

Issue 418

PSSeptember
1987**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

NOW WHAT WAS THAT BEN WAS
SAYING ABOUT A STITCH IN TIME?

Approved For
Public Release;
Distribution is
Unlimited

**Bad PM Haunts
Half-Mast Family**
See Page 27

TO GET A WARM
START ON COLD
WEATHER, HAVE
YOUR PUBS CLERK
ORDER THESE PUBS
AND POSTERS...

Pubs and Posters

Publications

DA Pam 360-843	Commanders Call—Cold Injuries Films
FM 1-202	Environmental Flight
FM 9-207	Operation and Maintenance of Ordnance Materiel in Cold Weather (0°F to -65°F)
FM 31-70	Basic Cold Weather Manual
FM 31-71	Northern Operations
SB 9-16	Personnel Heater and Winterization Kit Policy for Tank-Automotive, Construction and Materiel Handling Equipment
SB 11-6	FSC Class 6135; Primary Battery Supply Data
SB 11-30	FSC Class 6135; Primary Battery Management Data
SB 11-576	Cold Weather Batteries for AN/PRC Radios
TB Med 81	Cold Injury
TB Med 269	Carbon Monoxide: Symptoms, Etiology, Treatment and Prevention of Overexposure
TB 750-651	Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems
TC 11-6	Grounding Techniques
TC 21-3	Soldiers Handbook for Individual Operations and Survival in Cold Weather Areas
TM 9-247	Materials used for Cleaning, Preserving, Abrading and Cementing Ordnance Materiel
TM 9-2540-205-248P	Personnel Heaters for Combat Vehicles
TM 9-6140-200-14	Lead-acid batteries
TM 750-254	Cooling Systems: Tactical Vehicles

DA POSTERS

SUBJECT

750-52	Optical Antifreeze/Battery Tester
750-70	Is Your Radiator Ready for Winter?
750-71	Engine Coolant Up-to-Snuff?
750-72	Keep Batteries Fully Charged
750-73	Drain Engine Fuel Moisture Daily
750-76	Give Your Batteries a Full Life



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-418, 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
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By Order of the Secretary of the Army:

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General, United States Army
Chief of Staff

Official:

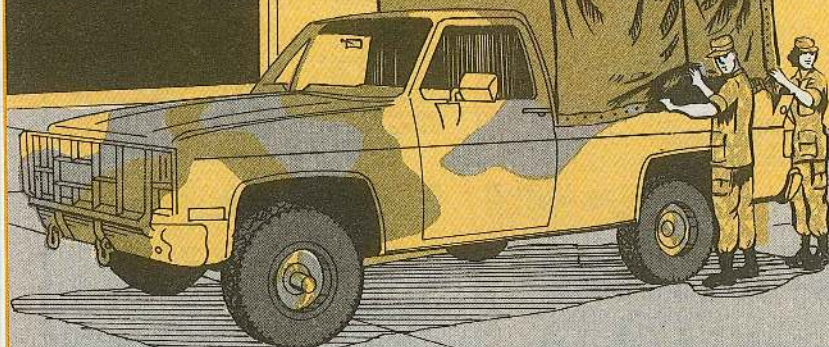
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The Adjutant General

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Save That

Cargo Cover



Hold it! Don't scrap CUCV cargo covers just because of a few small holes or rips. Replacement covers are in short supply.

You can repair holes up to 4 3/4 inches in diameter. Let your DS canvas repair shop take care of bigger jobs.

Here's the latest: The SMR code for Item 2 of Fig 164 in TM 9-2320-289-20P will be changed from PAOZZ to PAOOF in the next update. That'll OK unit-level repair. But you can get ahead of the game. You'll need coated cloth, NSN 8305-00-616-0022, and adhesive.

REMEMBER TO CLEAN AREA OF DIRT BEFORE APPLYING ADHESIVE. GET ADHESIVES IN THESE SIZES:

NSN 8040-00-	Size
893-1882	3 oz
262-9028	1 pt
262-9031	1 qt
281-1972	1 gal

For small holes—1/8-in or less—all you need is a dab of adhesive.



A little dab will do

HEY, SOLDIERS — DON'T TRASH THAT COVER JUST BECAUSE OF A FEW SMALL HOLES. REPAIR IT WITH THIS KIT!

For holes bigger than 1/8-in—cut a patch big enough to extend 3/4-in past the hole or tear.

Cut patch 3/4-in larger than hole



Spread adhesive on the back of the patch and on the cover around the damage.

Put adhesive on patch...



...and on cover

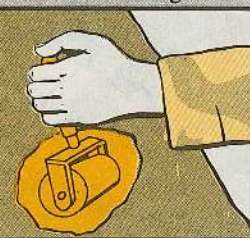
Let the adhesive dry (about an hour or so), then apply a second coat. When the adhesive is tacky (10-15 minutes), center the patch over the damage.

Use a roller from the canvas repair kit to press excess adhesive and air bubbles out from under the patch. In a pinch, you can use a can as a roller.

Let the patch set until the adhesive is dry to the touch. Then it's ready to go.

For holes or tears bigger than you can fix, send the cover to your support's canvas repair shop.

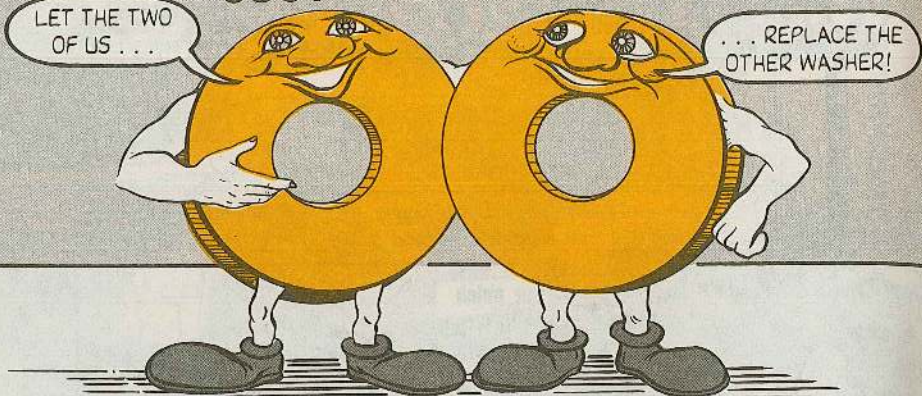
Roll patch down



CUCV Washer Confusion

LET THE TWO
OF US ...

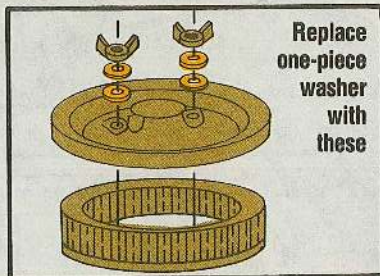
... REPLACE THE
OTHER WASHER!



Mechanics, it's a 2-for-1 when you change the CUCV's air cleaner mounting stud washers.

New CUCV's come with a one-piece mounting washer. When you replace it, tho, use the two washers shown in Fig 12 of TM 9-2320-289-20P (Jun 85).

NSN 5310-01-196-5587 gets Item 1, a soft rubber washer and Item 2, a steel washer, comes as NSN 5310-01-147-8743.



M880-Series Trucks

New Brake Wear Limits

Here's the latest on maximum brake lining wear limits on the M880-series truck:

Front: .030 (1/32) inch from rivet head
Rear: .046 (3/64) inch from rivet head

These changes will be in the next update of TM 9-2320-266-20.

Remember, asbestos is a killer. Both brake shoe and pad linings have asbestos in 'em. So always use a respirator while working on the brakes.

HMMWV's...

Lift the Hood Right

IF LIFTING THE HOOD OF A
HMMWV IS A PAIN IN THE BACK,
HERE'S GOOD NEWS FOR YOU.

INSTEAD OF USING THE HOOD
LIFTING INSTRUCTIONS ON PAGE
3-8 OF TM9-2320-280-10, DO THIS:

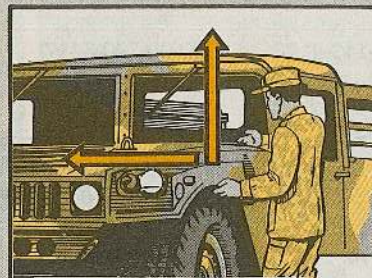
After you've set the parking brake and released the left and right hood latches...



- Stand next to the hood on the driver's side. Grab the hood with both hands.



- Before you lift the hood, be sure your legs are slightly bent, and your back is straight.



- Lift the hood and push it away from you at the same time. That stops the passenger side of the hood from getting caught on the truck's body as it raises.



- As the hood raises, move your hands toward the front of the hood.

When the hood's raised completely, be sure the hood prop rod is firmly in its support bracket. Don't stick anything under the hood until you know it will stay up.

Personnel Heater Igniters

You're in for a cold ride when you get the wrong igniter in your wheeled vehicle's fuel-fired personnel heater.

Get a head start on winter and get the right igniter for your heater.



HERE'RE THE NUMBERS
I USE TO IGNITE MY HEATERS:

WHEELED VEHICLES

VEHICLE	HEATER	IGNITER
M151 1/4-ton	2540-01-194-3323	4520-00-217-5782
Gama Goat	2540-00-113-4180	4520-00-217-5782
1 1/4-ton M880-Series	2540-01-028-0573	2920-01-028-0571
M1010 CUCV Ambulance	2540-00-113-4180	4520-00-217-5782
5-ton M939-Series 5-ton M809-Series 5-ton M39-Series (multifuel, diesel)	2540-00-113-4180	4520-00-790-8417
2 1/2-ton (gasoline)	2540-00-692-8848	2540-00-312-2017
2 1/2-ton (multifuel)	2540-00-933-8916	4520-00-790-8417
22 1/2-ton M746 Tractor	2540-01-083-0691	2540-00-217-5782
HEMTT (engine heater)	2990-01-254-6261	4520-01-132-8905

Igniter coil wires are sometimes melted by the heat reflected by unpainted igniters. Igniter, NSN 4520-00-790-8417, comes unpainted.

This is easy to correct. Dip 13/16 inch of the igniter barrel in heat resistant enamel, NSN 8010-00-297-2013, and air dry. Be careful to keep the enamel from plugging the holes in the igniter barrel base.

Stock Up On Tire Chains

Winter's coming, so now's the time to order tire chains if you need them in your area.

Tire chains are listed in some operator's manuals, but not in others. Your command decides if you need 'em.

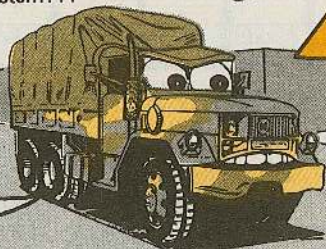
Here're some common sizes—and the cross chains and swivel hooks you'll need to repair 'em. Where dual chains are not listed for your size tires, use singles on the outside tires. Repair parts are the same for same-size single and dual chains.

Tire	Chain Assembly (Pair) NSN 2540-	Cross-Chains NSN 2540-	Swivel Hooks NSN 2540-
7.00 × 16	00-177-7235	00-933-6960	00-937-0405
7.50 × 16	00-528-7360	00-933-6960	00-937-0405
8.25 × 20	00-933-9025	00-933-6959	00-937-0404
9.00 × 16	00-933-9026	00-933-6916	00-937-0404
9.00 × 20	00-933-9024	00-933-6916	00-937-0404
9.50R × 16.50	00-057-0204	00-933-6916	00-937-0404
10.00 × 15	01-185-8306	00-933-6916	00-937-0404
10.00 × 20	00-933-9034	00-933-6916	00-937-0404
	00-933-9020 (dual)	00-933-6916	00-937-0404
11.00 × 18	00-933-6933	00-933-6915	00-937-0404
11.00 × 20	00-933-9022	00-933-6915	00-937-0404
11.00 × 24	00-933-6935	00-933-6915	00-937-0404
12.00 × 20	00-933-6922	00-933-6915	00-937-0404
	00-933-6917 (dual)		
14.00 × 20	00-933-9033	00-933-6992	00-937-0404
	00-933-6928 (dual)		
14.00 × 24	00-933-9023	00-933-6992	00-937-0404
	00-933-6929 (dual)		
16.00 × 20	00-933-6937	00-933-6914	00-937-0403
18.00 × 22.5	01-024-4440	00-933-6913	00-937-0403
18.00 × 33	01-079-3143	01-104-9022	—

The FSG 2500 Identification List microfiche has other tire chains not listed here. Your authority to order is Appendix A of CTA 50-970.

Boost Rust Protection

YOU DON'T NEED THAT! ALL I NEED IS A LITTLE CORROSION INHIBITOR!



Is the antifreeze in your engine's coolant worn out?

If the only problem is worn-out rust inhibitor, your coolant may qualify for a dose of inhibitor, corrosion, liquid cooling system, NSN 6850-00-753-4967. It's listed in Para 2b(3), TB 750-651, Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems.

HERE'S THE STORY...

First, your coolant's got to pass a freeze protection test. The procedure is spelled out in Para 5a of the TB.



Check for freeze protection

If the freeze point is below -7°F , go on to the reserve alkalinity test (corrosion protection) in Para 5b.

Use antifreeze test kit, NSN 6630-01-011-5039. It replaces the reserve alkalinity test kit listed in Para 2b(6) of the TB.

A yellowish green color on the test strip means you've got to replace the coolant because of low reserve alkalinity.



Check color on test strip

THIS IS A ONE-TIME DEAL. YOU JACK UP YOUR COOLANT'S CORROSION PROTECTION ONLY ONCE AND HERE'S HOW:

- Drain the cooling system and, if needed, filter the coolant thru cheese-cloth, NSN 8305-00-205-3496, to remove rust and solids.
- Add corrosion inhibitor to the coolant at the rate of 9 ounces for each 17 quarts.
- If coolant fails the reserve alkalinity test again, replace the coolant.
- Flush the cooling system with water until the water is clear.
- Put the re-inhibited coolant back into the cooling system.

Make a note that you did this job by recording it in the REMARKS block of DD Form 314 with the other antifreeze info.

Order Antifreeze Now!

Fall's coming down fast and you don't want to get caught with your antifreeze supply down.

Winter still seems a long time off, but cold weather has a way of creeping up and catching you off guard.

So now's exactly the right time to prepare. Put in your order for a supply of antifreeze.

Depending on your priority, it may take 2 months to get your order.

For more details on antifreeze, take a good look at TB 750-651, Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems.

SEP 87

HERE'RE THE NUMBERS!

NSN 6850-00-181-	QUANTITY
7929	1 gal
7933	5 gal
7940	55 gal

Twist Locks Up!

SAVE MY SPLASH GUARDS BY LOCKING UP THE M872'S TIE-DOWN TWIST LOCKS!



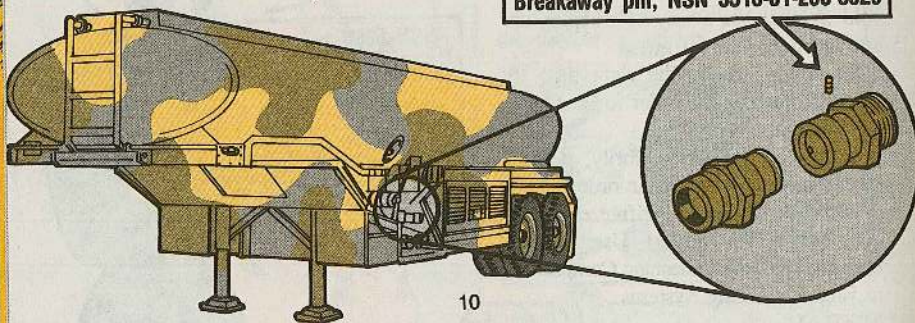
The front container tie-down twist locks on M872-series semitrailers will damage M915-series tractor trucks if you leave them down.

The handle on the lock hits the splash guards on M915's. Prevent damage by raising the front twist locks and locking them. That'll keep the handle up and away from the truck.

M970 Fuel Tanker Pin

Need a breakaway pin for your M970's fuel nozzle's connector—Item 10, Fig 123, TM 9-2330-356-12&P? NSN 5315-01-200-3029 brings 12 pins.

Breakaway pin, NSN 5315-01-200-3029



One PMCS For All

Dear Half-Mast,

What is the standard used to determine the serviceability of the tires for our F5070 20-ton dump trucks?

Do we use the same standard for the dump truck's tires as we do for tactical vehicle tires?

1LT J. T. A.

Dear Lieutenant J. T. A.,

Yes, use the same standard for all tires.

Some vehicle TM's say one thing, some another, about the mission capability of tires.

To stop the confusion, the Army designed a tire PMCS for all equipment, including your F5070 20-ton dump truck.

REVISED TM'S WILL LOOK LIKE THIS:

TM 5-3805-254-10

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

B - BEFORE

D - DURING

A - AFTER

W - WEEKLY

M - MONTHLY

ITEM NO.	INTERVAL					ITEM TO BE INSPECTED PROCEDURE; CHECK FOR AND HAVE REPAIRED, FILLED OR ADJUSTED AS NEEDED	EQUIPMENT IS NOT READY/AVAILABLE IF:
	B	D	A	W	M		
1.						NOTE Perform (W) as well as (B) PMCS if you are the assigned operator and have not operated the dump truck since the last weekly inspection, or you are operating the dump truck for the first time. TIRES Check for and have repaired, filled or adjusted as needed. Visually check for under-inflated and unserviceable tires (including spare if normal equipment). Check tires for leaks, cuts, gouges, cracks or bulges. Remove all penetrating objects.	Any tire (including spare tire) is missing or unserviceable. Tire has cut, gouge, leak, crack or bulge which would result in tire failure during operation.
2.						WHEELS Visually check for loose, broken or missing lug nuts.	One or more lug nuts loose, broken or missing.

YOU'LL FIND THIS SPELLED OUT IN TACOM MSG AMSTA-MTC 082000Z OCT 85!

F-MAST

WIRE

MECHS, ARE YOU FOREVER SEARCHING FOR AN NSN FOR JUST THE RIGHT WIRE TO KEEP CURRENT FLOWING IN EQUIPMENT YOU WORK ON?

HERE'S A LIST OF BULK WIRE BY SIZE, NSN AND COLOR. ALL THE NSN'S BEGIN WITH A FEDERAL SUPPLY CLASS OF 6145.

GREAT, I NEED TO SPLICE THIS WIRE!

WIRE Size	COLOR			
	Black	Red	White	Yellow
000	01-229-3617	none	none	none
00	01-229-3618	none	none	none
0	01-229-3619	none	none	none
2	01-229-3620	none	none	none
4	01-229-3621	01-229-3622	none	none
6	01-229-3623	none	none	none
8	01-228-6267	01-230-1858	01-229-8299	01-230-1857
10	00-468-1261	01-172-0580*	00-468-1260	01-231-1393
12	00-845-9858	01-175-0654*	none	none
14	01-209-7456*	00-310-2590	none	none
16	00-471-0428	01-164-7561	00-468-1259	01-229-9666
18	00-958-3655	01-169-0755	01-231-1394	01-169-0756
20	01-230-2520	01-230-2521	00-652-1441	00-652-9307 (500 ft spool)

*NSN not on AMDF. Order on DD Form 1348-6 using RIC S91

WIRE Size	COLOR			
	Blue	Brown	Green	Orange
8	00-023-6765	01-231-5966	01-230-1859	none
10	01-229-4127	01-229-4128	none	none
12	01-169-9653*	00-845-5956*	none	01-230-1862
14	01-230-2517	none	none	01-165-5633*
16	01-209-7457*	00-471-0429	00-468-1256*	01-230-2519
18	01-169-2868	01-169-0754	01-165-1429	none
20	01-230-2522	00-989-5845 (1,000 ft roll)	00-989-5843 (1,000 ft roll)	none

*NSN not on AMDF. Order on DD Form 1348-6 using RIC S91

The unit of issue is foot except where noted.
The Acquisition Advice Code on most of these is "J", so expect a long wait.

BUT, BEFORE YOU ORDER, CHECK YOUR QUICK SUPPLY STORE — THEY MAY ALREADY HAVE A GOOD ASSORTMENT ON HAND.

FIREPOWER

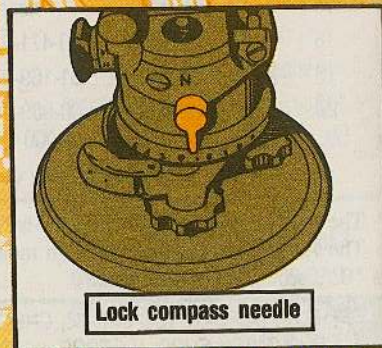
Aim at Aiming Circle Problems

Many M2-series aiming circles are in sad shape—damaged eyepieces, bent spring plates, ruined tripods—because they don't get the tender, loving care they need. Show your M2 that you care, like so:

- Stow it right. Never force the latches shut when you stow the aiming circle in its cover. You'll damage the eyepiece. And the case or cover won't seal out moisture and dirt.



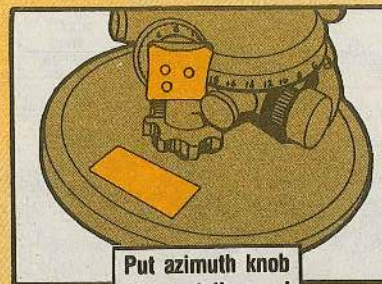
Turn all 3 leveling screws until snug. Tight invites trouble. Then, loosen all 3 screws 1/4-turn



Lock compass needle

Instead, first turn down all three leveling screws—at the same time—until the M2 is tight against its base. Then loosen the screws—together—

a quarter turn. Lock the compass needle. Cover the orienting knobs and level vials. Position the azimuth knob over the notation pad. The procedure's on Pages 62 through 65 of TM 9-1290-262-10.



Put azimuth knob over notation pad

Remember, moisture causes corrosion—and you can't read corroded scales! So always wipe the M2 completely dry before you stow it.

- Keep dirt and sand out of moving parts. In the field, keep the M2's cover on as much as possible. After operations, wipe off the M2 with a dry cloth.
- Stow the tripod right, too. All three legs must be fully clamped down in their slots and strapped together. If they're not, a leg or the tripod's head



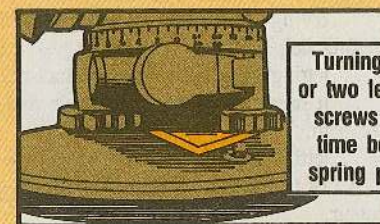
Keep tripod legs clamped down and strapped together

could be broken or bent by a heavy object—like someone's foot. If the tripod cover's off-center, that heavy object could ruin the screw assembly and guide that hold the M2 on the tripod.



A misaligned tripod cover ruins the screw assembly and guide

- Always turn all three leveling screws at the same time. Turning one or two screws at a time can bend the spring plate—a general support fix.



Turning one or two leveling screws at a time bends spring plates

You should be able to turn all three leveling screws with your fingertips. If they turn hard, loosen the adjusting



Leveling screws hard to turn? Loosen adjusting screws 1/4-turn

screws on the base 1/4-turn. If that doesn't do the trick, tell maintenance. A leveling screw that turns much harder than the other two screws can bend the spring plate, too.

Watch Feed Pawls Y'all!

WHAT'S THAT
NOISE?
DID YOU LOCK
IN THAT M2?

OOPS!

The machine gun headshed folks say a whole heap of M2's have to be sent back to depot for repair because some soldiers are...

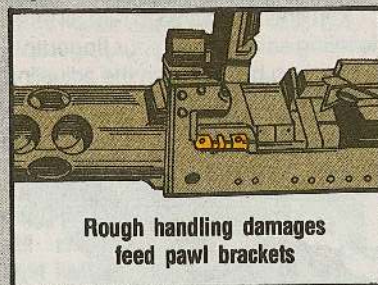
...trying to manhandle the guns onto a vehicle by themselves rather than getting help.

...letting guns bang into the mounts.

...letting guns swing free in their vehicle mounts during travel instead of locking them in.

...letting guns bounce around in the back of a truck during transport.

All of this rough handling is damaging feed pawl brackets, which spells major repair.



Rough handling damages
feed pawl brackets



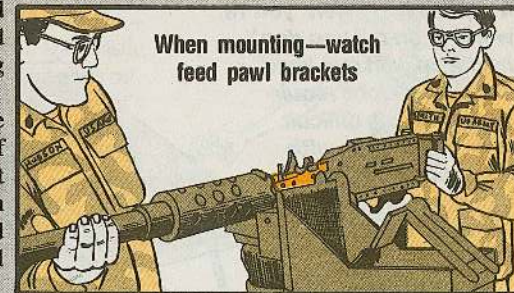
Hand gun up—
never toss it!

But just a little care can prevent all that damage. When you're loading the M2 onto a vehicle, get help. Hand it from the ground up to someone on the deck or truck bed. Never toss the M2.

Watch the feed pawl brackets when you mount the gun. If you bang the brackets against the mount, your machine gun's out of business.

When you're not shooting, keep the mount in lock. Out of lock when you're on the road puts your M2 out of action pronto. One sharp crack against the turret or truck can dent or bend the feed pawl brackets and the side plates or retracting handle.

Never let your M2 lie loose during transport. If you can't mount it or put it in a rack, cushion it with a blanket or poncho and wedge it so it can't roll around.



When mounting—watch
feed pawl brackets

M249 Machine Gun...

NORMAL for Normal

For normal firing, you M249 machine gunners need to set the gas regulator to NORMAL.

If you fire for any length of time with the regulator set to ADVERSE, you put too heavy a load on your gun and will damage it.



Keep it at NORMAL...unless
your M249 fires slow or quits

The only time you switch to ADVERSE is if your M249 fires slow because of adverse conditions, such as sand or dust. The ADVERSE setting restores the proper rate of fire until you get a chance to clean the weapon.

Give Yourself a "Helping" Hand

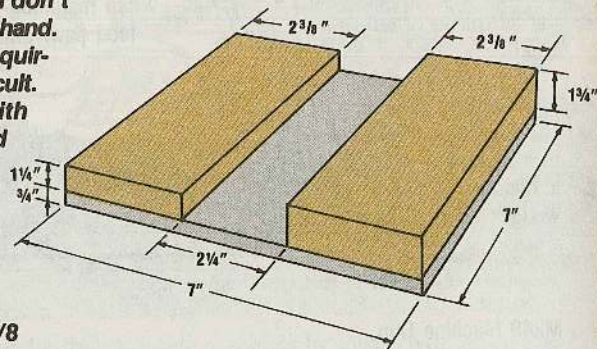
Dear Editor,

Because the M85 is top-heavy and rounded on the bottom, it tips over when you're working on it if you don't hold it up with one hand. That makes jobs requiring two hands difficult. I've come up with a simple jig to hold the gun.

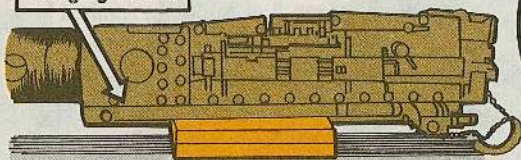
Cut a piece of scrap wood $3/4 \times 7 \times 7$ inches. The other two pieces you'll need should be $7 \times 2 \frac{3}{8}$ inches. But one must be $1 \frac{3}{4}$ -in thick, the other $1 \frac{1}{4}$ -in thick. To get those thicknesses, you may need to glue a couple of boards together or do a little planing.

Glue or nail the two strips of wood along the sides of the larger piece. There should be a $2 \frac{1}{4}$ -in gap between the two strips.

The finished jig looks like this:



Charging handle



Set M85 down like this

Lay the M85 down so that the charging handle rests on the lower side. You can now handle two-handed jobs with no tipping problems.

Raymond Jones
Ft Irwin, CA

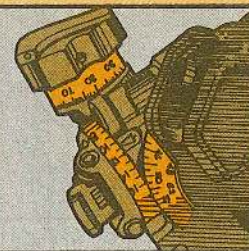
(Editor's note: I've got to hand it to you. That's a good tip.)

Sight Savers

Unreadable scales... radiation leaks... broken telescope supports... ruined cases. Prevent those M64 sight problems with these tips:

- Keep sharp objects like screwdrivers and jewelry away from all four M64 scales as much as possible. The plastic scales scratch easily. The paint peels off, making the scales unreadable. The sight's worthless until the scale's replaced.

Keep sharp objects away from all four scales. Spot cracks? Have maintenance check 'em out!



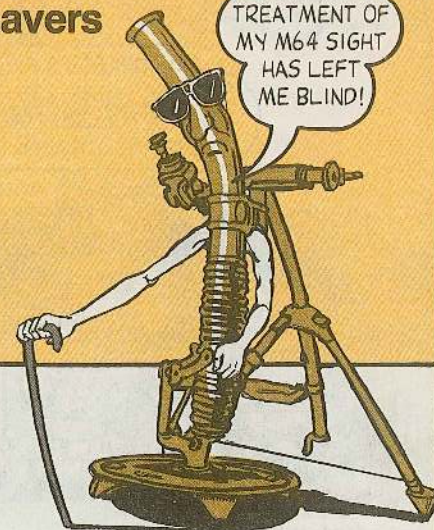
- Look for cracks and other damage during your daily PMCS. Parts like the levels, azimuth and elevation knobs, and scale assemblies contain or cover radioactive components. It could injure you if it leaks. Ask maintenance to insure components containing radioactive material haven't been broken.

- Stow it right. Just sticking the sight in the case and slamming the lid damages delicate parts like the telescope support. Follow the directions on the case lid. Be especially sure the telescope lies flat in the case, pointing in the same direction as the azimuth deflection knob.

- Keep weight off the carrying case. The M64's case isn't heavy-duty like some of the cases for other sights. It can't take people sitting on it or stacking things on it. It splits and has to be replaced.

SEP 87

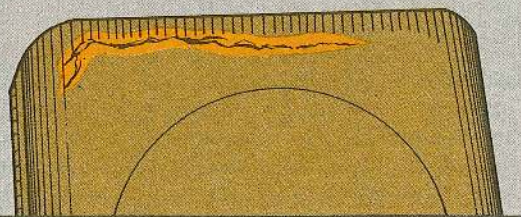
ROUGH TREATMENT OF MY M64 SIGHT HAS LEFT ME BLIND!



Telescope and deflection knob should point in same direction for stowing



Sitting or stacking cracks cases

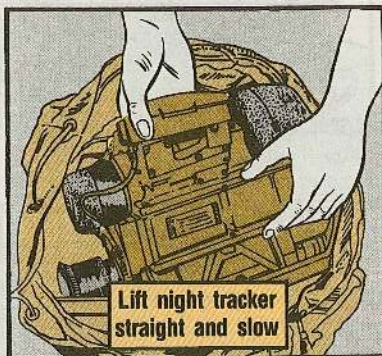


Keepin' the Fire in Your Dragon

THIS DRAGON'S FIRE IS OUT BECAUSE OPERATORS FORGOT THE BASICS! FOLLOW THESE TIPS TO KEEP YOUR DRAGON FLAMING!

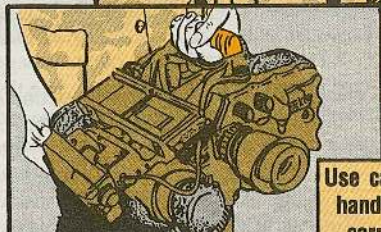


The night tracker firing mechanism has a plastic-to-metal connection to the tracker body that cracks easily. A cracked mechanism makes the night tracker useless. Protect the firing mechanism with careful handling. When you lift the night tracker out of its bag by the firing



Lift night tracker straight and slow

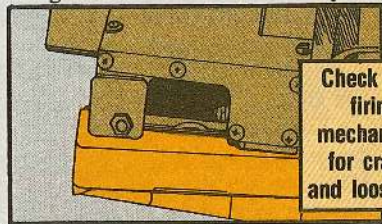
mechanism, don't jerk it up. Straight up and slow is the best way. Once the night tracker's out, immediately switch hands to the carrying handle. And use the carry-



Use carrying handle for carrying

ing handle for all carrying.

Before you go to the field, check the firing mechanisms for both the day and



Check both firing mechanisms for cracks and looseness

night trackers for cracks and tightness. If they're loose or cracked, moisture invades the mechanisms and the missile cannot be fired.

Connecting to Connector Problems

Also before operations, eyeball both trackers' electrical connectors for damage or dirt. Sand and dirt in the connectors cause a bad connection and bend pins. If the connectors are dirty, try cleaning them with a dry cleaning cloth. If they mate poorly, tell your repairman. Never poke anything in the connectors to get at dirt. You'll bend the pins.

Never leave the trackers or round's electrical connectors uncovered. That's how that dirt and sand get in the connectors.



Test electrical connectors for binding. Keep covers on when not firing

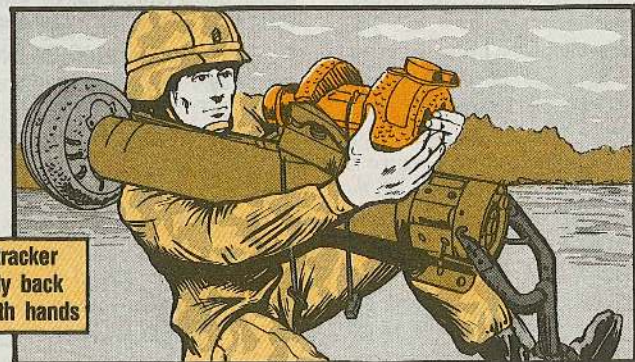
Absorbing Shock Damage

Day trackers end up in DS again and again because operators forget that shock absorbers need gentle hands. The number one shock killer is jerking the day tracker out of its bag by the aft end shock. You must reach in the bag and pull the tracker out by its body.



Remove day tracker by its body

Operators tear off the front shock when they jam the tracker on a round using the top of the shock as a handle. Do it right. Once you have the tracker guide pins in the round's guide rails, place both hands fully in front of the tracker and pull it directly back until it clicks in place.



Pull tracker directly back with both hands

Rub Out Rubber Threats

Before you pack the night tracker, adjust the eyepiece as far in as possible. If the eyepiece's sticking out, the carrying bag's plastic insert rubs off the rubber eyeguard. That rubs out the night tracker until the eyeguard's fixed.

Don't forget your Dragon's rubber parts, especially in humid areas where dry rot's a threat. After operations, clean the eyeguards and all electrical connector covers on both trackers with detergent, NSN 7930-00-282-9699, and water. Wait until they're completely dry before storing.



Stick eyeguard all the way in before stowing. Clean and dry rubber parts before stowing

PS END

M109-Series SP Howitzers...

Takes Pressure to Avoid Stickers

Instead of making sure there's enough hydraulic pressure to seat a round right, some crewmen just ram it, add powder and fire.

They get stickers because the rammer didn't push the round far enough into the cannon to seal the tube.

Prevent stickers by making sure there's at least 925 PSI showing on the hydraulic pump gage at the rear of the turret.

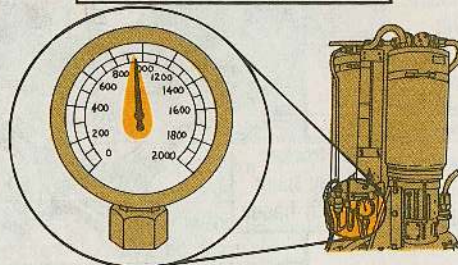
Generally speaking, you'll always have minimum pressure when your howitzer's engine is running. However, if you've been operating on battery power for some time, there may not be enough juice available to run the hydraulic pump.

If the pump doesn't put out the PSI, you can't ram the round.

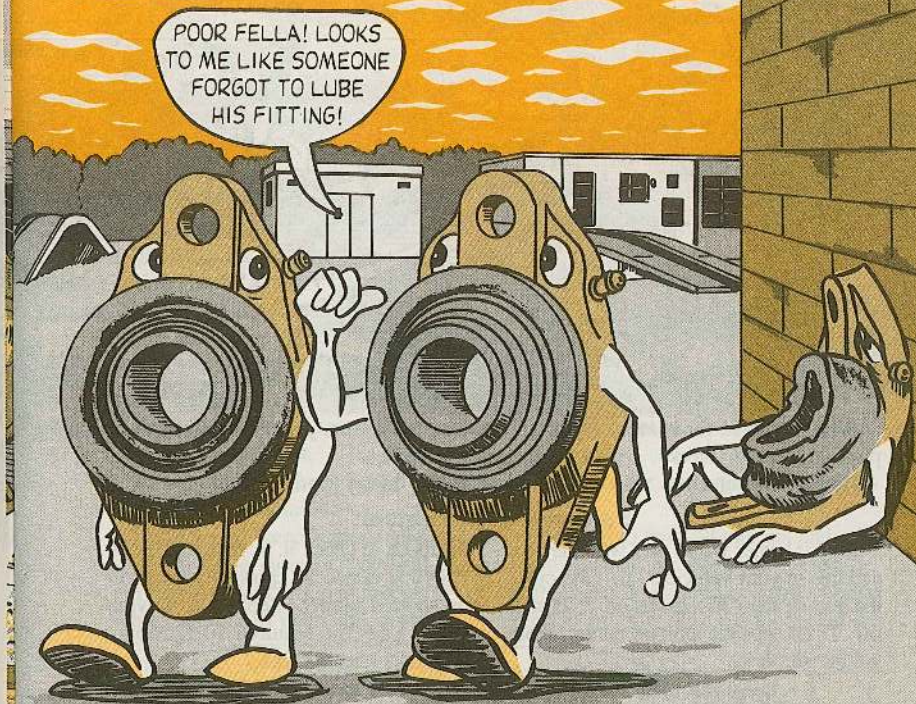


Don't ram it, unless you've got...

...at least 925 PSI on the hydraulic pump pressure gage



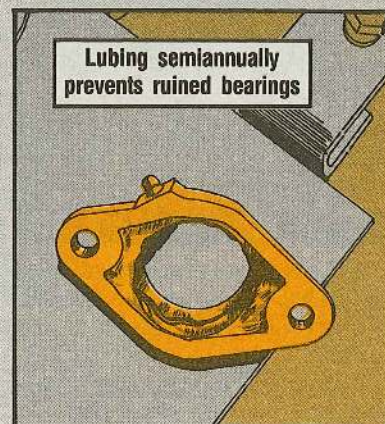
It's Fitting to Lube



Some mechs seem to think lube fittings are installed on the fan drive shaft bearings on carriers for decoration.

Maybe those bearings are hard to get at, mechs, but they need grease every semiannual service—more often under unusual conditions—or you'll end up with ruined bearings.

There's no excuse to let a dry bearing put a carrier on the NMC list until your DS unit can make repairs. Follow the info in LO 9-2350-247-12. Use the flexible grease gun adapter and lube both fittings on each shaft. There's one at the front and one at the rear.



Lubing semiannually prevents ruined bearings

THERE SURE IS A COLD WIND BLOWIN' OUTSIDE!



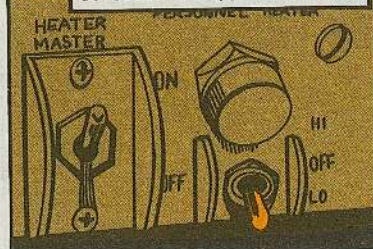
Being prepared for winter's icy blast includes making sure your combat vehicle's personnel heater works... before you really need it.

Here are several tips that will help keep you "toasty warm":

Stewart-Warner Heaters

If your heater won't start with the procedures in your vehicle's -10 TM, cycle the start switch—30 seconds on, 5 seconds off. This keeps the ignition control from getting too hot.

**Cycle the start switch—
30 seconds on, 5 seconds off**



If your heater won't start after the third try, troubleshoot like your -10 TM says. If it still won't start, report it to your mechanic.

Voltage to the igniter is important—between 9.5 and 12 volts is ideal. Get

your mech to check it. A reading below 9 volts and visible hot spots are sure signs of a shorted igniter. Replace it. If you still don't get the required 10-12 volts, let support check it out.

While you mechs have the cover off, check the flame detector switch. On newly installed Stewart-Warner heaters, the flame detector switch will probably need

**Back off
½ turn
on flame
detector
switch**



adjusting. Just turn the adjustment screw out till the blower goes off, then back it off ½ turn more. Make this adjustment only when the heater is off and cool.

Tips for Heaters

Hupp Heaters

Hupps don't work like Stewart-Warners. Always follow these starting tips:

Let the heater stay in the start mode for 4 minutes. That's how long it takes a Hupp igniter to get hot.

If the heater doesn't start right off, wait 15 minutes before trying a restart. It's a long wait, but otherwise your heater will flood.

If your heater doesn't start again, get your mechanic to check the incoming voltage—it should be 19-26 volts.

General Tips

Keep fuel pump filters clean. Quarterly servicing is called for, but check them more often than that.

Run your heater for at least 5 minutes with the indicator lamp on. This prevents flooding during shutdown.

Heaters must keep running after they are turned off to burn all the fuel and vent all the exhaust gases. Otherwise, carbon builds up and the heater is ruined.

There are eight different models of personnel heaters being used in Army combat vehicles. None of them will work unless the igniter or glow plug sets the fuel afire.

HAVE YOUR PARTS CLERK ORDER THE RIGHT IGNITERS FOR YOUR HEATER!

Stewart-Warner

NSN

Model 8460C	4520-00-790-8417
Model 10560C	4520-00-217-5782
Model 10560M	4520-00-217-5782
Model 10560M24B1	4520-00-217-5782

Hupp

NSN

Model MF510A	2540-01-115-1805
Model MF510B	2540-01-115-1805
Model MF510C	2540-01-167-7248

ESPAR

NSN

Model V7S	2540-12-167-3599
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More information on parts and maintenance for combat vehicle heaters is available in TM 9-2540-205-24&P.





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 9-1440-600-24P Aug Patriot missile
TM 9-2350-267-10-HR Jul M992 Ammo carrier

TB 43-0002-30 May Expenditure limits for FSC Classes 3510,3520, 3530, 3540 and 3590 (48X microfiche)
TB 55-1520-238-20-18 May AH/64A copilot/gunner step
TB 55-1520-238-20-19 May AH-64A aft engine mount pins
TB 55-1520-242-20-27 Apr Inspect 90 degree fittings on UH-1
TB 55-2840-241-20-1 Apr Reduced life of third stage turbine wheels on

T63-A-720/250-C20 engines for OH-6 and OH-58
TB 55-1520-237-20-83 Apr Insect eyebolts P/N 70209-02136-102, NSN 5306-01-102-8797
DA Pam 25-30 Jun Index of Army publications and blank forms (DA Pam 310-1)
C14, TM 55-1520-228-23-2 Mar OH-58A/C

AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

TEC Lessons

104-301-7512-A AN/PPS-5 Starting Procedures, Part 1
140-093-6828-A Calibrate a T431/T431A Battery Charger Monitor, Part II
221-081-7125-A AN/MPQ-4A Operator Maintenance
221-081-7160-A AN/TPS-25, Orient Antenna
421-081-7904-A The Aiming Circle
474-091-1813-A Troubleshoot M939-Series Truck Charging System
474-091-1814-A Troubleshoot M939-Series Truck Lighting System

474-091-1872-A M939-Series Truck PMCS
482-081-1458-A Adjust M548 Range Selector
482-091-1490-A Replace the M548 Differential Lube Oil Pump
484-091-2011-A Troubleshoot M60 Tank Fuel System
489-091-2035-A Remove/Install M1 Tank Gunner's Primary Sight Body Assembly
Films, TV Tapes
TVT 9-73 STE-M1/FVS, Part 4
TVT 9-80 BFV Unit Maintenance, Part 1

TVT 9-82 BFV Unit Maintenance, Part 2
TVT 9-84 STE-M1/FVS, Part 1, Turret Troubleshooting
TVT 9-95 STE-M1/FVS, Part 2, Self Test
TVT 55-147 Helicopter Ground Signals
TVT 9-41 M88A1 APU, Part 3
TVT 3-19 Combined Phase I NBC Lessons Learned
TVT 21-179 Install MILES on UH-60
TVT 9-49 M16A2 Rifle New Material Intro Briefing

Maintenance & Safety-of-Use Messages

AMCCOM SOU-MSG—Operational, Supersedes AMCCOM SOU-MSG 182215Z Jun 87 and suspends use of recoil mechanism repair kit NSN 1015-01-071-2825 used on M87A1 gun mounts on M48A5's, M116A1 and M140A1 mounts on M60 series tanks and M150A1 mounts on M728 CEV's, AMSMC-MA, 192120Z Jun 87.

AMCCOM SOU-MSG—Advisory Operational, Deletes Tables 4-3 and 4-4 from M101A1 howitzer's TM 9-1015-203-12, AMSMC-MAW, 081745Z Jun 87.

TACOM SOU-MSG-87-50—Inspect buss bar grommets on M967 M967A1 and M970 fuel tankers semitrailers, AMSTA-MVA, 301200Z Jun 87.

TACOM SOU-MSG-87-45—Operational, Lists crossing restrictions for Armored Vehicle Launched Class 60 Bridge, NSN 5420-00-522-9599, AMSTA-MCD, 031100Z Jun 87.

TACOM SOU-MSG-87-42—Operational Suspends use of external electrical sources on M934/M934A1 5-Ton Expandable Vans, AMSTA-QWM, 111405Z May 87.

TACOM SOU-MSG-87-48—Operational SOU MSG-87-42 guidance on electrical system to all 5-Ton Expan-

sible Vans, AMSTA-MTB, 082000Z Jun 87.

TACOM SOU-MSG-87-36—One-time inspection of M1-series tank fire extinguisher manifold check valve, AMCPM-ATS-L, 181815Z Jun 87.

TACOM SOU-MSG-87-28—Corrects original MSG-87-28 errors, AMSTA-QWC, 051500Z.

TACOM SOU-MSG-87-28—Technical, Deadlines M4K forklift, NSN 3930-01-076-4237, until one-time brake inspection is done and deficiencies are corrected, AMSTA-QWC, 282030 May 87.

TROSCOM SOU-MSG-08-87—Technical, Deadlines use of beverage CO2 cylinders until backed pressure relief device is inspected, AMSTR-MES, 101430Z Jun 87.

TROSCOM Maintenance Advisory MSG-87-15—Interim change to MK-12 diving system's manual, NAVSEA 0994-LF-018-5010, AMSTR-MES, 281306Z May 87.

TROSCOM Maintenance Advisory MSG-87-14—Provides inspection procedure to check for defects in MK-12 helmet air supply tubing, AMSTR-MES, 281305Z May 87.

TROSCOM Maintenance Advisory MSG-87-13—Provides changes to test/inspection requirement to extend the service life of FADS I and II interface hoses, AMSTR-MES, 281304Z May 87.

TROSCOM Maintenance Advisory MSG-87-12—Changes Fig 4-8 of U.S. Army Naval Diving Manual Vol. 1, NAVSEA 0994-LP-001-9010, AMSTR-MES, 281303Z May 87.

TROSCOM Maintenance Advisory MSG-87-11—Do not exceed 3300 PSI when calibrating gages on MK-12 diving system. Inspect and replace ejector filters AMSTR-MES, 281302Z May 87.

TROSCOM Maintenance Advisory MSG-87-10—Identify and replace nylon valve seats on Poseidon Cyklon 300 SCUBA regulator with factory-provided teflon H.P. valve seat, AMSTR-MES, 281301Z May 87.

USASC SOU-MSG Operational, Lists Mil Specs for Lithium-Sulfur batteries authorized in equipment to be airlifted, PESCP-PR, 261200Z May 87.

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

The Real Untold Story: Bad PM Haunts Half-Mast Family

Philadelphia, PA

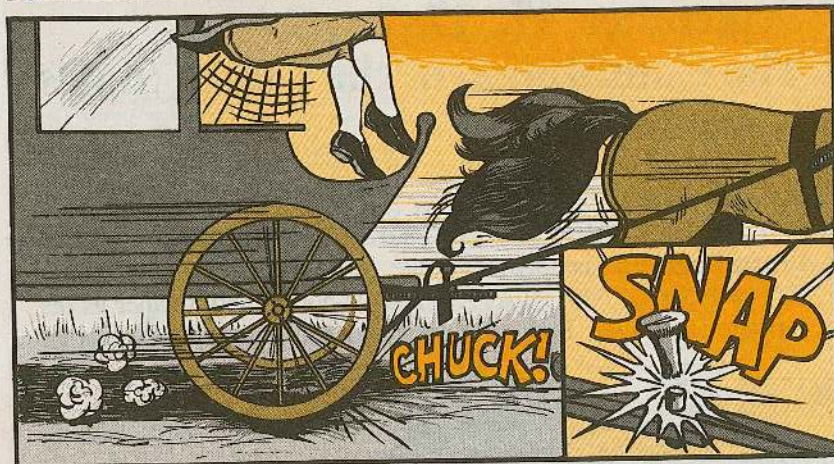
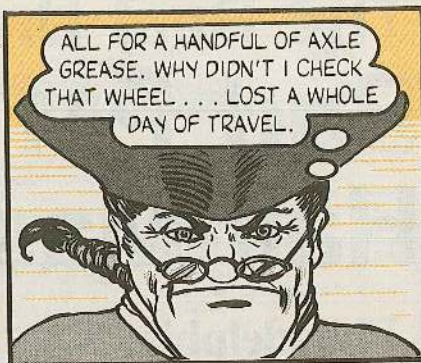
September 17, 1787

The Constitution of the United States is signed.

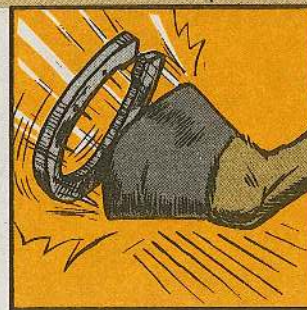
One day earlier...

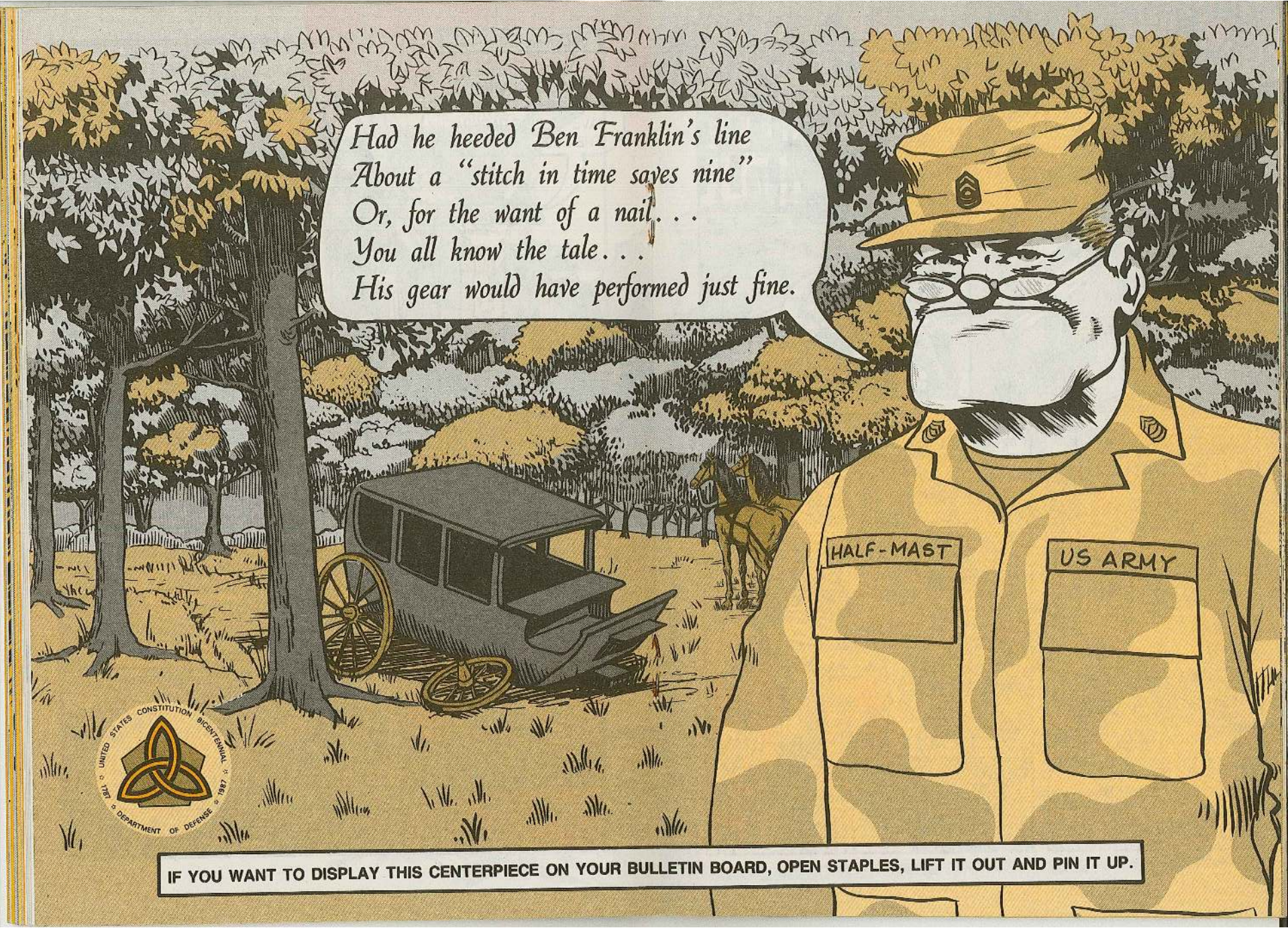
COL Oliver C. Half-Mast, Esquire... Revolutionary War hero, Virginia legislator, county magistrate, justice of the peace and president of Hobbled Nob PTA... whips his horses into a lather as his carriage races over back country roads heading for Philadelphia.





All is not lost . . .

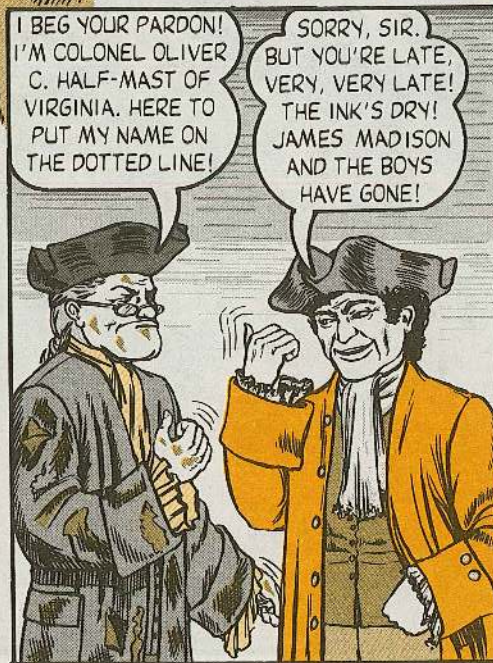
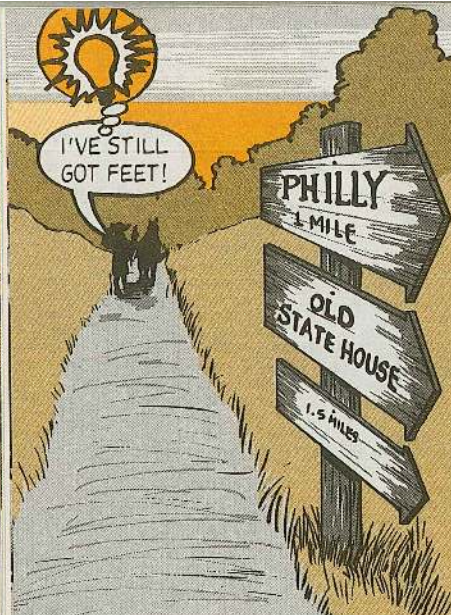




*Had he heeded Ben Franklin's line
About a "stitch in time saves nine"
Or, for the want of a nail. . .
You all know the tale. . .
His gear would have performed just fine.*

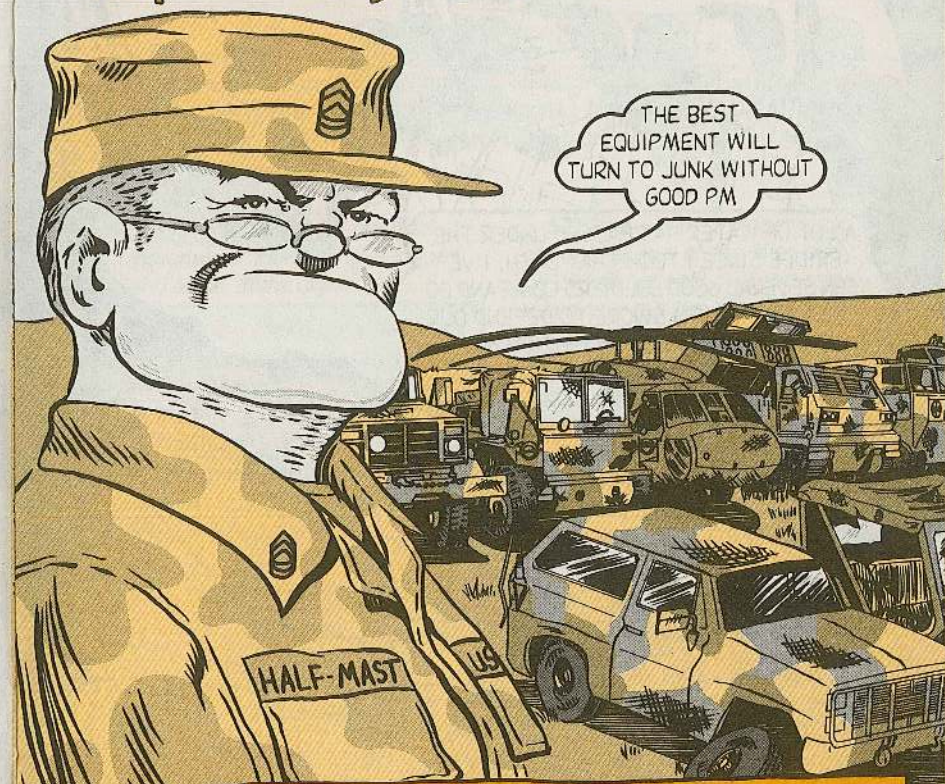


IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

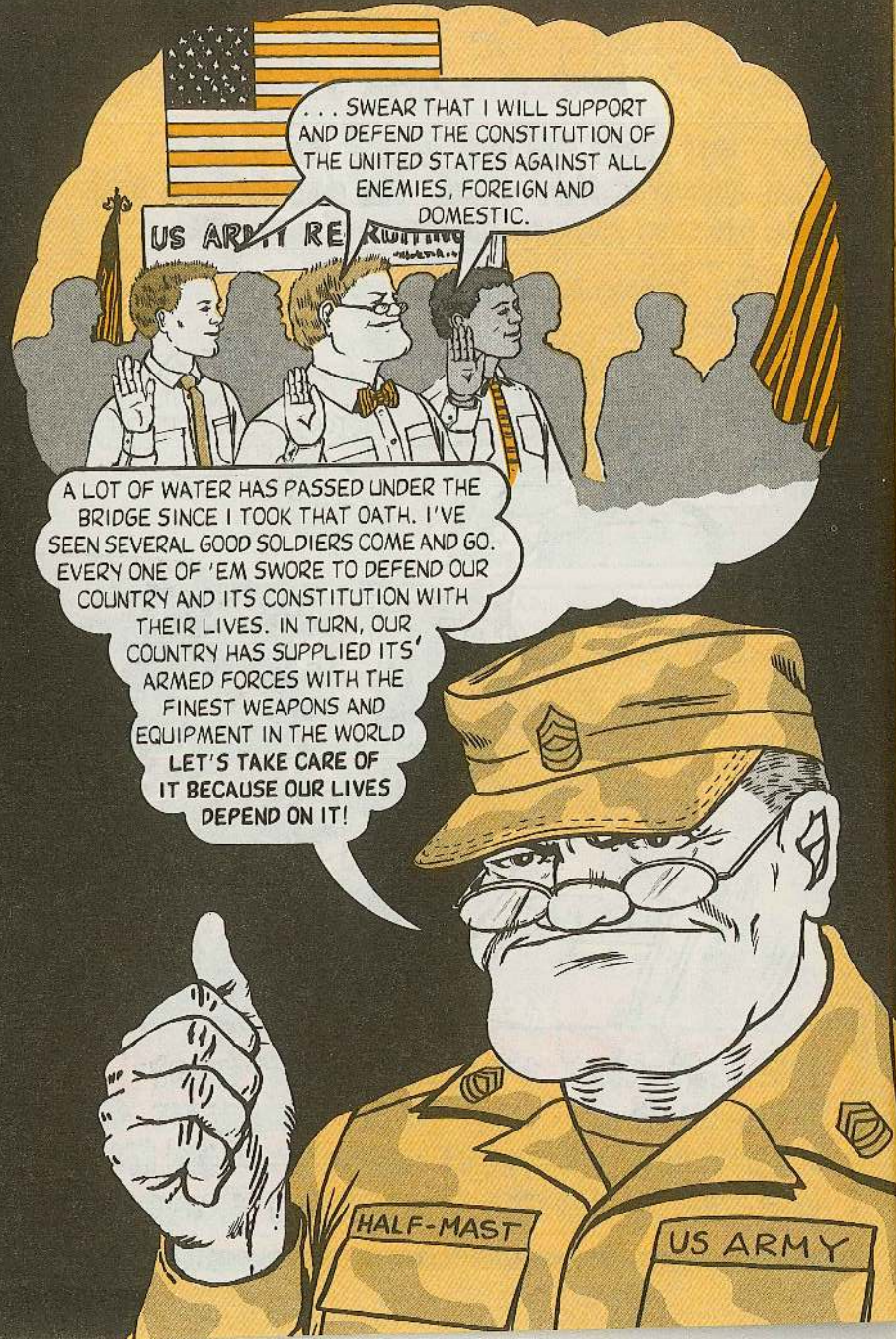


200 Years Later...

Now you know the real untold story of COL Oliver C. Half-Mast, the patriot who lost his place in history because of poor PM.



MSC Half-Mast, the great-great-great-grandson of COL Half-Mast, remembers the lessons learned by his ancestor. Good PM is a way of life for the master sergeant.



Stop Gasket Failure

Dear Editor,

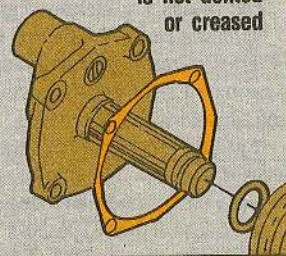
The Huey's transmission internal oil filter gasket will often leak or fail if you don't take extra care when you install it.

Here are 4 steps I've developed during the last 8 years that have eliminated failure or leakage.

STEP 1—Clean all old gasket material off the mating surfaces and wipe them dry.

STEP 3—Make sure the new gasket does not have any indentations or creases. If you install an indented or creased one, you'll get a leak. Install the gasket with the flat side toward housing.

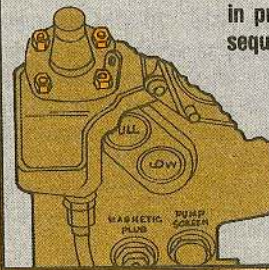
Make sure gasket is not dented or creased



STEP 2—With 2 fingers, dip enough oil out of the filter body so oil will not spill over the edge when you put the filter back on.

STEP 4—Tighten the holddown nuts in the exact sequence called for in Para 6-49d of TM 55-1520-210-23-1.

Torque nuts in proper sequence

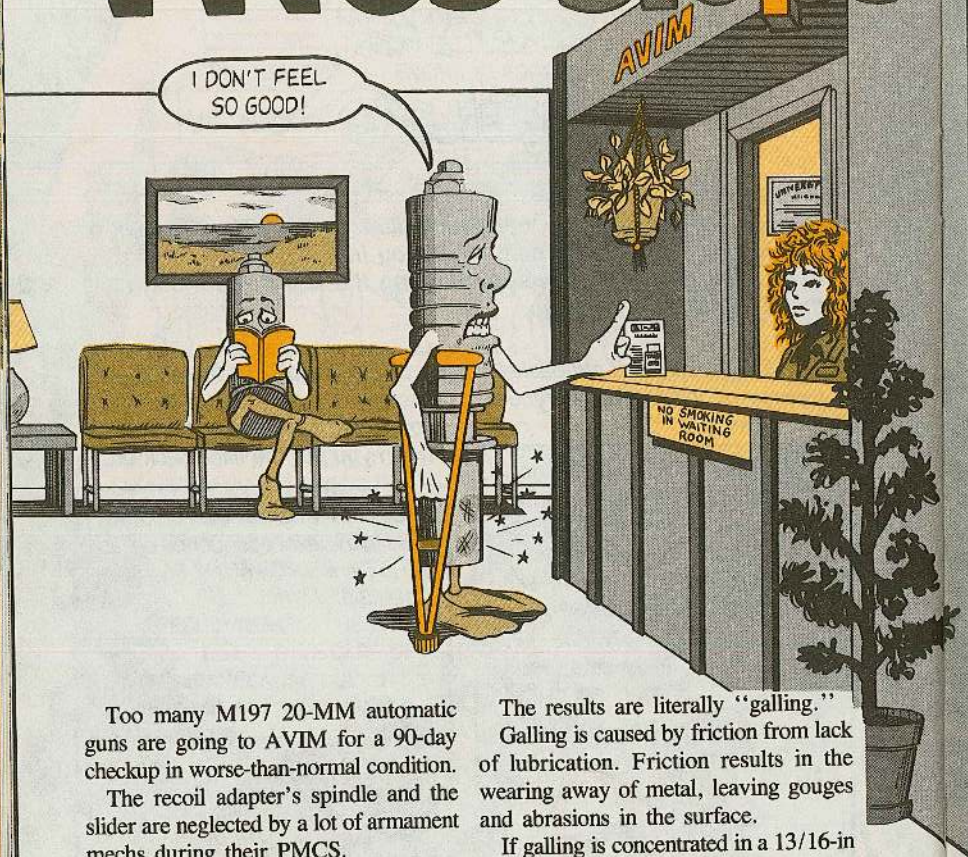


Patrick A. Paone
Romulus, NY

(Editor's note: We applaud your good maintenance practices and techniques.)

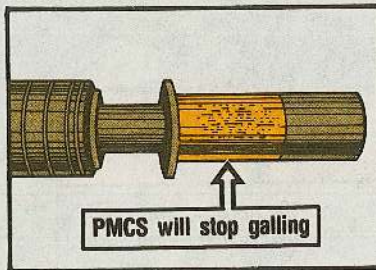
PMCS Stops Galling

I DON'T FEEL
SO GOOD!



Too many M197 20-MM automatic guns are going to AVIM for a 90-day checkup in worse-than-normal condition.

The recoil adapter's spindle and the slider are neglected by a lot of armament mechs during their PMCS.



The results are literally "galling."

Galling is caused by friction from lack of lubrication. Friction results in the wearing away of metal, leaving gouges and abrasions in the surface.

If galling is concentrated in a 13/16-in area or larger on the spindle, you have to replace the spindle like it says in Para 3-55 of TM 9-1090-206-20-1.

The same goes for the slider, except that galling is allowed up to a 15/16-in area before the slider has to be replaced.

Catch galling in the early stage—when you pull monthly inspection of the recoil adapter and slider or after 15,000 rounds, whichever comes first.



Sand
and
polish
small
galled
areas

Remove any raised areas with 100-grit abrasive cloth, NSN 5350-00-161-9066. Then polish with 240-grit abrasive cloth, NSN 5350-00-161-9715.

Clean the sanded and polished area with a clean cloth and alcohol, NSN 6810-00-753-4993.

When the cleaned area is dry, spray with corrosion-inhibiting solid film lubricant, NSN 9150-00-168-2000.

Let treated parts air cure for at least 18 hours at 74°-80°F before reassembling them. Never handle the parts during curing.

AH-1S...

No Deception in Reception

If your pilots report lousy FM radio reception, chances are the antenna is greasy or oily. 'Course, good mechs don't wait for complaints before taking action. Just rub a finger across the antenna surface during each daily. If it feels greasy or oily, wipe it off with a clean cloth.

AVIATION MESSAGES

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

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

AH-64-87-12, SOF, Technical/Operational, Revision to message lifting restriction on firing area weapon system, 080300Z May 87.

AH-64-87-13, SOF, Technical, Tail rotor swashplate, clevis ring inspection, 102000Z May 87.

CH-47-87-05, SOF, Technical, CH-47/A/B/C, Inspection of pivoting and swiveling actuators, 052300Z May 87.

OH-58-87-04, SOF, Technical, Adhesive

repair for NVG panel lights, 131530Z May 87.

OH-58-87-05, SOF, Maintenance Mandatory, Inspection of main rotor mast, 212000Z May 87.

OV-1-87-02, SOF, Technical, Inspection of main recovery parachutes for MKJSD ejection seats, 201700Z May 87.

UH-60-87-06, SOF, Technical, H-60 series, Inspection of oil cooler splines, 040300Z May 87.

UH-60-87-07, SOF, Maintenance Mandatory, Inspection of longitudinal links and lateral clevis for cracked bearing inner race, 142020Z May 87.

MIM-AH-64A-87-XSOF-01, T700-GE-

701 engine power take-off (PTO) change out, 011500Z May 87.

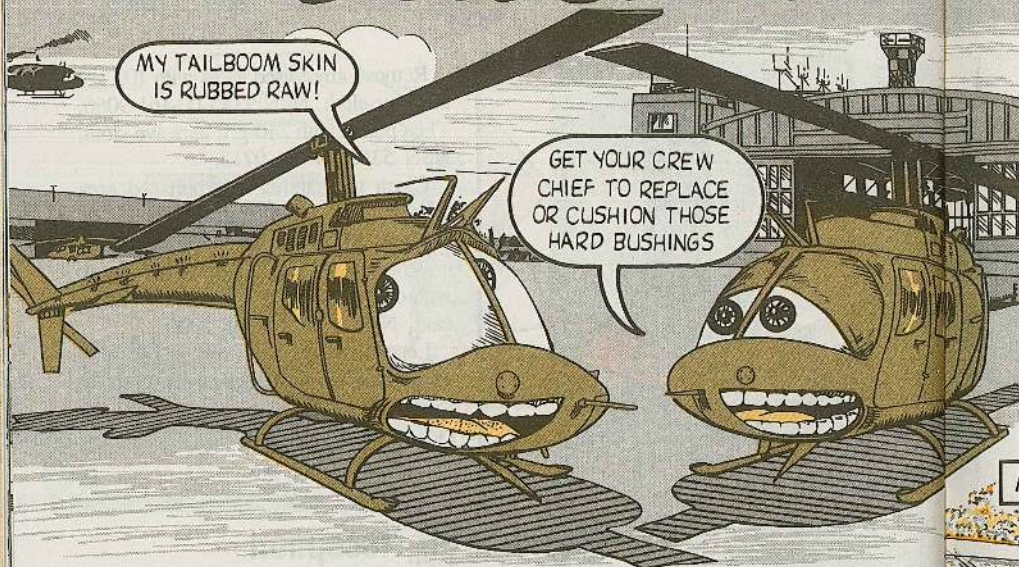
MIM-AH-64A-87-XSOF-02, Cancellation of MIM on hydraulic system contamination, 191800Z May 87.

MIM-CH-47-87-XSOF-02, Connecting link (dog bone), NSN 3040-00-287-8938, 151900Z May 87.

MIM-CH-47-XSOF-03, Failure of new C-6533/APC intercommunication system (ICS) boxes when installed in the pilots position, 281430Z May 87.

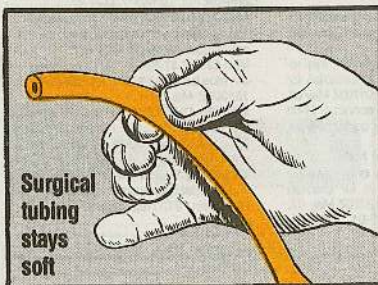
MIM-UH-1-87-XSOF-04, T53-L13B/BA engine special submittal of DA Form 2410 data, 212015Z May 87.

Driveshaft Cover Fix

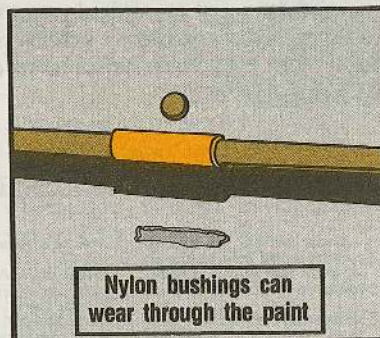


The nylon bushings that cushion the edge of your Kiowa's driveshaft cover can wear thru the paint on the tailboom's skin, creating a rust and corrosion problem.

When MWO 55-1520-228-50-25 is applied to your bird, it'll solve the problem because nylon pads will be installed along the tailboom where the bushings make contact.



Surgical tubing stays soft



Nylon bushings can wear through the paint

But until the MWO is applied to your bird, here's a temporary fix suggested by Marc Morganti of the Kentucky Army National Guard:

Replace the hard nylon bushings with pieces of 3/16-in ID rubber surgical tubing, NSN 4720-00-141-9080.

Use an art knife or razor blade to cut the tubing into 1½- to 2-in lengths. Slit the pieces lengthwise. Use adhesive, NSN 8030-00-753-4596, to glue them in place on the driveshaft cover.

The rubber stays soft and won't wear into the tailboom skin like the nylon bushings do.

Another solution is to install nylon pads along the tailboom as shown in Fig 13 of the MWO. Use sheet plastic, NSN 9330-01-102-4213, adhesive, NSN 8030-00-723-2746, and rivets, NSN 5320-01-132-4439. Use DD Form 1348-6 to order the plastic sheet because the NSN is not on the AMDF.

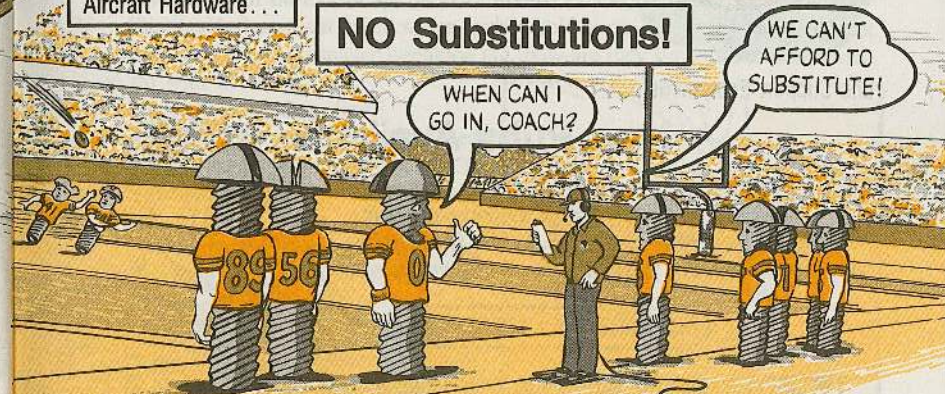
If your bird's scheduled for the MWO soon, just spot paint the worn areas on the tailboom until the MWO's applied.



Glue tubing pieces onto driveshaft cover

Aircraft Hardware...

NO Substitutions!



Hold one! Forget about using substitute hardware in sensitive components like the AN/ASN-43 gyro compass in the AH-1S Mod Cobra.

Some mechs have been replacing the aluminum machine screws holding the cover to the compass compartment with steel screws. Steel is magnetic, aluminum is non-magnetic.

Steel screws throw the compass reading off as much as 6 degrees!

Can you imagine the problems that could cause the bird's pilot when he's looking for some outpost in the boonies?

Be smart—don't substitute hardware.

New Blind Fastener Kit Added



A new blind fastener installation tool kit, NSN 5180-01-201-4979, has been added to your AVUM No. 2 tool set.

It contains all the tools you need—including a spring-loaded, manually-operated riveter—to install most aviation-type blind fasteners.

The kit replaces 4 other fastener kits in your No. 2 tool set—NSN 5120-00-224-9296, NSN 5120-00-224-9297, NSN 5120-00-357-6065 and NSN 5120-01-089-1231.

AVSCOM Msg AMSAV-LG/AMSAV-MEM 131800Z Nov 86 authorizes all units that have a No. 2 shop set to order the new fastener kit.

Life Support Equipment...

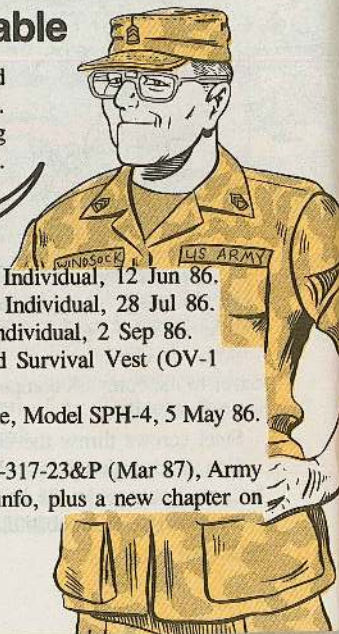
New Pubs Available

Crew chiefs and aviators, read and heed the latest word on operator maintenance of your life support equipment. Several new or updated pubs have hit the field during the last year and they contain a lot of info you need.

HERE ARE THE LATEST PUBS:

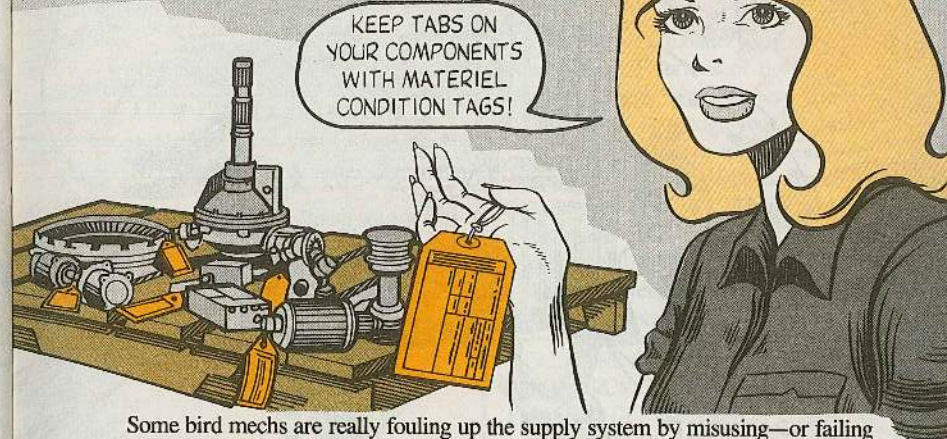
- TM 55-1680-348-10** Survival Kit, Cold Climate, Individual, 12 Jun 86.
- TM 55-1680-349-10** Survival Kit, Hot Climate, Individual, 28 Jul 86.
- TM 55-1680-350-10** Survival Kit, Overwater, Individual, 2 Sep 86.
- TM 55-1680-316-10** Rigid Seat Survival Kit and Survival Vest (OV-1 aircraft only), 2 Sep 86.
- TM 10-8415-206-12&P** Helmet, Flyer's, Protective, Model SPH-4, 5 May 86.

ALSE technicians, latch onto a copy of TM 55-1680-317-23&P (Mar 87), Army Aircraft Survival Kits. It has the latest maintenance info, plus a new chapter on setting up and running an ALSE workshop.



Materiel Condition Tags...

Use 'em, Don't Confuse 'em



Some bird mechs are really fouling up the supply system by misusing—or failing to use—materiel condition tags on aircraft and aviation-related equipment.

If you ship an unserviceable—but repairable—component to AVIM or depot without a properly completed condition tag, how are they supposed to know what to do with it?

The answer is, they don't!

The confusion results in a lot of wasted time repairing or replacing the item. Or the component may even get trashed, costing Uncle big bucks.

The point is, you should always tag equipment to show identification and condition.

Para 2-26 of DA Pam 738-751 has the info on how to use materiel condition tags. Appendix D of the same pub lists and explains all the condition codes.

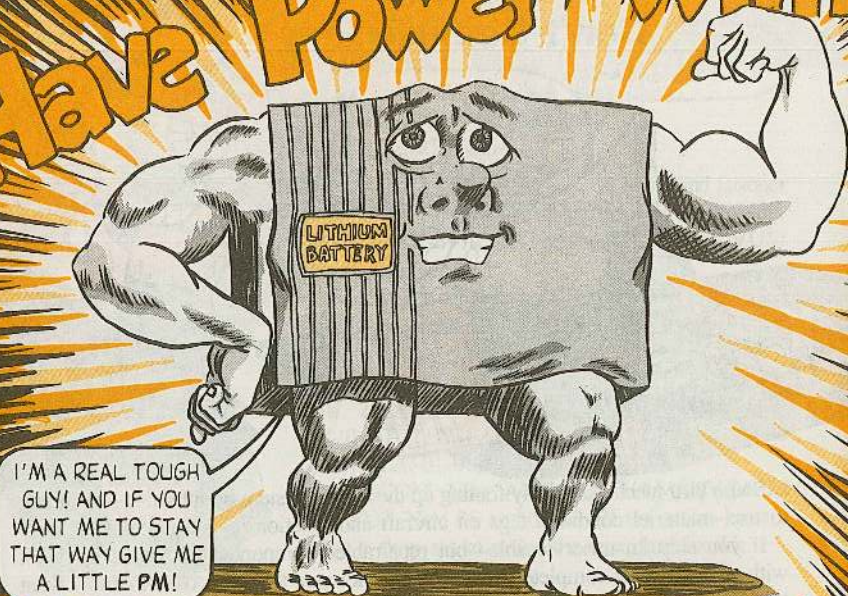


Tie the properly filled out tag to the component being sent to the depot

Simple Siphon Solution

Water trapped in those nooks and crannies on your aircraft... and you can't get it out with low-pressure air? Use a rubber syringe to get into tight spots. NSN 6515-01-045-0029 gets a package of 50.

COMMO Have Power With PM Punch



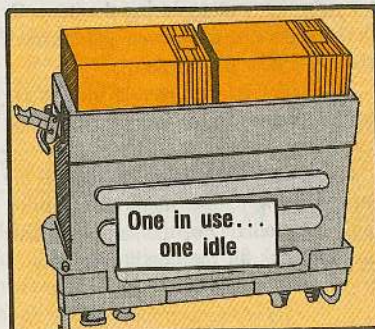
Lithium batteries are tough. They'll power your commo and electronic equipment at their top output for the batteries' lifetime. Just treat them to a little PM.

Keep the batteries in a cool, dry, well-ventilated place until you're ready to use them.

For protection, leave the batteries in their plastic wrapper until needed.



Before you put the lithium battery into your equipment—like a BA-5598 into an

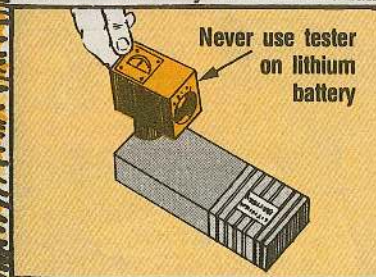


AN/PRC-25 or -77 radio set—eye the battery for damage or defects.

If its wrapper is bulged or there is brown fluid in the wrapper, forget about using the battery. Chances are the battery has leaked. This makes the battery useless.

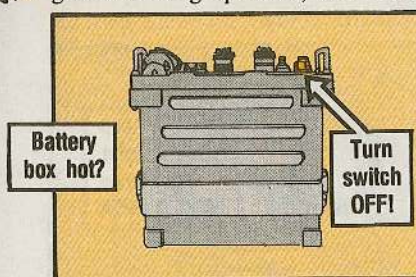
Other PM tips include—

- Never use a voltage tester or the AN/PSM-13 battery tester on a lithium



battery. There's no tester in the system that'll do the test job. Poking the battery with a tester adapter might make the battery vent toxic sulfur dioxide if the battery short circuits. The test could also ruin fuses and put the battery out of business.

- When your commo gear battery box gets hot during operation, turn it off.



Keep it off for at least 60 minutes so the battery—and gear—can cool off. Then, remove the battery and dispose of it through the Defense Reutilization Marketing Office (DRMO).

Never leave the battery in your equipment for long periods of time, like 30 days or longer. If the battery corrodes or ruptures, it'll damage your equipment.

- Keep the battery away from other hazardous materials, such as flammable liquids and oxidizers. These materials could cause a bad chemical reaction with the lithium battery.

In case of venting, let your local safety office know about it, pronto.

CALL THE COMMUNICATIONS AND ELECTRONICS COMMAND SAFETY OFFICE, AUTOVON 995-3112 OR COMM (201) 544-3112, OR WRITE:

**Commander
USACECOM
ATTN: AMSEL-SF-SEE
Ft Monmouth, NJ 07703-5007**



Keep a Type-D fire extinguisher handy during storage of lithium batteries. If there is a fire involving lithium batteries, never use a Halon fire extinguisher. Halon and lithium, when mixed, produce toxic fumes.

The lithium battery, like the mercury battery, takes special handling when you're through with it. Never burn, bury, crush, puncture, disassemble or mutilate the battery. Turn it in to DRMO for disposal.

Air It Out

IT'S FREEZING
OUTSIDE, YET WE'RE
BOILING IN HERE!

YEAH, HOW 'BOUT
OPENING THE SHELTER
DOOR INLET COVER!

THERE'S NOTHIN'
LIKE A NICE,
WARM SHELTER!

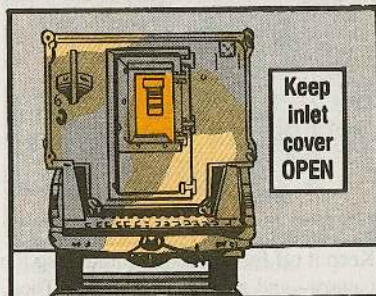
Too hot's not cool inside your radio teletypewriter set—even when icy winds are blowing outside. Sure, you want to stay warm as toast. But you'll burn up an AN/GRC-106 radio set or a PP-4763 power supply if you keep temps too high inside your shelter.

That gear puts out as much heat in winter as it does in summer. So it still needs moving air to stay in good shape.

Keep the shelter door inlet cover open enough to let cooling air into the shelter.

Likewise, don't plug exhaust vents behind the radio or power supply. They let hot air out.

Give your -106 a little extra cooling help. Keep the heat exchanger clean per the instructions in TM 11-5820-520-10. Keep clothes and other gear off the set, especially its blower vent.



Keep
inlet
cover
OPEN

Guard Against Rip-Off

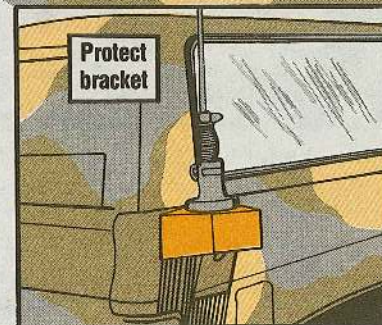
WE'LL KEEP UP
OUR GUARD IF
YOU'LL JUST
GIVE US SOME
OF YOURS!

Your CUCV antenna base and bracket get battered by tree limbs and other obstacles during field operations.

You can stop damage by adding guard, NSN 5820-01-200-0178, to protect the AS-1729 antenna's MX-6707 matching unit or AB-15 mast base.

NSN 5820-01-174-0290 protects the AN/GRC-106 radio set's AB-652 mast base mounted on an M1009.

NSN 5820-01-185-9065 protects the antenna base mounted on an M1008.



Protect
bracket

Get Harness Parts

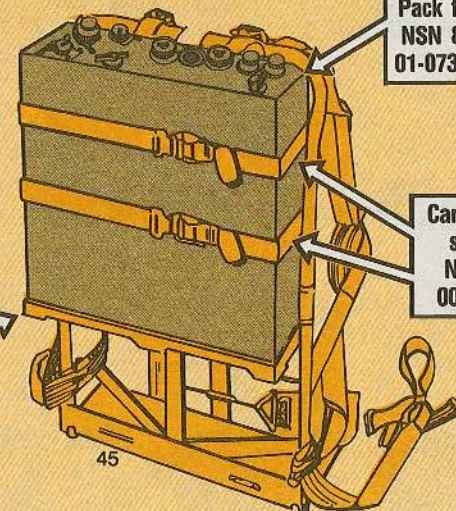
The ST-138 harness is no more.

But its parts are available for use with your AN/PRC-25 and -77 radios.

Cargo support shelf
NSN 8465-00-001-6476

LC-2
Pack frame
NSN 8465-
01-073-8326

Cargo tiedown
straps (2)
NSN 8465-
00-001-6477



Believe It Or Not!

WHY DIDN'T YOU
PUT THE COVERS ON?

I THOUGHT YOU
PUT THE COVERS ON!



You'd better believe it!

If you neglect PM on your night vision equipment, you'll be left in the dark when you need sight the most.

Here are some good PM pointers for night vision devices:

Keep Cover On

Keep the lens cover on when you're not using the sight. The cover blocks the daylight so it won't zap the image intensifier tubes. It keeps out dust and dirt, too.

Remember, light from other sources, such as vehicle lights, flashlights and searchlights, can zap tubes.



Use Kid Gloves

Your night vision device is a fragile and expensive piece of gear. A careless toss or hit can damage the sensitive insides. Never force knobs or switches.

Make sure your sight is securely mounted on your helmet or weapon. If it's not seated correctly, one good jolt and you're night blind.

Believe It Or Not!

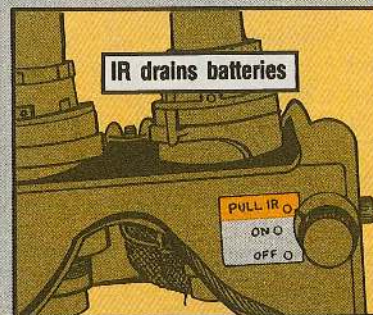
Power Up

Save battery power by turning the power switch off when you're not using your sight.

Make sure the rotary knob is OFF when you put batteries in or connect power to the device. If left ON, it'll damage the image intensifier tubes.

When putting the batteries in and you're not sure of the polarity, check your equipment pub. It tells all.

Putting the ON/OFF switch in the IR (infrared) position drains batteries. It'll let the enemy know your position, too. So, be safe and save power by using the IR only when necessary.



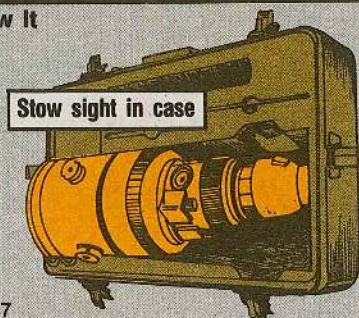
Be sure to take out the batteries before you put your night sight device away.

Stow It

When you finish with your equipment, stow it in the case. Some devices need knobs and clamps loosened or focus lenses drawn back in before closing the case. Check out your gear's TM.

To guard against dirt and moisture damage, make sure the device is clean and dry before putting it away.

Use lens tissues to clean the lenses.



Handle Cards With Care!

I'VE HAD SUCH A SHORT LIFE!

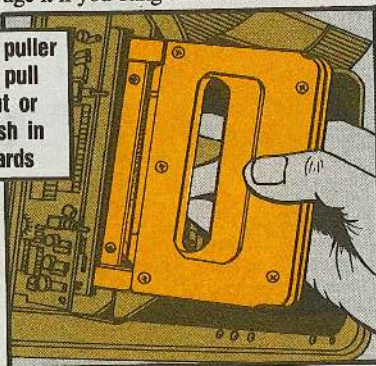
IF ONLY HE HAD USED A PULLER!

Muscling printed circuit cards in your SB-3614 switchboard puts your gear down for the count.

When you're taking out or putting in a printed circuit card, get a firm grip on it with a puller.

Pull the card straight out. You'll damage it if you bang the card on either side.

Use puller to pull out or push in cards

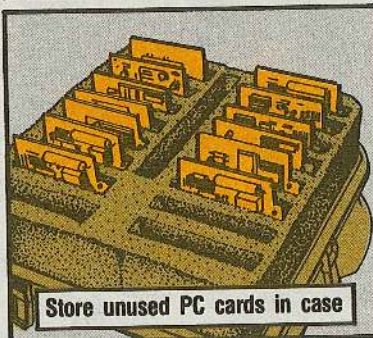


Before putting a card in place, eye the connector pins. If one's bent, straighten it with needlenose pliers.

As you push a card in place, gently rock it up and down to seat connector pins in the receptacle.

If you need to handle the card, hold it by the edge. Never grip it in your hand. Body chemicals break down the coating on the card. This causes the card to short out.

Store unused PC cards in case

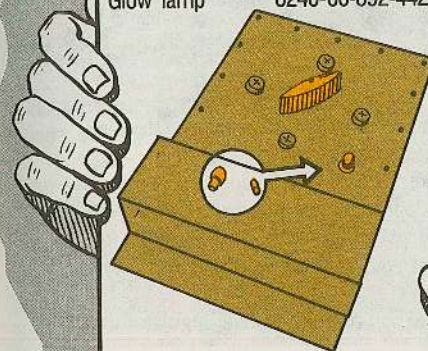


Keep unused cards in the MK-1823 accessory maintenance kit. A PC card will get knocked around and broken if it's loose.

Distribution Box Parts

DO YOU NEED A DISTRIBUTION BOX KNOB AND LAMP PARTS? USE THESE STOCK NUMBERS:

Item	NSN
Control knob	5355-01-166-3672
Knob screw	5305-00-984-6210
Lamp socket assy	6210-00-406-1398
Glow lamp	6240-00-892-4420



Generator's...

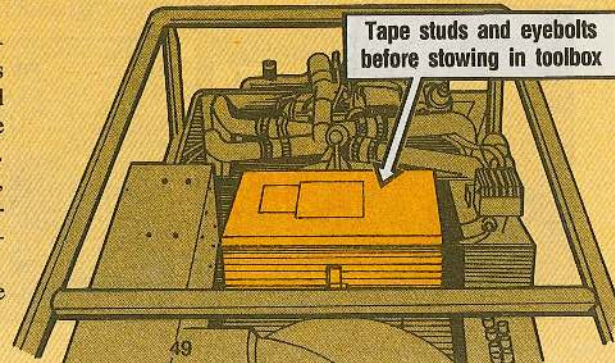
Stud & Bolt Protection

The vibration of generators ruins threads on jacking studs and eyebolts stored in the generator's toolbox. To protect the threads, wrap them with electrical tape, NSN 5970-01-163-7852.

Keep the tape in the box, too.

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Tape studs and eyebolts before stowing in toolbox



Loaded? Turn It Off!

HEY, SMITTY, YOU BETTER GET OUT THERE! I THINK YOUR RADIO SET'S ABOUT TO GET SPIKED!

Whether you're ready to crank up or shut down your generator set, the first thing to do is open the load contactor circuit breaker.

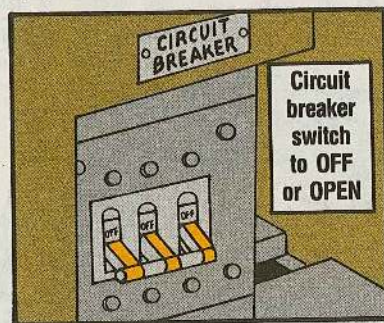
Starting your generator with the load breaker engaged creates a surge of electrical power called a spike when the load is applied to the generator. That spike carries a lot more electricity than the normal power provided by the generator.

The spike surges through the cable to the gear your generator's powering. That'll knock out fragile circuits.

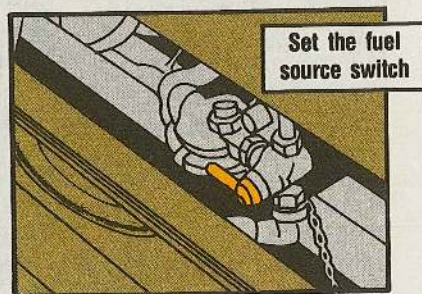
Also, stopping with the load breaker engaged can ruin the voltage regulator and rotating diodes in your set's exciter system.

Here are some simple steps to follow to safely start your generator—

- Set the circuit breaker switch to OFF or OPEN. That takes away the load.

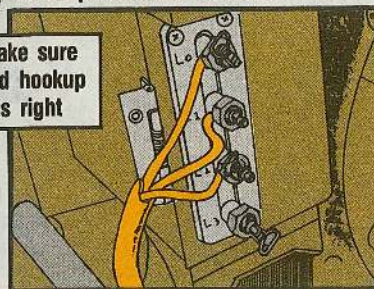


- Set the fuel selector switch to the right fuel source. That's either your set's tank or an auxiliary supply.

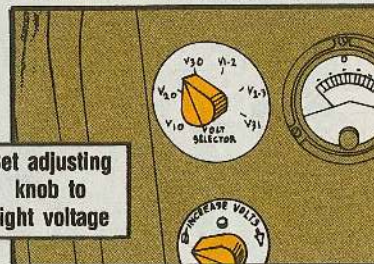


- Select the proper load terminals and hook up the cable to them.

Make sure load hookup is right



- Select the right voltage on the voltage output selector switch.
- Turn the voltage adjusting knob to the voltage wanted before applying the load.



- Start the engine.

After you start your generator and before you shut it down, let the set run

at rated speed (60 Hz to 400 Hz) with no load for 3 to 5 minutes. Check the proper TM for the exact time. That lets it warm to its task or cool down gradually.

Stopping is easy, too. Remove the load by changing the circuit breaker to the OFF position. Move the voltage adjusting knob back to the left.

Operating Tips

Make sure all the gear you're going to power is OFF before you apply a load to it. If it's still ON, a voltage spike can burn it up.

Never connect or disconnect power cables while equipment is operating. This'll cause arcing and burnt pins. You'll damage equipment for sure and may electrocute someone—you!

Never move the voltage selector switch while the generator is operating. You'll burn up the switch. To change output, shut down the generator, move the power cables to their new load terminals and then move the switch.

Lay off the heavy hand on a start switch or button. If the set fails to start in about 15 seconds, let the starter cool for a full minute before trying again. Check your TM. If it fails to start after the third try, get your mech to check it out.



Cat Graders...

A Step-Saving Idea!



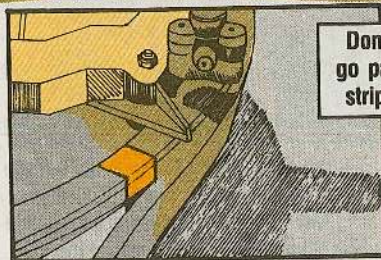
You're headed for one BIG step if your 130G road grader's cab steps are missing or bent out of shape.

The steps get hit by the blade when you operators cut a V-ditch or raise and turn the blade for travel.

You can get your mech to paint a "danger zone" to remind you to spare the steps.

Mechs, here's how you do it:

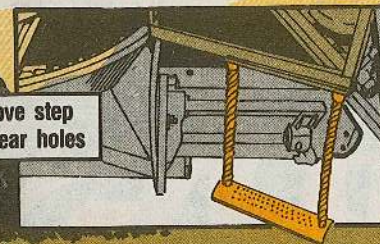
- Raise and rotate the blade so it's set for travel.
- As you turn the blade, get a buddy to tell you when the blade is a few inches from the step.
- Paint a black stripe on the circle reverse and another on the circle's frame, just above and back about 8 inches. Be sure you can see the stripes from the driver's seat.
- Do the same thing on the other side.



52

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Move step
to rear holes



• You can also move the lower wire rope steps to the rear holes. This will keep the lower step further from the blade.

Now operators, when you turn the blade, keep it close to the ground and raise it only after the step is cleared. No more big steps for short legs.

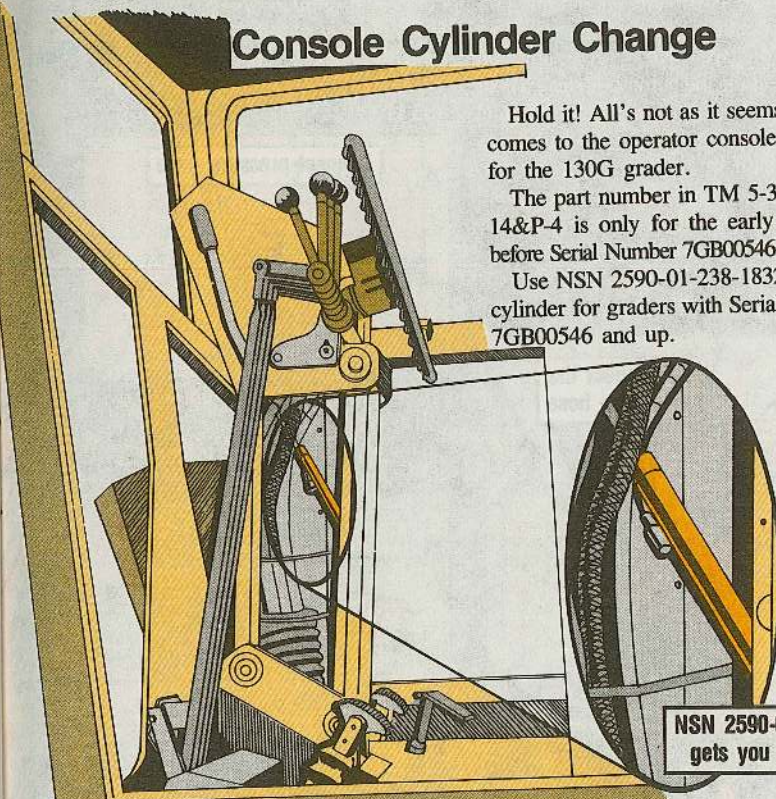
130G Road Grader...

Console Cylinder Change

Hold it! All's not as it seems when it comes to the operator console cylinder for the 130G grader.

The part number in TM 5-3805-261-14&P-4 is only for the early model—before Serial Number 7GB00546—graders.

Use NSN 2590-01-238-1832 to get a cylinder for graders with Serial Number 7GB00546 and up.



NSN 2590-01-238-1832
gets you a cylinder

PUMP PRESSURE CAN BE DEADLY

Mechanics, you may get someone killed if you fail to inspect the Eagle 75-TPH Jaw Crusher's hydraulic hand pump during scheduled service.

If the bypass valve is set wrong and pressure inside the pump cylinder exceeds 3,000 PSI—the cylinder could explode!

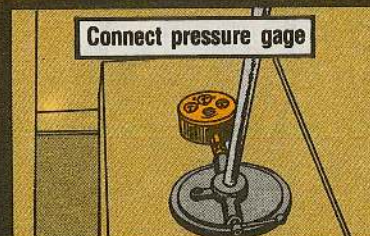
Test the pump after every 250 hours of operation, or at the quarterly service, whichever comes first. Set the overload bypass valve so the discharge pressure is between 1,950 and 2,000 PSI.

Here's how to test the pump:

- Disconnect the discharge hose.

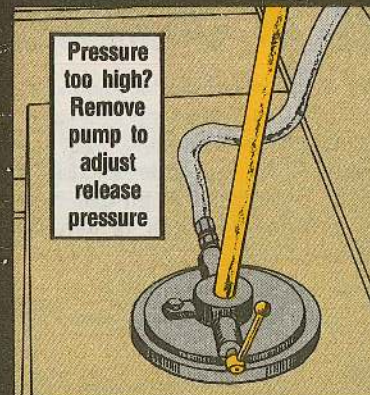


- Connect a pressure gage to the pump discharge port. Use the 0-6,000 PSI gage, NSN 4940-01-086-8756, that's in the Hydraulic System Test and Repair Unit (HSTRU) at DS. Or use the STE-ICE 10,000 PSI transducer, NSN 6685-01-193-1733.



- Work the hand pump until the overload bypass valve opens.

If the bypass valve opens between 1,950 and 2,000 PSI, the adjustment is OK.



- If it hasn't opened by the time you get 2,000 PSI, STOP! Open the control valve to release the pressure.

- Remove the pump assembly and locate the pressure relief valve on the underside of the pump.

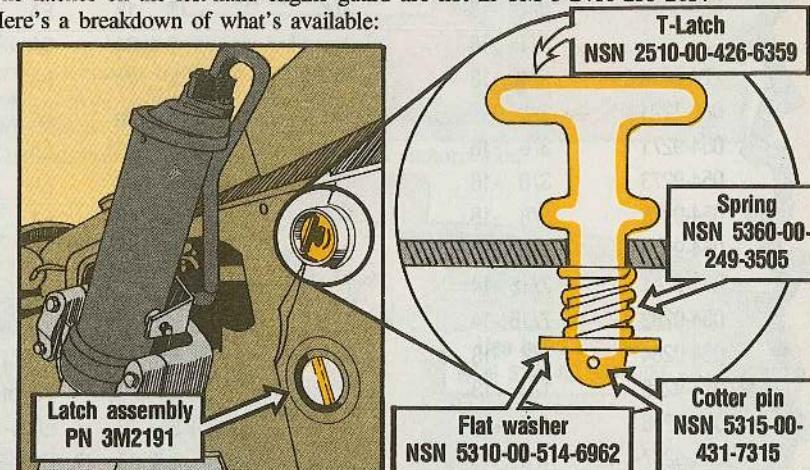
- To decrease pressure, turn the set screw (allen head) counterclockwise. Turn the screw clockwise to increase pressure.

- Replace the pump assembly.
- Check the discharge pressure again. If necessary, re-adjust the setscrew until the bypass valve opens between 1,950 and 2,000 PSI.

D7F Tractors...

Door Latch Details

The latches on the left-hand engine guard are not in TM 5-2410-233-20P. Here's a breakdown of what's available:



Order latch assembly on a DD Form 1348-6 using FSCM 11083 from S9C.

Setscrew Set's Screws

The setscrew set, NSN 5305-00-275-4073, is no longer available and there's no replacement. So here's the info on the set's screws.

Four of the 25 setscrews that came in the kit are not available.

The two setscrews shown with an asterisk are not on the AMDF. Order on DD Form 1348-6 and write in the "REMARKS" block of the form that they are not on the AMDF.

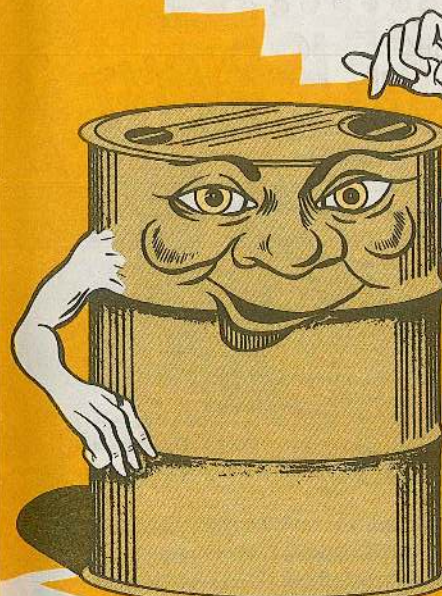
HERE'S A LIST OF AVAILABLE SCREWS:

NSN 5305-00-	SIZE/THREAD	LENGTH (inches)	UNIT PRICE	UI
054-9257	1/4 -20	3/8	\$.04	EA
054-9258	1/4 -20	1/2	\$.08	EA
054-9260	1/4 -20	3/4	\$.03	EA
054-9261	1/4 -20	1	\$.04	EA
054-9263	1/4 -20	1 1/2	\$.10	EA
054-9264	5/16 -18	1/2	\$ 3.85	HD
054-9265	5/16 -18	3/4	\$.18	EA
054-9266	5/16 -18	1	\$.04	EA
724-5838	5/16 -18	1 1/2	\$.23	EA
089-1294	3/8 -16	1/2	\$.05	EA
054-9271	3/8 -16	5/8	\$.46	EA
054-9273	3/8 -16	1	\$.03	EA
054-9275	3/8 -16	1 1/2	\$.10	EA
054-9276	3/8 -16	2	\$.24	EA
054-9281	7/16 -14	1	\$ 4.80	HD
054-9282 *	7/16 -14	1	\$20.16	PG of 50
054-9284 *	1/2 -13	3/4	\$ 4.88	PG of 50
054-9285	1/2 -13	1	\$16.32	PG of 50
054-9286	1/2 -13	1 1/4	\$.22	EA
054-9287	1/2 -13	1 1/2	\$ 8.88	PG of 50
054-9289	1/2 -13	2	\$.02	EA

SEP 87

55-Gal Drums...

Replace the Bungs



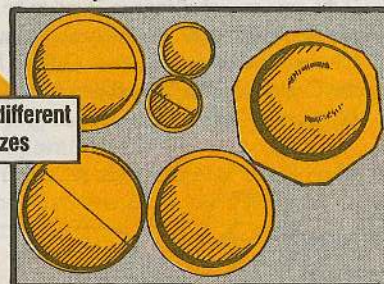
USE A BUNG WRENCH
TO REMOVE MY BUNGS.
YOU'LL BE GLAD YOU DID!

After you've poured, pumped or siphoned what you need from a 55-gal drum, put the bungs back in the holes.

If you don't, dirt and water contaminate whatever's in the drum. Also, moving the drum is a messy and wasteful job.

To replace lost bungs, order the 2-in size with NSN 8110-00-132-9640. There are four types, but all fit. Order 3/4-in vent bungs with NSN 8110-00-132-9639. There are two types.

Bungs come in different
types and sizes



Removing bungs with an ordinary wrench is a knuckle-buster. So always use a bung wrench, NSN 5120-00-507-4886. It will handle all six types of plugs.

Use Appendix A of CTA 50-970 as you authorization.



Use bung wrench,
NSN 5120-00-507-4886

Award\$ for Finding Wrong Price\$



AND, NOW
BACK TO BOB
AND THE 'PRICE
IS RIGHT'
SHELL GAME!

UNDER THIS SHELL
WE FIND... THE
WRONG PRICE!
YOU WIN!

You can earn cash or a certificate or a military decoration when you challenge an item that looks overpriced on the AMDF.

If the item you challenge is found to be overpriced, you save the Army big bucks. And, the Army may reward you for helping save money.

It's easy to challenge a price. Call the Management Information Research Assistance Center (MIRAC) hotline at the Catalog Data Activity.

CALL:

AUTOVON 977-7431
COMM (717) 770-7431

OR WRITE TO:

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

Be sure to give the NSN for the item and why you think it is overpriced. Include your name, address and telephone number. They'll take it from there.

Packaging Made Simple

Everything you ever wanted to know about packaging is in a new book called "Packaging—The Basics."

This little jewel is a must for every supply room.

It lists packaging documents and gives a short explanation of what's in them.

There's a list of packing tools and equipment with instructions on how to order them.

Best of all, the chapter on packaging material covers packaging from head to toe.

To get a copy, write to:

U.S. Army Materiel Command
Packaging, Storage and
Containerization Center
ATTN: SDSTO-TP-P
Tobyhanna, PA 18466-5097

Or call:

AUTOVON 795-7685
COMM (717) 894-7685

SF-46 Replaced

Dear Editor,

Recently OF 346, US Government Motor Vehicle Operator's Identification Card, replaced SF-46.

The front and back of the OF 346 are printed separately. This makes it hard to identify the qualifying record on the back because there is no block to identify the operator.

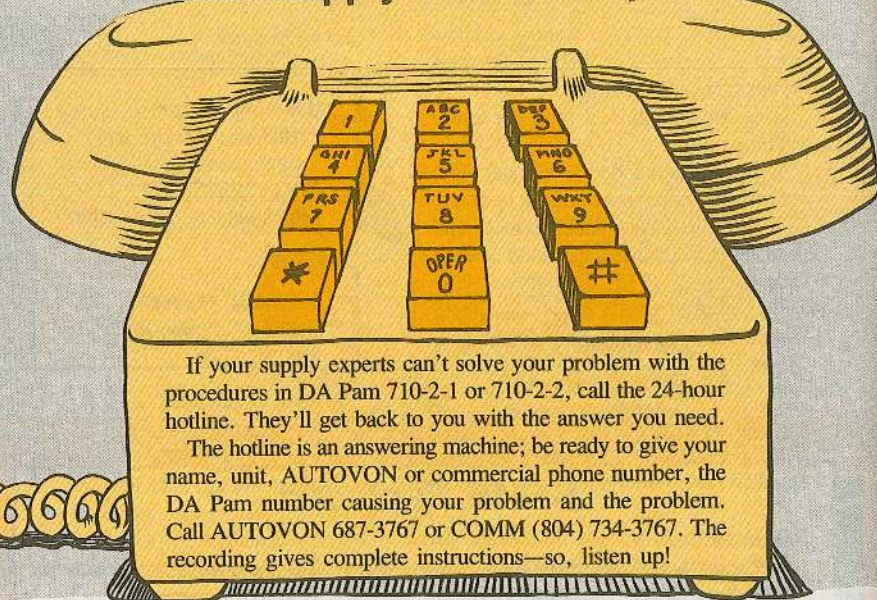
To identify the operator, I enter the USA card number in the right hand side of the Restrictions block on the back part like so:

Card No. USA-82-87		Restrictions USA-82-87	
U.S. Government Motor Vehicle Operator's Identification Card		U.S. Government Motor Vehicle Operator's Identification Card	
Name of Operator (after Transferral)	Sex	Signature of Operator (after Transferral)	Signature of Issuing Official
Date of Birth	Social Security No.	Name and Location of Issuing Unit	Type Vehicle (after Transferral)
Height	Weight	How Color Eye Color	Category
Date Issued	Date Expires	Signature and Title of Issuing Official	Other Records Agency
The holder of this card is qualified to operate U.S. Government vehicles and/or Government operated subject to the restrictions set forth on the other half of this card. Card must be carried at all times when operating Government vehicles.		NSN 7540-00-854-3993	

SSG David J. Paul
Ft Eustis, VA

(Editor's note: Looks like you've got the right number.)

Unit Supply Hotline Help



Corrosion...

Share Your Ideas

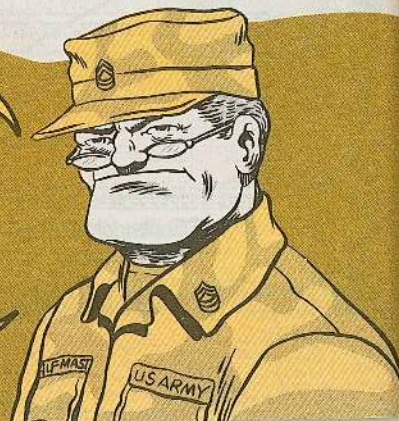
The Army's Center of Excellence for Corrosion Prevention and Control (CPC) wants to hear from you.

They want your help to get the upper hand on corrosion to keep your equipment combat ready by sharing your ideas, suggestions and problems. The CPC office wants to know how you think corrosion and rust get started and how you stop it on your own equipment.

SEND IN YOUR IDEAS AND SUGGESTIONS TO:

The Center for Corrosion
Prevention and Control
Materials Technology Laboratory
ATTN: SLCMT-MCZ
Watertown, MA 02172-0001

OR CALL AUTOVON 955-
5214/5215, COMM (617)
923-5214/5215



NTC's Lessons Learned

Surviving at the Army's National Training Center (NTC) takes a dose of common sense and equipment that's combat ready.

If you're headed for the NTC, TRADOC's Combined Arms Training Activity's (CATA) Center for Army Lessons Learned (CALL) and AMC's Materiel Readiness Support Activity (MRSA) have info that can help you prepare to battle NTC's Opposing Force.

MRSA's NTC Lessons Learned newsletter lists equipment maintenance problems and solutions that other soldiers have learned from NTC. Get on the mailing list by writing or calling...

Commander
USAMC Materiel Readiness Support Activity
ATTN: AMXMD-ED
Lexington, KY 40511-5101
AUTOVON 745-4177/3170
COMM (606) 293-4177/3170

CALL has newsletters, videos and special reports telling which procedures work best for fire support, intelligence, air defense and leadership for troops at NTC.

Combined Arms Training Activity
ATTN: ATZL-TAL-N
Ft Leavenworth, KS 66027-7000
AUTOVON 552-2255/3035
COMM (913) 684-2255/3035

NSN for DH-132 Kit

Use NSN 8415-01-207-1197 to order a DH-132 helmet attachment kit. The stock number on Page 5-8 of TM 10-8400-201-23 is wrong.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1987—748-003/60010

Distribution: To be distributed in accordance with DA Form 12-5-R, for TB-43-series.

Ideas for BATTLEKING?

If you have ideas or suggestions about improving artillery maintenance, training, materiel, design or doctrine, BATTLEKING wants to hear from you.

BATTLEKING evaluates artillery suggestions and shares them with Redlegs around the world. Contact:

President
US Army Field Artillery Board
ATTN: BATTLEKING
Ft Sill, OK 73503-6100
AUTOVON 639-3717/4075
COMM (405) 3717/4075

Bag Cleaning Correction

The calcium hypochlorite and water mix given on Page 57 of PS 414 is wrong. That's MUCH TOO MUCH hypochlorite! The right mix is one level messkit spoonful for 20 gallons of water. That's one spoonful in a lyster bag that's almost two-thirds full.

M939 Wiper Arm Nut NSN

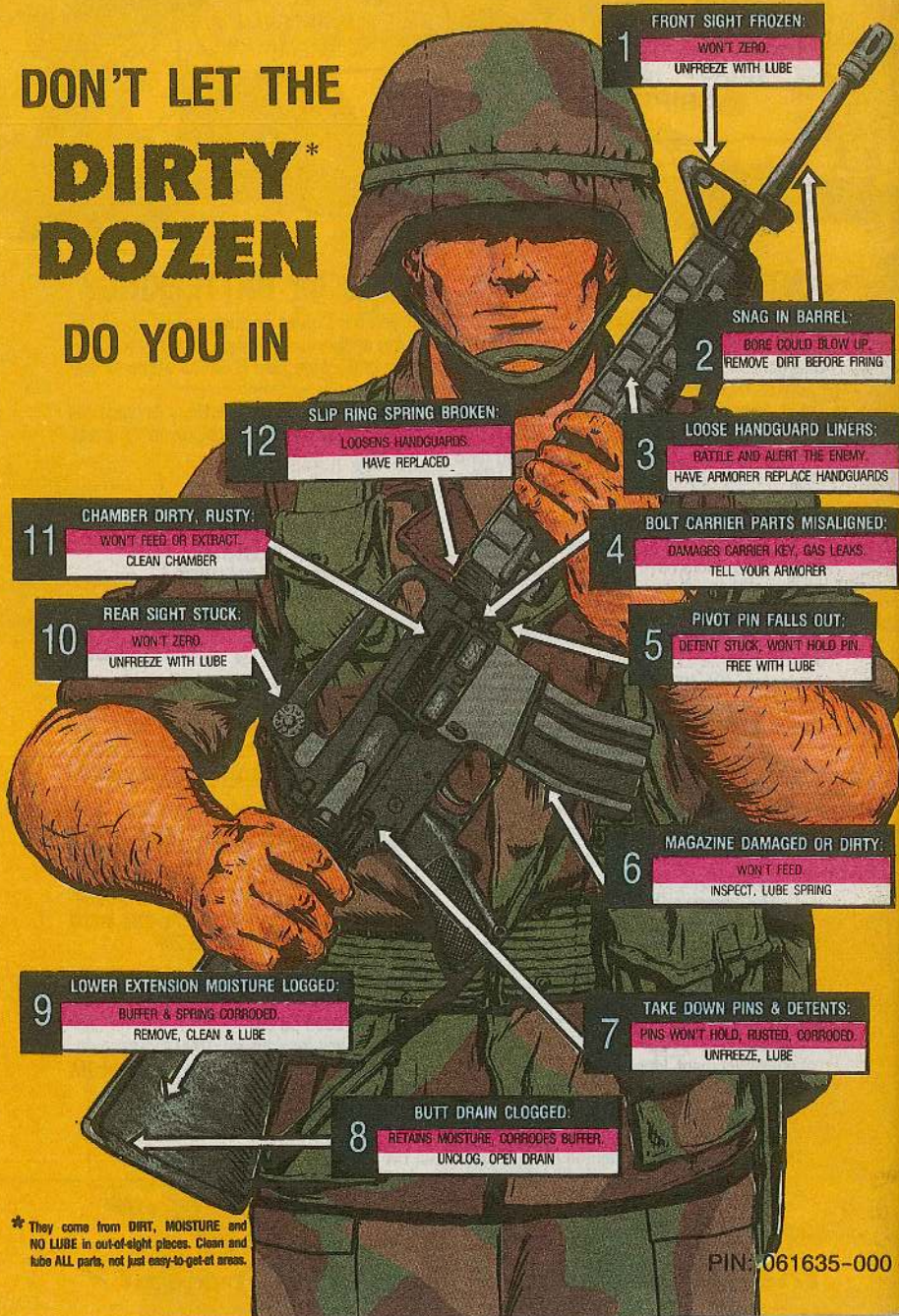
If you need the nut that holds the windshield wiper arm on, order it with NSN 5310-01-204-2002. The nut will be added to Fig 288 in the next update to TM 9-2320-272-20P.

Screw NSN for MT-1029

Use NSN 5305-00-984-4988 to get a ground-in strap screw for your MT-1029 radio mount. The NSN and Part Number on Page 73 of TM 11-5820-401-20P are wrong.

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

DON'T LET THE **DIRTY*** DOZEN DO YOU IN



1 FRONT SIGHT FROZEN:

WON'T ZERO.

UNFREEZE WITH LUBE

2 SNAG IN BARREL:

BORE COULD BLOW UP.

REMOVE DIRT BEFORE FIRING

12 SLIP RING SPRING BROKEN:

LOOSENS HANDGUARDS.

HAVE REPLACED.

3 LOOSE HANDGUARD LINERS:

RATTLE AND ALERT THE ENEMY.

HAVE ARMORER REPLACE HANDGUARDS

11 CHAMBER DIRTY, RUSTY:

WON'T FEED OR EXTRACT.

CLEAN CHAMBER

4 BOLT CARRIER PARTS MISALIGNED:

DAMAGES CARRIER KEY, GAS LEAKS.

TELL YOUR ARMORER

10 REAR SIGHT STUCK:

WON'T ZERO.

UNFREEZE WITH LUBE

5 PIVOT PIN FALLS OUT:

DETENT STUCK, WON'T HOLD PIN.

FREE WITH LUBE

6 MAGAZINE DAMAGED OR DIRTY:

WON'T FEED.

INSPECT, LUBE SPRING

9 LOWER EXTENSION MOISTURE LOGGED:

BUFFER & SPRING CORRODED.

REMOVE, CLEAN & LUBE

7 TAKE DOWN PINS & DETENTS:

PINS WON'T HOLD, RUSTED, CORRODED.

UNFREEZE, LUBE

8 BUTT DRAIN CLOGGED:

RETAINS MOISTURE, CORRODES BUFFER.

UNCLOG, OPEN DRAIN

* They come from DIRT, MOISTURE and NO LUBE in out-of-sight places. Clean and lube ALL parts, not just easy-to-get-at areas.

PIN: 061635-000