

Issue 457

PS

December
1990

TB 43-PS-457

THE PREVENTIVE MAINTENANCE MONTHLY

UH-OH, PROBLEMS...
CHECK THE PS INDEX!

I DID!
THEY'RE HERE
UNDER
DESERT
OPERATIONS!



Where to Go for TMDE Info



These are the pubs you need to do your job:

📖 TB 750-25, "TMDE Calibration and Repair Support Program." Appendix F describes your responsibilities.

📖 AR 750-43, "Army Test, Measurement and Diagnostic Equipment Program"

📖 TB 43-180, "Calibration & Repair Requirements for the Maintenance of Army Materiel"

For more info, contact your local TMDE support activity. If you don't know where it is, ask your Logistics Assistance Office.

You can get a line item number (LIN) profile that shows the TMDE your activity should be supporting by writing to:

USA TMDE Support Group
ATTN: AMXTM-OA
Redstone Arsenal, AL 35898-5400

INCLUDE YOUR UNIT IDENTIFICATION CODE, YOUR ADDRESS AND PHONE NUMBER AND A POINT OF CONTACT!



PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-457, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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

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

FAX: DSN 745-3855
 or Comm 606-293-3855

By Order of the Secretary of the Army:

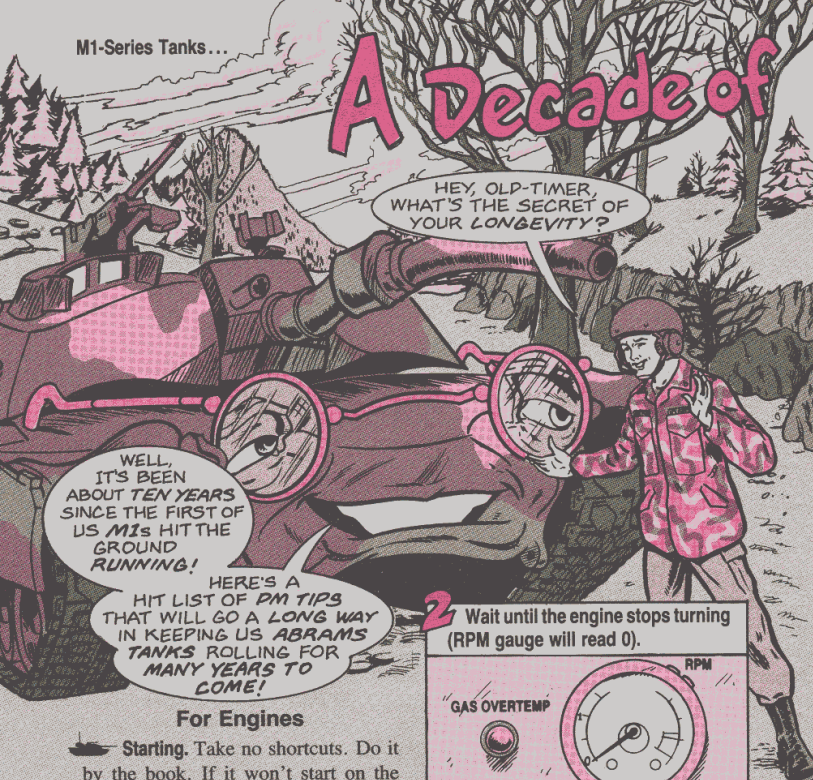
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PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Lexington, KY 40511-5101. Second Class Postage is paid at the Lexington, KY post office and at additional mailing offices. Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, US Army Pubs Ctr., 2800 Eastern Blvd, Baltimore, MD 21220-2896.

A Decade of



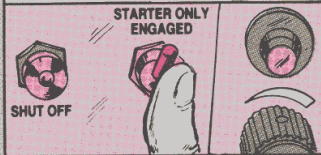
HEY, OLD-TIMER, WHAT'S THE SECRET OF YOUR LONGEVITY?

WELL, IT'S BEEN ABOUT TEN YEARS SINCE THE FIRST OF US M1s HIT THE GROUND RUNNING! HERE'S A HIT LIST OF PM TIPS THAT WILL GO A LONG WAY IN KEEPING US ABRAMS TANKS ROLLING FOR MANY YEARS TO COME!

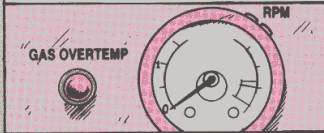
For Engines

Starting. Take no shortcuts. Do it by the book. If it won't start on the second attempt, wait one minute, then:

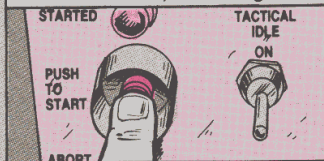
1 Set and hold the STARTER ONLY switch to the ENGAGED position for 20–30 seconds, then let it go.



2 Wait until the engine stops turning (RPM gauge will read 0).



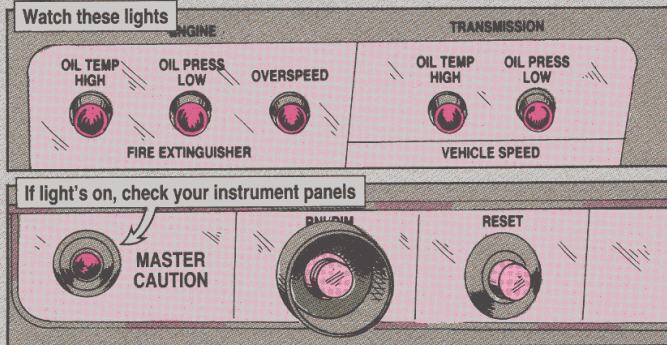
3 Press and hold the starter button for 1–3 seconds, then let it go.



If the engine still won't start, troubleshoot it.

Abrams PM Tips

Shutdown. Watch the warning lights and the MASTER CAUTION light for danger signals. Most of all, let the turbine idle for two minutes before shutdown.



Oil cooler overheating. That warning light means stop and do some troubleshooting. Check the cooler plenums for leaves, twigs, grass, etc., that cut down air flow. See an oily, dirty mess covering the fins? Try a couple of buckets of water to remove it. If that won't work, get your tank towed back to the motorpool.

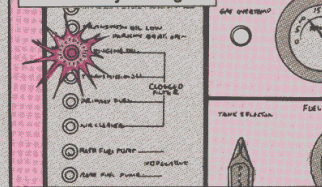
Run the engine at tactical idle, then pour a couple of buckets of water into the open access holes.

Pour water here

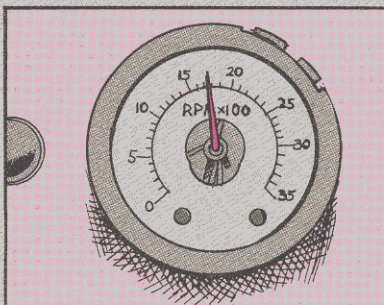


Oil filter clogging. Shut down the engine now if the CLOGGED FILTER light comes on and stays lit—or your engine will be eating the dirt, sand or other gunk that's in the oil. Once the filter clogs, a bypass feature lets the oil continue to flow into the engine. It's up to you to stop and get the filter problem fixed.

If this light comes on, shut down your engine



Stall test. You've only got 10 seconds to run the test. Go by the info in Change 4 to TM 9-2350-255-20-1-3 and TM 9-2350-264-20-1-3. Taking as much as 20 seconds can destroy a trans-

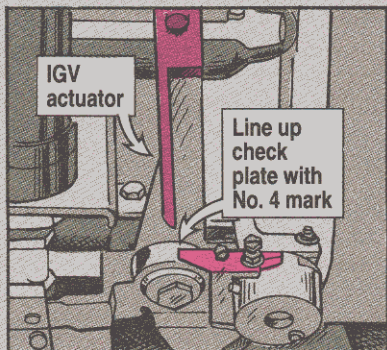


Once you get to 1,600–1,875 RPM, throttle back to idle within 10 seconds.

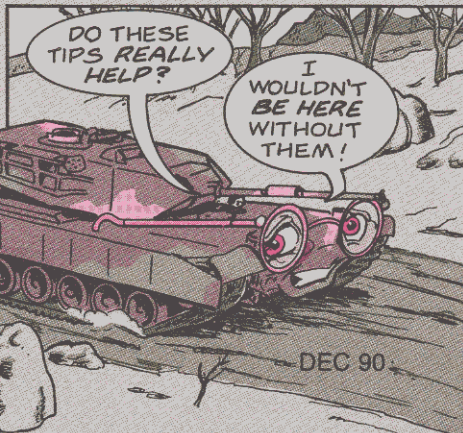
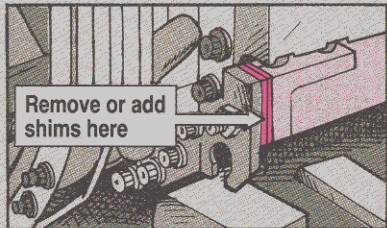
mission. With the service brake depressed and the transmission in drive, rev up to 1,600–1,875 RPM. Once you get that RPM, throttle back to idle—within 10 seconds.

Slave starting. Cut down generator drive shaft failure by changing the slaving procedure. Add to Step O on Page 2-377 of TM 9-2350-255-10-2 and Step O on Page 2-402 of TM 9-2350-264-10-2 this info: Shut down the engine and turn off the master power switch in the live tank before starting the dead one. Other procedures stay the same.

IGV adjustments. Get rid of engine sluggishness by making a couple of adjustments to the inlet guide vane actuator. Make sure the actuator lever check plate lines up with the No. 4

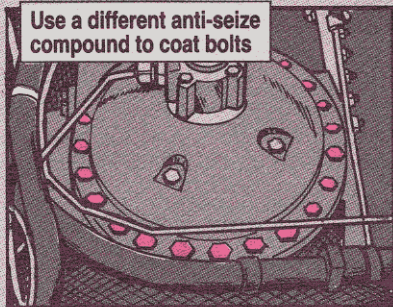


mark. Then check feedback voltage. Remove or add shims as needed to get readings between +10.2 and +11.0 volts.



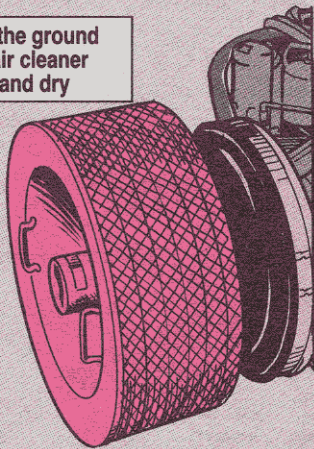
Combustor dome bolt anti-seize compound. Use NSN 8030-00-251-3980 instead of the stuff shown in the expendable supplies list in your TMs. This NSN is better at keeping engine heat from "welding" the bolts in place.

Use a different anti-seize compound to coat bolts



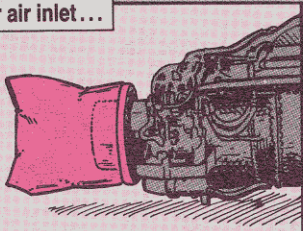
Ground hop air cleaner. Keep water away from the air cleaner or the fine dust and grit in it will turn into a mixture almost as hard as concrete when it dries. No air will get through that stuff and you'll overheat the engine.

Keep the ground hop air cleaner clean and dry



Pack parts coverup. Once you've got the powerpack on the ground, protect all openings with caps or plastic or something. Cover hull openings, too. Anything left uncovered is trouble waiting to happen. The openings are just like magnets to grit, dust and dirt.

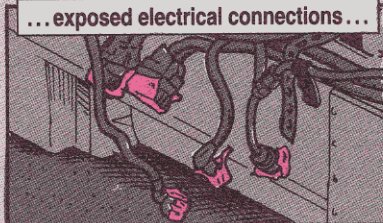
Cover air inlet ...



... final drive connections ...

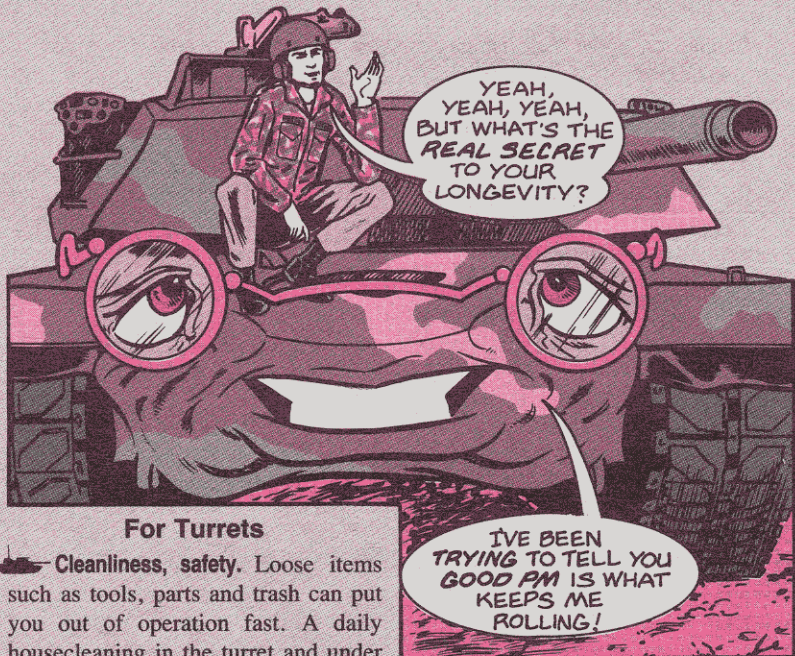


... exposed electrical connections ...



... and anything else that can collect dirt and sand





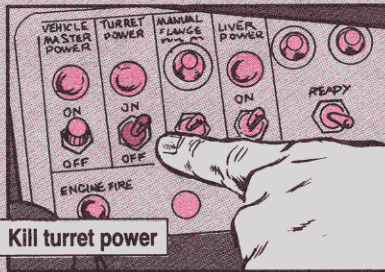
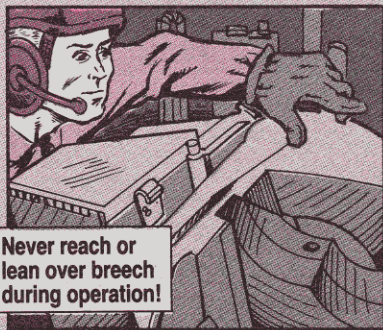
For Turrets

Cleanliness, safety. Loose items such as tools, parts and trash can put you out of operation fast. A daily housecleaning in the turret and under the floorboard helps prevent broken parts, cut cables and damaged ammo. Anything left on top of or below the gun breech could be crushed when the gun is moved. That includes parts of your body. Check all ammo for damage before chambering. Never fire any ammo that's dented or deformed.

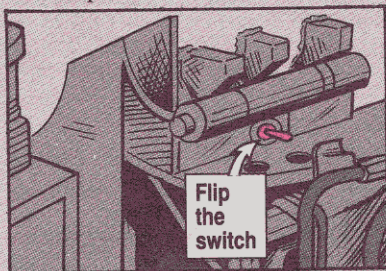
Check ammo compartment for moisture. If moisture is present dry with clean rags.

Ammo door cautions. Load and transfer ammo by the book and save your fingers. Never unlock the semi-ready door until you do this:

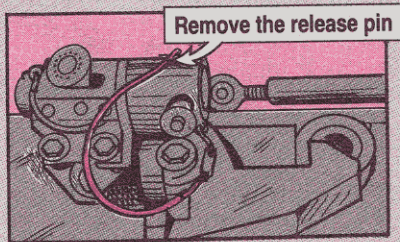
1. De-energize the ready door by killing turret power and turning off circuit breaker 12.



2. Flip the knee activation switch.



3. Remove the release pin from the hydraulic activator shaft. If your M1 does not have warning decals on the ready door, order NSNs 7690-01-244-9848 (finger danger), 7690-01-251-6045 (instructions), and 7690-01-100-8187 (knee switch caution).



Loose breech screws. Make sure every mounting screw on the M68A1 cannon breech is tight. Firing with a loose operating crank pin, operating crank detent or adjuster detent can cause pieces of the breech to come off and bounce around inside the turret.

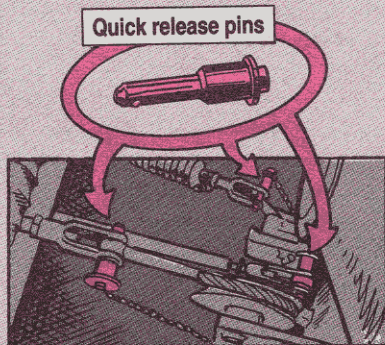
MRS moisture. Moisture in the muzzle reference sensor may keep you from hitting what you're aiming at. You mechanics can replace the desiccator inside the MRS any time it's needed, but at least every six months. Use NSN 6850-01-081-4193. Make sure the new desiccator is blue. If it's

some other color, turn it in and get another. Also, remember to replace both of the preformed packings on the desiccator access screws every time you replace the desiccator. Use NSN 5330-00-724-7902.

Crosswind sensor. If you keep it clean by the TM, there's nothing else unit maintenance can do to make it work. Dispose of it in accordance with applicable regulations.

For Hulls

Quick-release linkage pins. Dirt and corrosion jam the pin's retaining mechanism. If the pin won't lock in place, it could let go and mess up your steering and brake linkages. Pull on the pin to check. If it comes out, clean it or replace it with a new one. The steering pin, NSN 5340-00-904-4788, comes out most often and should be checked most often. The other pins

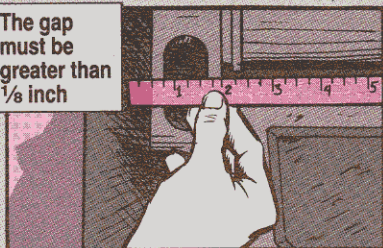


(NSN 5340-00-008-5826 for parking brakes and NSN 5340-00-904-6182 for service brakes) need to be checked, too.

Compensating idler bearing wear. Always check after operation for wear marks on the #1 skirt, a sure sign that

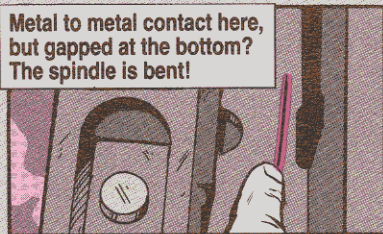
the idler spindle is worn. No wear marks? Check the gap between the end connectors and the skirt. If the gap's less than $\frac{1}{8}$ -inch, tell unit maintenance. At the semiannual service, unit

The gap must be greater than $\frac{1}{8}$ inch



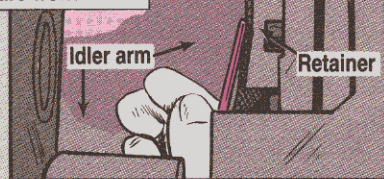
maintenance will look for metal-to-metal contact at the top and a gap at the bottom where the retainer and idler arm join. That'll mean a new idler arm.

Metal to metal contact here, but gapped at the bottom? The spindle is bent!



They'll also try to insert a $\frac{5}{32}$ -in Allen wrench into the gap between the retainer and idler arm at the front. If the wrench goes in, the upper spindle and bearings are worn, and they'll replace the idler arm.

If the wrench fits, the spindle and bearings are worn

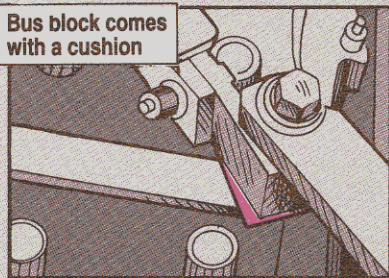


Make sure only WTR (wide temperature range) grease, MIL-G-81322, is used on the bearings. It slows bearing wear.

Battery bus block rubber cushion.

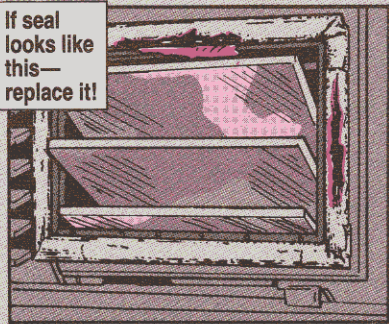
You've got to have a rubber cushion under the positive bus block, or you're asking for a fire. Need a new one? Bus block, NSN 6150-01-185-5766, comes with a cushion. You'll also need a recessed washer, NSN 5310-01-266-3893.

Bus block comes with a cushion



Exhaust seal damage. Keep an eye on the exhaust grille seals. Replace them when they get worn, torn or brittle. The seals keep that turbine heat from messing up the oil cooler cross-over hose. If that hose fails, you'll have oil all over everything, followed by a big fire.

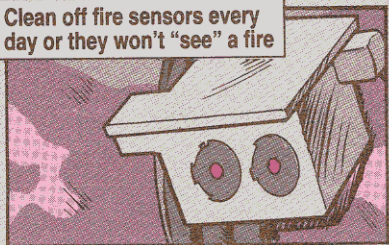
If seal looks like this—replace it!



Fire prevention. This may be the last, but it's certainly not the least important, tip. There are several things you must do to prevent tank fires.

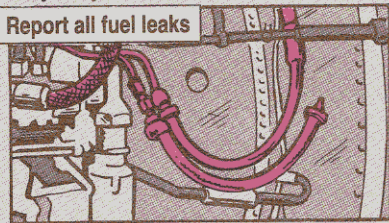
1. Keep the hull floor clean.
2. Clean off fire sensors every day.

Clean off fire sensors every day or they won't "see" a fire



3. Report all fuel leaks as soon as you spot them, no matter how small they may be.

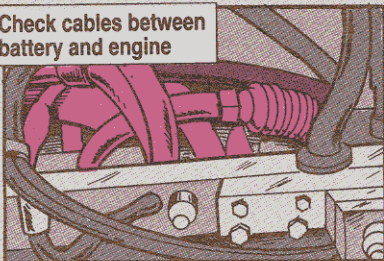
Report all fuel leaks



4. Eyeball all electrical cables for wear and damage, especially where they go through the opening between the battery box and engine compartment, and where they're routed along

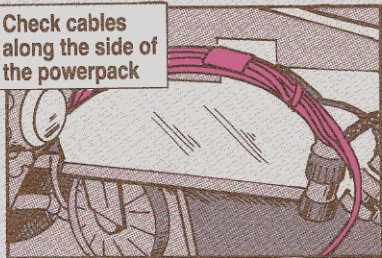
the upper side of the powerpack. Report any wear, chafing, melting or damage.

Check cables between battery and engine



5. Protect all cables where "pinch points" exist. Wrap them in rubber hosing (garden or radiator, whichever you have around) or shrink sleeving.

Check cables along the side of the powerpack

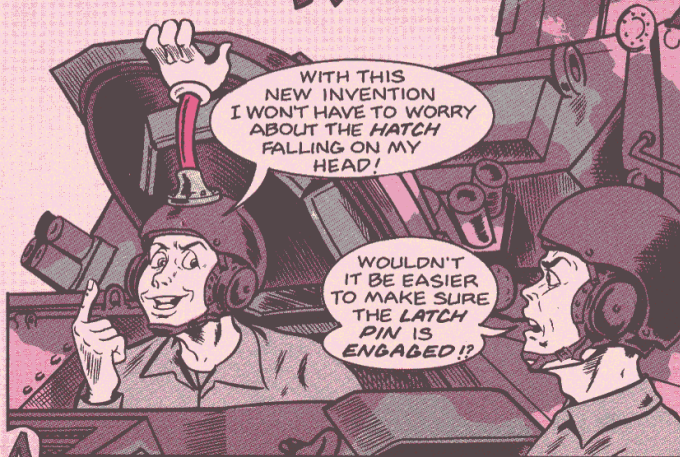


6. Know your tank's firefighting procedures by heart, just in case.

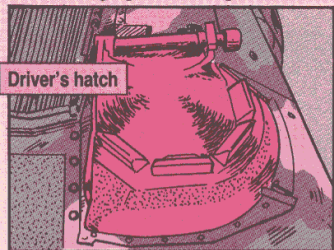
THESE TIPS
WILL KEEP
YOUR
OLD-TIMER
GOING
FOR
DECADES
TO COME!

HI-HO,
ABRAMS
AWAY!

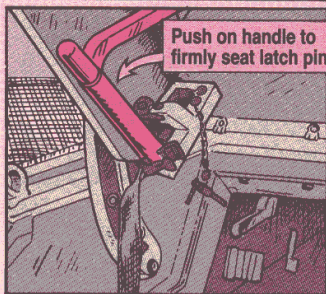
Hatch Safety



A couple of reminders, Bradley drivers, may help keep the hatch off your head during open-hatch operation.



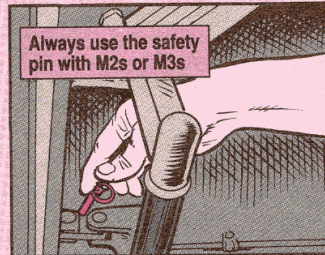
Make sure the latch pin that engages the hatch latch bar really does engage the latch bar to hold the cover open. The pin moves back and forth within a bushing that often comes loose. You might think the pin's fully engaged when it's not.



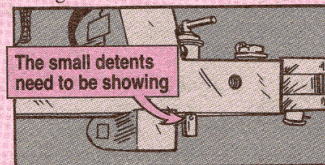
Give the latch handle a firm push toward the latch bar when you lock the hatch cover in any open position.

Always use the safety pin in the hatch cover handle lock if you have M2s or M3s. The pin has no value at all if it's not installed, and almost no value if installed only half-way.

Heads Up

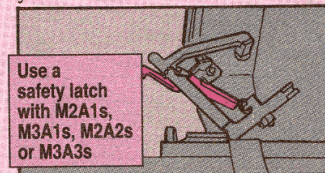


Push the pin firmly into the handle base. Make sure you can see the small detents sticking out from the pin. They keep the pin from vibrating loose and letting the hatch fall.



If the pin's missing, have your mechanic get you a new one, NSN 5340-01-114-0035.

➤ If you've got M2A1s, M3A1s, M2A2s or M3A2s, you use a safety latch instead of a pin. If the latch is missing or will not lock in place, let your mechanic know.



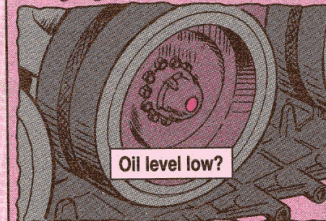
Clean and Read Sight Glasses

There's no excuse for failing to check the oil level in Bradley and MLRS roadwheel, idler wheel and support-roller wheel hubs.

That check lets you know if the hubs need oil, or if they have water in them. No action by you means death to hub bearings.

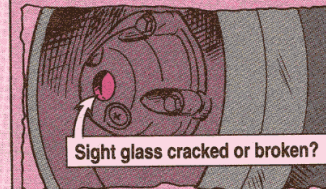
Before operation—every time—take a rag and wipe the sight glasses good enough so you can see if there's oil in the hubs.

Oil level low? Add OE/HDO to fill the sight glass.



Oil look milky? It probably has water in it. Let your mechanic know about it now.

Sight glass cracked or broken? It won't hold much oil that way. Let your mechanic know.

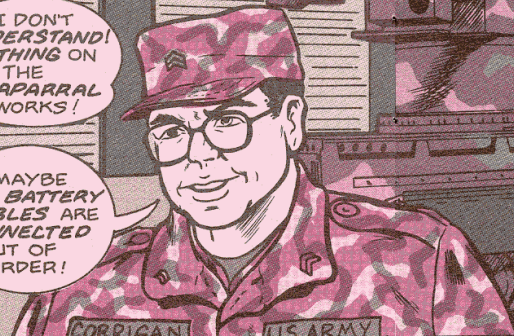


Battle Plan For Battery PM



I DON'T UNDERSTAND! NOTHING ON THE CHAPARRAL WORKS!

MAYBE THE BATTERY CABLES ARE CONNECTED OUT OF ORDER!



CORRIGAN U.S. ARMY



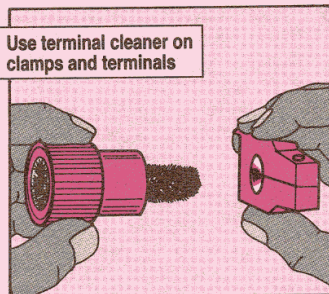
FOR MORE CLEANING INFO, SEE PARA 4-17d IN TM 9-1425-2585-14.

Everything has to be right with the Chaparral system batteries, or everything will go wrong when powering up the launching station, repairmen. Damaged connectors, corroded terminals, or misconnected batteries add up to no power. Follow this battle plan for strong batteries.

eyeball battery cables for their ID markings. No ID leads to confusion when you hook up the batteries again. If the ID's gone, wrap light-colored tape around the cable and mark cable number on the tape. Use the diagram on the battery box lid as your guide. If the diagram's gone, make a copy of Page 4-128 in TM 9-1440-2585-20-3 and use it as a guide.

After you disconnect the cables, clean 'em like this:

★ Use a terminal cleaner, NSN 5120-00-926-5175, to knock corrosion off battery terminals and clamps.



★ Clean terminals and clamps with a solution of ½ pound of baking soda to one gallon of water. Be sure the battery caps are on tight to protect the

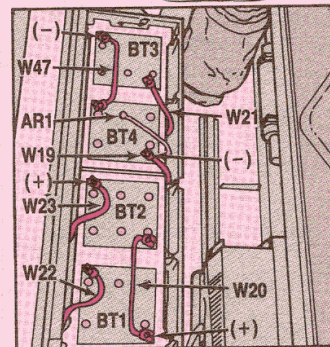
electrolyte. Rinse off the solution with plain water. Dry with a clean cloth.

★ Be sure all the positive terminals have lug covers, NSN 5940-00-738-6272.

★ Clear all battery cap vent holes.
★ Fill all battery cells to the bottom of the fill hole. Use only distilled water.

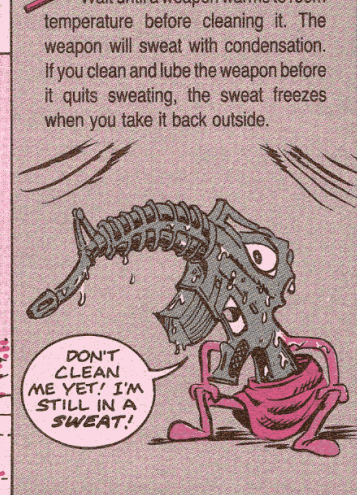
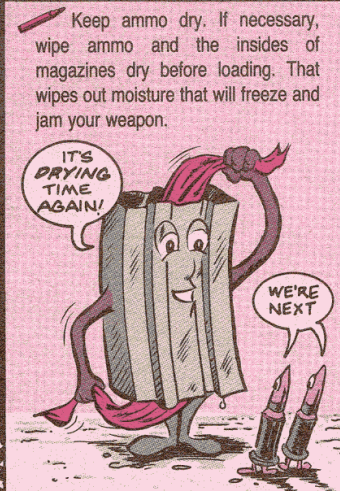
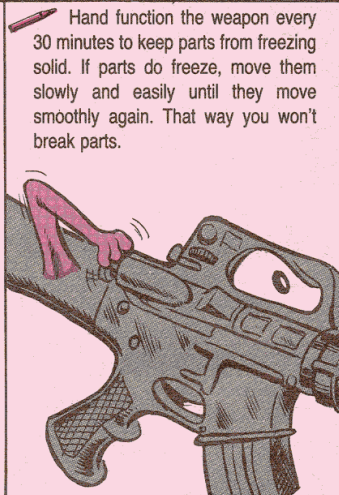
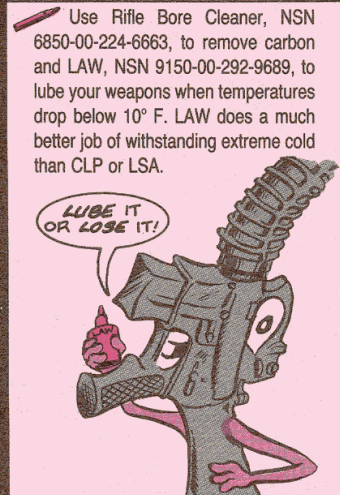
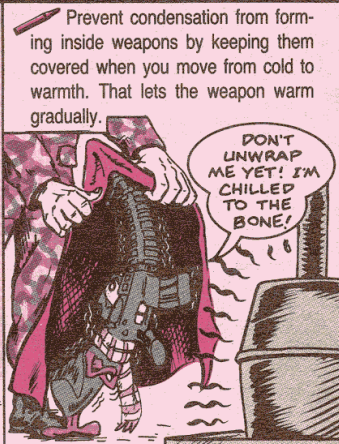
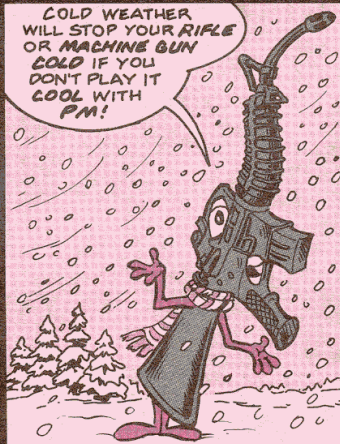
Connect cable connectors in this order:

Cable	Battery No.	Terminal
(1) W20	1	+
	2	-
(2) W22	1	-
(3) W23	2	+
(4) W19	4	-
(5) W47	4	+
	3	-
(6) W21	3	+



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

FIGHTING THE COLD WAR



Use Rifle Bore Cleaner, NSN 6850-00-224-6663, to remove carbon and LAW, NSN 9150-00-292-9689, to lube your weapons when temperatures drop below 10° F. LAW does a much better job of withstanding extreme cold than CLP or LSA.

Hand function the weapon every 30 minutes to keep parts from freezing solid. If parts do freeze, move them slowly and easily until they move smoothly again. That way you won't break parts.

Never lay a warm weapon or barrel on the snow. That can cause it to freeze. Use a tarp or poncho to lay it on.

Wait until a weapon warms to room temperature before cleaning it. The weapon will sweat with condensation. If you clean and lube the weapon before it quits sweating, the sweat freezes when you take it back outside.

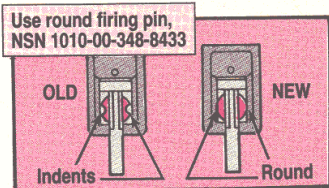
The Problems

Some problems just won't go away. But that's no excuse to give up the PM fight, armorers. Your attention is the only hope your M203s have got against these problems:

Bad Firing Pins

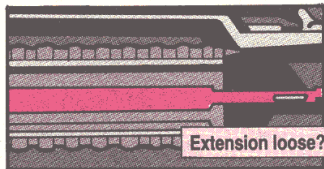
There are bad firing pins in the field that can puncture cartridge primers accidentally.

You can spot bad pins by the indentations on their sides. Good pins, NSN 1010-00-348-8433, are round.



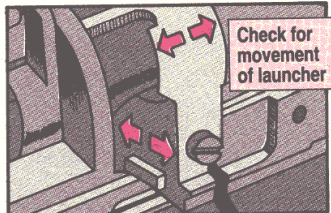
Loose Extensions

Barrel extensions work loose. That keeps the barrel from closing and the launcher from firing. After every mission, test extensions for movement in any direction. Support can stake loose extensions.



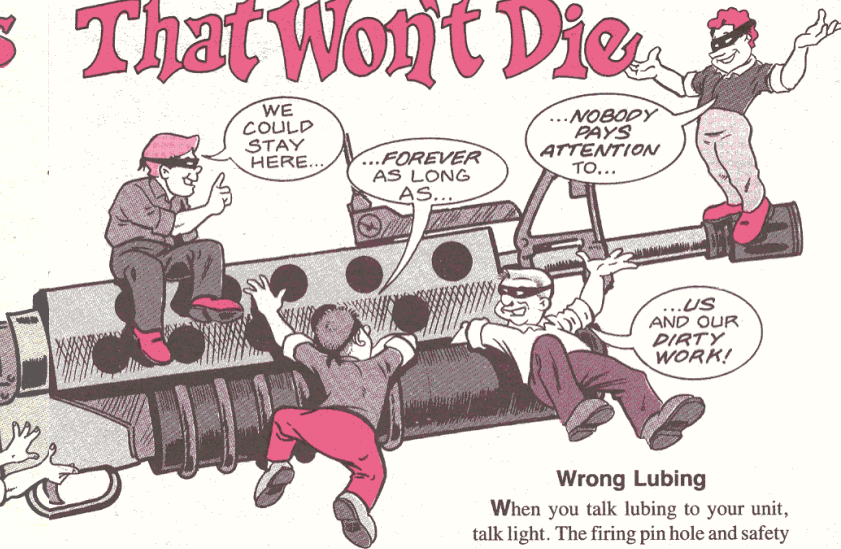
Check for movement of the entire launcher, too. There should be no more

than 1/8 inch side-to-side movement left or right of center or 1/4 inch overall and absolutely no movement front to rear.



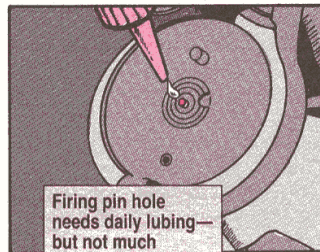
You can now replace loose mounting bracket bushings, NSN 3120-00-438-7332.

That Won't Die



Wrong Lubing

When you talk lubing to your unit, talk light. The firing pin hole and safety detent need daily lubing when firing, but only a few drops. More than that and lube cakes up in the launcher's insides. Support has to disassemble the launcher to clean out the gunk.



If the safety is stiff and lubing doesn't cure it, turn in the M203 to support. Either the safety assembly needs cleaning or the spring is shot.

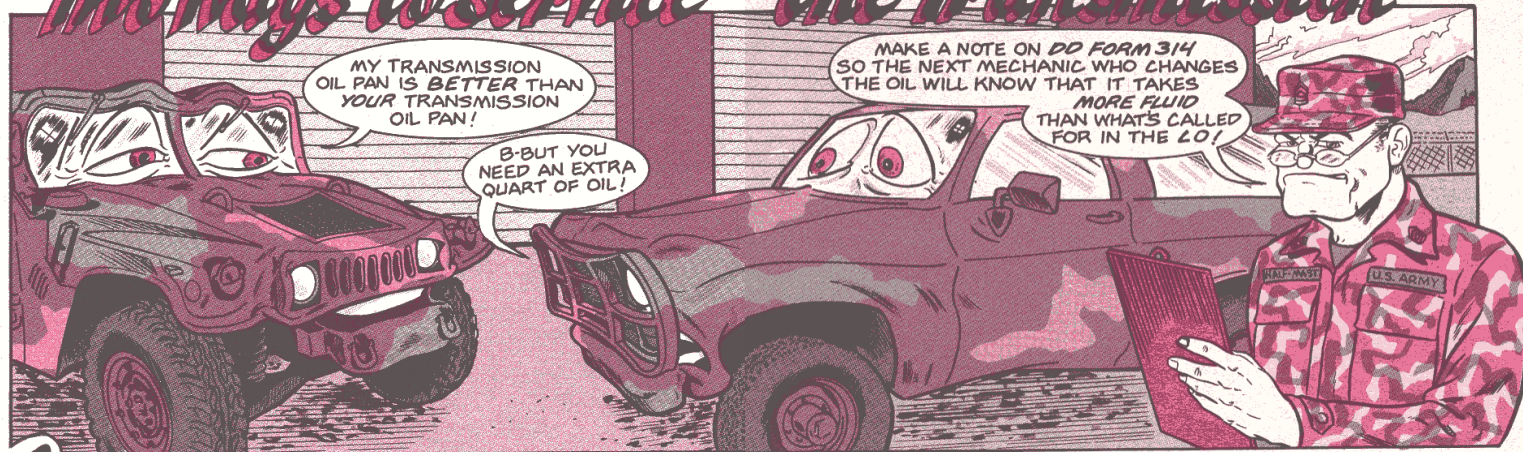
Dry Firing Damage

Breech inserts get chewed up by dry firing. Eyeball for inserts that stick up above the breech face or that you can turn with your finger. Those inserts are ruined. Get support to replace them.

Stress to your unit that their M203s should be dry fired only for PMCS and storage.



Two Ways to Service the Transmission



Changing the fluid and filter on a CUCV's transmission is a messy job. The oil pan has no drain plug, so you have to loosen the pan just to drain the fluid.

The pan is held by 13 capscrews. You have to loosen the first 10 in the front and along the sides—about four turns. Then you remove the three back capscrews.

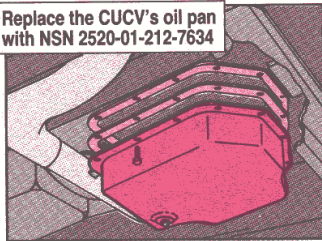
You pull the back end of the oil pan loose and let it down easy to drain the fluid into a drain pan.

To change the filter, you unscrew the remaining capscrews and take off the oil pan.

Always wear goggles when you remove the oil pan. They will protect your eyes in case something goes wrong and you get a face full of oil.

The job is a lot easier if you put the HMMWV's oil pan on the CUCV. HMMWV transmission oil pan, NSN 2520-01-212-7634, has a drain plug.

Replace the CUCV's oil pan with NSN 2520-01-212-7634

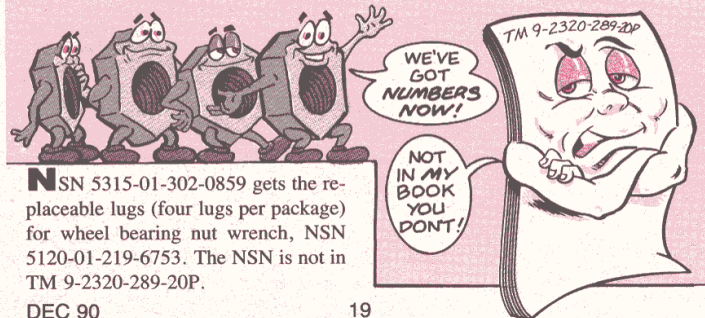


The HMMWV oil pan costs about \$16. Get your commander's OK, before you put it on. Everything works the same except the HMMWV's oil pan holds five quarts of transmission fluid instead of four.

Parking Brake Stop

The CUCV's parking brake rubber bumper (stop) is not listed in TM 9-2320-289-20P. Order with NSN 5340-01-312-0691.

M1009 Wrench Lug NSN



NSN 5315-01-302-0859 gets the replaceable lugs (four lugs per package) for wheel bearing nut wrench, NSN 5120-01-219-6753. The NSN is not in TM 9-2320-289-20P.

Ban Bead Constrictors



Never use bead constrictors on radial tires. Constrictors force the bead out—which breaks the belts inside the tire. You can't tell the belts are breaking. But your radial tire becomes a time bomb... waiting to explode.

The best and safest way to inflate a newly mounted radial tire is to use a bead seater.

A bead seater fills in the space between the tire and rim on one side so air can push the bead out against the rim. Use NSN 4910-00-437-7215 for



the 15-in seater for the M1009. Use NSN 4910-01-022-9721 for the 16-in seater for all other CUCVs and M880s.

Never use one to mount a 16-in CUCV tire on a 16.5-in M880 rim—or vice versa. Using the wrong tire could cause an explosion.

on Radial Tires



Here's how to use a bead seater:

- ✗ Make sure the mounted tire and rim flat is lying with the air valve side down.

Use lubricant, NSN 2640-00-256-5527, to lube the tire bead and rim edge that's facing you. That NSN gets a 1-gal can.

Put tire bead and rim edge with lube, NSN 2640-00-256-5527



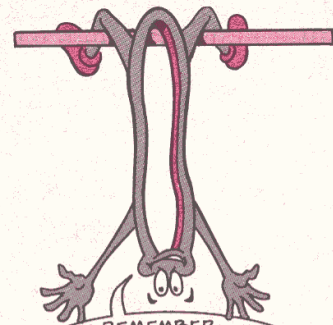
Pay attention to the way you apply the lubricant. Too much causes the seater to slip out too soon. Too little and the seater won't slip out at all—

and you'll have to let the air out and begin again. So apply a good, even coat of lubricant.

- ✗ Push one side of the bead seater between the tire and rim. Work it around the rim. Stretch the seater to get it over the rim edge and fill the last few inches.

- ✗ Lift the tire around the edge to help the bead seat against the rim and keep air from escaping during inflation. The seater will be forced out as the bead seats.

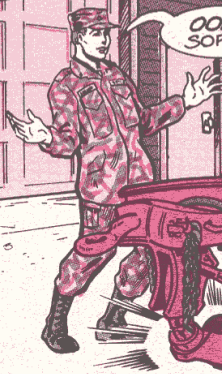
- ✗ Eyeball the tire pressure. When it reaches 40 PSI, both beads should be seated. If not, let all the air out and rotate the tire 90 degrees on the rim. Then re-lube and inflate. Check the vehicle's TM for proper air pressure.



REMEMBER, THE BEAD SEATER WILL ROT IF YOU LEAVE IT HANGING GREASY, OR IN SUNLIGHT. SO AFTER YOU USE THE SEATER, WASH IT AND KEEP IT OUT OF DIRECT SUNLIGHT!

Trailer Tidbits

Drivers, your 4-ton, 4-wheel bolster trailer will see lots of action if you give it the care it needs.

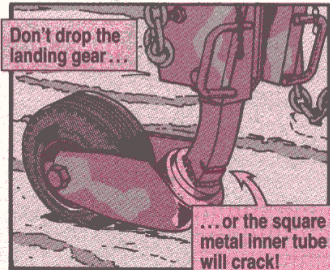


OOPS, SORRY!

NOW LOOK WHAT YOU'VE DONE!

Here are a few tips to help keep it in tip-top shape:

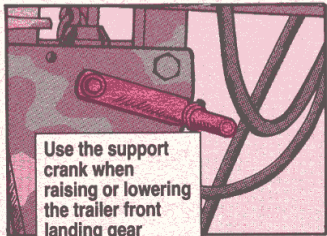
✓ Before unhooking the trailer from the towing vehicle's pintle, ease the landing gear down with the support crank. Don't drop it! Dropping it cracks the square metal inner tube.



Don't drop the landing gear...

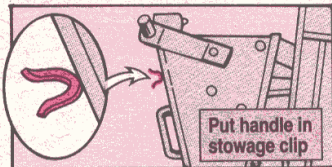
...or the square metal inner tube will crack!

Always use the support crank to raise or lower the trailer front landing gear so that it's level with the pintle. If you use the auxiliary handles, you might drop the whole thing and break the landing gear.



Use the support crank when raising or lowering the trailer front landing gear

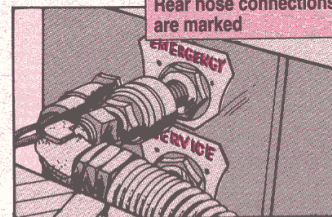
✓ To keep the crank handle from getting knocked off, stow it in its welded clip during travel—or when it's not in use.



Put handle in storage clip

✓ Make sure the brake air hoses at the front and rear of the trailer are hooked up correctly. Paint the end of the EMERGENCY hose RED and the SERVICE hose YELLOW.

The rear connections are marked—the bottom one is the SERVICE hose and the top one is the EMERGENCY hose.

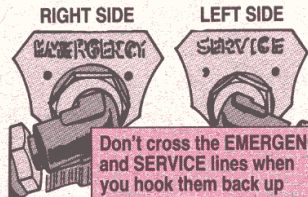


Rear hose connections are marked

✓ Before you change the length of the trailer with the reach tube in the tongue, be sure to disconnect the air hoses and electrical connector. If you don't, the lines at the rear of the reach tube hang up when you adjust the reach tube length.

You'll find the instructions for disconnecting the lines and cable on Pages 2-23 of TM 9-2330-287-14&P.

Be careful when you hook up the EMERGENCY and SERVICE lines again. If you cross them, the brakes will lock and you can't move out.



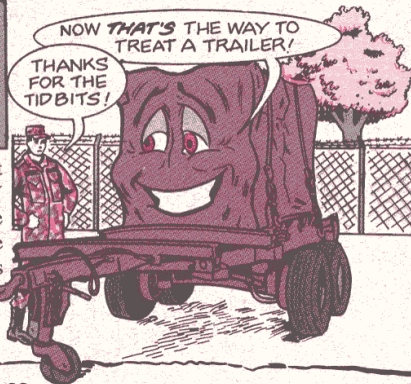
RIGHT SIDE

LEFT SIDE

EMERGENCY

SERVICE

Don't cross the EMERGENCY and SERVICE lines when you hook them back up



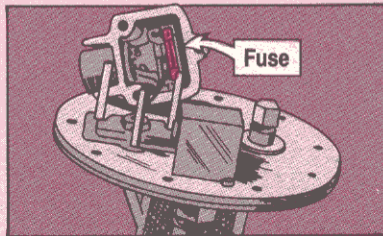
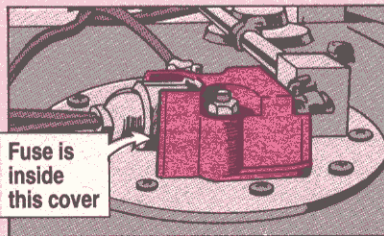
NOW THAT'S THE WAY TO TREAT A TRAILER!

THANKS FOR THE TIDBITS!

Fuel Pump Fuse Factor

When the in-tank fuel pump on your M44-, M39- or M809-series multifuel truck won't pump, check the fuse before you replace anything. Some people blow a wad of dough on a new fuel pump when all that's blown is the fuse.

Fuse, NSN 5920-00-238-3087, works in all in-tank fuel pumps on multifuel trucks.



It replaced NSN 5920-00-855-4260, listed for Item 18 in Fig 31 of TM 9-2320-209-20P. The fuse costs less than two-bits and often it's all that's needed to get the pump pumping again.

M887 Contact Maintenance Truck...

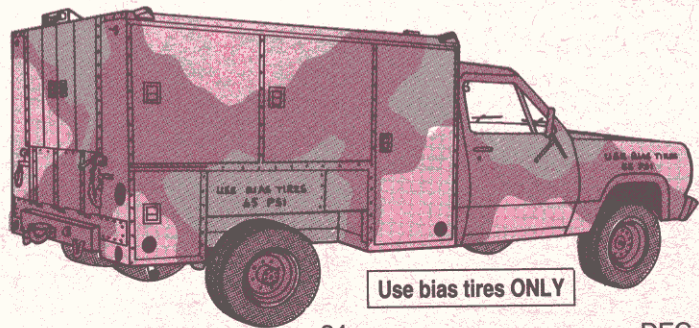
Use Only Bias Tires

TM 9-2320-266-20P tells you to use radial tires for the M887 contact maintenance truck. That's wrong!

Instead, use a bias ply, load range "E" tire. NSN 2610-00-489-8085 gets a highway tread tire and NSN 2610-00-489-8088 gets a mud and snow tire.

Tire pressure is 55 PSI for the front and 65 PSI for the back.

Never mix radial tires with bias tires on a truck.

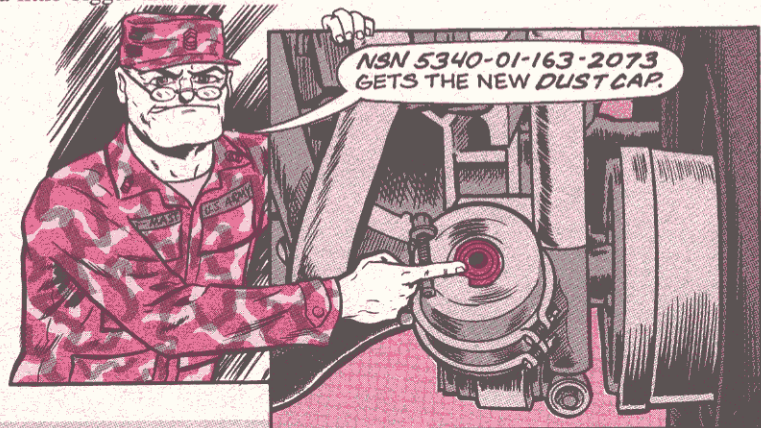


HEMTT...

Dust Cap NSN

Dust caps from your HEMTT's air brake chamber keep coming off, letting water, dust and dirt get into the chambers.

Before you leave the motorpool, look to see if a dust cap is missing. If so, get your mechanic to replace it with a new one, NSN 5340-01-163-2073. It's a little bigger than the old one.



HMMWV...

Spotlight NSN

The part number is wrong and no NSN is listed for spotlight assembly, Item 22 in Fig 40A of TM 9-2320-280-20P. It should be PN 922-720-11, CAGE 22973. This number crosses to NSN 6220-01-266-1651. The spotlight goes in the HMMWV ambulance compartment.

Ambulance Strap

Personnel straps are shown in Fig 40A of Change 1 in TM 9-2320-280-20P, but no NSNs or part numbers are listed. You can order the strap on DD Form 1348-6 with CAGE 31272 and PN 45939-10 from RIC S9C. Hardware for the strap comes like so:

Loop strap holder, NSN 5340-01-314-5957
Machine screw, NSN 5305-01-185-0114
Loop Plusnut, NSN 5310-01-009-9785

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer print-out provided by the Adjutant General.

- TM 1-1270-476-23P-1** Sep TADS, parts and tools
TM 1-1270-476-23P-2 Sep TADS, parts and tools
TM 5-4120-387-24P Oct 6,000 BTU air conditioner, vertical
TM 9-1425-648-24P May Launcher, rocket, armored vehicle mounted: M270 rocket launcher
TM 9-8115-647-14&P Aug PU-789/ M power unit, MEP-114A, 30KW generator set
TM 11-5820-1049-12 Aug AN/PRC-90-2 radio set
TM 11-6625-3203-13 Aug TS-24B radio test set

PUBS

- TM 55-1520-237-23-7** Oct UH-60AH and EH-60A
TM 55-1520-240-PM Oct CH-47D
TM 55-1520-248-MTF Sep OH-58D
TB 1-1520-238-20-09 Jul Inspect AH-64A main rotor hub retention nut
TB 5-4610-215-10-1 Aug Grounding procedures for the 600 GPH ROWPU, MECO model
TB 5-6115-636-23 Jul Warranty for 15KW trailer-mounted generator set models CTMGSA-15 (LT), NSN 6115-01-304-8184, and CTMGSA-15 (HY), 6115-01-304-8185
TB 5-6115-637-23 Jul Warranty for 30KW trailer-mounted generator set

- TB 55-1520-210-20-16** Aug Inspect particle separator UH-1H/V
TB 55-1520-17-20-35 Aug Inspect and replace nuts, NSN 5310-00-176-8110, CH-54A and CH-54B
TB 55-1520-228-20-54 Aug Inspect and replace nuts, NSN 5310-99-176-8110, OH-58A/C
TB 55-1520-237-20-118 Sep Inspect UH-60A/L and EH-60A tail rotor pitch beam retaining washer, and pitch beam retaining nut
TB 55-1520-238-20-70 Jul AH-64A anti-ice panel stand-off post hardware security
TB 55-1520-242-20-49 Aug Inspect and replace AN320-6 nuts, 1H-1H/V, EH-1H/X

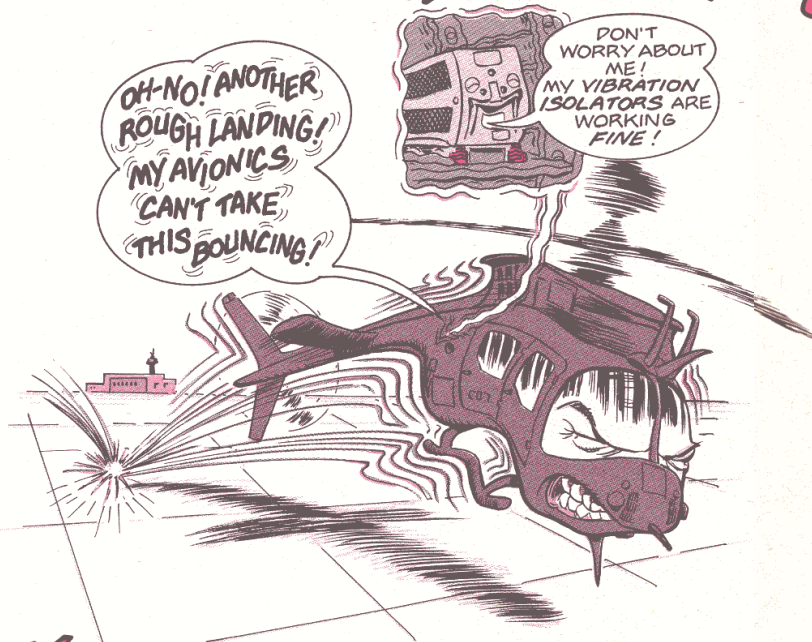
Maintenance & Safety-Of-Use Messages

- AMCCOM SOU-MSG-19-90**—Advisory, Operational, M2 Cal .50 machine gun and M48 Cal. 50 used on M1 tank, AMSMC-MA 081900Z Jun 90.
AMCCOM SOU-MSG-26-90—PIVADS M163A2 and M167A2, AMSMC-MAE-WA 312130Z Aug 90.
AMCCOM SOU-MSG-30-90—Advisory, Pin retainer used to retain the MK19 GMG to the MK64 mount, AMSMC-MA 122000Z Sep 90.
AMCCOM SOU-MSG-29-90—Advisory, DS2 decontaminating apparatus, AMSMC-MA 171400Z Sep 90.
AMCCOM Maintenance Advisory MSG-90-17—Bishman 931A moulder/demoulder, AMSMC-MA 101930Z Sep 90.
AMCCOM Maintenance Advisory MSG-90-22—Air filter paddle change-out procedure for Operation Desert Shield, AMSMC-MAR-EP(A) 171000Z Sep 90.
AMCCOM Desert Shield Maintenance Advisory MSG-90-26—Maintenance levels M110A2 8-inch self-propelled howitzer, AMSMC-MA 211723Z Sep 90.
AMCCOM Maintenance Advisory MSG-90-28—M230 gun cradle inspection, AMSMC-MA 211730Z Sep 90.
AMCCOM Maintenance Advisory MSG-90-33—M130 general purpose dispenser, AMSMC-MA 261300Z Sep 90.
AMCCOM Maintenance Advisory MSG—Armor moving target carrier assembly, target hold-

- ing mechanism/tank gunnery, AMSMC-MA 261700Z Sep 90.
CECOM SOU-MSG-90-09-02—Operational, OE-361(V)2/G Quick reaction satellite antenna, AMSELSF-SEP 121800Z Sep 90.
CECOM SOU-MSG-90-09-04—Mandatory, Operational, OE-254 antenna ground, AMSELSF-SEP 261800Z Sep 90.
MICOM SOU-MSG-90-12—Advisory, Operational, Hawk, HPI antenna transmitter cabinet, AMSMILC-AM 061125Z Sep 90.
MICOM SOU-MSG-90-13—Advisory, Avenger missile system, AMSMILC-AM 211325Z Sep 90.
TROSCOM SOU-MSG-24-90—Advisory, Technical, Update on derating of circuit breakers on distribution illumination systems, electric (DISE), AMSTR-MES 101800Z Sep 90.
TROSCOM SOU-MSG-21-90—Advisory, Maintenance, Non-CARC paint over Chemical Agent Resistant Coating (CARC), AMSTR-MES 271400Z Aug 90.
TROSCOM SOU-MSG-25-90—One-time inspection, limited, Quick release used on type A-21 cargo aerial delivery bag, AMSTR-MES 141930Z Sep 90.
TROSCOM SOU-MSG-26-90—One-time inspection, limited, M-2 cargo parachute release, AMSTR-MES 142000Z Sep 90.
TROSCOM SOU-MSG-22-90—Advisory, Maintenance, Duct type heater, portable, trailer mounted, 400K BTUH, gasoline,

- NSN 4520-01-136-2139, AMSTR-MES 171530Z Sep 90.
TROSCOM SOU-MSG-28-90—Advisory, Operational, Grounding of all electrical and power generating equipment in desert conditions, AMSTR-MES 202030Z Sep 90.
TROSCOM SOU-MSG-27-90—Operational, Orientation of fuel outlet on 3-KW DED generator sets, AMSTR-MES 216150Z Sep 90.
TROSCOM Maintenance Advisory MSG-90-15—Rewiring of switch box on AN/MJQ-32 and AN/MJQ-33 power plants, AMSTR-MES 092200Z May 90.
TROSCOM Maintenance Advisory MSG-90-33—Amertek Model 2500L firefighting vehicle, AMSTR-MES 172015Z Sep 90.
TROSCOM Maintenance Advisory MSG-90-37—Packaging of chemical protective overgarments, AMSTR-MES 192345Z Sep 90.
TROSCOM Maintenance Advisory MSG-90-26—Inspection of M353 trailer used with PU-495 B/G and PU-495 A/G power units, AMSTR-MES 201300Z Sep 90.
TROSCOM Maintenance Advisory MSG-90-36—Small mobile water chiller, AMSTR-MES 241649Z Sep 90.
TROSCOM Maintenance Advisory MSG-90-38—Changes to TM 10-8400-201-23, Maintenance of the extended cold weather clothing system, AMSTR-MES 271630Z Sep 90.
Your Direct Support or Logistics Assistance Office (LAO) can provide you with more information.

SHAKE, RATTLE & ROLL!



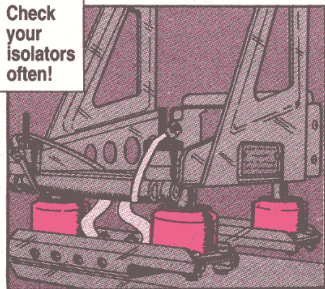
Vibration isolators cushion your bird's high-powered and high-priced avionics gear against life-shortening vibrations.

Worn out isolators can't do the job. Neither can isolators carrying a load that's too heavy.

So check your bird's isolators often, not just during periodic inspections.

Make sure they're not overmatched by their loads. Compare the rated weight of each isolator to the weight

Check your isolators often!



of the equipment it supports. The rated weight of each isolator is usually printed on the casing.

If the rated weight of the isolator is less than the weight of supported equipment, replace the isolator.

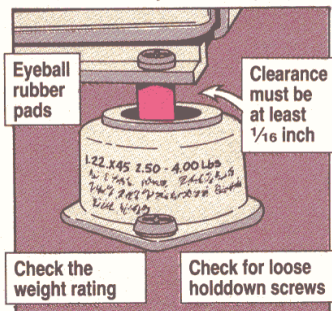
If you can't find the rated weight of an isolator or the weight of its supported equipment, measure the gap between the isolator and the equipment using a 6-in rule.

If the vertical and horizontal clearance is not at least 1/16 inch, replace the isolator.

Also check each isolator's rivets or holddown screws for looseness by moving the equipment to extreme positions in every direction.

If you find loose rivets or screws that you can't tighten, replace the isolator.

While you're at it, eyeball the sponge rubber or metal mesh pads on each isolator. If you find any separa-



tion of rubber-to-metal bond or cracks, replace the isolator.

Make these checks routinely and you'll turn bad vibes into good vibes.

Aviation Messages

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

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

- GEN-90-ASM-04, ASM, Use of M429 proximity fuze during training, 071900Z Aug 90.
- UH-1-90-ASM-07, ASM, UH-1H/V and EH-1H/X, correction of mast assembly replacement life, 221700Z Aug 90.
- AH-1-90-ASM-06, ASM, AH-1, Battery stop block, turbine flange bolt, clarification on use of bushing assembly, notification of the fatigue lives of K747 blade components, 222630Z Aug 90.
- OH-58-90-ASM-07, ASM, OH-58A/C, seat armor hardware, 232100Z Aug 90.
- OH-58-90-ASM-08, ASM, OH-58D, tail rotor pitch link damage limits and repair procedures, 271745Z Aug 90.
- OH-58-90-ASM-01, ASM, H-6 adjust collective bungee, 311800Z Aug 90.

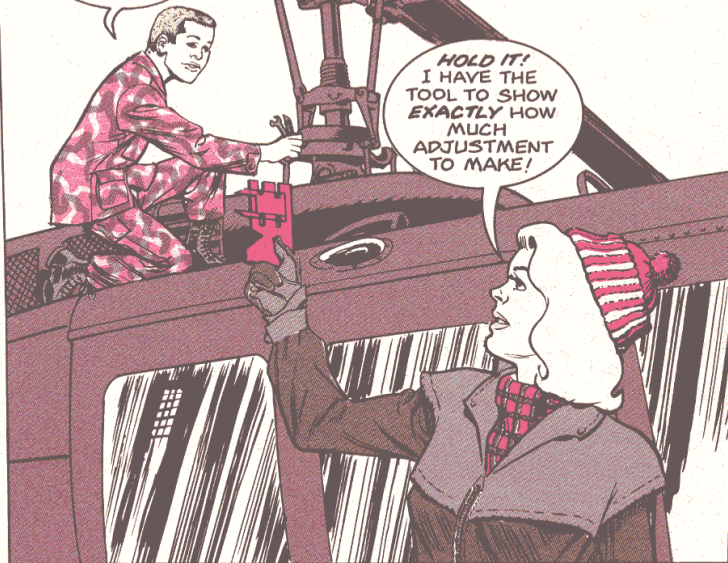
- UH-60-90-02, SOF, Maint Mandatory, H-60 inspection of tail rotor pitch beam washer and pitch beam retaining nut and recurring inspection, 092030Z Aug 90.
- OH-58-90-09, SOF, Oper, OH-58A/C, instructions for the Casey heater, 232030Z Aug 90.
- AH-1-90-07, SOF, Oper, AH-1, Firing of rockets using MK66 motors, 232230Z Aug 90.

Tools...

Work Aid Takes the Guesswork Out

JUST A LITTLE MORE ADJUSTMENT, I THINK!?

HOLD IT! I HAVE THE TOOL TO SHOW EXACTLY HOW MUCH ADJUSTMENT TO MAKE!



Dear Editor,

Here's a tool for measuring collective lever displacement on the UH-1. It allows the mechanic to accurately set the low pitch setting of the collective sleeve/control tube. It also accurately indicates total collective sleeve travel.

It's a lot quicker and far more accurate than using a 6-in steel rule.

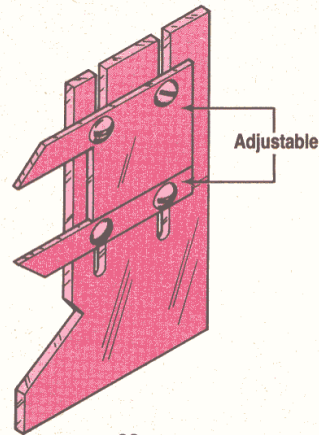
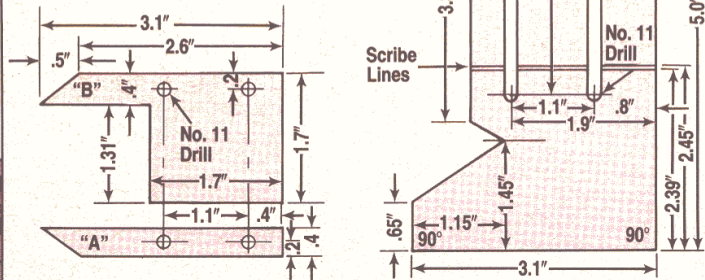
Make the work aid from .090-in aluminum stock. You also need:

Screws (4) MS35215-55
NSN 5305-00-206-2510

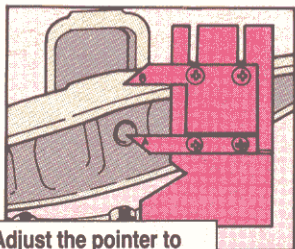
Nuts (4) AN320-3
NSN 5310-00-285-2177

Washers (8) AN960PD10L
NSN 5310-00-771-6827

Here's how to make it:



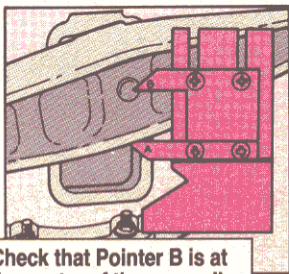
To use the work aid, place it squarely on the transmission cap surface with the collective lever full down. Pointer A extends over the lower extrusion of either collective lever toward the center of the cam pin.



Adjust the pointer to the center of the pin by loosening two screws

Make sure the top plane is parallel to the bottom of the tool by using the scribe lines. The top plane of the pointer should fall between 2.39 inches and 2.45 inches as marked on the tool.

Remove the work aid. Next, with hydraulic power, extend the collective levers full up and reinsert the work aid. Now, Pointer A should extend below the collective lever. Pointer B rests on the top plane of Pointer A and is basically a 1.31-in perpendicular extension.



Check that Pointer B is at the center of the cam roller pin, plus or minus .06 inch

To use the work aid to adjust rigging, position the collective levers as described in Step d of Para 11-6, TM 55-1520-210-23-1, to get a dimension. Then follow the directions in Para's e and f.

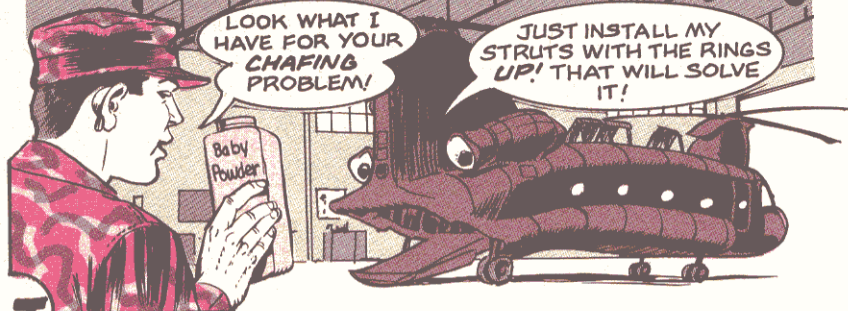
Use the work aid to measure total travel of collective pitch sleeve in Para g.

The big advantage of this work aid is that the pointers extend beyond the upper and lower extrusions of the collective levers to actually touch the cam roller pin. They relay accurate dimensions perpendicular to the transmission cap surface.

SSG Daniel E. Bishop
Bangor, ME

(Editor's note: Thanks for sharing your idea.)

Stop Tunnel Strut Chafing

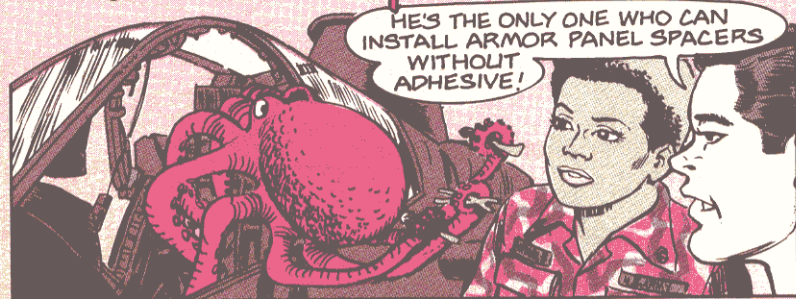


If you install tunnel struts for the cabin crown access doors of your CH-47D like it shows in Fig 58 of TM 55-1520-240-23P-1, you're asking for trouble.

If you install the struts with rings down, the rings vibrate and chafe the aluminum hydraulic tubing. When chafing damage exceeds the limits spelled out in TM 55-1500-204-25/1, the tubing must be repaired or replaced.

So, install the struts with the rings up rather than down. That allows the ring to rest on top of the strut, away from the hydraulic lines.

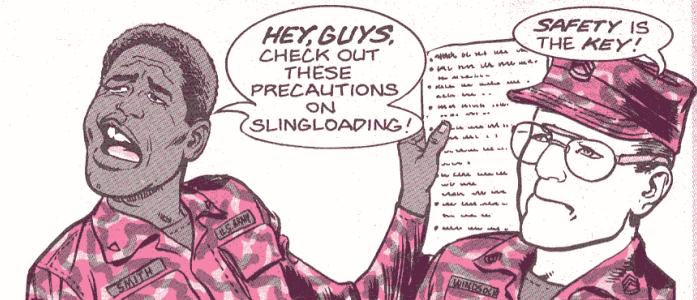
Don't Get Spaced Out



Installing spacers on the armor panels of a Cobra's crew seats can get complicated. There's very little room to work and not enough hands to do the job.

So use Proseal, NSN 8030-00-723-2746, or uralane adhesive, NSN 8040-01-016-4726, to hold the spacers in place and free your hands to attach the panels to the seats.

Ground Crew Cautions



Hooking up a vehicle, howitzer or MILVAN to a hovering helicopter can be an uplifting experience, when it's done right.

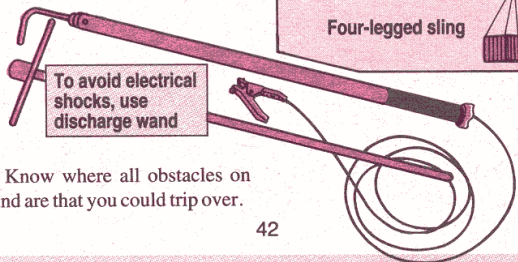
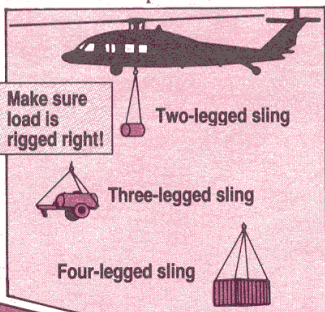
It can also be a real downer if somebody gets sloppy.

Here're some things you ground crewmen can do to make sure everybody goes home happy after a sling-loading operation:

- ✈ Stay clear of all rotor blades.
- ✈ Use your static electricity discharge wand to ground the cargo hook and avoid electrical shocks. Maintain contact between the wand and cargo hook until the load is properly hooked up and ready to go.

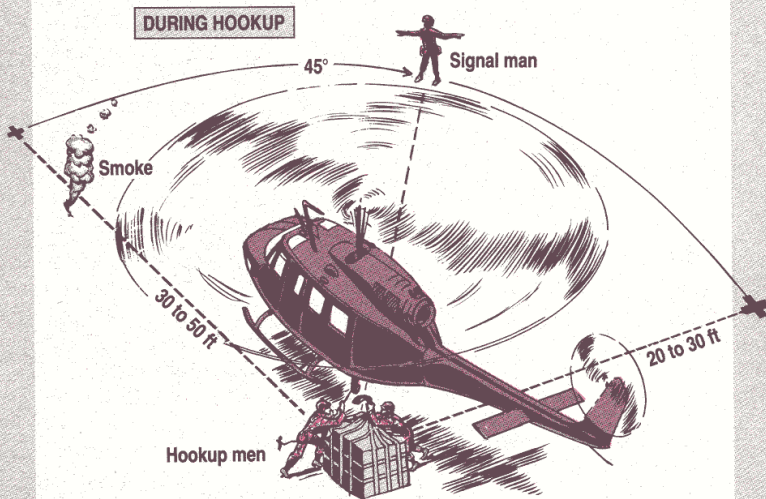
- ✈ Keep an eye on your fellow crew members—their safety is important, too.

- ✈ Check and double-check the load to make sure it's rigged properly. If you're not sure how to rig your load, see FM 55-450-1, Army Helicopter External Load Operations.

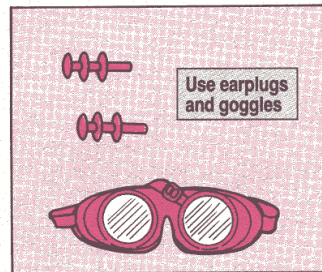


- ✈ Know where all obstacles on the ground are that you could trip over.

- ✈ Know where you are in relation to the helicopter at all times. If you become disoriented, back away from the helicopter until you regain your bearings.
- ✈ Stay clear of swinging cargo hooks.
- ✈ Keep the area clear of loose equipment that could get caught in the helicopter rotor wash and injure you or damage the aircraft.



- ✈ Know exactly what your job is and how to do it so there won't be any confusion while the helicopter is overhead.
- ✈ Be familiar with emergency procedures in case something goes wrong during the hookup. Your unit SOP should have all emergency procedures.
- ✈ Protect your eyes from flying debris with goggles. Protect your hearing with earplugs.



Hearing — Say What?



When you work in and around the AN/TRC-170(V)2 and (V)3 shelters, you need hearing protection. During normal operation, most gear—like the cooling fans, the pionjar driver which is used to drive rods into the earth, and the power generator—make lots of noise. Too much noise for too long causes hearing damage.

There's a label inside the shelter that warns operators that hearing protection is required within the shelter. If this label is missing or unreadable, get your pubs clerk to order a replacement DA Label 172 on DA Form 4569.

Sometimes you're told what type of hearing protection to use. If not, you have a variety of choices.

Preformed, permanent-type earplugs—triple, or single-flange—are fitted

by medical personnel and issued to you. They will also give you a carrying case with a gadget that helps you get the earplugs into your ears.

Disposable plugs come in foam or silicone-rubber.

Get them with these NSNs:

Type	Quantity	NSN 6515-00-
Silicone	200 (100 pr) per PG	133-5416
	48 (24 pr) per PG	135-2612
Foam	400 (200 pr) per BX	137-6345

Get ear muffs with NSN 4240-00-022-2946.

Ear canal caps are NSN 6515-01-149-4133 for a package of 10.

Lens Mount Assembly Revisited

CHECK THESE NUMBERS AND SAVE YOURSELF FROM A LOT OF TROUBLE!

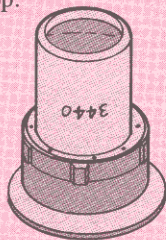


Without this ring, the lens assembly goes too far forward and comes off the threaded part of the collar. That means the lens cannot be returned to infinity focus. You need to remove these lens assemblies from service.

Here are the items that you need to check for these lens assemblies:

Item	NSN
AN/PVS-5 and 5A	5855-00-150-1820
AN/PVS-5B	5855-01-228-0938
AN/PVS-5C	5855-01-228-0936
Mount Assembly	6650-00-125-0640

Find the serial number on the lens label. If the serial number is 0001 through 4356, send them to your DS shop.



Look for serial number on lens assembly

If your objective lens mount assembly, part number SM-C-657375-1, was manufactured under contract number DAAB07-87-C-F016, it doesn't have a retaining ring.

CECOM safety-of-use message AMSEL-SF-SEC 061700Z Jun 89 has information on how your DS shop sends these lens assemblies to Sacramento Army Depot for repairs.

TA-312 Deicing Screen NSN

The NSN is wrong for the deicing screen in Appendix E of TM 11-5805-201-12. Order the screen with NSN 4130-00-392-7628. Make a note until the TM is updated.

Hat

Trick



Kkeep your "hat" on when you mate your AN/PVS-5 night vision goggles and DH-132 combat vehicle crewman's (CVC) helmet.

The hook and loop kit that comes with the goggles lets you mount the goggles on top of the CVC. You can slip your night eyes on and off while your helmet stays in place.

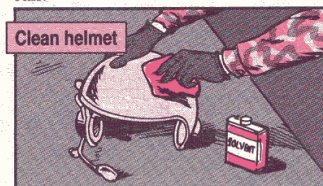
If the kit isn't installed, you have to remove the CVC when you move the goggles. Every time you remove your CVC you have a break in communications.

The kit doesn't have an NSN, but you can get the kit parts with these NSNs:

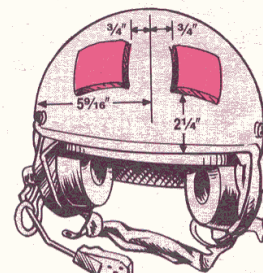
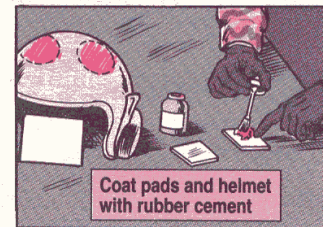
Item	NSN
2 Velcro pads	5325-00-567-0258
2 stud fasteners	5325-00-285-6295
V-strap (Velcro)	5855-00-125-0770
2 single straps	5855-00-125-0762

Follow these easy steps to install the kit:

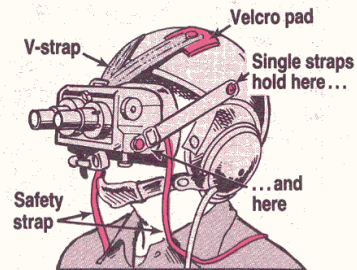
1 Clean the paint from the helmet where the pads will sit. Then go over the area with a good cleaning solvent. NSN 6850-00-597-9765 gets a 1-gal can.



2 Spread a thin coat of rubber cement on the cleaned area and on the backs of the pads. Get a 4-oz jar of cement with NSN 8040-00-291-8625.



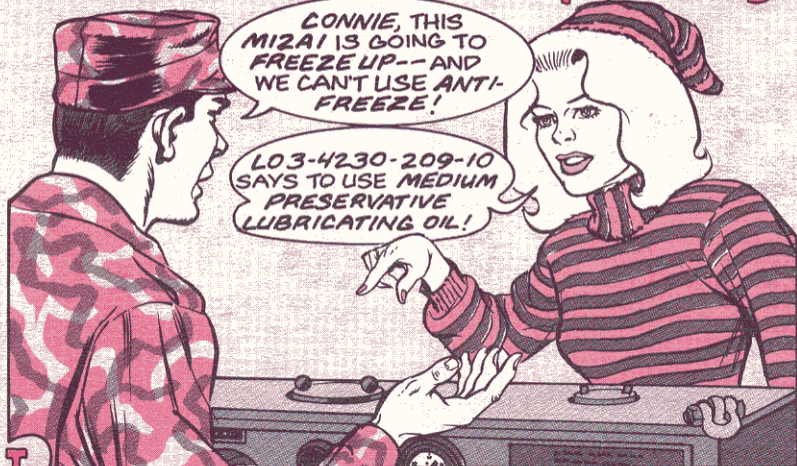
Put pads on while cement is tacky



3 Replace the helmet liner screws with the stud fasteners. If there are more than two threads sticking out past the CVC, remove the fasteners and cut off the extra threads.

To remove the goggles for normal viewing, you simply pull the V-straps loose from the pads and unsnap the single straps on the sides. The goggles will hang from the safety strap, ready for quick use.

Put the Freeze on Pump Damage



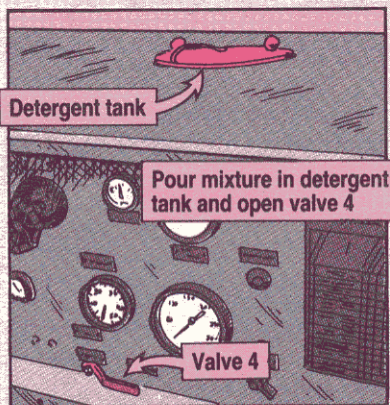
It's about as easy to make your paycheck last 30 days as it is to drain every bit of water out of the M12A1 pump unit. But even a cup of water left in the pump can freeze and damage it. You can't use antifreeze in the pump because it could explode.

So what do you do?

The answer's buried in Note 11 of LO 3-4230-209-10. If your M12A1's going to be sitting idle in the cold, mix three pints of Medium Preservative Lubricating (PL-M) oil, NSN 9150-00-231-2361, or General Purpose Preservative Lubricating (PL-S) oil, NSN 9150-00-231-6689, with three gallons of water. PL-S is best for below -10° F.

Pour the mixture in the detergent tank. Open Valve No. 4 so the mixture runs into the pump. Operate the pump 30 seconds. Drain the pump com-

pletely into a waste water/oil can. Close the drain valve and Valve No. 4.

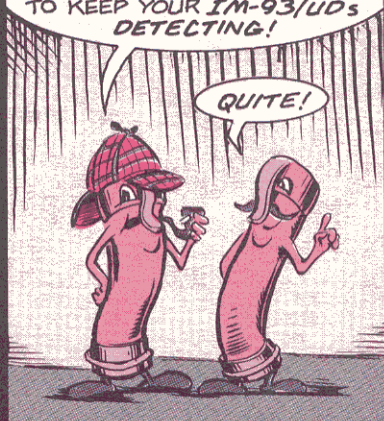


The oil-water mixture will protect the pump from freezing.

Dispose of the oil-water mixture according to local SOP. If in doubt, contact the local environmental office.

Good Detecting

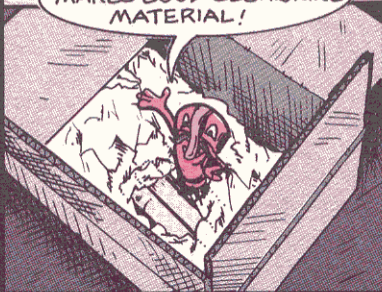
HERE ARE A FEW QUICK CLUES FOR YOU NBC NCOs TO KEEP YOUR IM-93/UDs DETECTING!



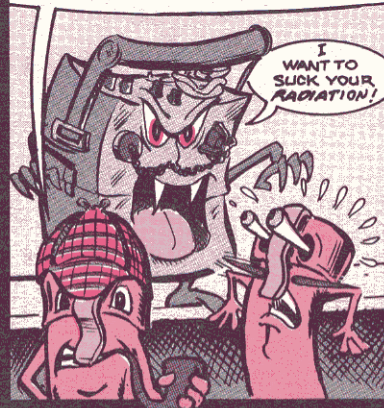
QUITE!

Cushion the IM-93/UDs during storage and transport. If they're left rolling around in a metal box, the bumps cause leaks.

NEWSPAPER MAKES GOOD CUSHIONING MATERIAL!

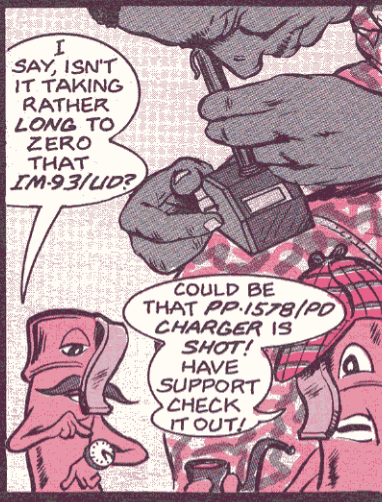


STORE THE IM-93/UD AWAY FROM MBI CHEMICAL ALARMS. THE MBI'S RADIATION SOURCE WILL CAUSE THE IM-93/UDs TO LEAK!



I WANT TO SUCK YOUR RADIATION!

I SAY, ISN'T IT TAKING RATHER LONG TO ZERO THAT IM-93/UD?

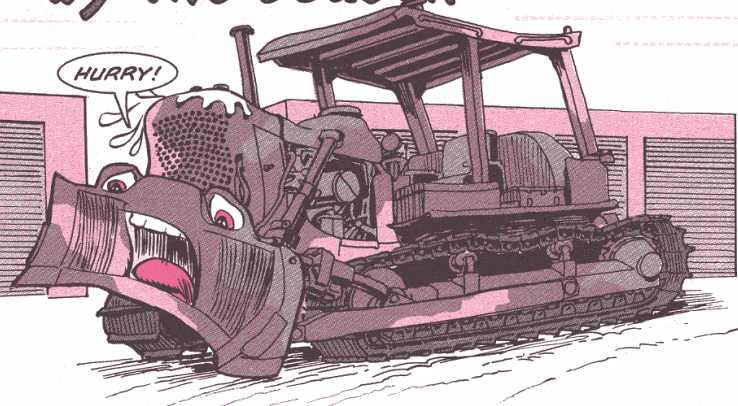
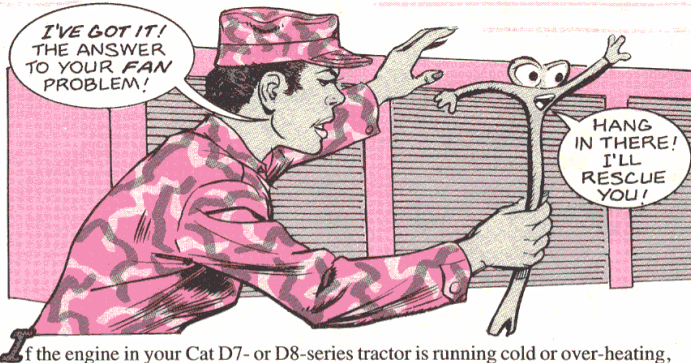


COULD BE THAT PP-1578/PD CHARGER IS SHOT! HAVE SUPPORT CHECK IT OUT!

PP-1578A Adapter NSN

Need a NATO adapter for your PP-1578A radiac detector charger? NSN 6665-01-077-2986 brings the adapter and its carrying case.

Turn Your Fan by the Season



If the engine in your Cat D7- or D8-series tractor is running cold or over-heating, it could be the fan blades are not adjusted properly.

The fan blades can be set to either pull air in through the radiator or to push air out through it, depending on the season.

For hot weather, turn the blades to push air out through the radiator and carry heat away from the engine. For cold weather, reverse the blades to pull air through the radiator and blow the warmed air back over the engine. That helps keep the engine up to operating temperature—where it runs best.

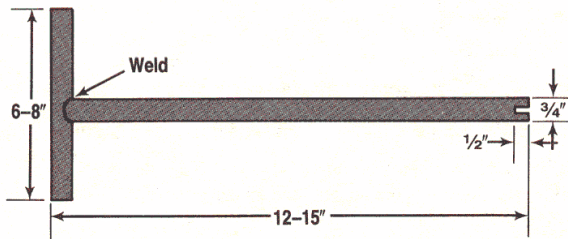
To change the fan, adjust each blade —with the engine off.

Adjust the blades like so:

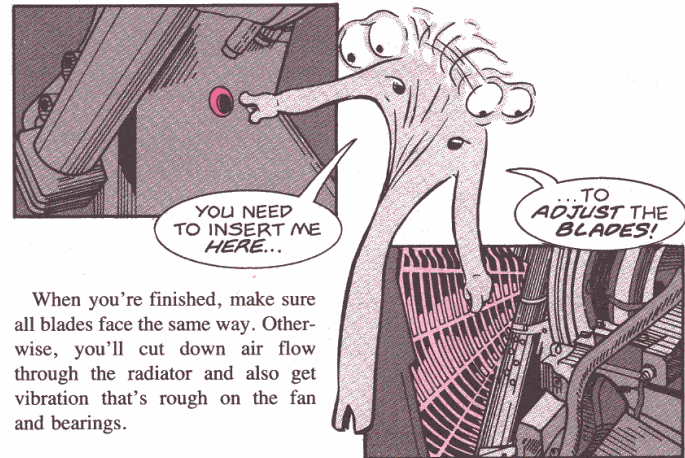
- 1 Push the blade in toward the hub.
- 2 Twist the blade to the opposite angle.
- 3 Let the blade spring back out and lock in position.

If a blade won't push and turn, stop! Forcing it can bend the blade or shaft.

To reach the blades without removing the screen guards, make this tool from 3/4-in pipe.



To use it, line up a blade with the access hole. Fit the tool over the end of the blade and push in to turn the blade. Then line up the next blade and repeat the procedure.



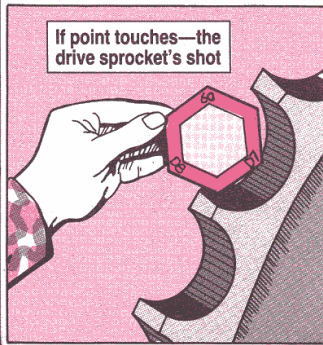
When you're finished, make sure all blades face the same way. Otherwise, you'll cut down air flow through the radiator and also get vibration that's rough on the fan and bearings.

Tracking Your Track

It's real important for you mechanics to keep tractor track up to snuff. But you don't always have the right stuff. TMs do not list all the special tools you need or tell you how to make certain measurements every 250 hours or quarterly.



Sprocket Wear



Use a drive sprocket wear gage, NSN 5210-01-225-1132, to check sprocket wear. It will measure D7 and D8 sprockets.

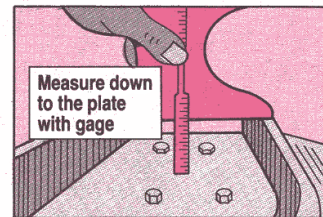
Use gage, PN 5P8616, for the D5. There's no NSN, so order it on a DD Form 1348-6, using CAGE 11083, the PN and RIC S9C.

Set the point of the gage marked for the tractor you're working on between the teeth of the drive sprocket. If the point doesn't touch bottom, the sprocket's OK. If it touches, get support to replace the sprocket.

Track Shoes

Use broad-based depth gage, NSN 5210-00-221-1902, to measure the height of the grousers. Set the base across two adjacent grousers and measure down to the plate on D7's and D8's. If the grouser is less than 1½ inches, replace the shoe. On the D5 replace the shoe if grouser is less than .85".

Your authority to order the gages is Appendix A of CTA 50-970.



Tractor Ether Starting Aids

D7F tractors with replacement engines PN 5R7757 or PN 5R7756 are authorized an ether starting aid kit. Order the kit with NSN 2910-01-300-0233. The kit comes with all needed parts and instructions.

RTL10 Forklift Filter NSN

NSN 2940-00-580-6283 gets the oil filter element for the 10K forklift's transmission. The info shown as Item 7 in Fig 51 of TM 10-3930-243-20P is wrong.

MT250 Crane Cables

The NSNs for the auxiliary hoisting cable and the main hoisting cable on the P&H MT250 crane are not listed in TM 5-3810-293-20P. Get the auxiliary cable with NSN 4010-01-046-2533 and the main cable with NSN 4010-01-046-5241.

Crane Filter NSN

Use NSN 2940-01-195-0541 to get the air filter for the MT250 crane. The NSN called out in TM 5-3810-293-20P is wrong.

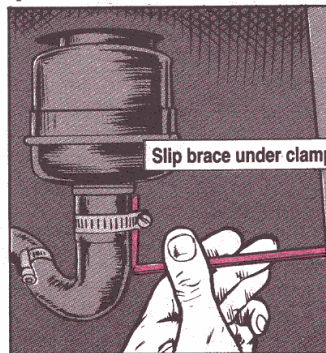
Brace Your Spark Arrestor



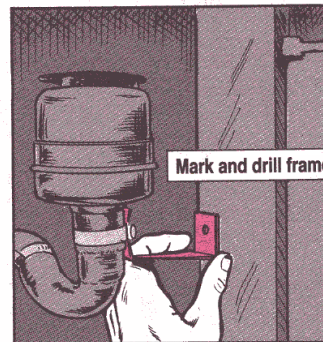
Vibration from the spark arrestor on Mil design tank and pump unit gasoline engines can crack the muffler. Put a damper on the vibration by adding a brace from the exhaust assembly to the pump frame.

You'll need a 1/4 x 1 x 8 1/2-in piece of steel barstock, NSN 9500-00-554-4930, a bolt, NSN 5306-00-225-8499, and a nut, NSN 5310-00-880-7744.

- 1. Drill an 1 1/2-in hole 1 inch from one end of the barstock.
- 2. Measure down 1 1/2 to 1 3/4 inches and bend that end 90 degrees.
- 3. Measure 1 inch from the other end and bend it 90 degrees in the same direction as the other end.
- 4. Slip the undrilled end under the spark arrester mounting clamp.



- 5. Put the other end against the pump frame. Be sure there's no interference.
- 6. Mark the frame and drill an 1 1/2-in hole.

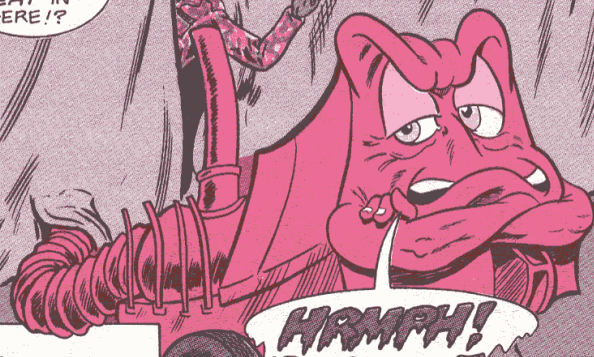


- 7. Bolt the brace to the frame with the bolt and nut.
- 8. Fit the other end under the spark arrester clamp and tighten the clamp.
- 9. Be sure the brace is not putting any force on the arrester.



Heater Tips

WHAT'S GOING ON? WE HAVE NO HEAT IN HERE!?



HRMPH!



HE SAYS HE WON'T WARM UP UNTIL WE GIVE HIM SOME PREVENTIVE MAINTENANCE!

Dear Editor,

Here're several problems we've run into on the 400,000-BTU duct-type heaters, NSN 4520-01-136-2139, and our solutions. References are to TM 5-4520-251-14.

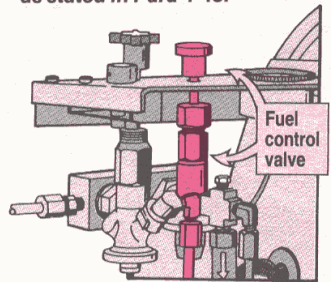
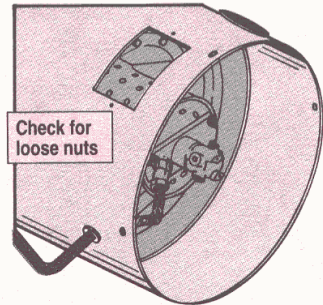
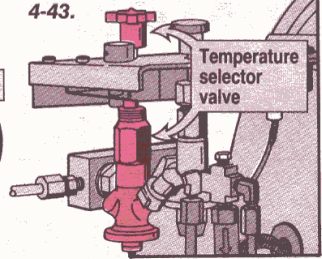
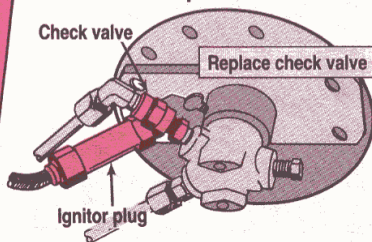
Problem: Unable to control temperature, or flame overheats.

Solution: The check valve on the burner plate is

clogged or worn out. Replace as per Para 4-56. If you replace the valve, be sure to use the correct one, NSN 4820-00-678-0108. If the valve is good, do a fuel pressure check as shown in Para 4-39. If the pressure is OK, replace the temperature selector valve, NSN 4820-01-101-8662, as stated in Para 4-43.

Problem: Flame shuts off at the incorrect temperature or does not shut off at all.

Solution: Check that all nuts on the burner housing are tight. If they are, do a fuel



Problem: Flame will not re-ignite after it's shut off.

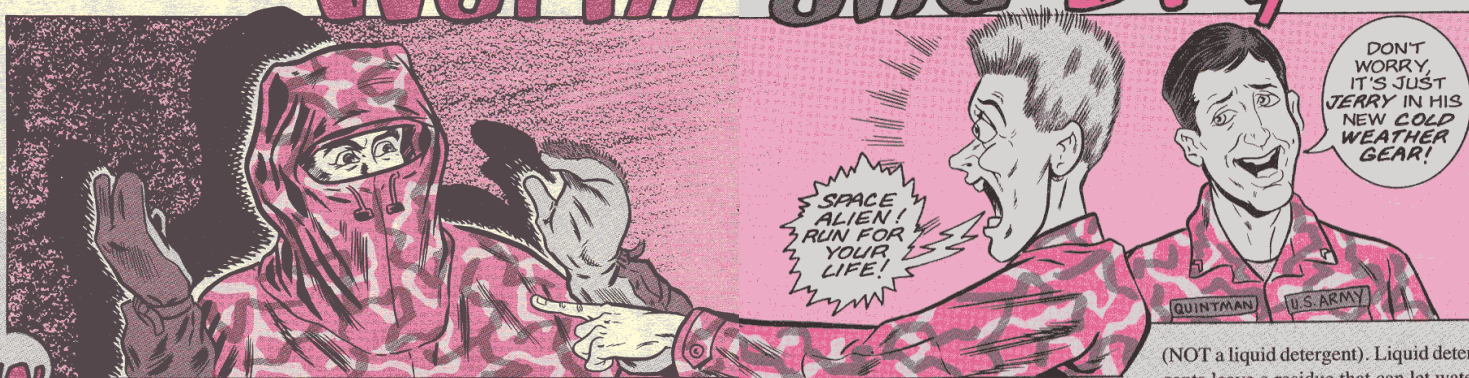
Solution: Check ignitor plug. If worn, replace the plug, NSN 4520-01-087-9511, as stated in Para 4-57.

MSG Joseph C. Jay
SPC Dennis E. Burke
APO New York

pressure check as stated in Para 4-39. If the pressure is OK, replace the fuel control

(Editor's note: Thanks for the hot tips.)

Warm and Dry



Warm and dry—that's how the new Extended Cold Weather Clothing System (ECWCS) will keep you . . . if you wear it properly and take care of it.

ECWCS replaces several garments in the cold weather clothing system that's been around for years. It's being issued to units in cold climates.

New items in ECWCS are:



Undershirt,
cold weather
Drawers,
cold weather



Overalls,
cold weather



Shirt,
cold weather



Parka, cold weather
Trousers, cold weather
Hood, balaclava

These items replace similar layers in the old cold weather outfit.

Care and Cleaning

Dirt prevents the ECWCS from protecting you from the cold. Dirt fills up the little air spaces between fibers in the garments that provide insulation to keep the cold out.

The underwear needs extra care when you wash and dry it.

Begin by washing in **COLD** water using any cold water detergent. Rinse in cold water, too. Do not use bleach or starch!

Tumble dry at the lowest heating setting and remove as soon as dry. Never overdry. To drip dry, wring out all the water you can, hang on a rust-proof hanger.

The parka and trousers are water repellent. That means extra care when you wash and dry them. If they let water through, check for rips or tears. If you can't find any, wash the garments using mild powdered detergent

(NOT a liquid detergent). Liquid detergents leave a residue that can let water through.

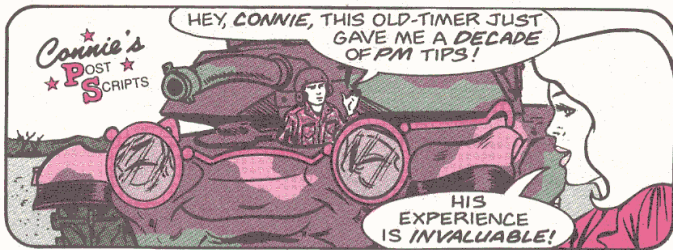
You can restore the water repellency by steaming the parka and trousers. Use an iron on the **STEAM** setting. Hold it about ½ inch above the garment. **DO NOT PRESS!**

Wash other items in warm or cold water, and tumble dry at the low heat setting.

You'll find repair information in a handy pamphlet on the ECWCS prepared by the Natick RD&E Center. Copies of this pam are distributed to each unit getting ECWCS. A copy should be available for reference at the unit supply room.

If your unit needs extra copies, order **Use and Care of the ECWCS** using item number AD 187998 from:

**Defense Technical Information Center
National Technical Information Service
US Department of Commerce
Springfield, VA 22161**



Fuel Tank Backordered

No need to be in a hurry to order the plastic fuel tank for the 30-KW generator. The NSN's shown on Pg 48 of PS 451. The supply folks say the tank is out of stock and more will not be available until about 3d Qtr FY 91.

SINGGARS Battery

BA-5590/U batteries made by Power Conversions, Inc. cannot be used in the SINGGARS manpack radios because they break and damage the connector pins. Use only BA-5590/U batteries manufactured by Duracell or Saft in these radios.

Cobra Driveshaft Correction

We gave you the shaft, Cobra mechs, in our "No Disassembly Required" article on Page 36 of PS 456. We flip-flopped the photos! The driveshaft you disassemble is the photo on the right. The driveshaft you do not disassemble is on the left.

M939 Temp Sender Saves \$\$

The M939-series 5-ton truck engine coolant temperature transmitter, NSN 6685-00-042-4165, costs more than \$17. But the transmitter used for the transmission oil temperature, NSN 6685-00-814-5271, works the same and will do the job. It costs only \$3.89.

M113 FOV Power Supply NSN

NSN 6130-00-025-3676 is out as the power supply assembly for the M19 periscope used in M113-series vehicles. Use NSN 6130-01-017-9496 instead. It's a solid-state power supply, costing about \$240 less than the old one.

Seal Plastic-Coated Canvas

Seams leak on plastic-coated cargo covers on the HMMWV, CUCV and M880 trucks, and on the M871/M872's tarps. Keep the rain outside where it belongs by coating the seams with adhesive, NSN 8030-01-079-3135.

Stinger Safety

Stinger missilemen are being injured by small debris ejected from missiles during firing. A few simple precautions will prevent most injuries: wear leather gloves; keep fatigue sleeves down and buttoned; keep your face behind the face shield; and use protective glasses.

M939 Oil Pan Fix

Some replacement transmission oil pans for M939-series 5-ton trucks come with two dipstick holes. Since you only need one dipstick, plug the extra hole with a plug, NSN 4730-01-315-8280. Make a note of the NSN until it's added to the parts manual.

AN/PRC-127 Fuse NSN

The NSN and part number for the AN/PRC-127 battery charger fuse are wrong in Figure C3, Item 4 of TM 11-5820-1048-24&P. The correct part number and NSN are F02B250V3/8A and 5920-00-229-1317.

6K Forklift Shock Absorber NSN

NSN 2540-00-932-7412 gets the shock absorber for the seat on the MHE 200, 202, 222 forklifts. The NSN called out as Item 15, Fig 114 of TM 10-3930-242-20P is wrong.

Aircraft Maintenance Trailer

TM 55-1730-224-13&P lists NSNs or part numbers for everything needed to keep aircraft maintenance trailers rolling. Right? Well, not quite. You might need NSN 2610-00-050-9840. That brings the 6-ply tires.

M548 Light Fix

That little rubber shock mount that keeps the headlight or blackout light tight on your M548-series cargo carrier wears out and gives way. To get the mount, use NSN 5340-00-988-9958. The mount is used on all M113-series vehicle head- or blackout lights.

Tow Bar Decal NSNs

The operator's instruction and ID decals for the motor vehicle tow bar, NSN 4910-00-433-7094, now have NSNs. Add this info to TM 9-4910-593-12&P on Page 2-5: Item 21, instruction decal—NSN 9905-01-118-6092. Item 22, ID decal—NSN 7690-01-114-7621.

CUCV PMCS Update

If the parking brake warning light on the dash is not working, the CUCV's not mission capable. Make a note until the PMCS is updated on Page 2-15 of TM 9-2320-289-10.

Turn Signal Update

The turn signal control assembly on the multifuel 2½-ton and 5-ton truck is no longer available under NSN 6220-00-808-6072. Get the control assembly with NSN 6220-00-431-3771.

M149 Water Tanker Faucet NSN

Thirsty is all you get when you order the water faucet by the NSN in TM 9-2330-267-14&P. It's wrong! Use NSN 4510-01-165-0072 to get the faucet that's called out as Item 49 of Fig 16.

Shelter Power Cable NSN

The power cable listed SC 4940-95-CL-A87 for the power line maintenance shelter won't fit the shelter's connector. Instead, use NSN 6150-01-271-6139 to get a 5-conductor, 50-ft cable, PN 12535412. It fits the shelter connector and hooks directly to the generator's load terminals.

SMART Message

SMART MSG #86—Replaces the light market, NSN 6230-00-246-0699, used with the M4T6 floating bridge with light chemical wand, NSN 6260-01-178-5559.

SMART MSG #87—Approves a change to the configuration of the M2 burner used in the M59 cabinet and the mobile kitchen trailer.

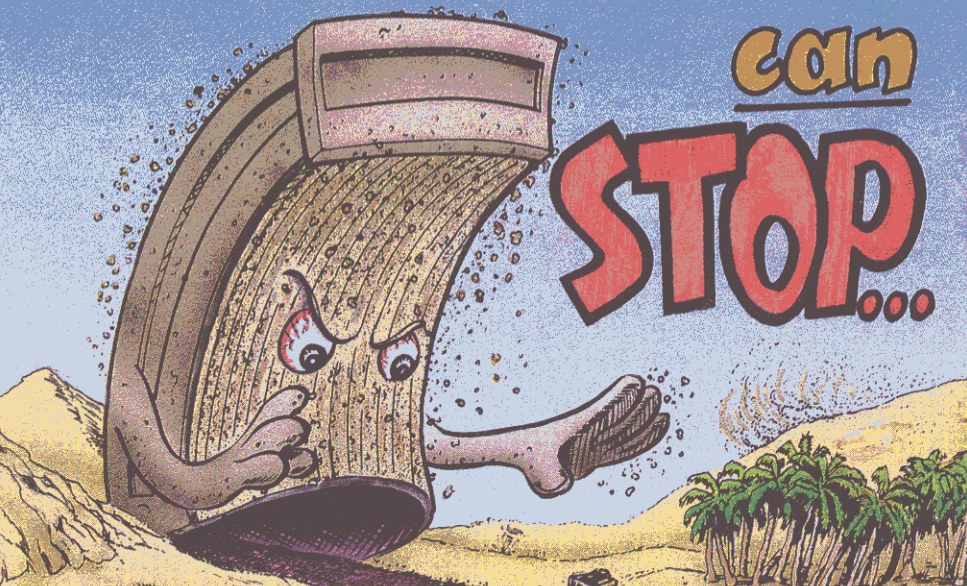
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