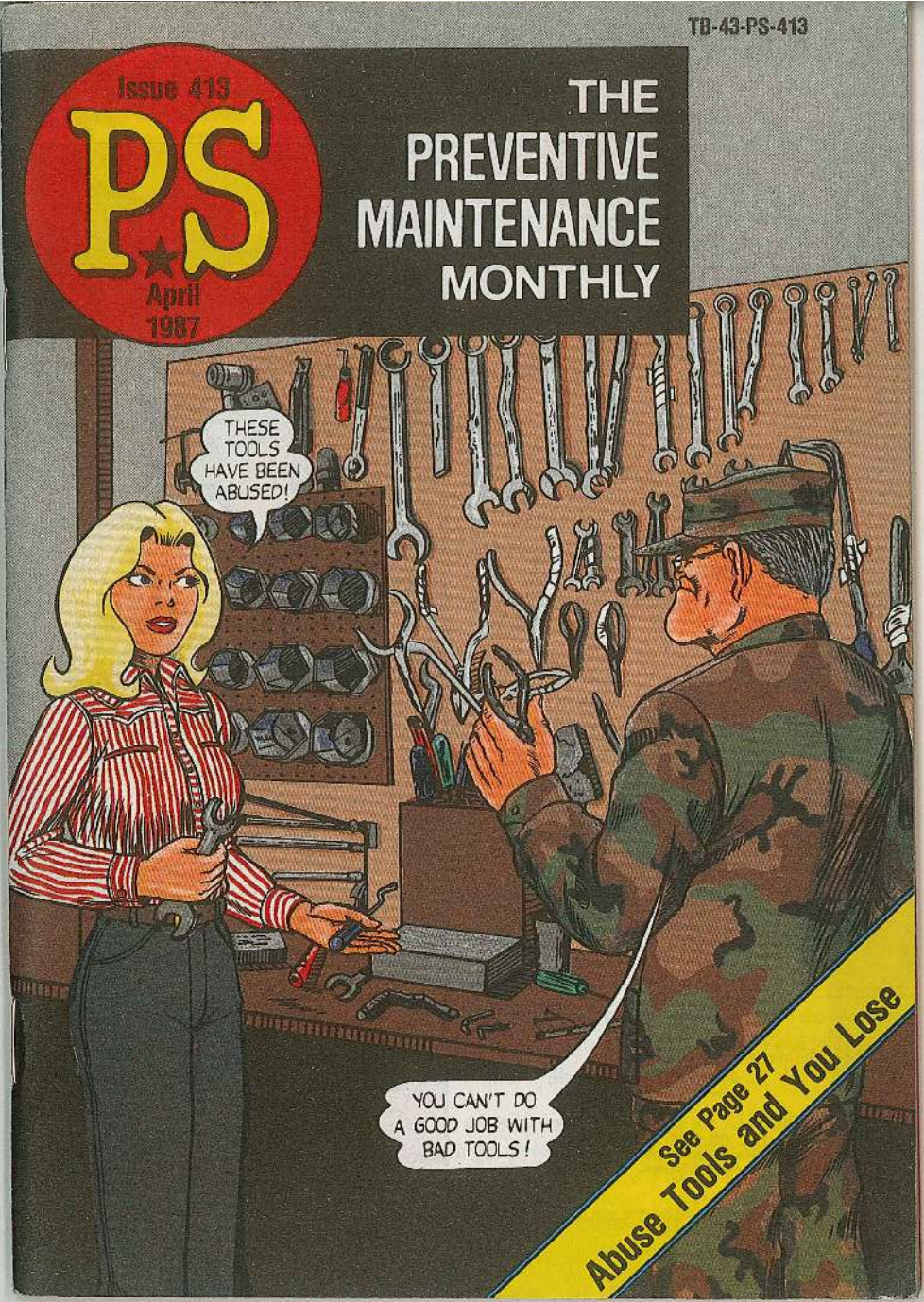


Issue 413

PS★
April
1987**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

THESE
TOOLS
HAVE BEEN
ABUSED!

YOU CAN'T DO
A GOOD JOB WITH
BAD TOOLS!

See Page 27
Abuse Tools and You Lose

TB 43-PS-413, 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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FIREPOWER			
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You are invited and encouraged to send PS your ideas for improving maintenance procedures, your questions on maintenance and supply problems, and your questions or comments on material published in PS. Just write to:

MSG Half-Mast
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By Order of the Secretary of the Army:

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Chief of Staff

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The Adjutant General

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A cartoon illustration of a man in a red military uniform with a 'FIRST RATE' patch being pinned by a woman. A stack of military orders is visible behind them. The man is looking up at the woman with a slight smile. The woman is looking down at the patch. The stack of orders includes: US ARMY FM 10-69, FM 20-22, FM 21-17, FM 21-18, FM 21-19, FM 21-20, FM 21-21, FM 21-22, FM 21-23, FM 21-24, FM 21-25, FM 21-26, FM 21-27, FM 21-28, FM 21-29, FM 21-30, FM 21-31, FM 21-32, FM 21-33, FM 21-34, FM 21-35, FM 21-36, FM 21-37, FM 21-38, FM 21-39, FM 21-40, FM 21-41, FM 21-42, FM 21-43, FM 21-44, FM 21-45, FM 21-46, FM 21-47, FM 21-48, FM 21-49, FM 21-50, FM 21-51, FM 21-52, FM 21-53, FM 21-54, FM 21-55, FM 21-56, FM 21-57, FM 21-58, FM 21-59, FM 21-60, FM 21-61, FM 21-62, FM 21-63, FM 21-64, FM 21-65, FM 21-66, FM 21-67, FM 21-68, FM 21-69, FM 21-70, FM 21-71, FM 21-72, FM 21-73, FM 21-74, FM 21-75, FM 21-76, FM 21-77, FM 21-78, FM 21-79, FM 21-80, FM 21-81, FM 21-82, FM 21-83, FM 21-84, FM 21-85, FM 21-86, FM 21-87, FM 21-88, FM 21-89, FM 21-90, FM 21-91, FM 21-92, FM 21-93, FM 21-94, FM 21-95, FM 21-96, FM 21-97, FM 21-98, FM 21-99, FM 21-100. The stack of orders is labeled with 'US ARMY' and 'FM' followed by a number. The man's uniform is red with a 'FIRST RATE' patch on the chest. The woman is wearing a red sweater and dark pants. The background is a simple, textured grey.

The first step in your unit's vehicle driving and equipment operator program is getting an up-to-date library—and when you get the pubs, use them!

AR 55-29	Military Convoy Operations in CONUS
AR 58-1	Management, Acquisition and Use of Administrative Use Motor Vehicles
AR 190-5	Motor Vehicle Traffic Supervision
AR 385-10	Army Safety Program
AR 385-40	Accident Reporting and Records
AR 385-55	Prevention of Motor Vehicle Accidents
AR 600-55	Motor Vehicle Driver and Equipment Operator—Selection, Training, Testing and Licensing
AR 672-74	Army Accident Prevention Awards
AR 735-11	Accounting for Lost, Damaged and Destroyed Property
DA Pam 738-750	The Army Maintenance Management System (TAMMS)
FM 10-69	Petroleum Supply Point Equipment and Operations
FM 20-22	Vehicle Recovery Operations
FM 21-17	Driver Selection, Training and Supervision, Tracked Combat Vehicles
FM 21-60	Visual Signals (for Tracked Vehicles)
FM 55-30	Army Motor Transport Units and Operations
FM 55-312	Military Convoy Operations in the Continental United States
TB 9-2320-218-10-1	Safe Operation of Truck, Utility, ¼-Ton, 4×4, M151 Series
TB 600-1	Procedures for Selection, Training, Testing and Qualifying Operators of Equipment/Systems, Excluding Selected Watercraft and Aircraft, Managed/Supported by US Army Troop Support and Aviation Materiel Readiness Command
TB 600-2	Procedures for Selection, Training, Testing, Qualifying and Licensing Operators of Construction Equipment, Materiel Handling Equipment and Armor-Vehicle-Launched Bridge (AVLB), Managed/Supported by US Army Tank-Automotive Materiel Readiness Command
TM 5-725	Rigging
TM 9-8000	Principles of Automotive Vehicles

Two pubs you especially need for your drivers are FM 21-305, Manual for the Wheeled Vehicle Driver, and FM 21-306, Manual for the Track Combat Vehicle Driver. Both cover maintenance, safety, highway driving, convoys, accident procedures and more.

Get your pubs clerk to order them from the Baltimore Pubs Center via AUTODIN. Use a DA Form 4569. To make sure you get revisions and changes, place a standing order on DA Form 12-11A-R which is found in DA Cir 310-85-4 (Nov 85).

Check with your training officer for other defensive driving materials, especially if you are OCONUS.

Quick-Disconnect Check Vital



LOOKS LIKE YOU LOST ONE OF YOUR FINAL DRIVE QUICK-DISCONNECT RINGS!

THREADS DAMAGED? The threads in the tapped hole must not be cross-threaded or stripped. If they are damaged, replace the ring.

PIN LOOSE? If the pin's loose, replace the ring.

SEE CRACKS? If you find any cracks, replace the ring.

PIVOT BOSSES BENT? If the bosses are bent, replace the ring.



STAKING MARKS IN PLACE?

The marks must be on the brass and deep and wide enough to move brass over the pin.

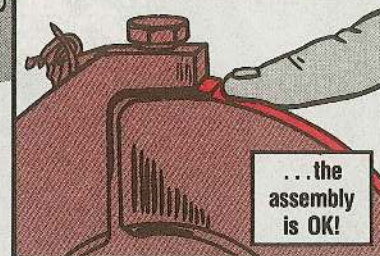
If the stakes are on the pin, restake on the brass in four places.

If the chamfer on the brass is so large that metal won't mushroom over the pin, replace the ring.

GAP .005 INCH OR LESS? With the ring closed and the screw turned finger-tight, the gap of the stop must be .005 inch or less for the ring to be serviceable. Metal-to-metal contact is preferred.

APR 87

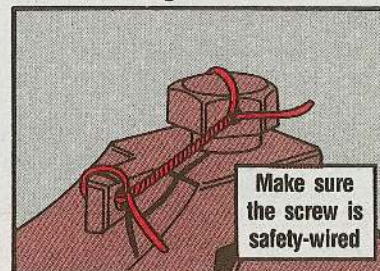
If the gap is .005 inch or less...



SCREW DAMAGED? If there's any damage to the screw, replace it with NSN 5305-01-042-4436.

TIGHTENED UP? To install the screw, lightly tighten with a ratchet, then torque to 10-20 lb-ft.

SAFETY WIRED? Safety-wire the screw to the ring.



For more details on quick-disconnect ring inspection and repair, M60A3 owners can eyeball Page 3-238.1 of C4 to TM 9-2350-253-20-1. The info will be added to other tank TM's when they are updated.

Other pubs having the info are Field Service Bulletin No. 31 (Feb 81) and TB 43-0001-39-5 (Apr 83), Pages 2-5 through 2-13. Contact your local TACOM Logistic Assistance Representative (LAR) for copies.

3

Final drive quick-disconnect rings that don't stay connected leave tank crews stuck in an out-of-control vehicle.

If the rings fail or are installed wrong, mechs, your favorite crews may get the ride of a lifetime—their last.

To keep that from happening, double-check the quick-disconnect rings as soon as possible. All rings, including new ones, must be looked over. If any ring flunks the inspection, replace or repair it. Don't let any tank go into operation until two good rings are in place.

Here's how the inspection must go:

Take the rings off and clean them real good so you can make the inspection. Clean the tapped hole so you can see the threads.

Oil Cooler Cleaning in the Field



Mechs, when you're faced with clogged transmission oil coolers out in the boonies, you've got a ton of work ahead of you.

Here's a way to clean 'em good enough to finish the mission and get you back to the rear or the motor pool without frying a transmission:

Open the right and left hand top grille doors to get to the cooling fans. Open both rear grille doors.

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

...fan will force water against cooling fins...



The fans will propel the water against the cooler fins hard enough to wash away most of the gunk that's causing the overheating.

Pour water in here...



...and clean oil coolers of gunk



When you get the coolers clean enough, close the rear grille doors and top deck grille doors.

Ammo Door Danger



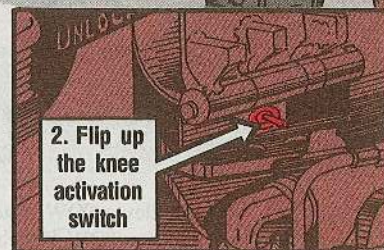
If you don't load and transfer ammo by the book, you can lose fingers!

Reread the procedures in the operator's manual BEFORE you load or transfer rounds.

Eyeball the warnings in TM 9-2350-255-10-2 for the M1 and TM 9-2350-264-10-2 for the M1A1 about loading rounds in the semi-ready compartment and transferring rounds between the semi-ready and ready ammo compartments.

Don't unlock the semi-ready door until you do this:

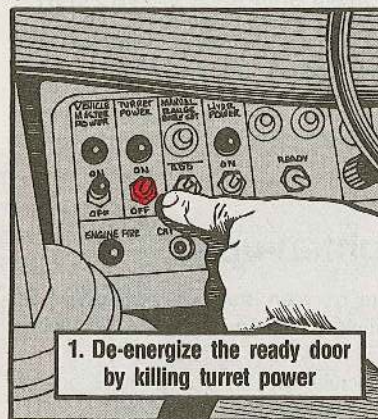
2. Flip up the knee activation switch



3. Remove the release pin from the hydraulic activator shaft



1. De-energize the ready door by killing turret power

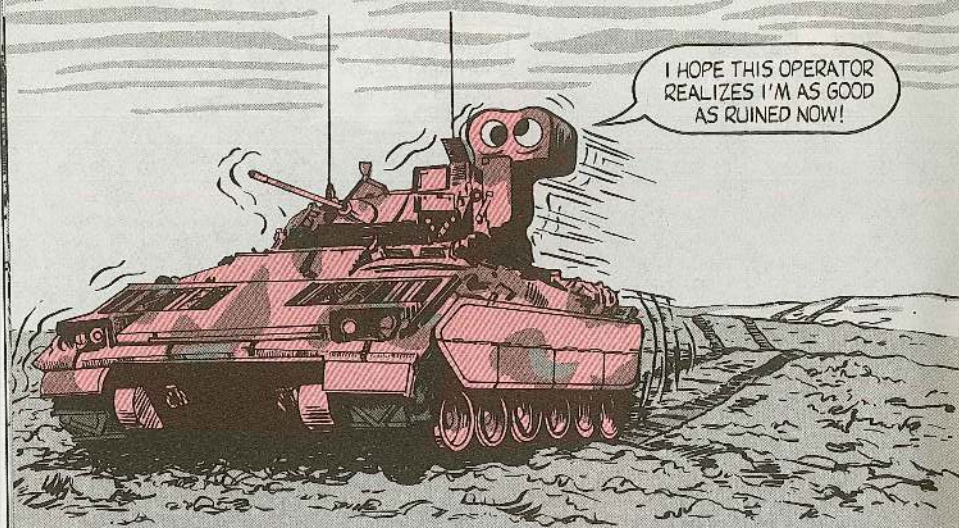


On M1A1's, open valve to relieve hydraulic pressure.

Your local AMCCOM Logistic Assistance Representative (LAR) has distributed warning decals for the M1's ready ammo compartment door. Put the decals on the ready door and read them every time you load or transfer ammo.

No decals? See your LAR.

Don't Go With TOW Up!



Damage to your Bradley's TOW system is as sure as night follows day, crews, if you move out with the TOW launcher erected.

The erection components cannot take the shocks and stress put on them as you move cross-country. In fact, you must be very careful even in the motor pool.

TM 9-2350-252-10-2 says you can go as much as 3 MPH with the launcher erected. Do that only on smooth, level surfaces. Pivot steering is OK with the launcher up, but don't jerk the vehicle around. Go as smoothly as you can.

There's nothing to be gained in operating with the launcher up. What you think you gain in time you'll lose many times over when the launcher won't do its job.

Just remember this: Moving 'round? Launcher down!

Do the Tighten-up

Knock out the loose brow pad problem on your Bradley's commander and gunner sights with a couple drops of sealing, locking and retaining compound, NSN 8030-00-058-5398.

Apply the sealer before you retighten the screws. Then you won't have to worry about vibration loosening the screws during cross-country operation.

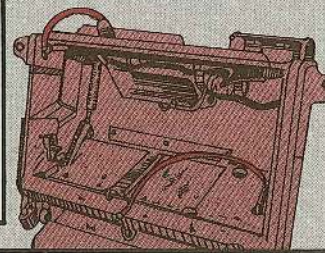
Avoiding the "Doghouse" Blues



There's nothing worse, turret mechs, than making more work for yourself when you're already up to your belt buckle in alligators.

So be real careful you don't mash the 2W16 electrical cable and the two sight shield control cables when you close the Bradley's sight shield assembly before your job is finished.

Tie
cables
up to
protect
them
'til the
job's
done



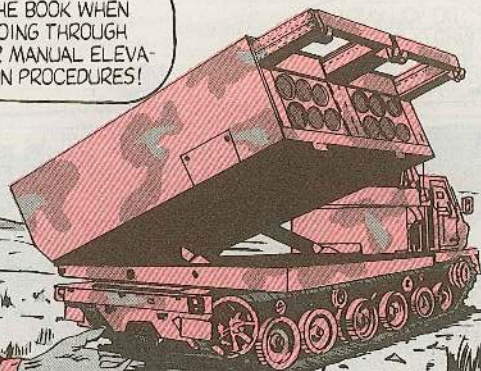
The cables can hang loose in the "doghouse" while it's open, but they tend to get caught when the doors are closed, unless they're secured.

Then you lose the defogger and control of the sight shield doors until you replace the busted cables—more work and wasted money.

Tie the cables up to keep 'em out of harm's way. And you'll stay out of your supervisor's doghouse, too.

Manual Elevation's Tricky

JUST DO IT BY
THE BOOK WHEN
GOING THROUGH
YOUR MANUAL ELEVATION
PROCEDURES!

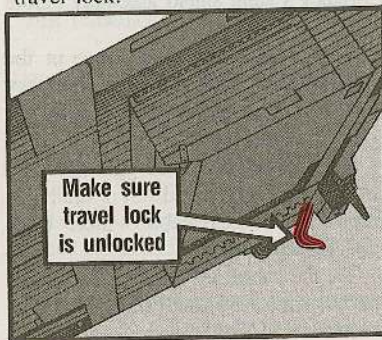


Broken drive mechanism parts come from wrong manual elevation procedures!

It's not hard to do the job right, but it is a little tricky.

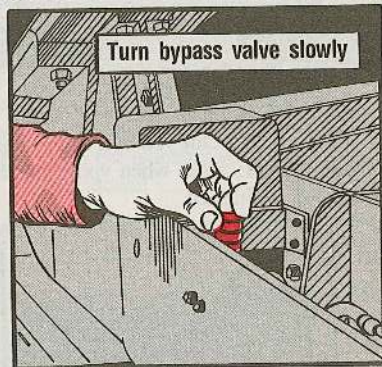
Follow what TM 9-1425-646-10 tells you, paying special attention to these tips:

- Make sure the travel lock is unlocked. If you try to elevate with the travel lock engaged, you'll break drive parts or the travel lock.



Make sure
travel lock
is unlocked

- Make sure you relieve pressure before you start to elevate the LLM. If you get no movement as you begin to turn the socket wrench to the right, turn

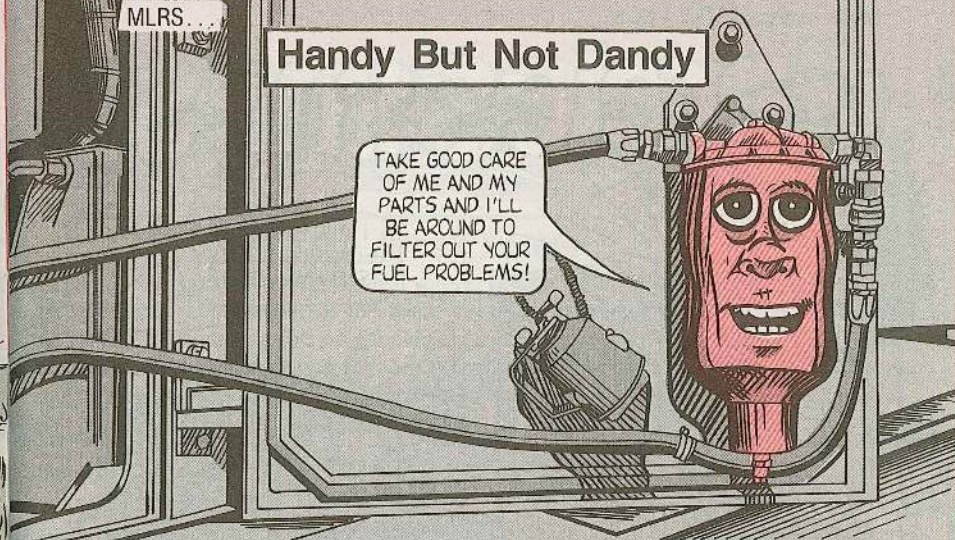


Turn bypass valve slowly

the bypass valve slowly to let any hydraulic pressure off the elevation drive system. When the pressure is released, a brake is engaged that allows the LLM to be raised manually.

Handy But Not Dandy

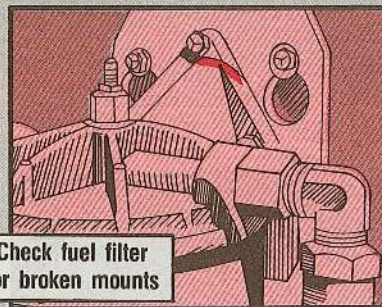
TAKE GOOD CARE
OF ME AND MY
PARTS AND I'LL
BE AROUND TO
FILTER OUT YOUR
FUEL PROBLEMS!



Yep, the fuel filter was put in a convenient location, crewmen, right there on the engine access door.

But that location is leading to trouble.

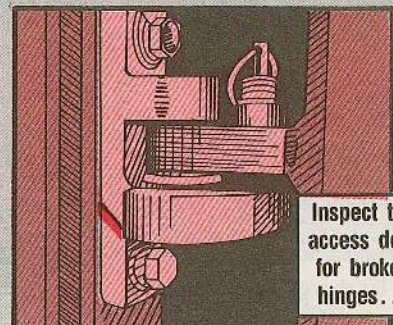
Look at the fuel filter head that mounts to the door. Is it cracked at the top screw? Cracking's caused mostly by vibration.



Check fuel filter
for broken mounts

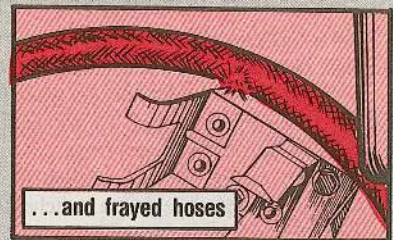
You prevent some of the damage by keeping the screws tight. And don't slam the door or push on the filter.

Check the door hinges for cracks. The filter and hoses put a lot of strain on the hinges. Some hinges are cracking. Hinge cracked? Tell your mech.



Inspect the
access door
for broken
hinges...

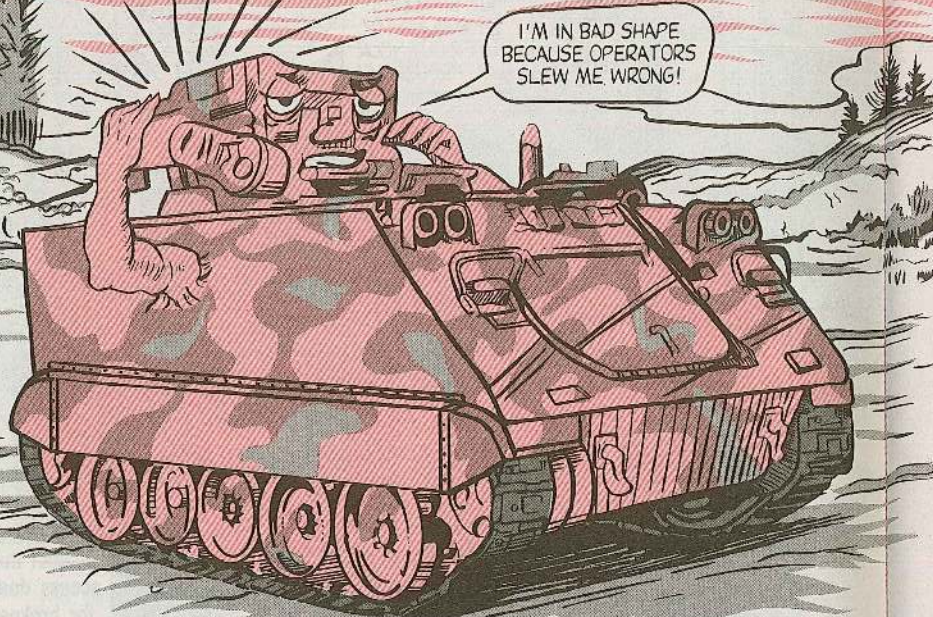
Eyeball the fuel line that runs along the bottom half of the access door. Is it



...and frayed hoses

frayed or showing wear spots? Could be it's rubbing on the oil can bracket. If damage shows, tell your mech.

Carelessness



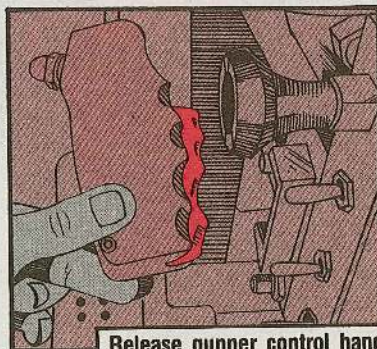
Your M901 is a mighty machine that can take a lot of punishment. But just a moment of carelessness can put it down. Heed these pointers to keep your M901 shooting and on track.

Slewing Problems

M901 azimuth drives are being torn up because operators are slewing recklessly.

Easy does it is the way to go when you're traversing the turret. To stop the turret, gradually center your gunner control handles to the vertical position to slow it down. Then release the switches to completely stop the turret.

If you suddenly let go of the gunner control handles, the turret jerks to a halt, tearing up the azimuth drive.



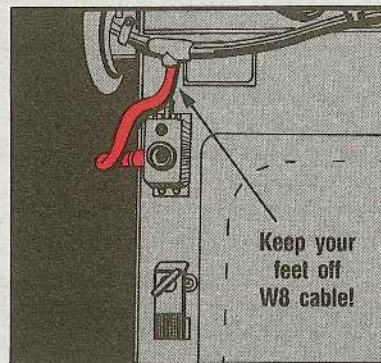
Release gunner control handles and slew switches carefully

Cripples

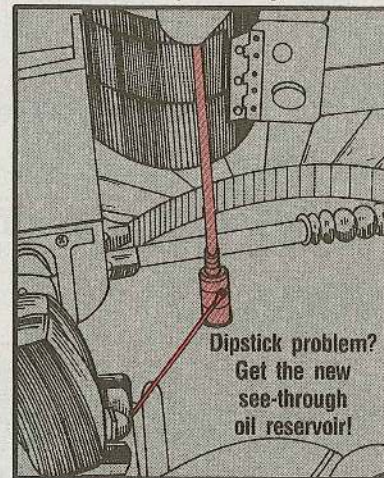
Weak Points

Watch for the W8 cable when you're climbing in and out of the hatch or driver's compartment, or removing or replacing the engine access panel. You

If the chain of the hydraulic fluid dipstick is constantly breaking, solve the



can catch your feet on the W8 and break it off at the connector. No W8 means the smoke grenade launcher and the arming and firing unit are knocked out.



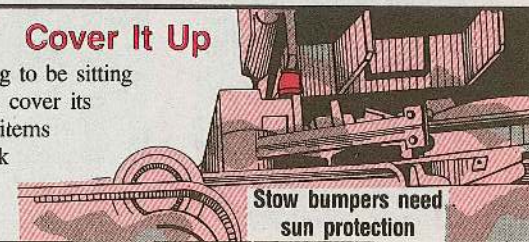
problem with the new see-through oil reservoir, NSN 2590-01-172-7907.

No Hosing Allowed

Stay out of the turret with water hoses when you clean your M901. Water sprayed in the turret can short out the gunner's control panel and other electrical equipment. Clean with water and a sponge. Info's on Page 3-39 of TM 9-2350-259-10.

Cover It Up

When your M901's going to be sitting for a long time in the sun, cover its top with a tarp. Rubber items like the stow bumpers crack and rot from heat and humidity.



Stow bumpers need sun protection

Protecting You and Your Vulcan

BLOWN RECEIVER TRANSMITTERS ... SHORTED OUT POWER SUPPLIES ... DENTED ANTENNA DISHES ... AND INJURED SOLDIERS. JUST BECAUSE OPERATORS FORGOT! HEED THESE RULES LIKE THEY WERE WRITTEN IN STONE.

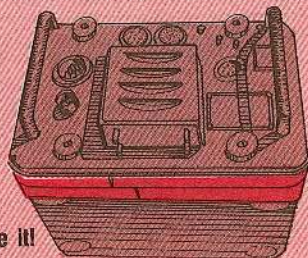
REMEMBER — YOU CAN'T RADIATE THIS CLOSE TO THE BUILDING!



✖ Never radiate your Vulcan whenever large metal objects—like trucks and tanks—are near. Radar pulses bounce off the equipment and blow diodes in the radar receiver-transmitter. Before you radiate, make sure you're at least 250 meters—3 football field lengths—from the nearest large metal object.

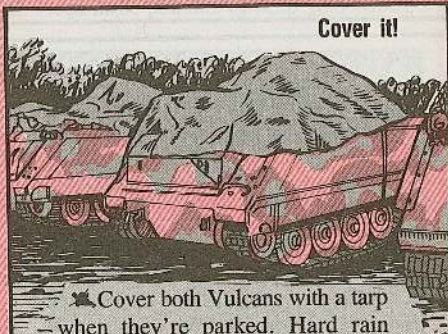
✖ Keep high pressure water out of the self-propelled Vulcan's turret and away from the towed Vulcan's electrical components. High pressure water easily gets into boxes that hold things like the radar power supply, causing big-time electrical damage. Clean with rags, brushes, water, and detergent—but be careful to keep water away from electrical components. Dry up standing water to stop corrosion.

✖ Give components like the radar receiver and radar power supply extra water protection by running green tape along the seams where their covers and cases meet. NSN 8315-00-253-6293 gets the tape.



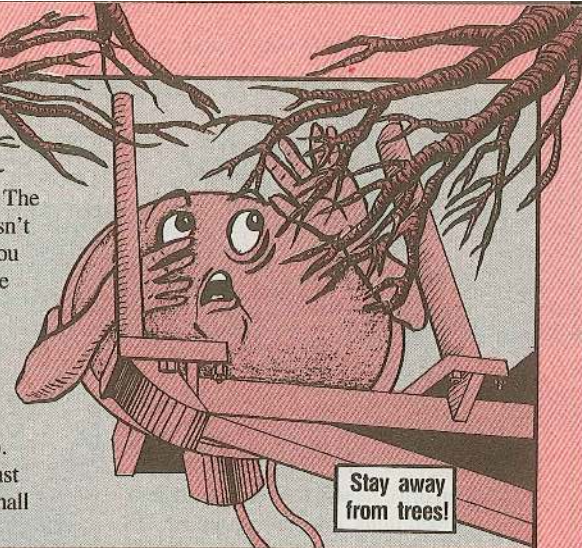
Tape it!

Cover it!



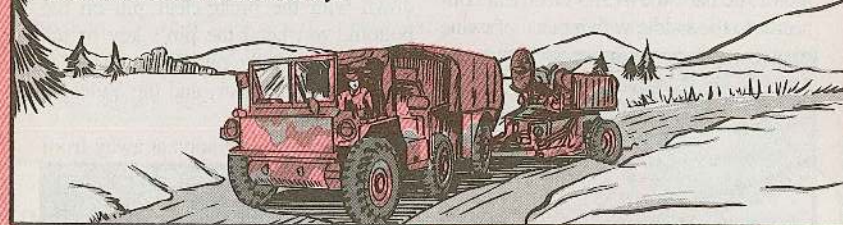
✖ Cover both Vulcans with a tarp when they're parked. Hard rain damages electrical components, too. The tarp's part of your BII.

✖ Stay away from trees. The Vulcan's antenna dish doesn't mix with low branches—you can knock out radar with one good swipe. Steer in the clear as much as possible. Make sure the dish's brush guards are in place on the self-propelled Vulcan before you leave the motor pool, too. The guards do protect against weak stuff like bushes and small limbs.

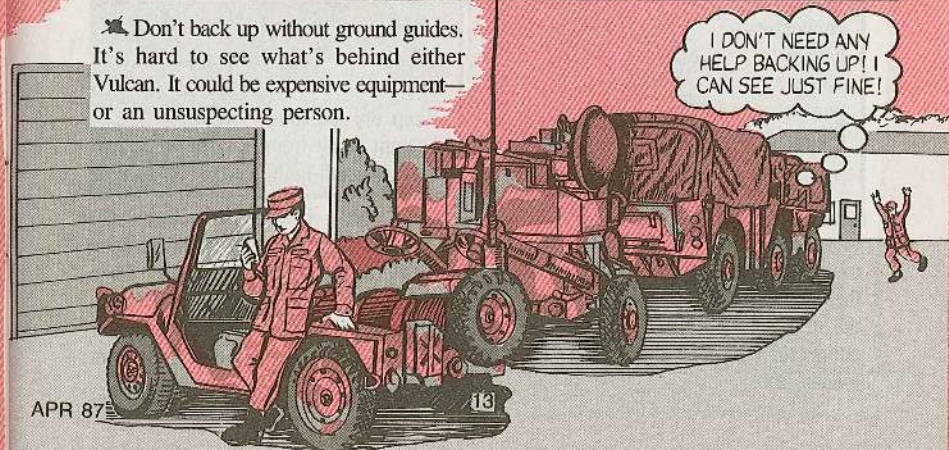


Stay away from trees!

✖ With a towed Vulcan in ice and snow, slow is the only way to go. At higher speeds, the Vulcan jackknifes on ice or downhill curves—so drive in low gear and use the brakes cautiously.



✖ Don't back up without ground guides. It's hard to see what's behind either Vulcan. It could be expensive equipment—or an unsuspecting person.



I DON'T NEED ANY HELP BACKING UP! I CAN SEE JUST FINE!

Take It Off, Clean It Right

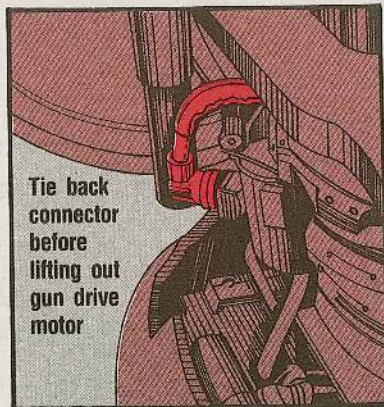
ALL OF US HAVE SENSITIVE SPOTS. BE CAREFUL AROUND MINE!

When you take out the declutching feeder, set it on the ground just like it

Set declutching feeder down just like it sits on Vulcan

Gun drive motors, declutching feeders, and exit units are ending up at DS because mechs aren't aware of Vulcan sensitive spots when they remove components and do general cleaning.

Before you remove the gun drive motor, tie back the W3P3 electrical connector to the saddle with a piece of twine



Tie back connector before lifting out gun drive motor

or rope. If the W3P3 is left loose, it's too easy to set the heavy motor down on the connector, crushing it. If the W3P3's out, the Vulcan's down. Tying back the connector makes it easier to get at the loader, too.

sits on the Vulcan. If you set the feeder down with the brake-clear pin on the bottom, you bend the pin's key or the cotter pin inside the pin. Then the feeder can't brake and clear, and the Vulcan's out of business.

Keep dry cleaning solvent away from



Keep dry cleaning solvent away from exit unit self-lubing bolts

the self-lubing bearings on either side of the exit unit assembly. Dry cleaning solvent dries out the bearings. Then they have to be replaced by DS. Clean around the bearings with soap, water and a brush. Then blow dry to prevent corrosion.

Beat Feet and Moisture!

Hellfire launchers are being put out of business because some soldiers are using them as ladders and leaving them unprotected against moisture.

When you need to check something on top of the Apache, get a ladder. Don't use the launcher rails as steps—it's easy to accidentally step on the de-ice connector cover. You'll bend the cover... which then has to be replaced... and maybe break the electrical connector. A broken connector means no missiles launched.

When you remove the launcher from the Apache, store it inside. If that's not possible, cover it with a tarp. Moisture gets in a launcher that's left outside uncovered. Corrosion follows... and next a trip to the manufacturer for repair.

Patriot Missile...

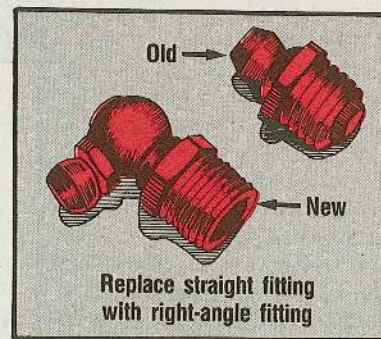
Fitting Fix

Dear Editor,

The two lube fittings on the Patriot antenna mast group are damaged by the cylinder lock struts. Then the fittings have to be replaced.

So we've replaced the straight-up fittings with right-angle fittings, NSN 4730-00-172-0034. They take a beating, but they last.

Leonard Wager
Ft Bliss, TX



Replace straight fitting with right-angle fitting

(Editor's note: That's a fitting solution to the problem.)

Look out for Invisible

Danger

STOP AN ACCIDENTAL G/VLLD FIRING WITH THESE PRECAUTIONS:

- Unless you need to locate a target, leave the G/VLLD power off.
- If you need an azimuth and elevation display, be sure the inhibit plug is in place before you turn on the G/VLLD. The plug shorts out any voltage that could cause an accidental firing. Only take the plug off to fire.



RUN! THE LASER IS ON!

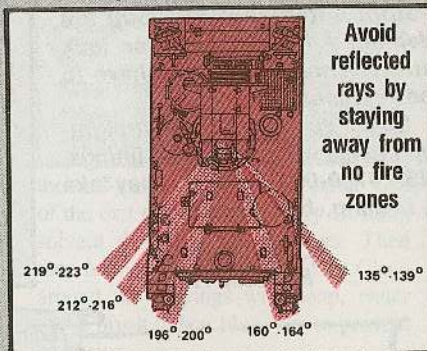
I TOLD THEM TO TAKE PRECAUTIONS WITH MY LASER ... ACCIDENTS CAN HAPPEN!

Your FISTV's Ground/Vehicular Laser Locator Designator (G/VLLD) shoots an invisible ray that can blind anyone in its path. Even a reflected ray can blind!

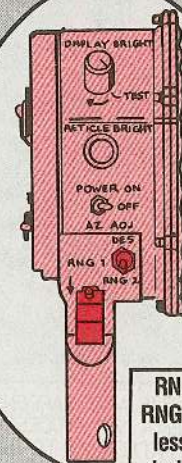
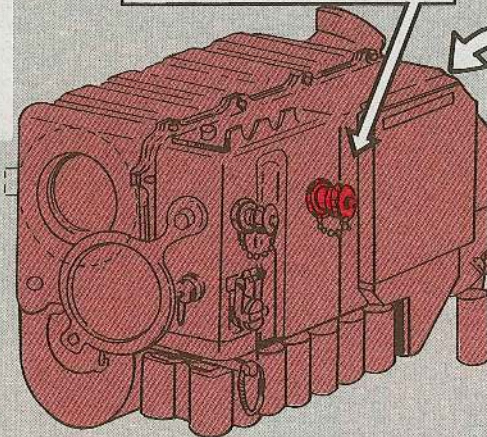
That's why you must operate the G/VLLD only when no one is downrange and only on an approved laser-safe range cleared of anything—like a windshield—that could reflect laser rays.

When others are laser firing, look downrange only through the FISTV eyepiece with the sight select switch set to 13X or NIGHT. Never watch laser firing with binoculars—they make lasers even more dangerous.

Also, strictly follow the no-fire zones listed on Page 2-290 in TM 9-2350-266-10 to avoid laser reflections from your FISTV's antennas.



Keep inhibit plug on all the time the G/VLLD's not being fired



RNG 1 and RNG 2 mean less danger during firing!

• If you are going to fire, place the mode select switch in RNG 1 or RNG 2 when you turn the G/VLLD on. That way the G/VLLD fires only one laser pulse instead of a steady, more risky stream of pulses.

• Don't enter the G/VLLD code into the Targeting Station Control and Display (TSCD) until you're ready to fire. The G/VLLD can't fire without the code.

TACOM and MICOM are working on a fix to stop the G/VLLD from ever accidentally firing. In the meantime, an eye on G/VLLD safety will keep the G/VLLD from putting eyes out.

Ticket for Safe Passage



Your vehicle's Military Load Classification (MLC) number tells you if that bridge up ahead is strong enough to carry your vehicle's weight. If your vehicle's MLC is less than—or equal to—the bridge's rating, it's OK to cross.

MLC's are listed in Appendix C of FM 5-36, Route Reconnaissance and Classification, for tracked and wheeled vehicles, towed vehicles, construction equipment and standard combination vehicles (prime mover and trailer).

If your vehicle or combination is not listed, that appendix tells how to get the info from USA Belvoir Research, Development and Engineering Center. Be sure to give them the data called for in Charts C1 thru C6 for your vehicle.

Appendix C can be confusing, so here's an example of how it works, using an M915 tractor truck pulling an M872A1 34-ton semitrailer.

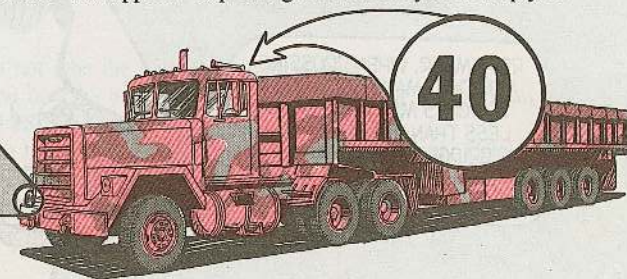
TRACTOR TRUCK ALONE—The basic MLC for the tractor truck is listed in Table C-3, Wheeled Vehicles. For the M915, this is 8. Stencil 8 on the right door of the truck. When you're running bob-tail (less semitrailer), you also put this number on the front changeable sign, but without the C at the top.

Stencil "8"
on the door

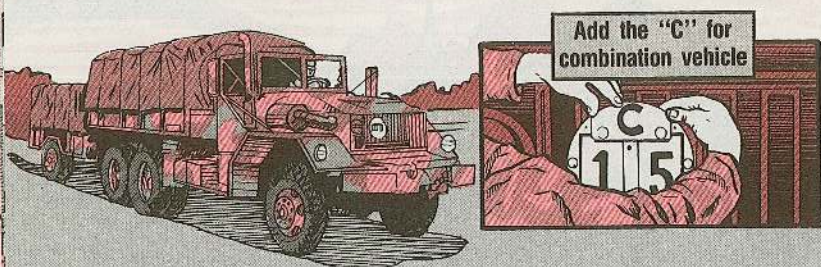


SEMITRAILER ALONE—The MLC for the semitrailer is listed in Table C-4, Towed Vehicles. You'll find the M872A1 has a load class of 40 at full gross (loaded) weight. Stencil 40 on the right front corner.

COMBINATION VEHICLE—Now go to Table C-7, Combination Vehicles, where you find that the M915/M872A1 combination has an MLC of 14 empty and 46 loaded. The number that applies—depending on whether you're empty or



loaded—goes in the changeable sign on the tractor. And, since this is a combination vehicle, the letter C goes above the number.



Displaying the Number

Every self-propelled vehicle over 3 tons must display its MLC on the front. If the vehicle's weight doesn't change—like a tank—paint a 9-in diameter circle of forest green directly on the vehicle. Paint the MLC in 3-in high, lusterless black numbers centered on the circle.

If the load's likely to change—like when you pull a trailer, or you drive a truck that runs empty sometimes and loaded other times—use sign kit, NSN 9905-00-565-6267, so you can change numbers.

The kit's authorized by Appendix A of CTA 50-970. Installation is covered on Pages 43 thru 50 of TB 43-0209.

Get a set of replacement numbers for the sign kit with NSN 9905-00-565-6268.

Every vehicle with an MLC that may change—empty/loaded, or pulling a trailer or not—must have the truck's basic MLC painted on the side.

There's no specific location called for, but the best place on a truck is the upper right area of the right door. That's where it's best protected from wear and scrapes.

Paint a black number, 3 inches high, centered inside a circular black border, ¾ inch wide and 6 inches in diameter, directly on the camouflage paint. Try not to put it on any black area in the camouflage.

REMEMBER, WHEN CROSSING A BRIDGE, MAKE SURE YOUR VEHICLES MLC NUMBER IS LESS THAN- OR EQUAL TO- THE BRIDGE'S RATING. FOLLOW THAT SIMPLE RULE AND YOU'LL STAY HIGH AND DRY!

CUCV's...

Clean Seat Belts Gently

The seat belts in your CUCV are strong enough to hold you in place in a crash... but they won't hold up to strong cleaning compounds!

Never use bleach, ammonia or other strong cleaning compounds or dry cleaning solvent. They weaken the belt material and the stitching. Then the belt breaks or the buckle pulls off the end.

If the belts get dirty, clean them with a sponge and water, and, if needed, a mild detergent in lukewarm water.

Check the seat belts during your "Before PMCS." Report 'em if they are cut or damaged.



To Lube or Not to Lube?



Do you or do you not lube the rear prop shaft U-joint?

As it turns out, you do lube it on some CUCV's. This is a change from the word on Page 11 of PS 405.

CUCV's come with lubed-for-life U-joints. But some replacement U-joints do have grease fittings.

When you're lubing the front prop shaft slip joint and CV joint, eyeball the rear shaft yoke. If the U-joint has a fitting, give it a shot of GAA, too.

No More Mixing CARC TORCOAT

Now there's no need to mix the polyurethane coating used as the CARC topcoat for equipment touch-up. Get it in one easy-to-use can.

The one-part coating has a longer "pot" life, too. Keep the can tightly covered when you're not using it. Any time in the next few days after you open the can, you can remove the skin—the hardened layer on the surface. Then just stir the coating and use it. In a week or two, tho, all the remaining coating will harden.



Get coating with these NSN's:

Color	NSN 8010-01-	Quantity
Black	229-7540	1 quart
	229-7541	1 gallon
	229-7542	5 gallons
	233-1568	55 gallons
Brown 383	229-7543	1 quart
	229-7544	1 gallon
	229-7545	5 gallons
	233-0060	55 gallons
Green 383	229-7546	1 quart
	229-9561	1 gallon
	229-7547	5 gallons
	232-8514	55 gallons
Sand	234-2934	1 quart
	234-2935	1 gallon
	234-2936	5 gallons
	234-2937	55 gallons

Safety and health precautions for CARC are spelled out in TM 43-0139 (Aug 86), Painting Instructions for Field Use.

Body Filler Kit...

Hardener NSN

Dear Half-Mast,

I can't find an NSN for the hardener used with body filler kit, NSN 8010-00-926-2135. I always wind up with filler left over. All I need is hardener.

Can I get just the hardener?

CW3 R. M.

Dear Mr. R. M.,

Yes, order the hardener on a DD Form 1348-6 using NSN 8010-00-477-1687. In the Remarks block, state, "NSN not on AMDF; used with body filler kit, NSN 8010-00-926-2135, managed by GSA."

Half-Mast

Lock 'em up!

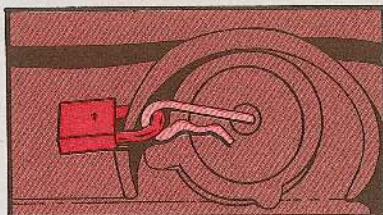
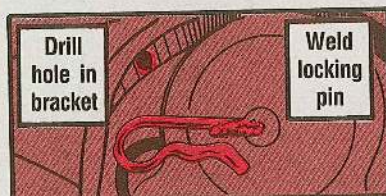
Dear Half-Mast,

Locking fuel tank caps on our M151-series ¼-ton trucks is easy this way:

Remove the fuel cap.

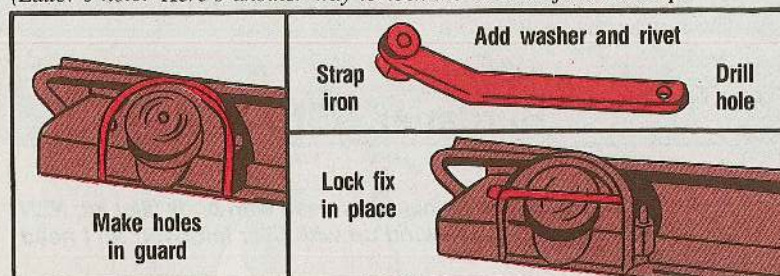
Weld a locking pin, NSN 5315-00-350-4326, to the cap. Make sure you don't weld over and block the vent hole on the cap.

Put the cap back on the fuel tank. Drill a hole in the fuel tank bracket where the locking pin head meets the bracket. Be sure the padlock's shackle can go through the hole.

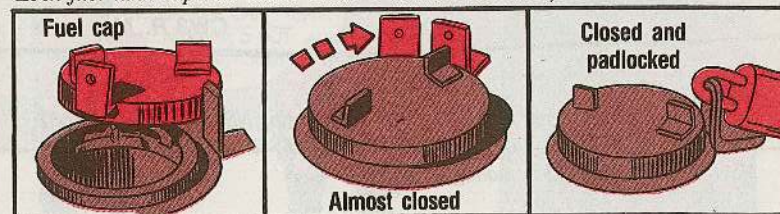


CW3 James Smith
NVARNG

(Editor's note: Here's another way to lock the ¼-ton's fuel tank cap:



Lock fuel tank caps on M809-series 5-tonners like this:)



Hub NSN Update

Use NSN 5340-01-178-7362 to get a hub cap and NSN 5330-01-132-2053 to get a hub cap gasket for your M871 semitrailer. There's no NSN listed for the cap, Item 3 in Figure E11, in TM 9-2330-358-14&P. The gasket's NSN, Item 4, is wrong.

Bolster Trailer Bumper

NSN 5340-00-075-9147 gets a rubber trunnion bumper for your M796 bolster trailer—Item 2 on Page 4-106 of TM 9-2330-287-14&P. This info was left out of the TM's part section.

Trailers/Semitrailers

Light Tester Update

Dear Bonnie,

There's a commercial trailer light tester available that's compact, easy to use and cheaper than the build-it-yourself tester shown on Page 17 of PS 405.

It's available in two models—a battery-powered portable 12-volt model, PN 501, for about \$300, and a 120-volt model, PN 502, for around \$400.

Order the light tester on a DD Form 1348-6 using FSCM 40887. The PN and RIC S9C.

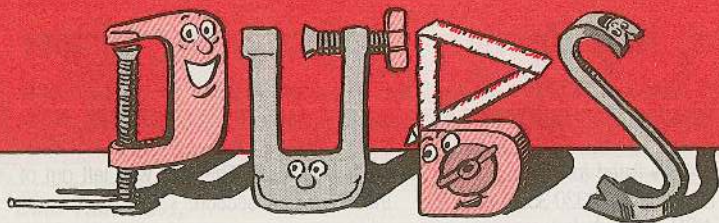
Help me spread the word.



Jon Landis
TACOM, Warren, MI

ANY TIME!





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 9-4935-601-5&P Nov 86 Patriot missile 8447A amplifier/dual amplifier

TM 9-6920-742-14&P-5 Jul 86 RETS target mechanism, training set, target system M64

TM 11-1520-248-23P Jan Electronic equipment configurations for OH-58D helicopter

TM 11-5895-1291-23P Oct 86 CJ-585/G remote control console

TM 11-6625-2942-13 Jan TS-3920 test set

TM 11-7010-216-12 Oct 86 AN/UYQ-30 tactical computer terminal

TB 55-1520-243-20-10 Nov 86 Inspect main rotor blade on AH-1/UH-1/EH-1

TB 43-0002-26 Dec 86 Maintenance expenditure limits for FSC Groups 19, 20 and 23; Classes 1905, 1915, 1925, 1930, 1935, 1940, 1945, 2010, 2350

TB 43-0002-41 Dec 86 Maintenance expenditure limits for FSC Group 37; Classes 3720, 3740, 3750

PAM 750-10 Sep 86 Index of modification work orders

AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

TEC Lessons

030-031-5557-F Maintain and Operate the Hand-Driven Dispensing Pump

480-091-1445-A Clean, Inspect, Repair and Reassemble the Sideshift Cylinder Assembly on the M4K 4000-lb Rough Terrain Forklift Part II

489-091-1010-A Remove/Install Turret Network Box, M1 Abrams Tank

489-091-1046-A Adjust Zero Degree Elevation Switch, M1 Abrams Tank

489-091-1152-A Replace Hydraulic Turret Valve on M1 Tank

491-091-1005-A Adjust Traverse Drive Brake Linkage on M2/M3 Bradleys

491-091-1009-A Adjust TOW Elevation Shift Linkage on M2/M3 Bradleys

491-091-1043-A Adjust M240C Machine Gun Firing Solenoid Mechanism (M2/M3 BFV)

491-091-1081-A Repair Lock Handle Assembly on M242, 25-MM Automatic Gun Assembly

Film, TV Tapes

TVT 20-629 Eye Safety

TVT 20-305 It'll Never Happen to Me (seat belts)

TF(VT) 20-6349 Duds — Beware

TVT 9-39 M88A1 Recovery Vehicle, Powered Equipment, Part I (Spade)

TVT 11-148 AN/TYC-39 Single Processor Start-Up Procedures

TVT 11-150 AN/TYC-39 Systematic Shutdown Procedures for Message Switch

TVT 11-154 AN/TYC-39 Perform Equipment Command Procedure for Message Switch

TVT 11-155 AN/TYC-39 Automatic Message Switch

TVT 11-160 AN/TYC-39 Dual Processor ADP Start-Up — explains start-up of the AN/TYC-39 circuit switch

TVT 11-161 AN/TYC-39 Message Processing Shelter Power Initialization

TVT 11-165 Loopback Commands and Channel Alarms — pertaining to the message switch AN/TYC-39

TVT 20-634 Air Purifying Respirators

TVT 20-628 Sound Advice (hearing conservation)

TVT 20-639 Danger Zone: Your Hands

Maintenance & Safety-of-Use Messages

TACOM SOU-MES-86-93— Advisory, Technical, defective jack cylinders on line construction maintenance trucks (NSN 2320-00-463-4582), AMSTA-MVA 011200Z Dec 86.

TACOM SOU-MES-86-92— Advisory, Operational, M998-series (HMMWV) parking brake hazard, AMSTA-MTA 031230Z Dec 86.

TACOM SOU-MES-86-90— Advisory,

Technical, International Harvester Co. S-series chassis U-bolt hazard, AMSTA-MVA 051830Z Dec 86.

TROSCOM SOU-MES-01-87— Advisory, Operational, carbon monoxide hazard, gasoline engine driven heaters, AMSTR-MES 200900Z Jan 87.

TROSCOM SOU-MES— Maintenance Advisories, generator set inspection update, AMSTR-MES 250900Z Nov 86.

AMC SOU-MES— Advisory, Operational, diesel sets CECOM assemblies hook-up instructions, AMCSFE 301800Z Dec 86.

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

Hand Tools...

Abuse Tools and You Lose

A DAMAGED TOOL MAKES YOUR JOB HARDER — AND CHANCES ARE THE JOB WON'T BE DONE RIGHT. YOU'LL HAVE TO DO IT AGAIN... AND AGAIN... AND AGAIN. TOOLS ARE DAMAGED AND PEOPLE ARE HURT WHEN TOOLS ARE USED ON JOBS THEY WEREN'T MADE FOR...

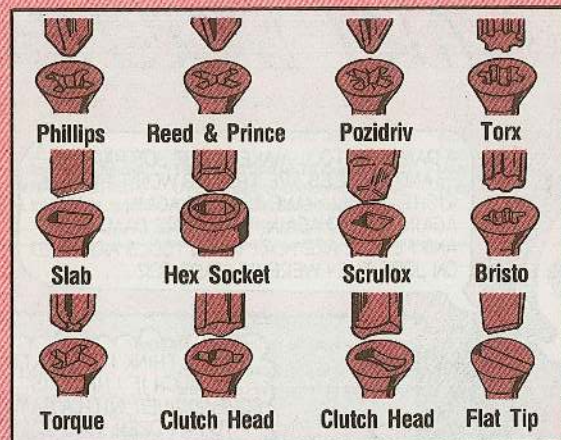
I DON'T THINK IT'LL MATTER MUCH IF I HIT THIS SCREWDRIIVER WITH A HAMMER TO PRY OPEN THIS CRATE!

... SO MAKE YOUR WORK EASIER — AND SAFER. USE THE RIGHT TOOL THE RIGHT WAY!

Black and white photostats of this material are available from PS for reprinting.

SCREWDRIVERS

The first step in choosing a screwdriver is to decide on the right tip. Tips are made to fit certain screws. The wrong tip will damage the head of the screw and won't do the job. Here are the tips and the screws they fit:



SO NOW YOU KNOW WHICH SCREWDRIVER TO USE WITH EACH TYPE SCREW ... BUT DO YOU KNOW THE MOST COMMON ERRORS MADE WITH SCREWDRIVERS?



Other Screwups

- Using screwdrivers as chisels, punches, pry bars and scrapers.
- Using screwdrivers with worn or broken handles.
- Using screwdrivers near a live wire or for electrical testing.
- Driving screws into material without making a pilot hole.
- Starting screws in hard to reach places without a screw holding tool.
- Using pliers on screwdriver handles for more holding power.

HAMMERS

POUND FOR POUND, A HAMMER TAKES MORE OF A BEATING THAN ANY OTHER TOOL! HERE ARE THE MOST COMMON ABUSES:

- Using a hammer for the wrong job.
- Hitting one hammer with another.
- Using broken, chipped or mushroomed hammers.
- Using soft-faced hammers to drive nails.
- Striking chisels that are bent, chipped, cracked, broken or mushroomed.

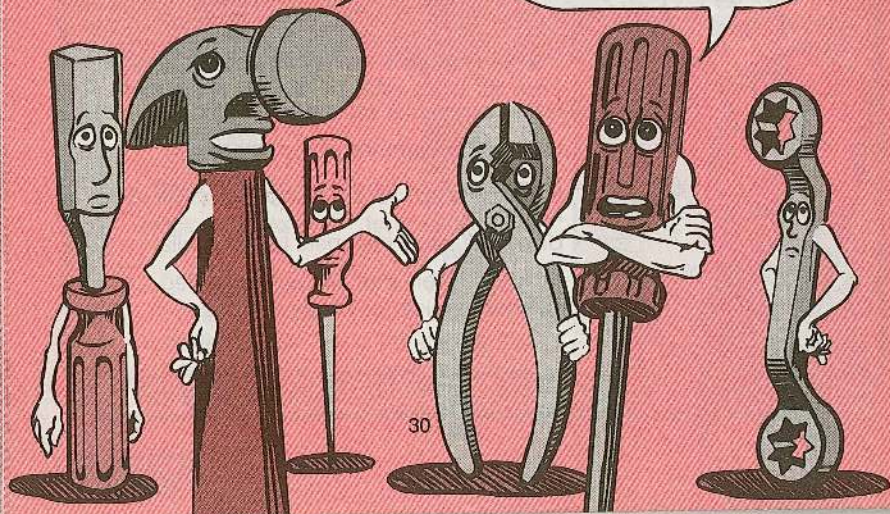
WRENCHES

Wrenches come in many styles and sizes—each made for just the right job. But some soldiers find ways to do it wrong, like:

- Using extensions—cheater bars—for more leverage.
- Mismatching wrench openings and the fasteners.
- Using hammers on box-end or open-end wrenches.
- Using the wrong kind of wrenches on fasteners.
- Using adjustable wrenches to break torque.
- Using open-end wrenches to break torque or loosen nuts.
- Using pipe wrenches for bending, raising or lifting pipe.
- Using torque wrenches as hammers or pry bars.
- Using pipe—or cheater bars—for more leverage on locking pliers.
- Using the wrong kind of sockets with wrenches...like using hand sockets on power drive or impact wrenches.
- Overtorquing or undertorquing.

USE US PROPERLY AND WE'LL BE AROUND TO DO THE JOB FOR YEARS TO COME!

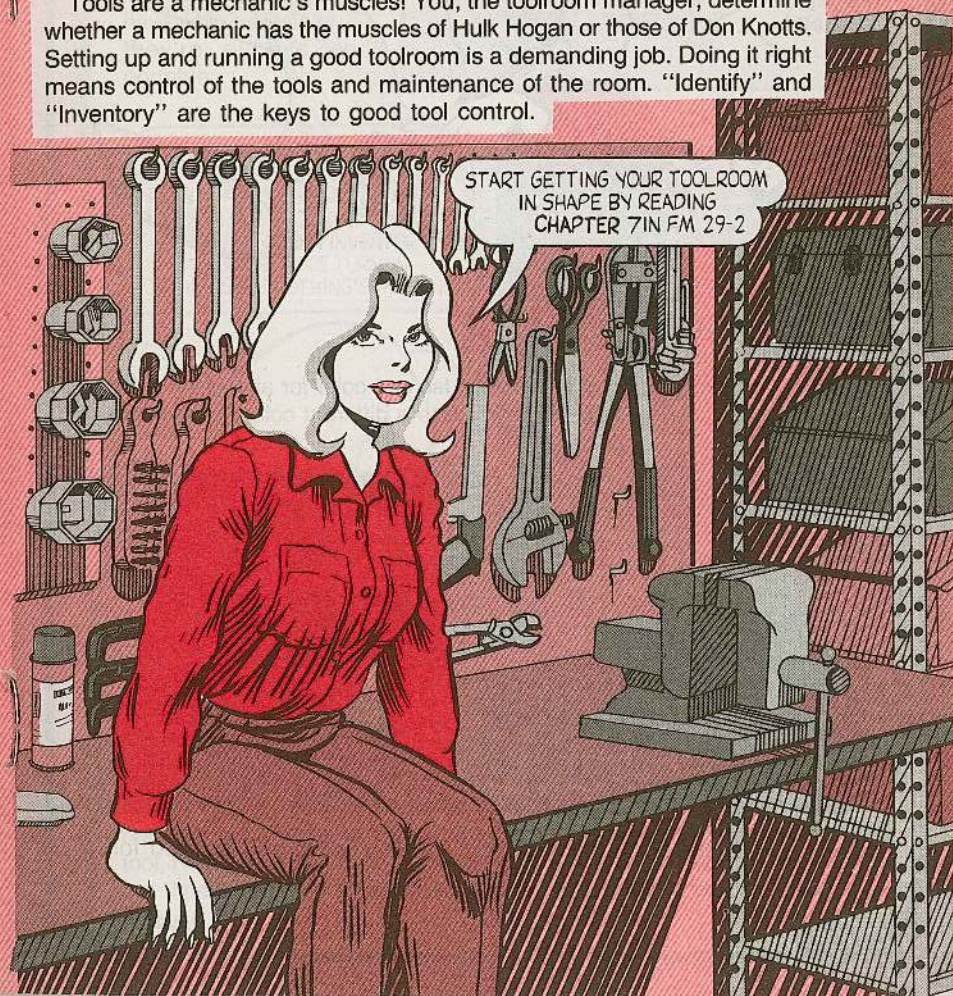
READ TM 9-243 FOR THE COMPLETE INFO ON HAND TOOLS, AND DON'T FORGET TO WEAR SAFETY GOGGLES — THEY MAY BE THE MOST IMPORTANT ITEM IN YOUR TOOL BOX!



Control Makes Yours the Best

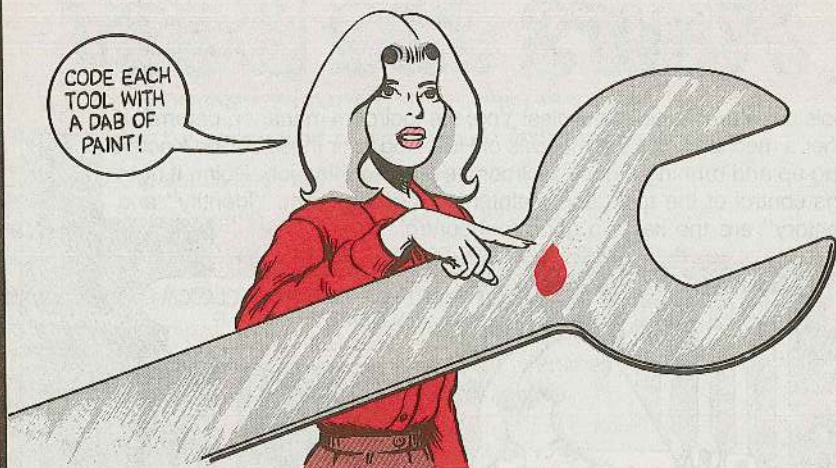
Tools are a mechanic's muscles! You, the toolroom manager, determine whether a mechanic has the muscles of Hulk Hogan or those of Don Knotts. Setting up and running a good toolroom is a demanding job. Doing it right means control of the tools and maintenance of the room. "Identify" and "Inventory" are the keys to good tool control.

START GETTING YOUR TOOLROOM IN SHAPE BY READING CHAPTER 7 IN FM 29-2

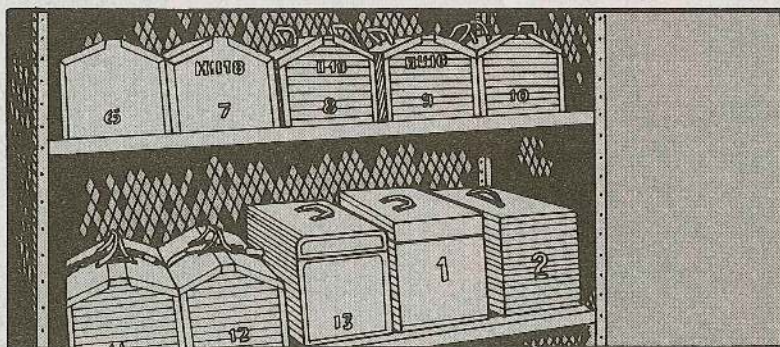


Identify Three Ways

CODE EACH TOOL WITH A DAB OF PAINT!



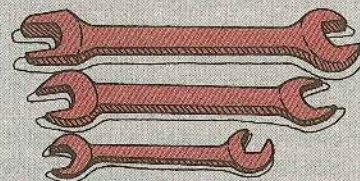
Color code tools with a dab of paint. Use one color for all tools in a set. Then mark the toolbox with that color. Use a different color for each set.



This is to make sure that each tool, kit and set is well marked for quick ID.

Inventory Tells All

Layouts are handy for inventory. Outline each tool in the kit or set on a large board or cloth with a felt tip pen. Canvas and plastic layouts have a big advantage... they're durable and portable.



EACH MECHANIC IS ISSUED A TOOL KIT BY HAND RECEIPT. KEEP THE ORIGINAL HAND RECEIPT AND PUT A COPY IN THE TOOLBOX. THE MECHANIC CAN THEN INVENTORY HIS OWN BOX BEFORE TURN-IN TO MAKE SURE NOTHING'S MISSING!



Establish a check-out system. Many units use a tool book. As a tool is needed, the mechanic goes to the toolroom. You enter the name of the tool, NSN, the mechanic's name and section or ID number, and the check-out time in the tool book. Then, the mechanic signs his name.

No Extensions on Inspections

Dear Windy,
Can the 120-day battery inspection on our birds' nickel-cadmium batteries be extended? Or does it have to be pulled at the end of 120 days?

R. E. S.

THERE'S NO GETTING AROUND THIS INSPECTION.

RIGHT, WINDY!

Dear Mr. R. E. S.,
The 120-day battery inspection comes under the heading of Special Inspections, covered by Para 2-3 of TM 55-1500-328-25. Most Special Inspections can be pulled within a plus-or-minus-10-percent tolerance from the scheduled inspection time—but not the 120-day battery inspection. Para 4-4 of TM 11-6140-203-14-2 takes precedence over the -328-25. It says the battery inspection **must** be performed every 120 days or 100 flight hours, whichever occurs first.

So you have to pull the inspection on time. It cannot be extended. 'Course, if you pull the inspection prior to the 120-day due date, schedule your next inspection 120 days later instead of on its original due date.

Windy

Figure 2-1 of DA Pam 750-35 gives the format for a tool sign-out log.

Tool tags, NSN 9905-00-473-6336, identify who has the tool and help you locate tools quickly. Etch or stamp the tag with the mechanic's personal and unit ID. The mechanic turns in the tag when he signs out a tool, kit or set. Place the tag where the tool set belongs, or hook it on a tool board.

Paint the outline of most frequently issued individual tools on a board. Put a hook in the center of each outline. When a mechanic gives you his tag for a tool that's on the board, hang the tag on the hook.

Get tools checked in as soon as a job is finished. You might want to set specific check-in times for tools used on jobs that are not completed by lunch or the end of the day.

For inventory, maintain a visible card file on tools. List the nomenclature, NSN, size and tool kit or set. If you can, copy the pictures of the tools from your supply catalog. Cut out the pictures and tape each one to a card.

Assure that your inventory never comes up short from borrowed and not returned tools. When not in use, keep the sets under lock and key.

Lock your toolroom every night and restrict access to the room when it's open.

Info on toolroom inventory procedures is in Para 6-3 of DA Pam 710-2-1.

Maintenance

Maintenance of the toolroom includes cleanliness.

Keep your area neat and clean. Then tool users are more likely to return clean tools.

Keep a lint-free cloth near the turn-in point for users to clean tools.

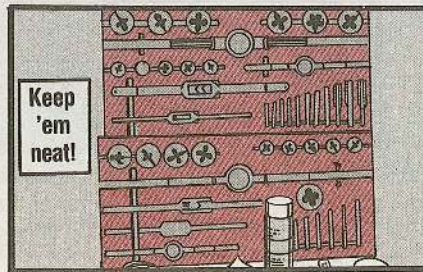
Inspect each tool closely at turn-in. See that tools that need repair get repaired. Replace worn-out, non-repairable tools. Never re-issue a tool that might be unsafe.

Organization makes maintenance and inventory easier. "A place for everything and everything in its place" still holds true for the toolroom.

Arrange your tools so that those used the most are the closest at hand.

Shelves and storage containers should be portable for easier cleaning and arrangement.

Remember, you're the tool expert. How you manage your toolroom can make a big difference in effective shop operation.



A Place for Everything

IT'S HARD TO TELL WITH MY WINDSHIELD
WARPED, BUT IT LOOKS LIKE
THERE'S A MOUNTAIN GOAT IN THOSE
CLOUDS UP AHEAD!

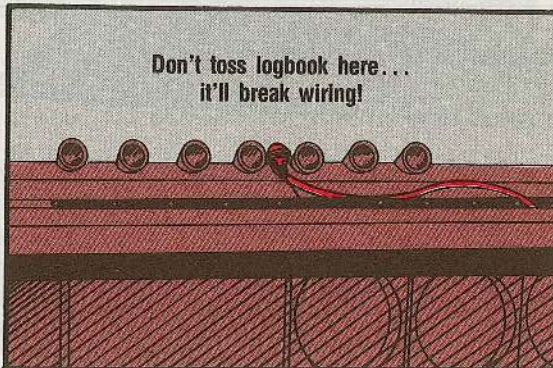


Some Cobra pilots toss their logbook over the instrument panel dash against the front windshield. It doesn't hurt the logbook, but it puts the hurt on the bird's rain removal thermal switch.

If the logbook breaks the switch's electrical wiring, there's no way to control the flow of hot air over the windshield. You end up with a melted or warped windshield and restricted visibility.

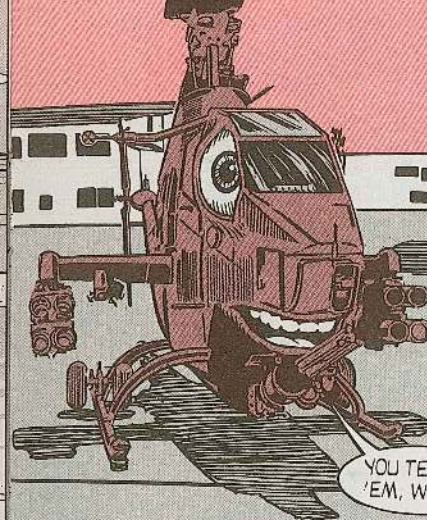
Store your logbook in your helmet bag with other loose gear. Then stash the bag under the back seat.

The logbook's out of the way there but still easy to reach when you're ready to depart the aircraft.



Bogus Fuel Boost Pump

GROUND THAT BIRD
IF YOU GET CAUTION LIGHTS
FOR THE FUEL BOOST PUMPS!



Dear Windy,

Our TM's not clear about the status of our Cobras when the fuel boost pump caution lights come on during flight. Our -10 TM lists troubleshooting procedures, and the -23 gives us the corrective action to take. But neither mentions anything about the aircraft's status once it's back on the ground.

Should the bird be Red X'd until the problem is fixed or should it get a circle Red X on the DA Form 2408-13, restricting flight above 6,000 feet?

SFC R. D.

Dear Sergeant R. D.,

Your bird's fuel boost pumps are components of the fuel system. So any time they require maintenance—after the caution lights come on, for example—the bird is grounded until the maintenance is complete.

Fig 1-1 of DA Pam 738-751 lists the criteria for Red X entries on DA Form 2408-13. Item 12 covers fuel systems.

Windy

APU Vent Screen Fix

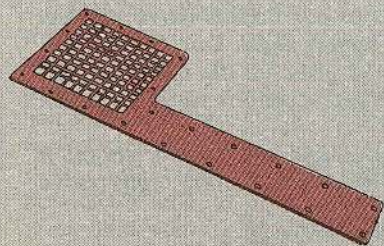
Some mechs and flyboys pay little attention to where they put their feet when they go up top to inspect the Black Hawk rotor system.

THEY PLANT THEIR FULL WEIGHT ON AN APU VENT SCREEN AND FIND OUT THE HARD WAY THOSE SCREENS WEREN'T MADE TO SUPPORT THEM! IF THEY'RE LUCKY, THEY CAN CRAWL AWAY FROM A MANGLED VENT SCREEN!

SOMETIMES IT'S HARD TO WORK UP TOP AND NOT STEP ON A VENT SCREEN. SO HERE'S HOW TO MAKE A COVER FOR THE SCREEN TO CUT DOWN ON DAMAGE!

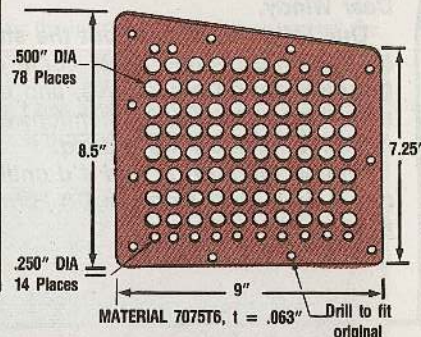


#1 Remove one of the vent screens



#2 Trace its shape, and each vent and screw hole, in a sheet of .063-in aluminum alloy, NSN 9535-01-186-1347. Trace only one vent screen. Just flip-flop it for the other screen.

#3 Get your sheet metal shop to cut out the covers and drill holes like so:



INSTALL THE COVERS ON TOP OF THE VENT SCREEN AND YOU'RE IN BUSINESS!



Secure Toolbox for Flight



When the Huey crashed, the crew chief's toolbox ripped loose. (Just a single tie-down strap held it to the cargo floor.) It became an unguided missile looking for a target.

Fortunately, the toolbox hurtled through the cockpit without hitting either the pilot or copilot. They were lucky. If they had been hit, they might not have survived.

Secure your toolbox before every flight, crew chiefs. To make sure it stays secured, use at least three tie-down devices to prevent movement in any direction—forward, backward, sideways and up.

Most operator's manuals give specific instructions for using tie-down devices to secure cargo. Use your -10 TM and TC 1-201, Tactical Flight Procedures, for the best method to secure your toolbox aboard your bird.

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-1-86-10, SOF, Technical, Revision to mandatory removal of specific root fittings, K747 main rotor blade, 030100Z Dec 86.

AH-1-86-11, SOF, Operational, Munitions suspensions and firing restrictions for TOW GM system on all Cobras, 162100Z Dec 86.

AH-1-86-12, SOF, Technical, Inspection of K747 blade root fitting assembly, 200300Z Dec 86.

AH-1-86-13, SOF, Operational, Munitions suspensions and firing restrictions for TOW GM system on all Cobras, 241500Z Dec 86.

AH-64A-86-20, SOF, Technical, Lifting of restrictions on firing area weapons system, 061800Z Dec 86.

AH-64-86-21, SOF, Technical, Revision to connector wire sealing, 121800Z Dec 86.

CH-54-86-05, SOF, Technical, One-time inspection and recurring inspection of input couplings, 092230Z Dec 86.

OH-6-86-12, SOF, Operational, OH-6A with T63-A-700 engines, addition to flight restrictions, 021500Z Dec 86.

OH-58-86-11, SOF, Operational, OH-58A with T63-A-700 engines, addition to flight restrictions, 021500Z Dec 86.

OH-58-86-12, SOF, Technical, Revision to one-time inspection of and restrictions on landing gear, 051700Z Dec 86.

OH-58-86-13, SOF, Technical, Revision to one-time inspection of and restrictions on landing gear, 061700Z Dec 86.

UH-1-86-13, SOF, Maintenance Mandatory, Night vision goggle operation,

021530Z Dec 86.

UH-60A-86-21, SOF, Technical, One-time inspection of crew seats for longitudinal movements of lockpin adjustment, 012100Z Dec 86.

UH-60A-86-22, SOF, Maintenance Mandatory, Revision to AVSCOM Mag 212000Z Oct 86, (UH-60A-86-17) contractor inspection of transmission oil cooler fan splines and tail rotor drive shaft, 102115Z Dec 86.

T-42-86-02, SOF, Maintenance Mandatory, Inspection of leading edge wing hinges and hinge pins, 092200Z Dec 86.

MM-AH-1-86-MEM-07, Supplement to Basic Message, 051830Z Dec 86.

MM-CH-47-86-MEM-03, CH-47D installation of anti-chafing tape in forward landing gear access door, 042200Z Dec 86.

Or get AVIM to make you one. Appendix E of FM 55-450-1, Army Helicopter External Load Operations, shows how to make a replacement.

Huey OAT Gage

The OAT gage mounted on your Huey's windshield needs no sealant unless the mounting hole in the windshield has been elongated. If you get a snug fit when you push the probe through the mounting hole in the windshield, forget the sealant. Para 8-313e of TM 55-1520-210-23-2 is being deleted.

Seal Leakage Rate Changed

The allowable static leakage rate of the Black Hawk's primary, boost and pitch trim servo has been changed from 1 drop per day to 3 drops per 24 hour period. The hydraulic seal leakage criteria in Task 1.1 of TM 55-1520-237-23-4 is being updated to reflect the change. Task 1.1 has the info on how to measure leaks.

T-53 Engine O-ring

Need an O-ring for the air regulator tube of your T-53 engine's anti-icing valve solenoid? Order it with NSN 5330-00-166-8404 instead of the obsolete number listed for Item 10 in Fig 59 of TM 55-2840-229-23P.

We have questions about switching aviation components from time change components to condition items on DA Form 2408-16, Aircraft Component Historical Record.

When an item is switched, should Block 7f show the time between when the aircraft was new and the component in Block 7a is removed? Should Block 7i show the total hours the component has been used when it's removed? Or should the times stay as they were when the component was originally installed?

SGT W. J. R.

WHEN COMPONENTS TRANSFER FROM TIME CHANGE COMPONENTS TO CONDITIONS ITEMS, BLOCK 7# AND 7I OF DA FORM 2408-16 SHOULD NOT SHOW THE TIME ELAPSED ON THE AIRCRAFT AND COMPONENT. YOU RECORD ELAPSED TIME ONLY WHEN THE COMPONENT IS REMOVED FROM THE AIRCRAFT.

[illegible]



Lowdown on Tie-downs

IT'S IMPORTANT TO
TIE DOWN YOUR
ANTENNA ON YOUR
CUCV!

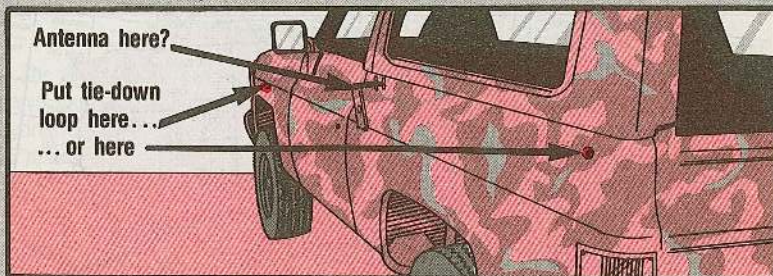
Need a tie-down for your CUCV's antenna?

Use clamp loops, NSN 5340-00-984-8540, to attach antenna tie-downs to each side of the vehicle.

If the antenna, such as an AS-1729, is near the rear of the CUCV, get your organizational maintenance to put the lamp loops 8 3/8 inches back of the cab doors and 1 inch below the truck bed's sidewall edge.

After making the hole for attaching the loop, clean the area. Then apply corrosion preventive compound, NSN 8030-01-134-6513, in and around the hole area to prevent rust.

If the antenna is just back of a cab door, the clamp loops can be positioned

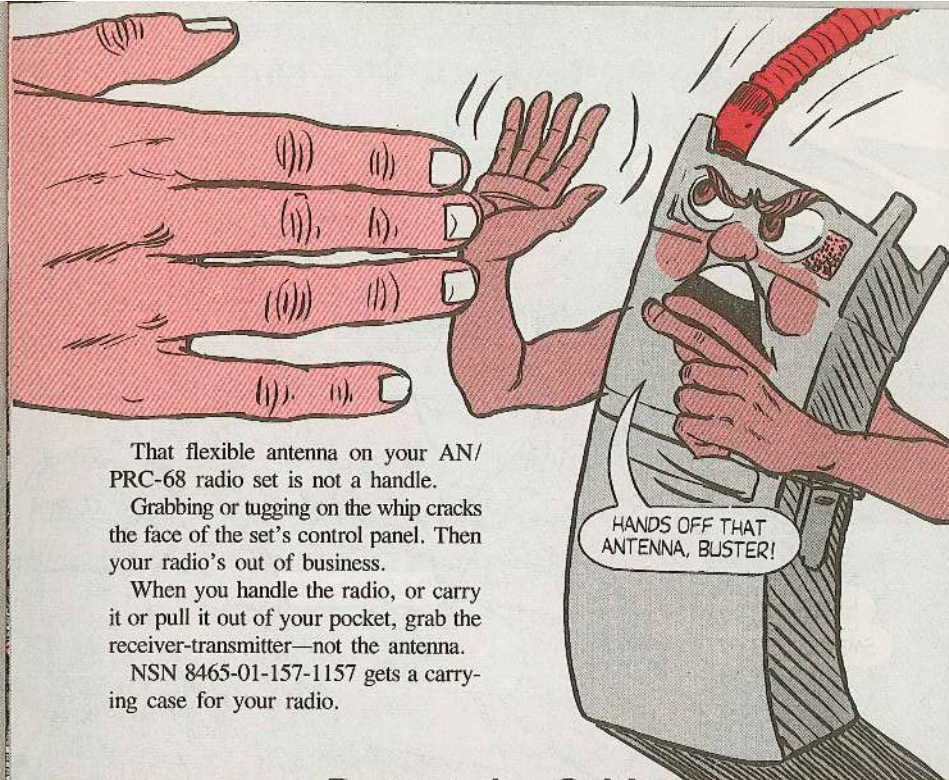


15 inches forward of the taillights and 1 inch below the truck bed's sidewall edge.

An alternative location for the tie-down loops, when the antenna is just back of a cab door, is on the front fenders 17 inches ahead of the cab doors.

After the clamp loops are in place, tie each end of the tie-down assembly to the loop, making an inverted "V" with the rope.

Remember, the antenna should always be tied down when you're on the move unless **HIGH PWR** is required. And when it's tied down, make sure the antenna is placed under the clip.



That flexible antenna on your AN/PRC-68 radio set is not a handle.

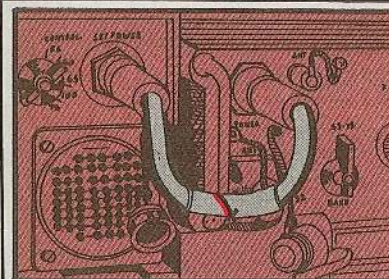
Grabbing or tugging on the whip cracks the face of the set's control panel. Then your radio's out of business.

When you handle the radio, or carry it or pull it out of your pocket, grab the receiver-transmitter—not the antenna.

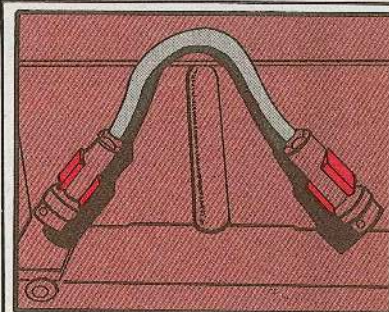
NSN 8465-01-157-1157 gets a carrying case for your radio.

Protect the Cable

Carelessly tossed cargo or heavy feet batter and break the CX-4655 cable that sticks out in the front of the OA-3633 amplifier-power supply.



Save the cable and connectors with a piece of string or tape. Just snug the cable down to the receiver-transmitter's panel guard.



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

Give RF Power A Way Out

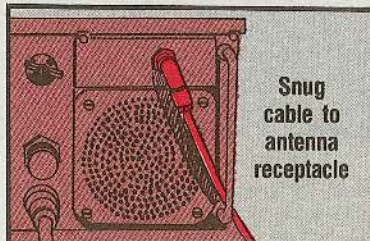


Never key your radio set to transmit before it has an outlet for its RF power output.

Without an outlet—an antenna, dummy load or test meter—the RF output stays inside the set or is reflected back into it.

In the case of the RT-524 or -246 receiver-transmitter, make sure the CG-1773 cable is snugged up to the antenna receptacles.

If the cable's loose or making poor contact, extra wattage builds up heat that damages the radio's final amplifier circuits.



Lube a Tight Connector

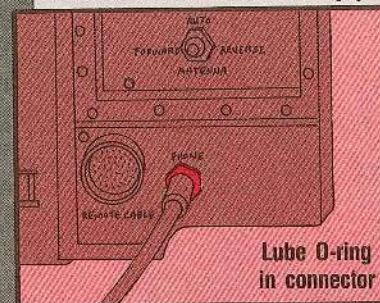


The H-251/U headset on the Pipsy-5A gets balky at times when you try to connect it to the receiver-transmitter or control indicator.

The connector has an O-ring in it that needs lubing. If the O-ring's dry, you can push all day and not get a hookup.

In the field, dab the visible part of the O-ring with spit. This'll make it slip on the connector easy enough.

Then, first chance you get, dab it with silicone compound, NSN 6850-00-880-7616.

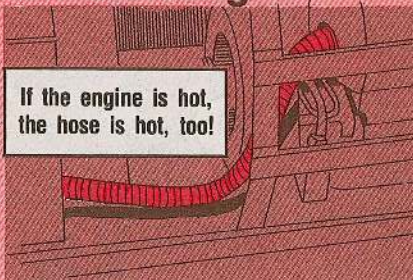


Use Care When Cranking

Watch out for that hot exhaust hose on a hot RL-207/G reeling machine when you crank it up.

When that engine's hot, the exhaust hose is hot. A careless pull on the starter cord and you get burned.

Wear gloves, if you have them. But care is needed here too. Clothes get caught in that spinning crankshaft pulley.





TROOP
SUPPORT

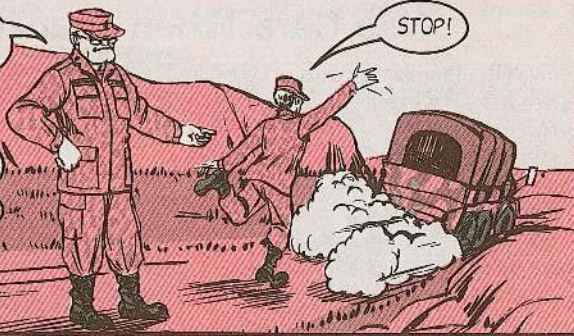
Generators...

Keep Extinguisher Handy



YOU'VE GOT TO HAVE A FIRE EXTINGUISHER, NSN 4210-00-555-8837, TO GO ALONG WITH YOUR 1.5- OR 3-KW GENERATOR SET. BUT WHERE DO YOU STOW IT?

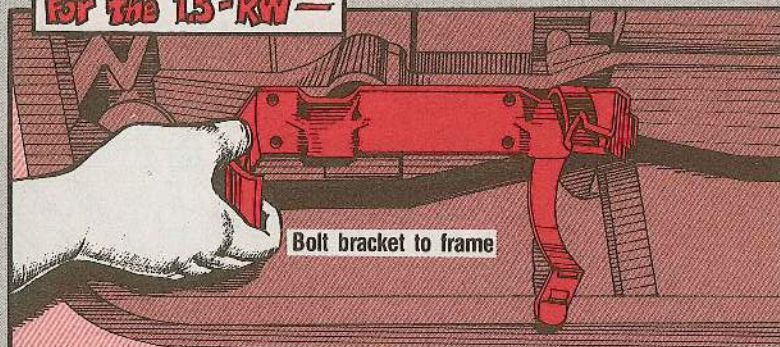
YOU CAN PUT IT IN THE VEHICLE CARRYING THE GENERATOR. OF COURSE, WHEN THE VEHICLE GOES, SO DOES THE EXTINGUISHER!



STOP!

The best thing to do is to get your mechanic to mount the fire extinguisher on the generator. You need to get your commander's OK. Then:

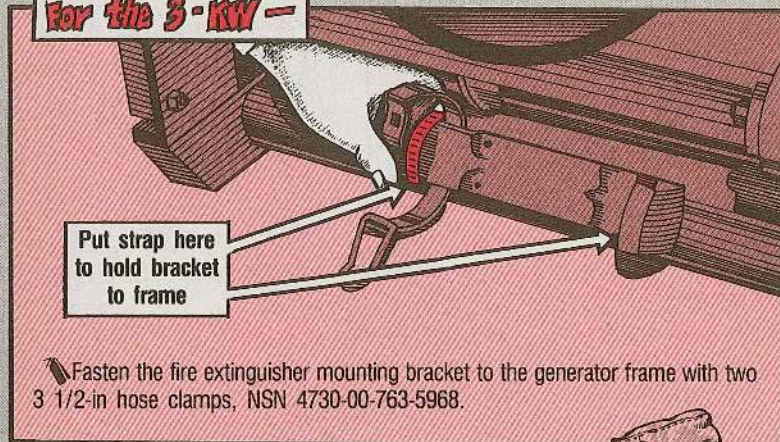
For the 1.5-KW —



Bolt bracket to frame

- ✦ Mark the location for four holes on the frame using the fire extinguisher mounting bracket as a guide.
- ✦ Drill 7/32-in holes.
- ✦ Then tap the holes with a 5/16-in coarse thread tap.
- ✦ Use 4 3/4-in bolts, NSN 5305-00-984-5676, to secure the bracket to the generator's frame.

For the 3-KW —



Put strap here to hold bracket to frame

- ✦ Fasten the fire extinguisher mounting bracket to the generator frame with two 3 1/2-in hose clamps, NSN 4730-00-763-5968.

BEFORE OPERATING THE GENERATOR, TAKE OUT THE FIRE EXTINGUISHER AND SET IT A SAFE DISTANCE AWAY — ABOUT 50 FEET.



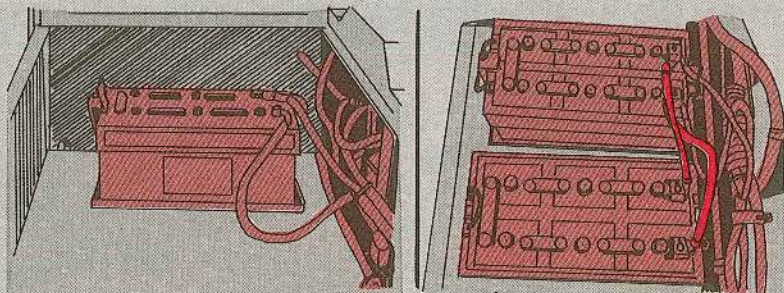
PM ROUNDUP

HERE ARE SOME TIPS THAT'LL MAKE RUNNING YOUR P&H MT250 HYDRAULIC CRANE EASIER — AND SAVE DOWNTIME AND PARTS REPLACEMENT.

BOOST BATTERY POWER

The carrier comes with one 12-volt battery. Add another—NSN 6140-00-191-8485—wired in parallel.

Make cables from wire, NSN 6145-00-705-6674, and lugs, NSN 5940-00-115-5006.



You'll double the amperage available and both batteries will share the starting strain. You'll get longer life from both batteries, too.

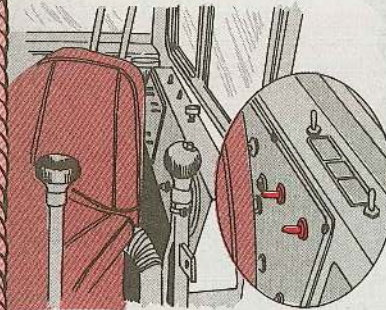
The extra power will get you started quicker, so your starter won't be overworked and damaged. Starting will be a lot easier on cold days.

Your CO can approve the extra battery.

REMEMBER TO REMOVE IT, THO, BEFORE YOU TURN IN THE CRANE.

CLOSE QUARTERS

Upper cab space is on the short side. When you swivel in the seat, you can damage the remote outrigger control panel toggle switches.

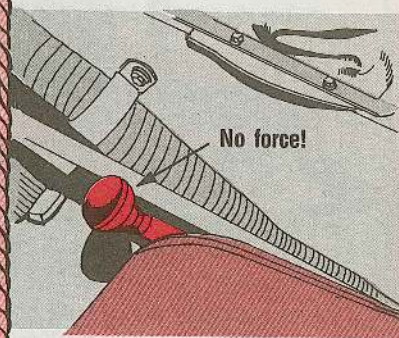


With the front outriggers extended, you could hit the RF or LF IN/OUT toggle and retract the outrigger. You'll end up with an unstable machine. TILT!

Head off such problems by remembering the switches and keeping your seat away.

SHIFT PUMP GENTLY

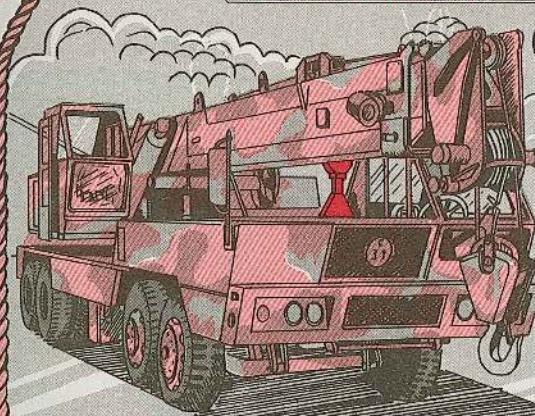
Never use force to move the pump disconnect lever to engage or disengage the hydraulic pump.



Of course, you only engage or disengage the pump while the engine is stopped.

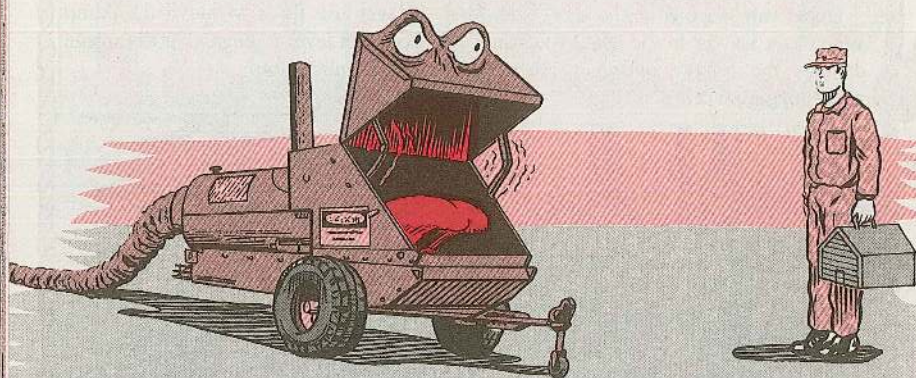
In cool weather, when the lever is hard to move, rev up the engine to 1200 RPM for a few minutes to warm the fluid. Then stop the engine to engage the pump.

PARK BOOM GENTLY



EASY WHEN YOU'RE LETTING THE BOOM DOWN ON THE BOOM REST BEFORE MOVING OUT! SLAMMING THE BOOM DOWN DAMAGES THE BOOM REST BASE.

Head Off Hood Headache



You can get a large lump on the noggin if you trust the hood supports. They're weak and may let the hood fall...OUCH!
Get your mech to replace the supports with kit, NSN 4520-01-211-6842. Until then, have a buddy hold the hood while you're working under it.

Spark Plug Cable Fix

Dear Half-Mast,

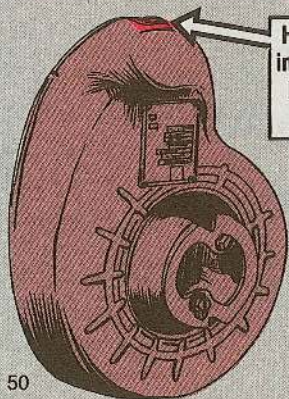
We have 1½ HP gasoline engines, Model 1A08-I, in some of our equipment. I ordered a spark plug cable (Item 1, Figure 10 of TM 5-2805-256-24P Change 2), but it doesn't fit. The threads and locking nut are too small. What's wrong?

SGT D. M.

Dear Sergeant D. M.,

You have the only available cable, but it was made to fit engine Models 1A08-II and 1A08-III. Get your DS to modify the engine with the bearing cap kit, NSN 2805-00-832-8021, so the cable will fit. The Kit's listed on Page 2-12 of the TM.

Half-Mast



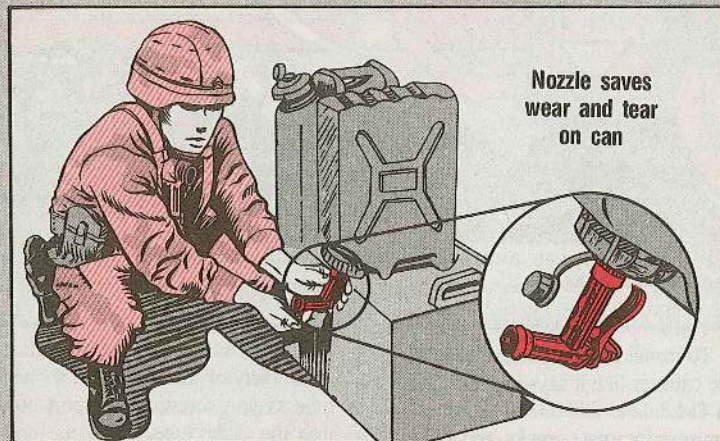
Have DS install the bearing cap kit

Water Can Handler

Dear Editor,

When we wash our hands and face or use our 5-gal water can for other purposes, we waste water and time, and it takes an extra person to hold the can.

This fix does away with extra handling and saves wear-and-tear on the can from getting knocked and banged around.



I added a garden hose nozzle, NSN 4730-00-008-3128, with a pistol grip to the can.

PFC Darin Snell
Fort Ord, CA

(Editor's note: Looks like a winner.)

TPU Electric Motor Relay

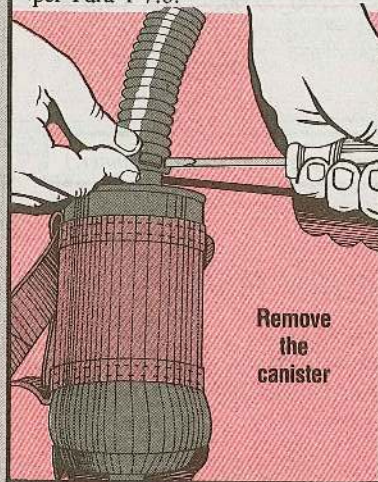
If the K1 relay goes out on the electric motor driven pump, NSN 4320-01-047-1927, used on tank and pump units, NSN 4930-00-426-9960 and NSN 4930-01-130-7281, get a new relay with NSN 5945-01-219-6786.

Save Your Breath!



NBC NCO's, you can insure soldiers won't breathe charcoal dust while wearing the M24 or M25/M25A1 masks. Install the new M10A1 canister insert filter, NSN 4240-01-177-2675.

To install the filter insert, remove the canister like it says in Para 2-9.a in TM 3-4240-280-23&P. Check the canister for rust, cracks and dents per Para 1-7.b.

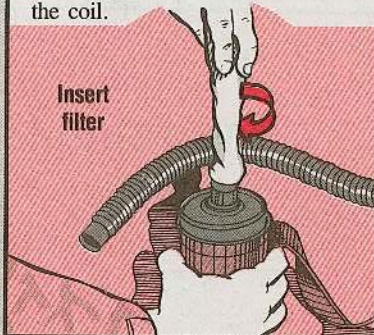


Remove the canister

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Be careful not to get the filter insert dirty or tear the insert's filter tube as you screw the support coil into the filter tube. Turn the coil counterclockwise until its small end touches the closed end of the filter tube.

Stretch the filter tube from end-to-end over the coil, making sure the tube's not folded over or bunched in the coil.



Insert filter

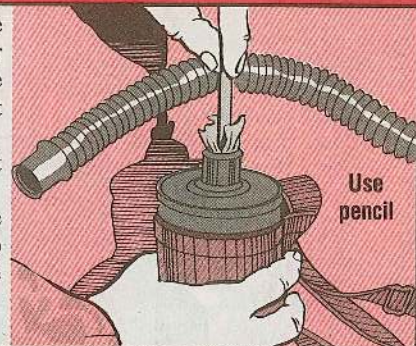
Breath!

You can use a pencil to help insert the filter into the canister. Push the eraser end of an unsharpened pencil into the canister insert until the eraser is against the small end of the support coil.

Place the closed end of the filter insert in the canister's neck.

Gently push the canister insert with the pencil to the bottom of the canister. Keep the filter tube from bunching over the support coil.

Remove the pencil.



Use needlenose pliers to turn the insert's coil clockwise and work the large coil into the recess in the canister neck. The large coil holds the insert in place. Cut off any excess filter material at the insert seal.



Paint black line

Use a brush, NSN 7920-00-514-2417, and black lacquer, NSN 8010-00-085-0559, to paint a black line along the length of canister seam to show the insert filter's in place.

Wait 1 hour for the paint to dry.

Follow Para 2-9.b in the TM to re-attach the canister to the hose.

The insert filter replaces Item 3 in Fig B-2. A larger clamp, NSN 4730-00-269-3760, is replacing the old clamp, Item 4 in Fig B-2. The old clamp can still be used with the insert filter.

MAKE A NOTE UNTIL THIS PROCEDURE SHOWS UP IN A CHANGE TO YOUR TM.



Shortcuts to Good Storage



I CAN SLEEP SECURE
THANKS TO GOOD PM!

Try these tips for preparing your M11's for storage, NBC NCO's. They'll make your job easier and leave the M11's ready for action.

- Use the new silicone compound, NSN 6850-00-880-7616, to coat both the container and drain plug threads. It'll



do better in preventing the container and drain plug rusting shut than the old anti-seize compound listed in TM 3-4230-204-12&P. Remember to pour ½ teaspoon of corrosion inhibitor, NSN 6850-00-753-4967, in the container before you store the M11. Then rust won't ruin the M11's innards.

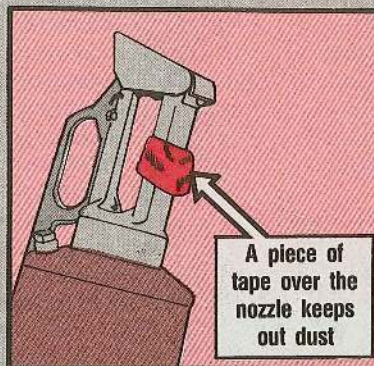
- When you check for retaining rings, remember that there are two different rings in the field...but either is OK as

long as it holds the handle locking pin in place. The old, smaller retaining ring, NSN 5365-00-282-1633, is being replaced by a larger ring, NSN 5365-00-282-0813.



Every M11 must have one ring or the other.

- Tape over the nozzle to keep dirt from clogging it. Form pull tabs on each



side of the nozzle by bending the tape back. Otherwise, the troops will have trouble removing the tape if they're in the field wearing protective gloves.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
REGISTRATION NUMBER					ADMINISTRATION NO.					NOMENCLATURE										MODEL					ASSIGNED TO					

Exceptions are the M3A4 smoke generator and M12A1 decon unit. They must be reported on DA Form 2406 (Material Condition Status Report). That means you need a separate DD Form 314 for each item.

PCN HIAHRO524C PUBLICATION NUMBER 55 700-20 L3N DATE 15 MAY 64 PAGE
INDX TITLE 201ST ENGR BN, HEAUNQUATCHS COMPANY

The listing is put together with information from the Equipment Oriented Publication Data Base (EOPDB). That's the same information you'll find in Section 12 of DA Pam 310-1 (Consolidated Index of Army Pubs and Blank Forms).

The listing consists of two sections—Section I lists pubs in the equipment's LIN and NSN sequence and Section II provides a pub-to-end item cross reference.

You can find out more about EOPDB by requesting a copy of MRSA Pam 310-5, which explains what the EOPDB can do for you and how to get your own customized listing. Get a pamphlet by calling AUTOVON 745-4276, Comm (606) 293-4276 or writing:

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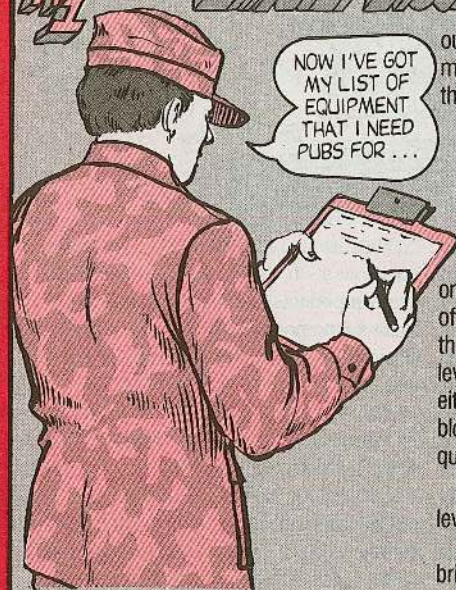
Get Bn HQ to establish an account for your unit by sending a DA 12-R Form through your publications control officer to the Baltimore Pubs Center. When that's done, you request pubs in two ways:

REQUIREMENTS FOR TROOP SUPPORT AND CONSTRUCTION EQUIPMENT PUBLICATIONS For use of this form see DA Cir 310-55.4; the proponent agency is DACSIM			
1. ACCOUNT NUMBER	2. DATE	3. TYPE OF SUBMISSION A. INITIAL B. CHANGE	
4. FROM: <i>(include 9 Digit ZIP Code)</i>	5. THRU: <i>(include 9 Digit ZIP Code)</i>	6. TO: Commander USA Publications Center 2800 Eastern Blvd Baltimore, MD 21220-2595	
EQUIPMENT		OPERATOR	ORG /S/SS
Distributor, Water, Tank Type, Truck Mounted, Gasoline, 1000 G Model 1602 (TM 5-3825-220-Series)		TO HELP DETERMINE THE NUMBER OF COPIES YOU NEED, LOOK AT APPENDIX F OF DA PAM 310-10	
Ditching Machine, Diesel, W/Sheet Mounted, Ladder Type In Width Cui, Model 624VL (TM 5-3805-240-Series)			

TO HELP DETERMINE
THE NUMBER OF COPIES
YOU NEED, LOOK AT
APPENDIX F OF DA PAM 310-10



#1 Initial Distribution



NOW I'VE GOT
MY LIST OF
► EQUIPMENT
THAT I NEED
PUBS FOR...

out, the publications officer and unit commander review them. Then Bn HQ mails them to:

**Commander
USA Publications Center
2800 Eastern Blvd.
Baltimore, MD 21220-2896**

To avoid getting unneeded pubs, request only those that are aimed at your unit's level of command. When the quantity blocks on the DA 12-series form show maintenance levels, put the quantity you need under either "Operator" or "Unit." When the blocks show Classes of Distribution, put the quantity you need under:

- **Distribution A**—pubs for company-level units.
- **Distribution B**—pubs for battalion-, brigade-, regiment- or group-level units.

Once you've established a requirement for a certain pub at Baltimore, you'll automatically receive any changes or revisions to that pub.

With your list of equipment, go to DA Cir 310-86-2 (Nov 86). Copy all the forms that cover your equipment.

When all your 12-series forms are filled

#2 Resupply

Resupply is used to:

- Replace lost or worn-out pubs.
- Get pubs your unit doesn't receive through initial distribution.
- Get current editions of pubs for your unit library.

Make a list of the manuals you need. Your Bn HQ then makes out a DA Form 4569 and sends it to Baltimore. The request goes either through your communications center over AUTODIN or by mail.

After Baltimore feeds your request to the computer, your pubs are mailed directly to your unit.

[illegible]

DA FORM 4569, 1 AUG 77

Keep Account Up-to-Date

Hang onto file copies of your DA 12-series forms so you can keep your Baltimore pubs account up-to-date.

Anytime you replace equipment with a different type of equipment, remember to update your DA 12-series forms deleting the pubs on the equipment you turn in and adding the pubs for the new equipment.



Always notify your pubs center when your unit is moving. Give 'em your account number, new and old address and the approximate date of your move.



Connie's
★ POST ★
SCRIPTS

HI, CONNIE!



YOUR TOOLS
WILL BE YOUR
FRIENDS FOREVER,
IF YOU KEEP
THEM IN
SHAPE.



BDAR Film Correction

You don't have to send a blank tape to get a copy of the training film on the battlefield damage repair program, like we said in PS 409. Instead, submit a completed DA Form 4103, Training-Audiovisual Support Loan Order, through your local Training and Audiovisual Support Center (TASC). Ask for TVT 38-16, "Battlefield Damage Assessment and Repair."

New Army Pubs Index

DA Pam 310-1 is no more. It's replaced by DA Pam 25-30. The new pam gives all the pubs and forms in 310-1, plus a little more. Like, which 12-series form to use to order pubs from the Baltimore Pubs Center, and the month and year of all changes. You'll get the new pam just as you did 310-1 and your pinpoint account will be transferred for you. To get a new subscription, continue to use DA Form 12-4R from DA Cir 310-85-4 until the circular is updated.

Water Purifier Oil

LO 5-4610-218-12 says use Mil Spec VV-I-538 for solution feeder oil on the 1500 GPH water purification unit, NSN 4610-01-037-8746. But it's wrong. Instead, use ASTMD-347, NSN 9610-00-685-0913.

Salute Gun Update

You can get maintenance info for your M120 salute gun from AMCCOM's artillery folks. Parts sources for the converted 75-MM pack howitzer are also available. Contact the AMCCOM reps by calling AUTOVON 793-2173/2174, Commercial (309) 782-2173/2174 or write:

HQ, AMCCOM
ATTN: AMSMC-MAW-SL
Rock Island, IL 61299-6000

CUCV Lube Change

Disc brakes on the front wheels of the CUCV can get awfully hot. That heats up the wheel bearings. The bearing lube called for in your LO won't hold up to those high temperatures. So the truck headshed is changing the lube from GAA to General Purpose Aircraft Grease, Wide Temperature Range (WTR). Make a note of these NSN's until LO 9-2320-289-12 is updated.

NSN 9150-00-	Size Container
944-8953	1-lb can
145-0268	5-lb can
935-5851	35-lb can

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

**THERE ARE 2 WAYS
TO GET THE MESSAGE!**



**Lock all hatches
when they're open!**