to order the right engine air filter assemblies for your bird.

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

Those are the new-style assemblies. 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 assembly halves—old or new—if you only need to replace one part.

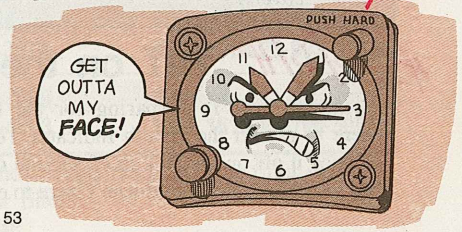


Keep Clock Crystals Clear

4551/D

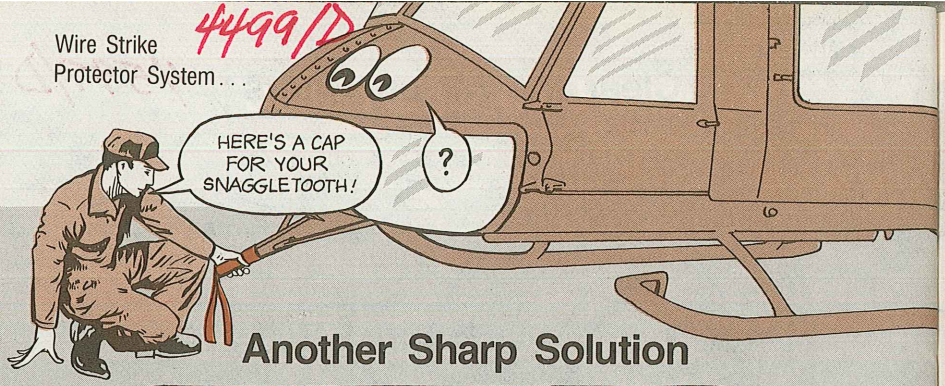
Bird men, don't scratch numbers—or anything else—on the crystals of aircraft clocks. It wastes Uncle's dollars.

When clocks go to depot for an overhaul, all defaced crystals have to be replaced. New crystals cost about $40 each.



Wire Strike Protector System...

4499/D



Another Sharp Solution

Dear Editor,

Recently our UH-1 helicopters received the Wire Strike Protection System. The lower cutter blade poses a safety hazard to anyone working under the bird's nose. We made an inexpensive protective cover that works fine. Kiowa mechs can use it, too. For each aircraft you need:

ITEM	NSN	AMOUNT
Rubber hose	4720-00-857-1730	1 foot
Pitot tube cover	1730-00-674-1946	1

Insert the hose into the pitot tube cover. Then slip the hose onto the end of the wire cutter as far as possible. Tie the drawstring to hold the cover in place. The red streamer alerts mechanics that the cutter blade is there, and the hose will cushion any part of the body that hits the blade. If the end of the hose stretches after repeated use, just reverse it.

Phillip C. Messina
AFA #73
Louisville, KY

(Editor's note: Sharp idea! See Page 40 of PS 381 for another cutter blade cover.)

4520/D/H

HIT on the Checklist

Aircrews, you're preparing for the first flight of the day. Do you know where to record the Health Indicator Test (HIT)?

Check it off on the HIT EGT section of the chopper logbook. The bird headshed says the crew chief doesn't have to enter the HIT on the DA Form 2408-13.

Aircraft Instruments...

4497/D

Wire the Connectors for Safety?

Dear Windy,

What's the lowdown on safety-wiring electrical connectors on flight and engine electrical instruments? Does the Army say to wire them all, or is it a local option?

CW3 H. R. C.
Fresno, CA

Dear Mr. H. R. C.,

There's no Army-wide requirement to use safety wire on instrument electrical connectors. Fact is, Para 16-17 of TM 55-1500-323-25 says ***not*** *to safety-wire electrical or RF connectors that have mechanical locks.*

You're only supposed to use lockwire in certain places—like engine nacelles, high-vibration areas or hard-to-inspect spots. You'll find a ½-in red dot on the structure next to each connector that needs lockwire.

Windy

Cobra, Huey...

4581/D

O-Ring Around the Filter

Don't get hot under the collar if you can't tell oil O-rings from fuel O-rings in the fuel and oil kit, NSN 2945-00-019-0280.

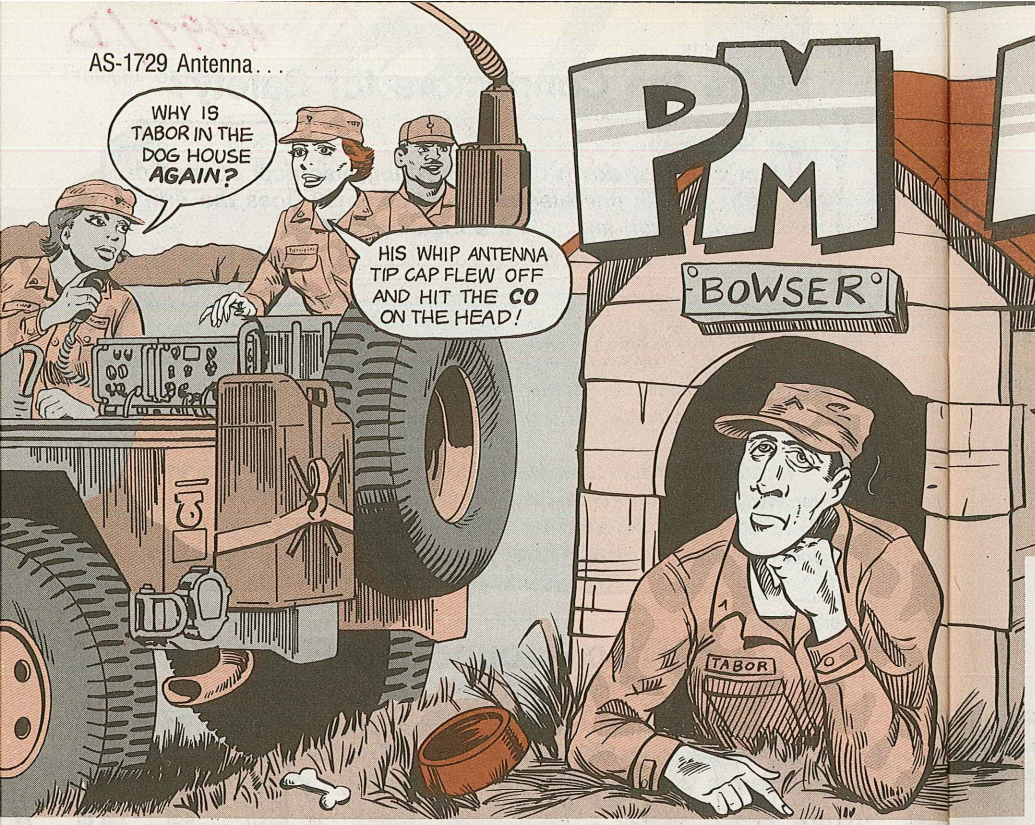
The two kinds of rings aren't interchangeable. But you can still use them by matching their part numbers to the proper filter. Here's how to tell what goes where.

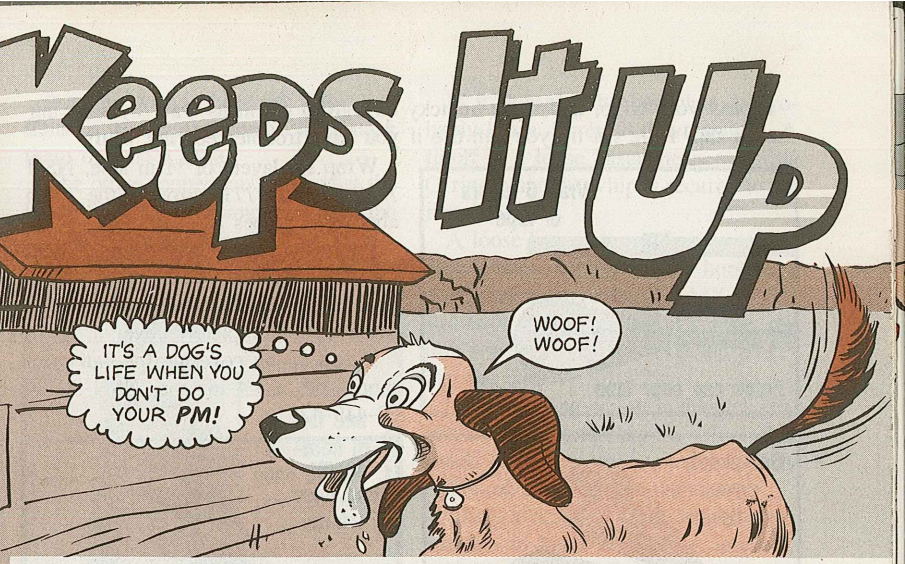
PN	NSN 5330-00-	USE ON
MS 29513-024	250-0236	Fluid pressure filter,
MS 29513-237	291-3078	NSN 2915-00-003-5904
MS 29561-024	964-0058	Transmission filter assy,
MS 29561-237	726-4153	NSN 1615-00-796-5004

The PN is marked on the package the O-rings come in. The filter element, PN 204-040-760-13, works with either filter.

AS-1729 Antenna...

PM Keeps It Up

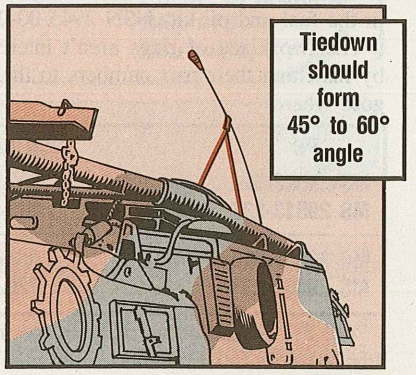




A whip antenna might be your radio set's best friend, but if you mistreat it—PM-wise—it'll turn on you and bite—signal wise.

Reflected power, poor contact, corrosion and cable damage team up to kill your FM signal. That'll put you in the doghouse with a CO who wants to get the word out.

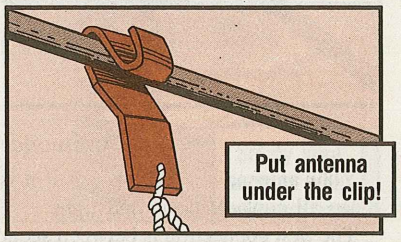
You can muzzle antenna problems, tho, by learning a few new PM "tricks."



Spare the Whip

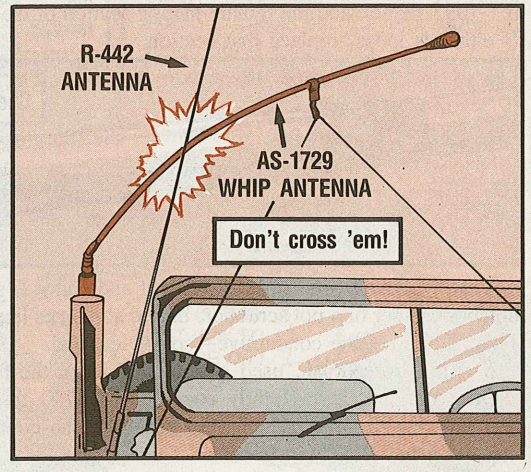
Take good care of the whip. That means tying it down when you travel. Left up, it can bounce off trees, buildings or power lines. All three can shatter a whip. The last can shatter you, too.

Secure the antenna by slipping it under the tiedown clip. That way, vibration can't shake it loose and let it pop up. Tie it down at a 45°- 60° angle to the ground. TOW types need to tie it down at an even sharper angle.



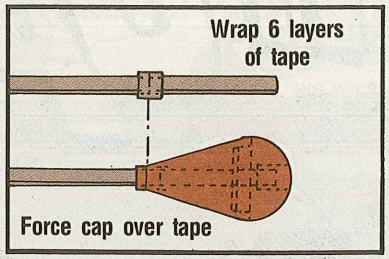
If you do crack a whip section, replace it. Breaking the antenna off below the crack and filing it smooth is a NO-GO! The shorter antenna is mismatched to RT output. Reflected power can blow a final amplifier. Your RT also suffers when you transmit in HIGH with the antenna tied down. Your signal is reflected by the vehicle body.

You can get reflected power if you let your whip antenna cross the R-442 receiver's antenna, too. Even if your circuits hold up, your reception will suffer.



PS MORE

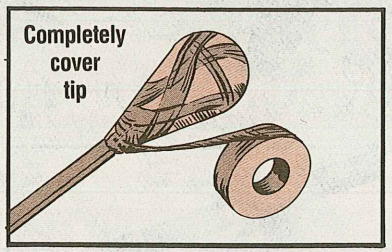
Protect your whip, and those unlucky enough to get in its way, by securing the tip cap. Here's a tip you can use if you have trouble securing yours.

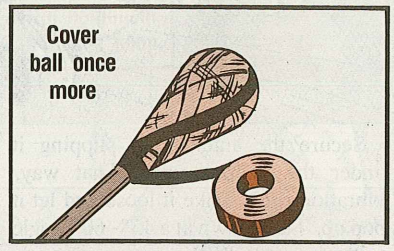


Wrap six layers of ½-in tape, NSN 7510-00-582-4771, around the whip about two inches from the top.

Force the ball over the tape. Then, starting just below the bottom of the tip, start wrapping the ball with the same tape. Completely cover it.

Finish up by covering the ball once more with a 3/4-in tape, NSN 5970-00-419-4291.

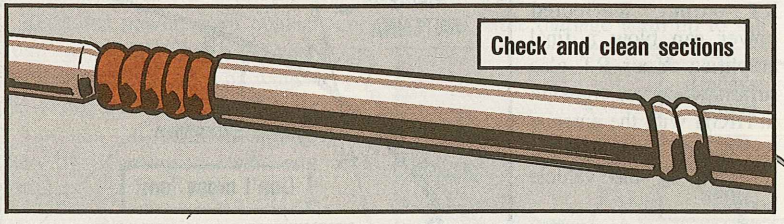




Connection Protection

Your antenna can't do its job if it isn't making contact from top to bottom. Keep all contacts clean and tight.

The first connection is between sections. Both the threaded copper stud of the AT-1095 section and the female mating section of the AS-1730 should be tight. If either is loose, replace that section.



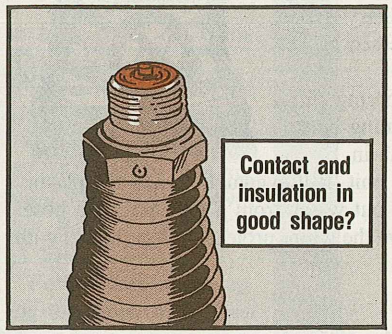
Next, be sure connections are bright and shiny. Use a rubber pencil eraser, notebook paper or a pot scrubber, but no abrasives like sandpaper or steel wool. They'll remove the conductive—copper-coating.

A rifle's bore brush, used gently, will clean the female section.

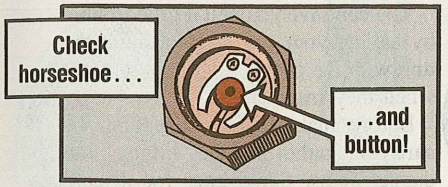
Once they're clean, lightly coat the AS-1730 threads with silicone, NSN 6850-00-880-7616. That not only improves the connection, it helps keep the sections from freezing together.

Another way to head off stuck sections is to tighten them, then back them off just a little.

The other connection check is at the base of the AS-1730 and the top of the MX-6707 matching unit.



Eyeball the base of the antenna section. Is the horseshoe contact present and in good shape? If not, have your support replace it.



Is the button contact working? You should be able to push it in easily. It should return until it sticks out about 1/8 inch from the baseplate.

If it doesn't, the baseplate is probably loose. Screw it down snugly. A tipoff to a loose baseplate is a visible O-ring when the whip is secured to the matching unit.

A loose baseplate can lead to amplifier damage, too. It lets the horseshoe contact screws grind off the MX-6707's insulator coating. When it's gone, the unit's no good. It lets reflected power zap the amp.

That grinding action is another reason not to overtighten the whip. Too much force can let even a properly tightened baseplate do damage.

There's no need to overtighten the antenna to keep it in place, anyway.

Safety wire does the job. If yours doesn't, check out the procedure on Pages 50-51 of PS 375.

Keep the contact on top of the matching unit clean by rubbing it down now and again with a rubber pencil eraser.

Hold the Water

Moisture's your matching unit's biggest enemy. You've got several defenses, tho.

One is to remove the drain plug per your TM. Do it as often as you need to in wet or humid weather, of course.

Make sure your MX-6707's anti-capillary gasket is in good shape. A cracked or compressed gasket is little protection.

Another moisture fighter is the reinforcing ring. It heads off cracks from too-tight mounting bolts. Org shops should tighten bolts to 100 lb-in.

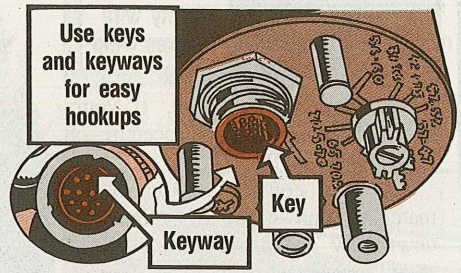
Paint's a big no-no on your matching unit. It'll eventually crack the plastic.

All these protectors, tho, won't keep out water from a high-pressure hose. Keep hoses away. Then when you remove the whip, protect the top contact with a cap, NSN 5985-01-135-2307.

Cable Hookup

You can ruin all your good contact work by making a sloppy cable hookup on the bottom of your MX-6707.

Connectors are hard to see and pins are fragile, so take it slow and easy.



You can save yourself a little trouble by having your org shop position the unit with the connectors to the outside when they install it.

Before making the connection, be sure the radio is off. Arcing will damage pins. Same goes for disconnecting cables, of course.

Hook up the bigger cable first. Then you can't ram the little connector into the bigger receptacle's pins. Feel for a good match between keys and keyways and the connection should go smoothly. Protect pins on the J2 receptacle with a cap, NSN 5985-01-091-0655.

To be sure you're hooked up correctly, turn on the RT. Switch from A to B band. You should hear the MX switch, too.

Once you're transmitting like a champ, keep your mitts off the antenna. An RF burn is the only thing—good or bad—that can come of it.

Take the Weight Off

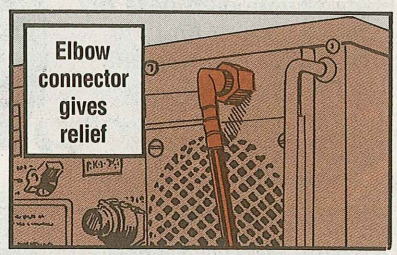
Your antenna group's 80-ft CG-1889 RF cable assembly puts a big strain on RF connectors.

You're the one who has to spell relief for them. Here's how you do it:

✓ At the the feedcone end, go by the book. That means using a PF-211 strain clamp, NSN 5975-01-072-4496, per Para 2-4p of TM 11-5985-357-13.

Follow that up by taping the cable to the mast about once every 5 feet. Tape, NSN 5970-00-419-4291, is listed in Appendix E of the TM.

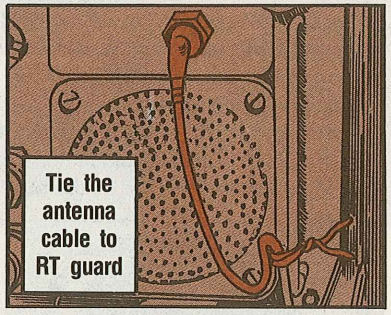
✓ At the receiver-transmitter (RT) end, use an elbow connector adapter, FSCM 92120 PN TRU-2064. Order it on DD Form 1348-6. The RIC is B16.



It gives relief in two ways. One, it makes the connector easier to put on and take off. Two, it heads the cable down, not out.

The straight connector lets the cable and connector extend past the RT's panel guard. The elbow keeps them both inside the guard.

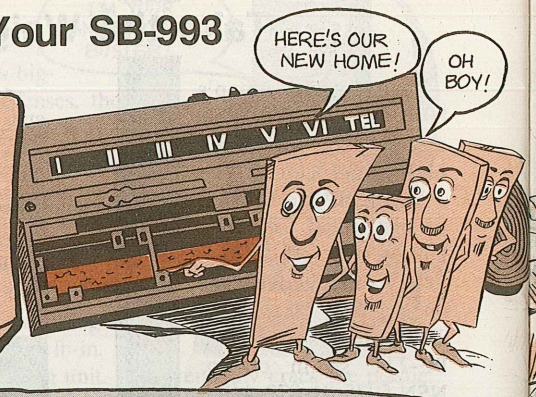
✓ You can also relieve the strain by tying the cable to the RT's guard. This keeps the weight of the cable off



the connector. It can also keep a sharp tug—like somebody tripping on a cable—from pulling the connector out.

Now both ends of your CG-1889 have been given some relief. In this case, no strain is your gain.

Strip Your SB-993



Dear Macon,
The rubber strips inside my switchboard have dry rotted. I can't find the NSN's for replacement. Can you help?
SSG C.P.B.

Dear Sergeant C.P.B.,
Sure can, but you'll have to make your own. Start with the rubber. NSN 9320-00-244-7045 brings a 36-in x 36-in x 1/4-in sheet.
Cut out four 3/4-in wide strips. Three should be 2 3/4 inches long and one 1 3/8 inches long.
Clean out all the old rubber with cleaning compound, NSN 6850-00-597-9765. Glue in your new strips with adhesive, NSN 8040-00-290-4301.
Macon

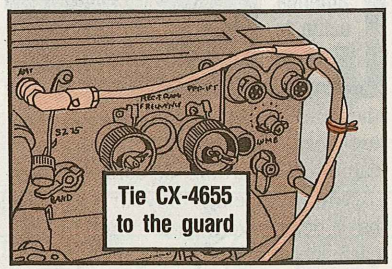
String It Up

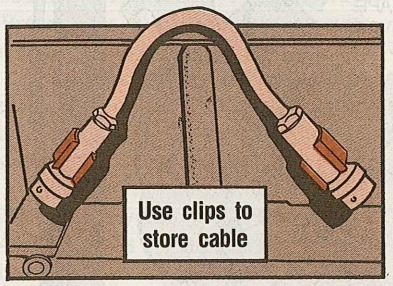
Hands, feet, carelessly tossed cargo—they're the natural enemies of the CX-4655 cable that sticks out from the front of your OA-3633 amplifier power supply.

You protect it with a piece of string. Just tie the cable down to the receiver-transmitter's panel guard.

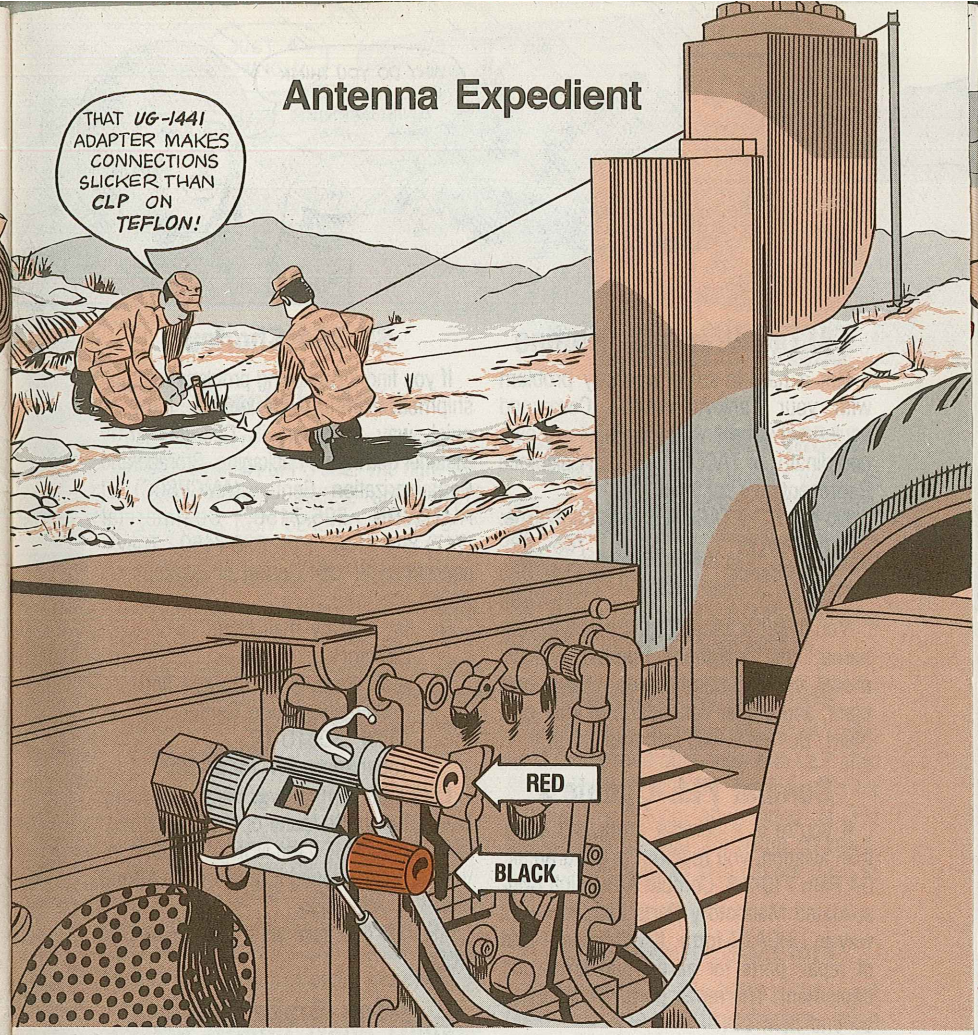
That keeps it out of the way while the radio's in its mount.

When you're thru with the radio, remove the cable. Keep it handy by storing it in the clips on the back of the set.





Antenna Expedient

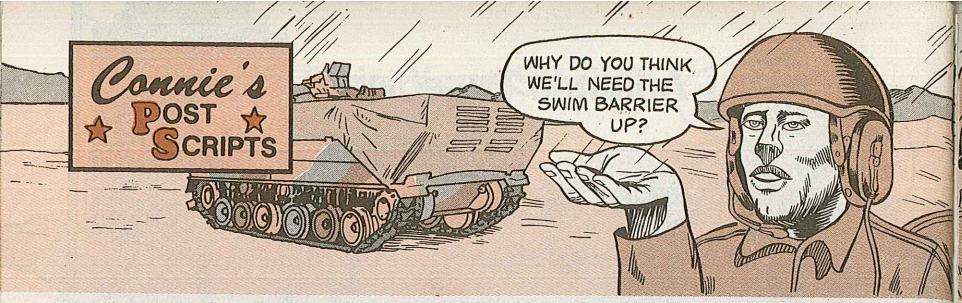


Making a smooth hookup between a field expedient antenna and your AN/VRC-12-series receiver-transmitter is a snap—with the right connection.

That connection is the UG-1441 adapter. Get one with NSN 5935-00-410-1399.

One end of the adaptor has binding posts for your field wire. The other has a BNC connector that fits the RT's ANT receptacle. The wire from the adapter's red binding post goes to the antenna. The wire from the black post goes to the counterpoise.

Keep the adapter handy by tying it to the RT's guard or MWO handle. It sure beats trying to feed field wire directly into the set's receptacle.



TACOM Warranty Hotline

Got a hard-to-solve warranty problem with your Tank-Automotive Command equipment? Check with your local warranty coordinator or TACOM Logistic Assistance Representative for help.

No help? Call TACOM's warranty hotline:

AUTOVON 786-7889
Commerical.....313-574-7889
FTS 973-7889

You'll get a recording. So leave your name, unit, telephone number, vehicle model, contract number from vehicle data plate, and a brief description of your problem. Someone will get back to you.

Combat PLL Update's

If you're in a combat arms unit other than aviation, you're about to get a break. DA Pam 710-2-3, Combat Arms Unit Consolidated Mandatory Parts List, is on its way in UPDATE form. It will include lists of repair parts for all combat arms unit equipment. The repair parts will be listed by end item LIN.

Not in a combat arms unit? Be patient. UPDATE MPL's are in the works for combat support, combat service support, and aviation units, too.

Chapter 8 of DA Pam 710-2-1 and Para 2-11i of AR 710-2 have more info on combat PLL's.

SF 364 Shortcut

If you find a packaging problem with any shipment from an Army activity, here's a quick way to report it. Call the Army Materiel Command Packaging, Storage and Containerization Center (AMCPSCC) at AUTOVON 795-7150, Commercial (717) 894-7150, FTS 590-7150. They'll send in an SF 364 Report of Discrepancy (ROD)—for you.

Or, get help by mail from:

Director
AMC Packaging, Storage and Containerization Center
ATTN: SDSTO-TP
Tobyhanna, PA 18466-5097

Even if no damage was done, report any packaging that's faulty or marked wrong. Tell the AMCPSCC the NSN of the item involved, who shipped it, and what's wrong with the packaging.

AR 735-11-2 tells all about the SF 364 ROD.

5-Ton Brake Safety

Commercial brake lining service is required when brake linings are replaced on two or more axles of M818 and M52-series 5-ton tractor trucks. Brake linings must be ground to fit the drum. Details are in AMC Safety of Use Msg AMCSF-E 161200Z Oct 84.

Would You Stake Your Life right now on

Flashlight Bulbs

The light went out when we were listing bulbs on Page 44 of PS 382. The right bulb for your MX991, MX992 and MX212 flashlights is NSN 6240-00-155-8675.

Argon Listed by Mistake

The argon gas bottle, NSN 8120-00-282-8077, listed in SC 3470-95-CL-A31 for the cutting and welding torch outfit No. 2, is not part of the set. The bottle is not needed and will be dropped when the SC is revised.

Driver's Hatch NSN

NSN 2510-00-445-7427 will get you the driver's hatch cover for the M577A2 command post carrier. That number's not shown in TM 9-2300-257-20P, but it is in the -34P. The cover's SMR-coded PAOZZ, so you org types can order and install it.

F1500 Grader Gage Update

The NSN's in TM 5-3805-253-20P for the oil pressure gage and sending unit are no longer good.

Order the gage with NSN 6620-00-115-9042 and the sending unit with NSN 6620-00-993-5546.

Hearing and Your M3A3

Anyone operating or working within 25 feet of an in-use M3A3 or M3A4 smoke generator must wear hearing protection. Danger signs (DA Label 172, Jul 83) must be placed on equipment as outlined in AR 385-30. The word's in AMCCOM Msg AMSMC-MAR-C 261420Z Sep 84.

Small Arms Cleanup

Small arms, including the M16A1 rifle, need be cleaned only once with CLP after firing. The only current TM that calls for three-day cleaning after firing is TM 9-1005-249-10, and it's being changed. There's no need to clean three days in a row.

AN/PSM-13 Adapters

Your AN/PSM-13 battery test set does not come with adapters, even though TM 11-6625-823-15 says it does.

The test set used to come with seven adapters. The ones not needed weren't used—a waste of Uncle's money and your space.

You now order only the adapters you need. NSN's are in the TM.

the Condition of Your Equipment?

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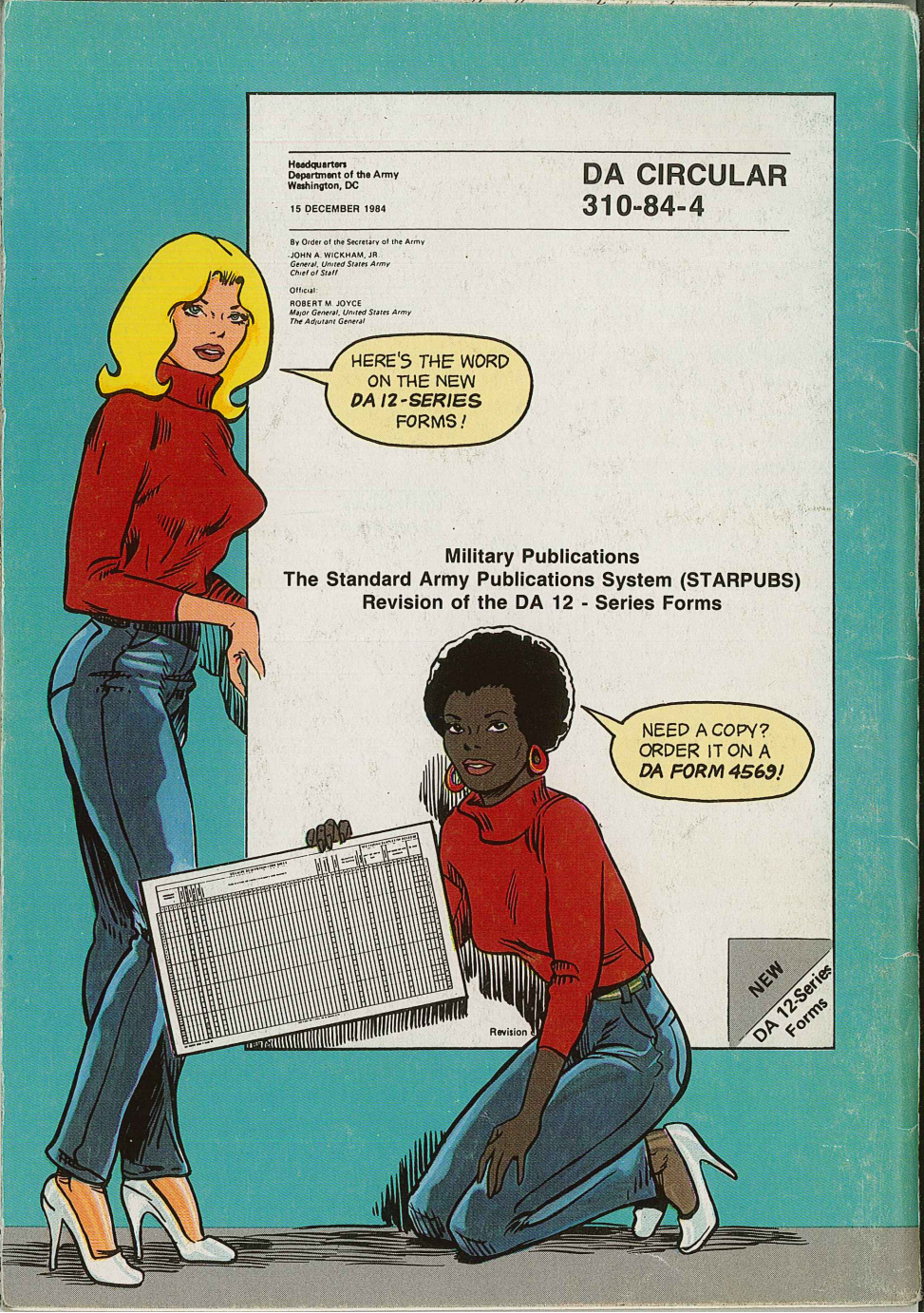
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