

Issue 405

PS

August 1986

# THE PREVENTIVE MAINTENANCE MONTHLY

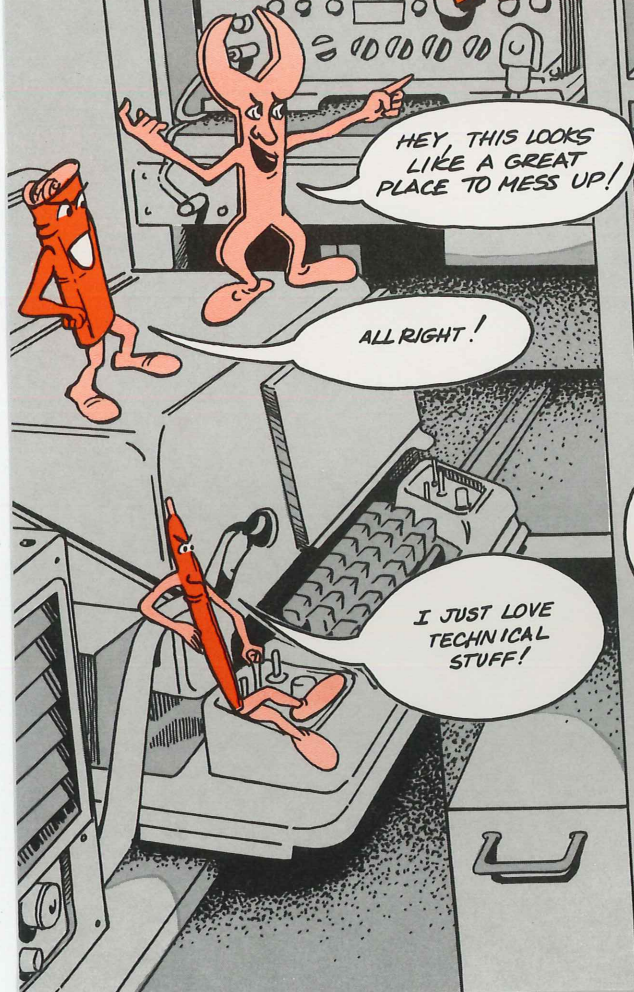


LOOKS LIKE  
HAMMERLOCK  
HAS SCREWED  
UP AGAIN!

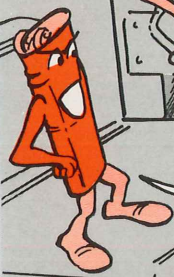
AND I HAVE  
A FEELING THAT  
**YOU** ARE IN  
DEEP, DEEP  
TROUBLE!

See page 29  
The Replacement

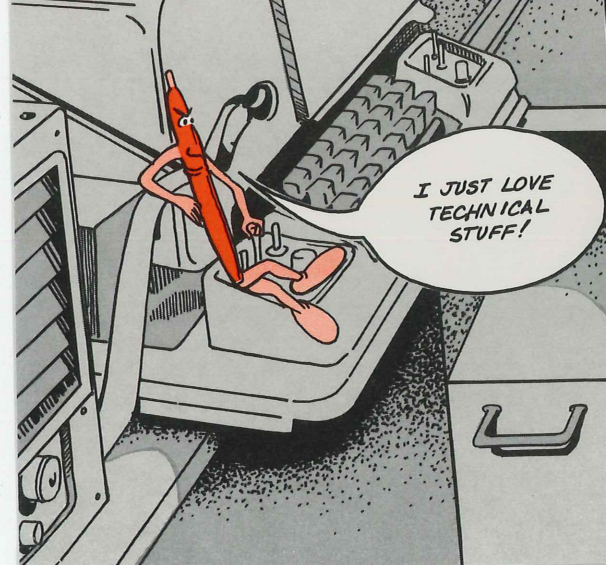
# Maintenance Hazards



HEY, THIS LOOKS LIKE A GREAT PLACE TO MESS UP!



ALL RIGHT!



I JUST LOVE TECHNICAL STUFF!



LET'S SEE WHAT I CAN SCREW UP!



WATCH ME MESS THIS UP!!!

Some people put a lot more into their work than's needed... like loose pens, screwdrivers, wrenches, lighters, glasses, etc.

So empty your pockets before you start work around electrical equipment and major assemblies. Small items that fall out of your pockets could short batteries and stop up holes.

The same thing goes for such things as watches, rings, bracelets and metal items. If you don't take them off, they could short electrical equipment or get caught in moving parts. You end up with a missing finger or worse.

Play it safe. Don't take small objects and jewelry onto the work site. It'll keep you and your equipment in business.

## PS THE PREVENTIVE MAINTENANCE MONTHLY

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Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Materiel Readiness Support Activity, Lexington, KY 40511-5101.

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PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

MSG Half-Mast  
PS Magazine  
Lexington, KY  
40511-5101

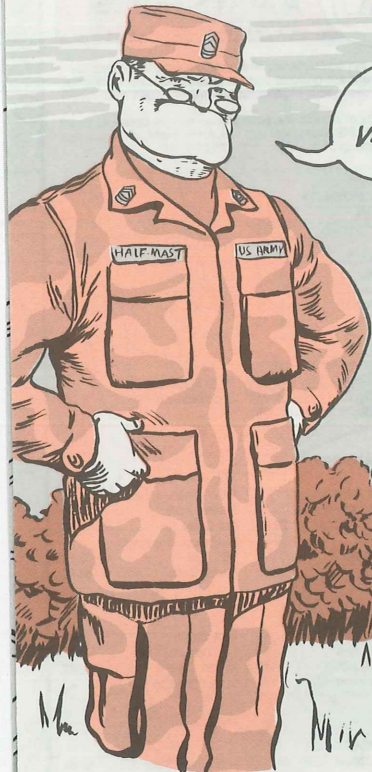
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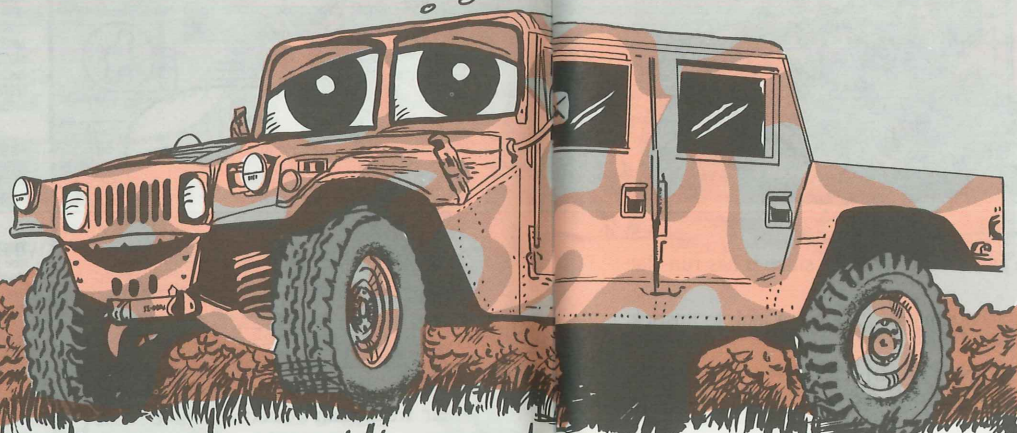
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# Tips for Drivers



SO YOU'RE GETTING A NEW HMMWV - HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE. HERE ARE SOME TIPS TO MAKE DRIVING EASIER:

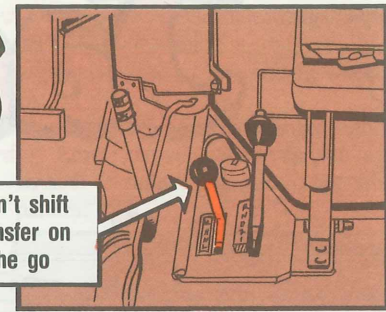
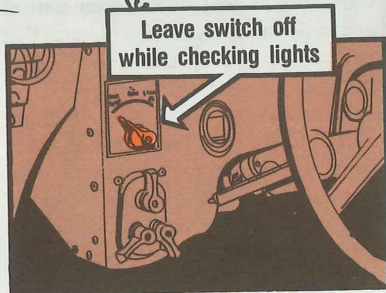
IT FEELS GOOD TO BE TAKEN CARE OF!



## Glow Plug Burnout

If you're not careful, you can burn out glow plugs or the control module when you pull PMCS.

Some drivers think they have to turn ON the engine STOP-RUN-START switch to check the lights. But this just isn't so. To check the lights, just turn the selector lever to SER DRIVE.



shift the transfer. Shifting on the go damages the transfer.

## It's a Mudder!

Your HMMWV handles muddy roads well, but don't follow too close to the vehicle in front. Mud thrown up by the lead vehicle will clog the radiator and engine and transmission oil cooler, causing the engine to overheat.

And if you do get mud on the radiator, clean it off before it sets. Hardened mud between the oil cooler and the radiator is tough to get out.



## Clean Windows With Care

Clean the plastic side windows and the windshield—either regular or ballistic glass, using soapy water and a soft clean cloth. Don't use a dry cloth—it can scratch!

Glow plugs cycle on and off when you turn the engine STOP-RUN-START switch on. If you don't start the engine when the WAIT light goes off, the glow plugs continue to cycle. Eventually the plugs or control module are damaged.

## No Shift on the Go

Come to a complete stop and put the transmission in NEUTRAL before you

HMMWV's...

# Jack 'em Up!





Your HMMWV doesn't come with a jack or lug wrench, since it has run-flat tires and does not have a spare.

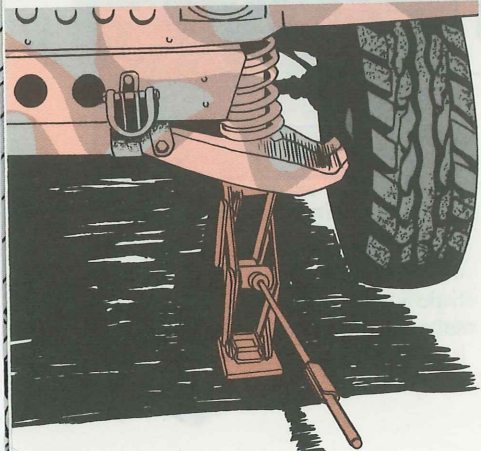
But there're times you need to jack up the vehicle... or use a jack to unstuck a stuck truck.





You're authorized a lug wrench, NSN 5120-01-156-7296; jack, NSN 5120-00-106-7598; and jack handle, NSN 5120-01-032-6042. The word's in Para 2-12 of TB 43-0001-39-6 (Jul 85).

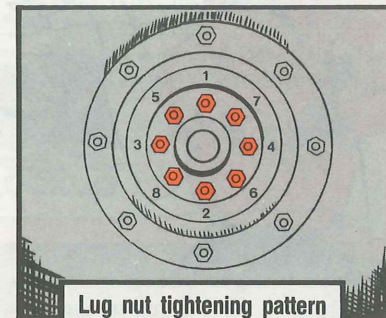
Stow them under the driver's seat.


There're no instructions in TM 9-2320-280-10 telling how to change a wheel, so do it like so:

-  Put the jack under the lower control arm next to the wheel being replaced. Be sure the jack is centered squarely under the arm.
-  Break loose all 8 lug nuts, but don't remove them yet! The lug nuts are the inner circle of eight nuts. Don't touch the outer circle of nuts—those hold the wheel together.



-  Raise the vehicle high enough to get the good wheel on.
-  Remove the lug nuts and the wheel. Put on the new wheel.
-  Tighten the lug nuts finger tight.
-  Lower the vehicle and use the lug wrench to tighten the nuts using this pattern:



-  When you get back to the motor pool, have your mechanic torque the lug nuts to 90-110 lb-ft.

## Fuel Drain Fix

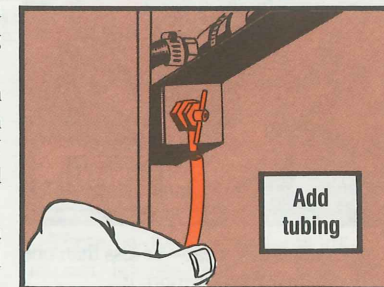
It's tough to tell when you've got all the water drained out of the fuel filter on the HMMWV. You can't catch the fuel in a container because the drain valve is tucked between two parts of the fender.

And if you don't catch the drained fuel, you can't see when you're getting clean fuel.

Your mech can make it easier to catch drained fuel, tho. All it takes is an 8-in piece of 1/4-in plastic tubing, NSN 4720-00-833-0867, pushed over the end of the drain valve.

When you drain the filter, stick a glass jar under the hose and drain until you get clean fuel.

Dump the drained fuel in a waste fuel drum. Don't pour it on the ground or down a handy drain.



**Add tubing**

# BEWARE OF **WORN** BRAKE HOSES



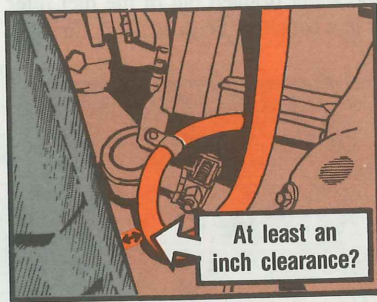
EYEBALL YOUR BRAKE HOSES FOR WEAR!!



Hoses to the air brake chambers on the front wheels can rub on the tires when you turn the wheels.

Check the hoses before you drive your truck. Look for wear caused by rubbing.

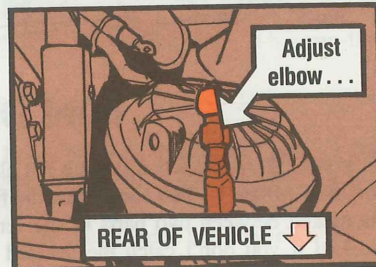
Get a friend to check while you turn the wheels full right, then full left. There should be at least an inch between the hose and the tire.



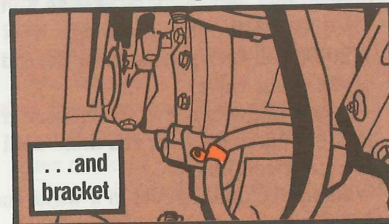
If you find any wear—or less than one inch of clearance—report it.

Your mech will replace any hose that is worn thru the cover.

Where clearance is less than 1 inch, you mechs need to adjust the elbows on the brake chambers so they point directly to the rear of the vehicle.



Adjust the hose brackets so they point to the rear, too, and pull excess hose back thru the clamps.



If that doesn't give enough clearance, loosen the hoses at the brake chambers and relay valve, then twist the hoses to give more clearance.

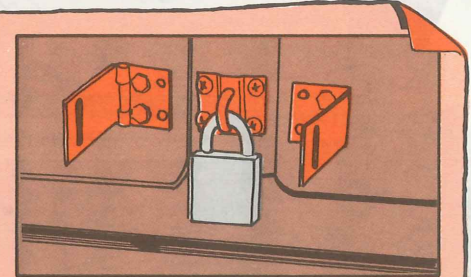
The word is in TACOM SOU Msg 86-5 AMSTA-MTC 101350Z Feb 86.

## Fuel Lockup

Dear Editor,

There's no way to lock the rear doors on the M978 HEMTT fuel tanker to prevent someone from "borrowing" fuel. So I added two hasps, NSN 5340-00-664-1667, that fasten to a single staple mounted on the center post. Then one padlock keeps the doors secured.

(Editor's note: That's getting a lock on the situation.)



SP4 Joseph Mercer  
Ft Knox, KY

## Stop Shifting Loads

A shifting ammo load on a HEMTT cargo truck is bad news. The sidewalls and endgate are not strong enough to hold the load. The results can be ammo scattered down the road!

Keep your ammo in place with web-strap tiedowns. But you've got to tie the ammo down right to be secure.

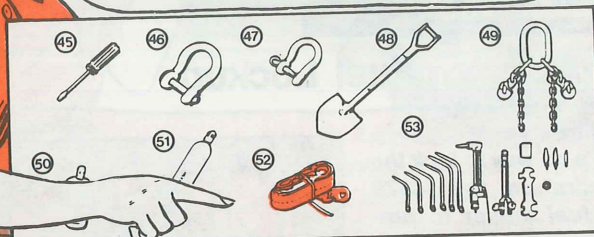
Get tie-down procedures from:

**US Army Defense Ammunition Center and School**  
**ATTN: SMCAC-DEO**  
**Savanna, IL 61074**

These tie-down procedures are only interim, but use them until final AMC 19-48-series tie-down drawings are published.

## Strap Correction

THERE'S AN ERROR IN THE CARGO TIE-DOWNS IN THE BASIC ISSUES ITEMS LIST FOR THE HEMTT. HERE'S HOW THE LISTING ON PAGE B-13 OF TM 9-2320-270-10 (APR 85) SHOULD GO:



(1) Illus Number	(2) National Stock Number	(3) Description FSCM & Part Number	(4) Usable On Code	(5) U/M	(5) Qty Reqd
49		SLING ASSEMBLY (storage box right side) (left side equipment body, in top forward storage box) (45152) 1385750	H01.6 H40	EA EA	1 1
52	5340-01-089-4997	STRAP, WEBBING (in toolbox) (19207) 11669588	H05.9	EA	8
52	1670-00-725-1437	TIE-DOWN, CARGO (96603) SP4067	H01.6	EA	24

THERE'S ALSO A GOLF IN THE ADDITIONAL AUTHORIZATION LIST. CHANGE IT LIKE SO:

(1) National Number	(2) Description FSCM & Part Number	(3) Usable On Code	(4) U/M	(4) Qty Auth
5340-01-089-4997	STRAP, WEBBING (19207) 11669588	H05.9	EA	8
1670-00-725-1437	TIE-DOWN, CARGO (96603) SP4067	H05.9	EA	24
5180-00-754-0661	TOOL KIT, Welder	H40	SE	1

## Weight Classes

YOUR HEMTT NEEDS A WEIGHT CLASSIFICATION SO YOU'LL KNOW WHAT BRIDGES YOU CAN CROSS SAFELY. HERE'S THE INFO:

Model	Empty	Loaded	With Loaded Trailer
M977	16	28	
M978	15	25	
M983 (w/o crane)	14		32 (w/Patriot)
M983 (w/crane)	16		36 (w/Pershing)
M984	18		45 (towing loaded M985)
M984E1	19		48 (towing loaded M985)
M985	17	28	39 (towing HEMAT M989)
M985E1	18	25	

The weight class sign kit, NSN 9905-00-565-6267, is shown on Pages 43-50 of TB 43-0209. Your authority to order it is Appendix A of CTA 50-970.

## Fuel Bowl Fix

The plastic bowl on your HEMTT's fuel filter is out in the open where it can get busted.

A stray rock thrown up by the rear tires of the M983 tractor can hit and break it. So can an accidental kick from someone climbing on the fender near the bowl.

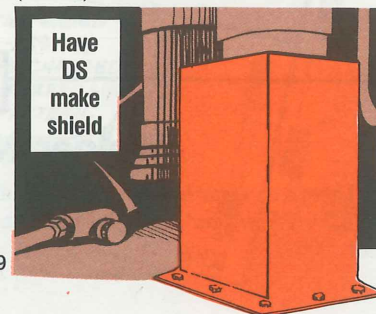
A broken sediment bowl stops the flow of fuel to your vehicle's engine and you're stuck—maybe in the middle of nowhere.

Your mechanic can prevent this from

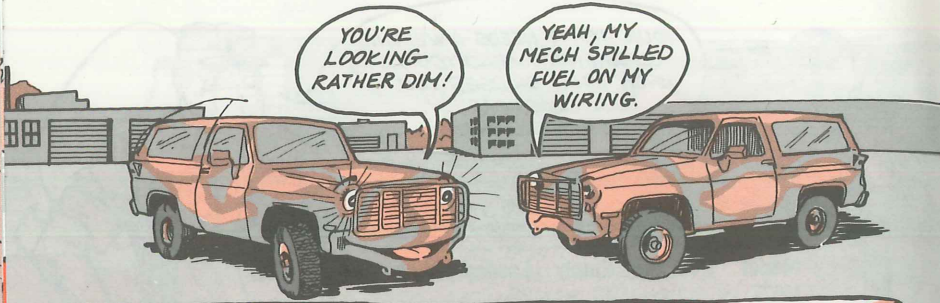
happening by getting DS to make a protective shield for the bowl.

Instructions are in TB 43-0001-39-3 (Jul 86).

Have  
DS  
make  
shield

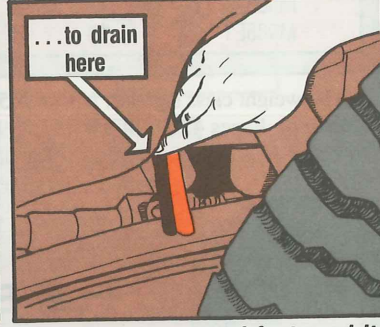
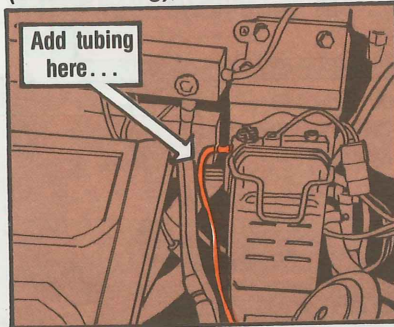


## Bleed Your Filter Neatly



Dear Editor,

When we replace the fuel filter cartridge on our CUCV's and bleed the air from the filter, fuel squirts on electrical wiring next to the filter. To prevent this, we slipped a 36-in piece of 1/4-in OD plastic tubing (AOAP tubing), NSN 4720-00-964-1433, over the bleed drain. We ran



the tubing down next to the filter water drain hose and fastened it there with a tie-down strap, NSN 5975-00-074-2072.

This prevents a mess, and the tubing is clear so you can see when fuel flows from the filter.

CW2 Joe W. Alexander  
Rolla, MO

(Editor's note: Now that's a real neat solution!)

## Welder NSN Error

There's an error in the organizational tools list in TM 9-2320-289-20 for the CUCV. The welder's tool kit—listed on Page B-20—is NSN 5180-00-754-0661, not -0061.

## Rear Prop Shaft Lube?

THE FITTINGS ARE MISSING ON YOUR REAR PROP SHAFT!



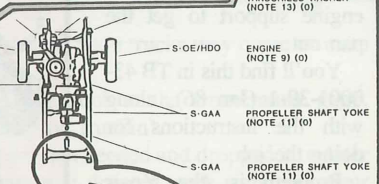
NOT MISSING, JUST NEVER WERE.

Give up the search for a lube fitting on the CUCV's rear prop shaft. LO 9-2320-289-12 points out the rear propeller shaft yoke and says to lube it...but there's no fitting!

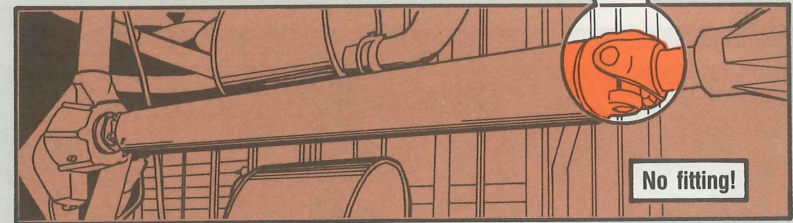
LUBRICATION ORDER

LO 9-2320-289-12

TRUCK, CA  
1-1/4 TON, 4X4, M

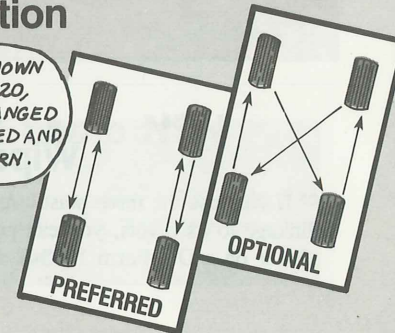


The LO's wrong, not the shaft.  
The LO will be changed to delete the lube requirement.



## Tire Rotation

THE TIRE ROTATION SHOWN IN TM 9-2320-289-20, PAGE 3-8, IS BEING CHANGED TO SHOW A PREFERRED AND AN OPTIONAL PATTERN.



## Oil Pan Job Goes "0"

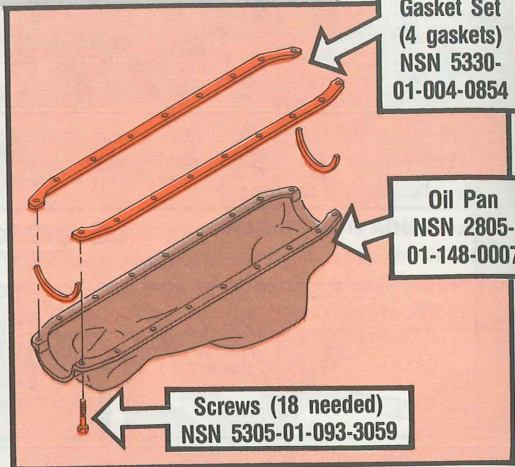
HERE'S WHAT YOU NEED!

You organizational mechs now replace the oil pan and gaskets on all M880-series 4 x 4 vehicles.

DS still replaces oil pans on M890-series 4 x 2 trucks, tho. This is because you don't have enough room between the pan and the engine support to get the pan out.

You'll find this in TB 43-0001-39-1 (Jan 86), along with the instructions for doing the job.

Problem is, the repair parts are not listed.



## Carb NSN's

Use NSN 5307-01-214-2016 to get the carburetor mounting stud, Item 6, Fig 6 of TM 9-2320-266-20P. NSN 4720-00-356-8351 gets 50 feet of bulk hose to make the vacuum advance hose shown as Item 8 of Fig 6.

## Wiper Retainers

If you lose the three plastic retainer bushings that hold the windshield wiper linkage to its pivots, you can get new ones with PN 3799089, FSCM 86403. Order on a DD Form 1348-6 using RIC S9C.

## Idiot Light's an Idiot

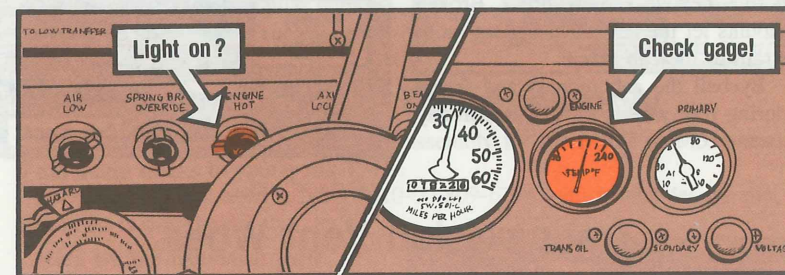


The HOT ENGINE light on early M939-series 5-ton trucks may come on even when the engine temperature is normal.

If the light comes on while you're driving, look at the temperature gage. If the gage reads in the normal range, keep on truckin'.

The headshed decided the warning light was not needed and dropped it on later production trucks. If your truck has a light that doesn't work right, get your mechanic to remove it.

The procedures are in TB 43-0001-39-2 (Apr 86).



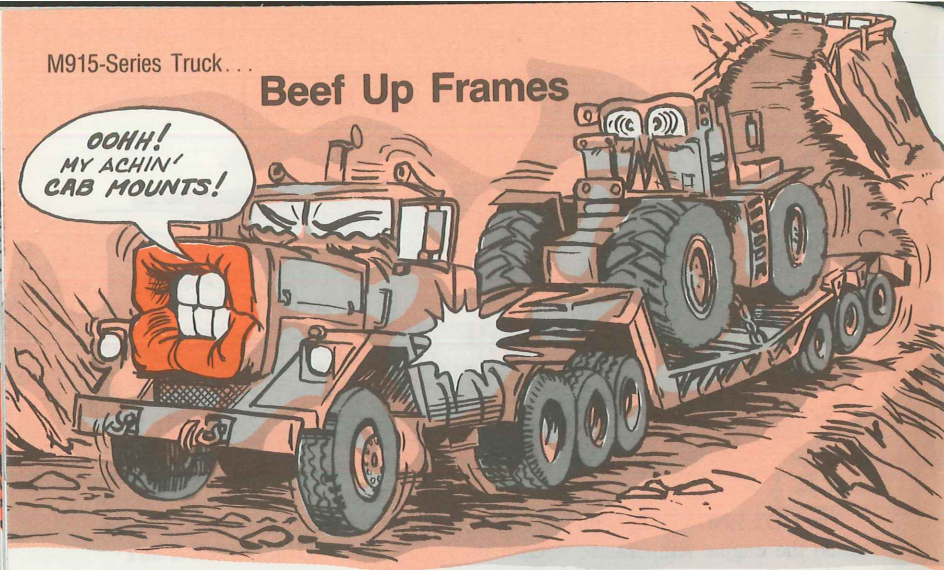
## M939 Turn Signal Lamp NSN

When the flasher Lamp on the turn signal control on your M939-series 5-ton truck goes out, replace it with NSN 6240-00-419-3185. That's the same lamp used in the control units on M809-series 5-tonners.



## Beef Up Frames

OOHH!  
MY ACHIN'  
CAB MOUNTS!

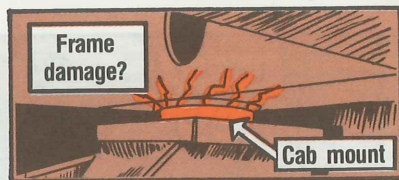


Driving your M915-series truck over rough terrain puts a heap of stress and strain on the truck's cab frames and mounts.

Mounts take only so much vibration before they weaken and break. Broken mounts let the cab shift, adding more strain to the cab frame.

Eyeball the cab mounts and frame during your weekly PMCS. Report any damage.

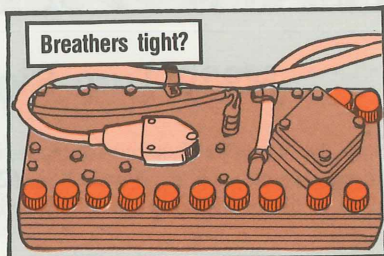
Direct support can then beef up the cab frame and mounts using the instructions in Para 3-3 of TB 43-0001-39-7 (Oct 85).



## Transmission Vent Woes

Some M915-series trucks have loose or missing transmission breather vents. Dust and moisture get into the transmission, causing it to fail.

So check those breathers during semi-annual service to make sure they're in place. If you find a loose one, tighten it. If one is missing, replace it with NSN 2520-01-077-2803.



## Brake Lockup Caution

BRAKES JAMMED—  
MUST BE THAT COUPLING—  
WE JUST REPLACED!

WHAT'S  
GOING ON?

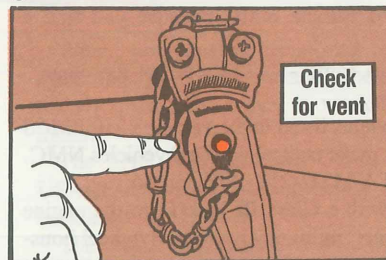
BEEP BEEP



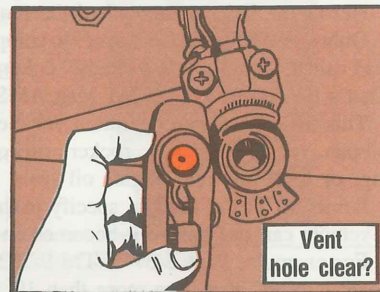
When you mechanics replace the dummy coupling on the front SERVICE glad hand on a 5-ton truck, be sure to

That's because the service dummy coupling needs a breather vent to release air pressure.

If you have the correct coupling and the brakes lock up, look for dirt or paint in the vent hole.



use a vented coupling, NSN 2530-00-740-9445. If you use a regular dummy coupling, the brakes won't release after the driver applies them.



## Tailgate Lock Pin Assembly

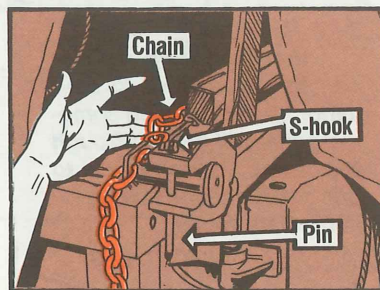
You won't find the tailgate lock pin assembly for the M817 or M51-series 5-ton dump trucks in your parts TM's.

The assembly you need is NSN 4010-00-809-6294, which includes the pin, chain and two S-hooks.

Here are the individual parts:

ITEM	NSN
Pin	5315-00-740-9017
Chain	2510-01-090-9352
S-hook (2 ea)	4030-00-948-7315

This is the same pin assembly as used on M929 and M930 dump trucks. It's shown as Item 2 of Fig 213 in TM 9-2320-272-20P.



## Class III Oil Leak = NMC? Maybe Not!



Hold one!

Don't automatically mark your wheeled vehicle NMC because you find a Class III oil leak on the engine.

The PMCS general inspection section in some -10 TM's is not too clear. Here's the light at the end of the tunnel.

Only Class III leaks from specific components listed in the vehicle's -10 PMCS and called out in the "Not Ready" column make tactical wheeled vehicles NMC. That's the word in TACOM Msg AMSTA-MTC 212100Z Jan 86.

This means you can operate a vehicle with a Class III leak from the engine oil pan, valve lifter cover, rocker arm cover, timing gear cover, flywheel housing, or front and rear engine oil seals.

Some -10 TM's, though, specify in the "Not Ready" column how much oil a vehicle can use before it becomes an NMC factor.

For example, Page 2-37 of TM 9-2320-273-10 for the M915-series says the truck is NMC if it uses more than 10 quarts of oil in 1,000 miles.

If you're not sure where a leak is coming from, report it. Let your mechanic have the final say.

## Plugging Radiator Leaks

Dear Half-Mast,

Is there anything we can add to the radiator to stop minor leaks? We need something that will get us through the day so we won't have to pull a truck out of service for immediate repair.

SFC D. G. S.

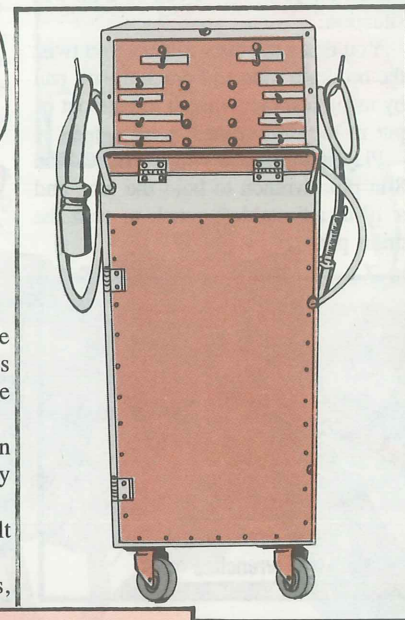
Dear Sergeant D. G. S.,  
NSN 6850-00-598-7311 will get you a 12-oz can of radiator sealant.

Half-Mast

## Build a Light Tester



DON'T BE LEFT IN THE DARK—JUST SEND FOR PLANS AND INSTRUCTIONS!



When you're troubleshooting the lights on a trailer or semitrailer, there's not always a truck handy to work the lights.

The 37th Transportation Group in USAREUR solved that problem by building a light tester.

The tester will test either a 12-volt or 24-volt light system.

To get a set of plans and instructions, drop a line to:

US Army Transportation School  
ATTN: ATSP-CDM  
Ft Eustis, VA 23604

## JD410 Oil—One More Time

Turns out you still have to use the special 10-weight oil in the loader-backhoe's transmission to prevent brake chatter and possible equipment damage. Disregard the info on Page 27 of PS 399. TACOM Msg AMSTA-MVB 111200Z Apr 86 has this latest change.

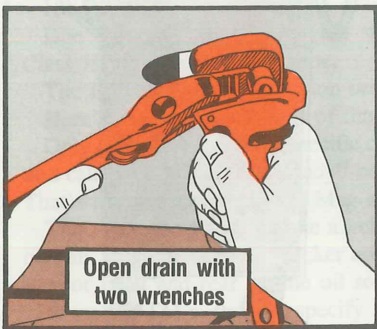
The oil comes under NSN 9150-01-090-5753 for 5 gallons and NSN 9150-01-090-5754 for 55 gallons.

## Stop the Drain Pain

Changing oil in your 750 CFM Sullair air compressor can be a no-win situation.

You drain the dirty oil, but you twist the oil drain tube and crack the oil pan by using just one wrench to take out or put in the drain plug.

Play it safe. Use two wrenches—an 8-in pipe wrench to hold the tube and a 10-in adjustable wrench to turn the drain plug.



Or, to relieve the drain pain, change the drain setup next time you change oil.

Just replace the plug with a 1/4-in brass drain cock, NSN 4820-00-287-4268, from the No. 1 Common shop set.



THEN, THE NEXT TIME YOU CHANGE OIL, OPEN THE VALVE AND LET 'ER DRAIN

## PMCS Correction

Supplemental Operating, Maintenance and Repair Parts Instructions (SOMARPI) 5-4310-452 for the Ingersoll-Rand 250-CFM compressor lists the wrong figures for fuel gage pressure in the PMCS section on Page D-4. As long as the fuel gage reads between 4 and 6 PSI—not the 12-18 PSI listed—your compressor's good to go.

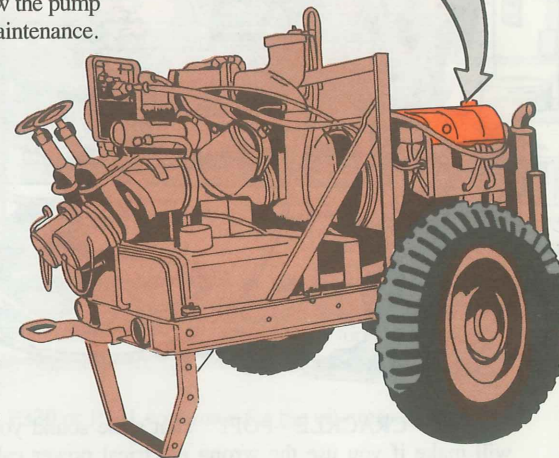
## Cover Is the Key

Failure of your 350 GPM centrifugal pump—Gorman-Rupp Model 84C15-4A084 or Barnes Model US36ACG—can come from a simple goof like swapping engine hoods between the two models or between pumps of the same model.

The engine cover carries your pump's identification plate. That's how the pump is identified for scheduled maintenance.

With a wrong cover, a pump's maintenance schedule is thrown off. It'll either get maintenance it doesn't yet need, or, worse, it won't get maintenance it does need.

No sweat to solve the problem, though. Just "tie" your pump and engine cover together with a dab of paint. Mark 'em both with their own special color, number or symbol—any system that will keep the pump and its cover together.



## Keep It Capped

The radiator cap on the 621B scraper, NSN 2930-01-127-2515, has a nasty habit of loosening when the locking tabs break.

A loose cap can quickly send you and your scraper to the boiling point.

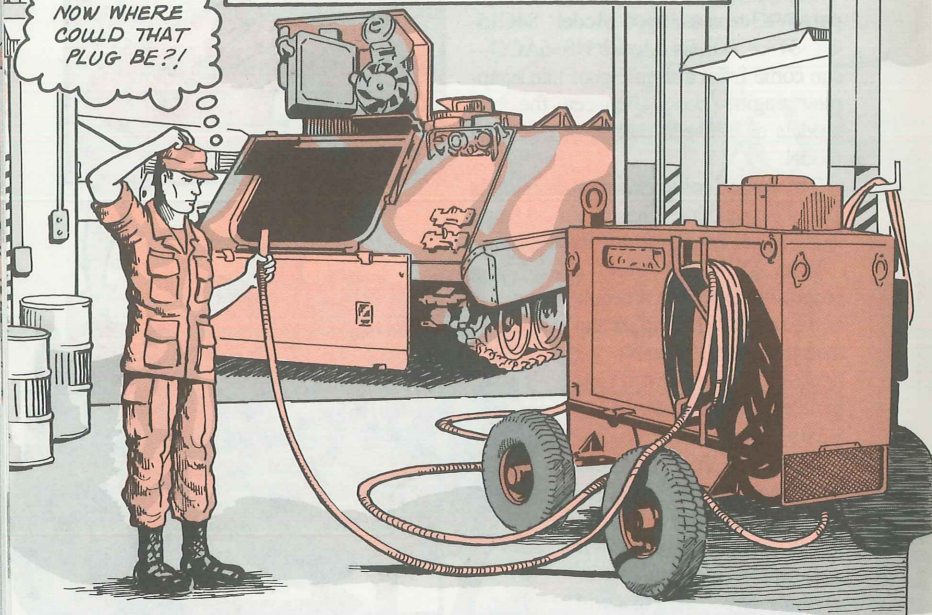
So do a hands-on check of the cap during your before operations PMCS. Make sure the cap fits snug. If it turns without a fight, get it replaced.

NSN 2930-01-059-0826 gets you a locking cap. The NSN's not yet on the AMDF, so order it on a DD Form 1348-6 using RIC S9C.

In a pinch, you can use cap, NSN 2930-00-852-1174. It's the cap for the D7F tractor, but it fits the scraper, too. This cap doesn't lock with a padlock, tho.

# Wrong Plug—Big Shock!

NOW WHERE COULD THAT PLUG BE?!



“ZAP—CRACKLE—POP!” That’s the sound you and your steam cleaner will make if you use the wrong electrical power cable plug.

Your steam cleaner comes without a plug. That’s so you can match a plug to the receptacle you’re plugging into.

No one plug will match every power source used “round-the-world.” So you’ve got to get a plug that meets local electrical codes and mates to the receptacle you’re using.

Make sure the power source voltage matches the voltage listed on the steam cleaner’s data plate.

If you have any problems getting a plug to match the receptacle, call your local AMCCOM Logistic Assistance Representative or write:

**HQ, AMCCOM  
ATTN: AMSMC-MAT-T  
Rock Island, IL 61299-6000**

USING THE WRONG PLUG CAN BE A SHOCKING EXPERIENCE!



# Knock Connector Corrosion

UH, OH! THE FUEL PRESSURE GAGE READS '0'!

WE CAN WIPE THAT PROBLEM RIGHT OUT!



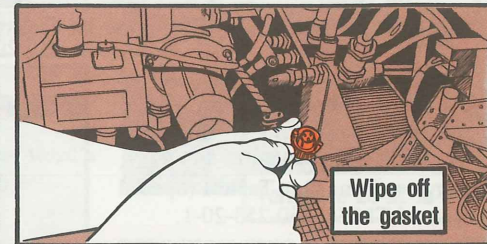
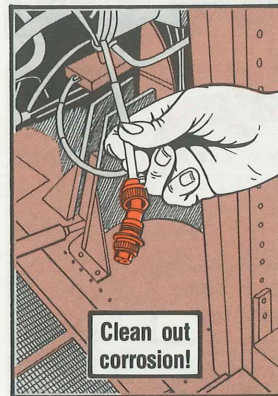
Any time an oil or fuel pressure gage stares back at you with an 0 reading, see if the connectors are corroded.

Chances are moisture or salt buildup has got to the connectors.

Wipe or brush out the P348 connector for the fuel pressure switch in the left and right side fuel bays.

Do the same for the P329, P330 or P331 connector for the oil pressure switch in the forward engine bay.

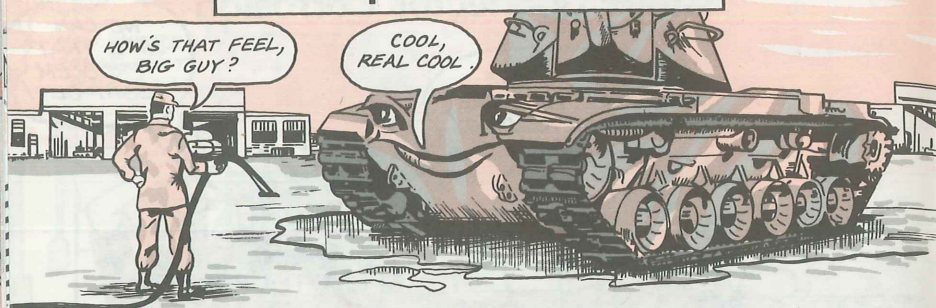
Be sure to unscrew the P348 connector screw cap on the back of the connector to get rid of corrosion.



Wipe off the gasket in the connector. Make sure it’s in place before tightening the connector. Use only finger-tight force.

Never use pliers or any other tool to tighten connectors.

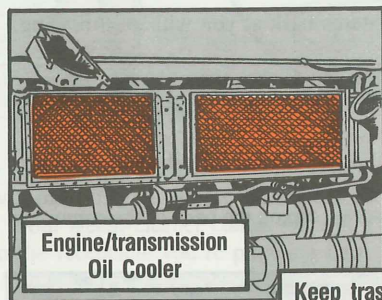
## Cool Tips for Oil Coolers



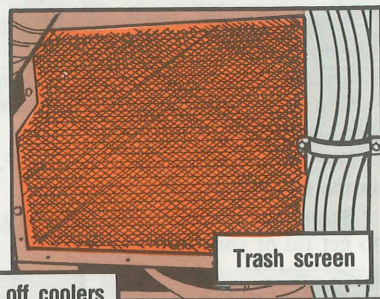
The engine and transmission oil coolers in your tanks deserve every break you can give them to prevent engine and transmission overheating.

Here's how you can keep them cool:

➔ Keep trash cleaned off coolers. There's a screen over the outer surface of the coolers to trap trash so it doesn't stop air flow. If you don't keep the trash cleared off the screen, you've defeated the cooler's purpose.



Engine/transmission Oil Cooler



Trash screen

Keep trash off coolers

➔ Use the oil cooler cleaning tool as often as needed to keep grease and dirt from caking around the cooling fins.

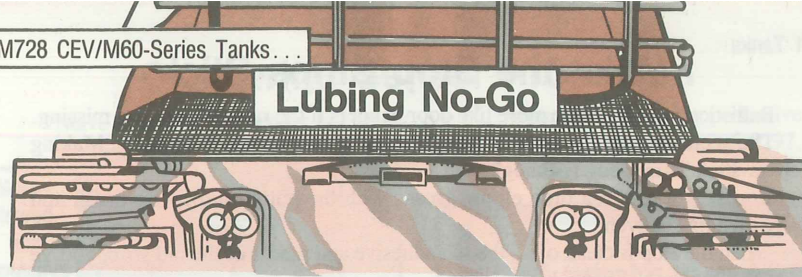
The tool, NSN 4910-00-494-8257, is shown as Item 10 in Table 1 (Special Tools) of TM 9-2350-253-20-1.

➔ Use the tool to spray soapy water on the oil coolers. Let the solution set for a few minutes to loosen the dirt, then flush it away with more soapy water. Clean everything off with plain water and then air dry the coolers.

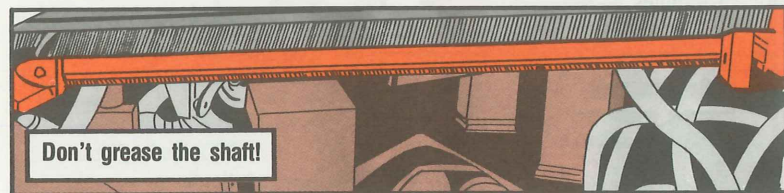


Use the oil cooler cleaning tool

## Lubing No-Go



Crews, scrap any thought of greasing the shaft on the driver's hatch of your M728 CEV and M60-series vehicles. Lubing the shaft won't make the hatch slide easier—but lubing can make it harder to slide.



Don't grease the shaft!

Grease mixed with dirt builds up a gummy, gritty coating on the shaft. Soon the buildup gets in the prelubed bearings and stops them from turning. The hatch gets hard to open and close.

If the hatch won't slide, try wiping the shaft with a clean, dry cloth. Still hard to slide? Get your mechanic to take a look.

## Oil Filter Torque Change

When replacing the transmission oil filter element on your M60-series tank, torque the 10 bolts holding the filter assembly to the transmission to 26-32 lb-ft—not the 30-35 lb-ft called for in the -20 TM's. The new word's in TB 43-0001-39-2 (Apr 86).



Torque to 26-32 lb-ft

## M48/M60-Series Vehicles

The new air cleaner access door comes with eight extra self-locking bolts stored on the underside. Use them as needed, but replace them before you run out, using NSN 5306-01-091-3384.

## Make the Stop Strips Stick

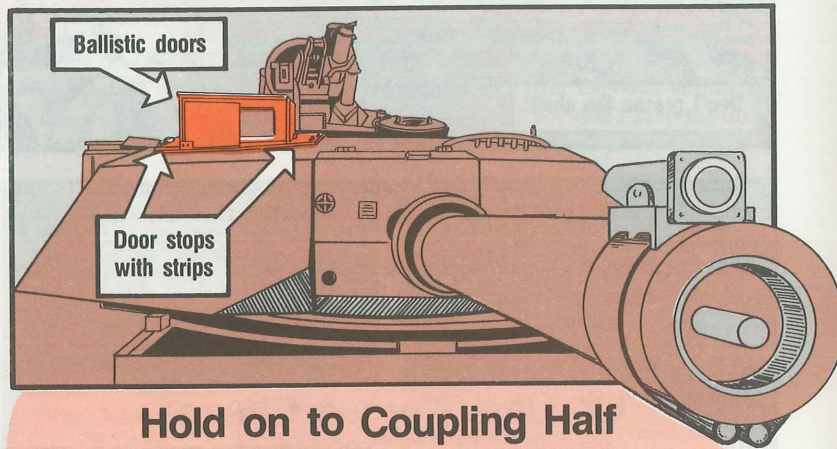
Ballistics door stops are more like door bangers if the rubber strips are missing. The secret to keeping them where they belong is making them stick. Making them stick is no secret, though.

You've got to use a little elbow grease with the putty knife, wire brush and dry cleaning solvent.

When the stop is clean of all the old adhesive and pieces of the old strip, you've got the job just about whipped.

Then take a new strip, NSN 5330-01-102-8213, and apply a heavy coat of adhesive, NSN 8040-01-123-0082, to it and the stop. Wait 15 minutes. Apply a second heavy coat and wait 7 minutes. Mount the strip on the stop and let dry for 15 minutes.

Eyeball Pages 7-188 through 7-193 of TM 9-2350-255-20-2-3-3 for more details.

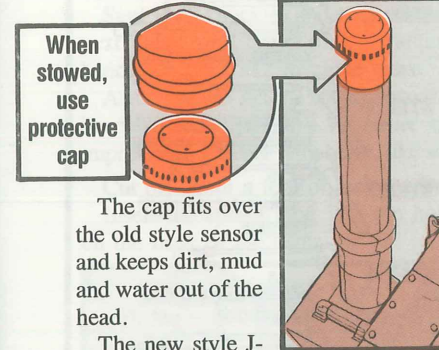


## Hold on to Coupling Half

Before you ship an M1 powerpack to Support, remove and save the fuel line coupling half at the engine fuel filter. That way you'll have a coupling half to use on the replacement pack. There's a big shortage of coupling halves and to keep operating you'll need every one you can get. To prevent contamination, plug or cap the fuel line before shipping the engine to support.

## Crosswind Sensor Protection

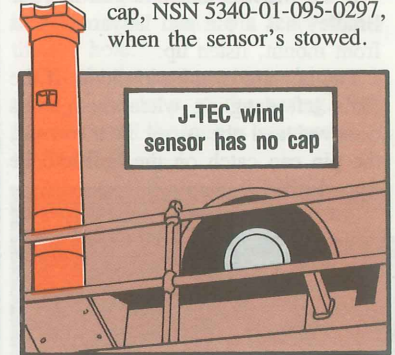
Stave off crosswind sensor failure because of contamination by using protective cap, NSN 5340-01-095-0297, when the sensor's stowed.



The cap fits over the old style sensor and keeps dirt, mud and water out of the head.

The new style J-TEC sensor doesn't have a cap, but it stands up to mud and dirt better.

Eventually the J-TEC sensor will replace the old one. Until then, use the cap and help save yourself an \$1,800 repair job on old style sensors.

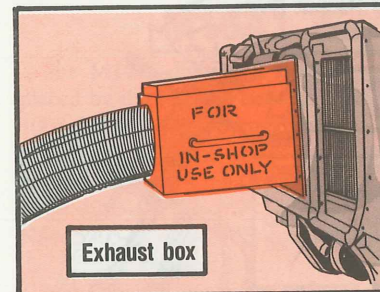


## On Running the Engine Indoors

Running an M1 tank engine indoors can be downright dangerous. Besides the usual problems with exhaust gases, the M1's exhaust is too much and too hot.

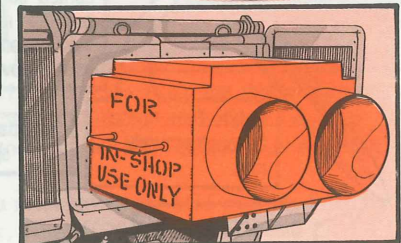
To get plans for the exhaust outlet, write:

**US Army Armor School  
Maintenance Department  
Periodic Services Division  
ATTN: ATSB-MAP  
Ft Knox, KY 40121-5200**



The US Army Armor School at Ft Knox has come up with an exhaust outlet that'll let you funnel hot exhaust gases under or out of your modified maintenance bay doors and still be safe.

Or call AUTOVON 464-6761



## Double Loop for M240C Lanyard

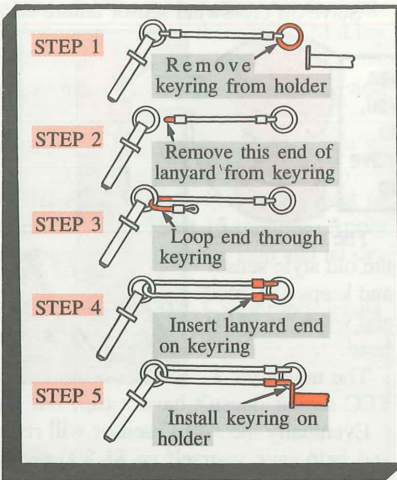
If the M240C machine gun in your Bradley has a pin and lanyard for its front mount, listen up:

The lanyard may be too long. If the pin's left dangling when the gun is removed and the turret is traversed, the pin can catch on the hull and be ripped off.

Solve the problem by double-looping



Double loop lanyard for safety

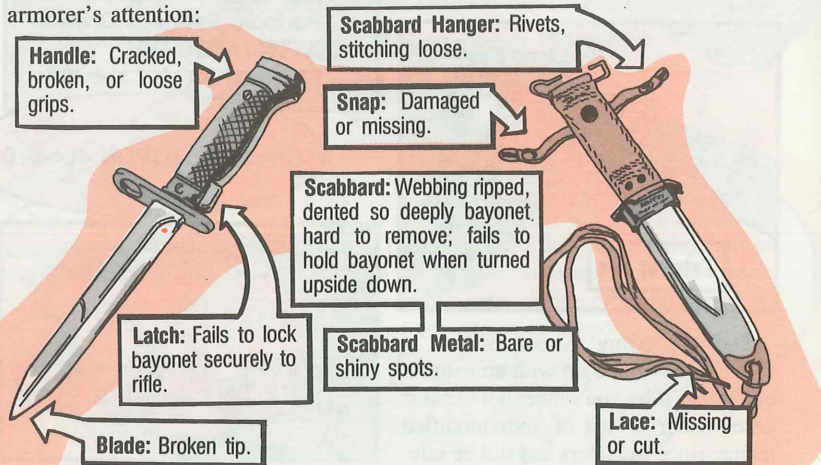


the lanyard. You'll have plenty of lanyard left to mount the gun, but not enough to hang up on the hull.

That way, even if the pin is not put back in its bracket when the machine gun's removed, it'll still be safe.

## Bayonet up to Snuff?

Your rifle's -10 TM's are skimpy on go/no-go info for bayonets and scabbards. If your bayonet or scabbard has any of these defects, it needs your armorer's attention:



## Handy Handle Hook

Save your knuckles and your temper next time you install the retracting handle on your M2 machine guns.

Armorer's can get the spring onto the headless shoulder pin a lot easier by improvising a lacing wire hook, like so:

Cut off about a foot of lacing wire. Insert the spring tang into the hole on the back of the lever.



half an inch...until the lever clears the pin hole.

Double the lacing wire and insert it through the loop of the spring. Pull the wire until the loop is centered over the hole.



Hold the wire steady while you screw in the headless pin.

Tighten the retracting handle lever nut just enough to give the handle free play.

Insert the cotter pin and loop the pin's ends around the lever nut.

Smile. You're done.

Put the retracting slide lever and handle on the shouldered stepped stud. Install the washer and turn the nut down hand tight.

Pivot the charging handle back about

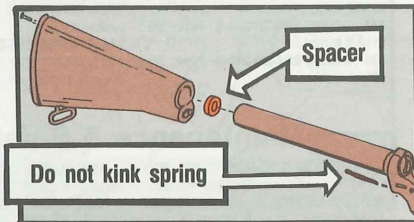
## M16A1 Buttstock Growth

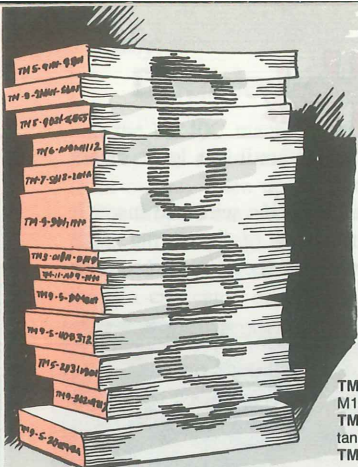
The M16A1 buttstock is being replaced by the M16A2 buttstock, NSN 1005-01-135-4973, by attrition.

The new buttstock is 5/8-in longer, so units receiving it must request spacer, NSN 5365-01-146-7692, and screw, NSN 5305-01-147-8585, to adapt it to the M16A1 receiver.

Installation is the same as for the M16A1 buttstock, except that you install the spacer on the receiver extension before installing the the buttstock assembly. You must have the new, longer buttstock screw, NSN 5305-01-147-8585 to secure the stock to the receiver.

When you get the new buttstock, you must have your M11 rack modified by DS or you can replace with M12 rack, NSN 1095-00-407-0674.





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 5-1940-273-10-HR Apr Hand receipt, 15-person assault boat  
 TM 5-4110-241-23P Mar Refrigerator, 600 cu-ft., 1200 cu-ft., and 4000 cu-ft.  
 TM 5-4310-377-23P Mar Reciprocating model compressor  
 TM 9-1430-604-24P Jul Patriot  
 TM 9-2350-264-CL Dec 85 M1A1 tank  
 TM 9-2350-264-20-1-3-2 Dec 85 M1A1 tank  
 TM 9-2350-264-20-1-3-3 Dec 85 M1A1 tank  
 TM 9-2350-264-20-1-3-5 Dec 85 M1A1 tank  
 TM 9-2350-264-20-2-2-1 Nov 85 M1A1 tank  
 TM 9-2350-264-20-2-2-3 Nov 85 M1A1 tank

TM 9-2350-264-20-2-3-1 Dec 85 M1A1 tank  
 TM 9-2350-264-20-2-3-2 Jan M1A1 tank  
 TM 9-2350-264-20P-2 Jan M1A1 tank  
 TM 9-4935-1544-24P Apr HAWK  
 TM 9-5855-252-12 Feb AN/TAM-4 bottle cleaning and charging station  
 TM 9-5855-252-24P Mar Bottle cleaning and charging station, AN/TAM-4  
 TM 10-8400-201-23 Jun Clothing, equipment  
 TM 11-3895-202-13 Jan RL-31 reel unit  
 TM 11-3895-209-14 Jun RL-207(J)G cable, reeling machines  
 TM 11-5855-263-23 Jun AN/AVS-6 (V)1, -2 aviator's night vision imaging system  
 TM 11-5855-264-14 Jun TS-3895/UV Aviator's night vision imaging system test set  
 TM 11-5805-698-12 Sep 85 TD-1237 multiplexor  
 TM 11-5865-235-24P Oct 85 OA-0169/TSQ-105(V) internal communication group  
 TM 11-5865-236-24P Oct 85 CP-1606/ARW-83(V) radio frequency processor  
 TM 11-5865-245-24P Oct 85 CP-1601/TSQ-105(V) intermediate frequency processor

TM 11-5865-250-24P Oct 85 CV-3836/ARW-83(V) frequency converter  
 TM 11-5895-469-10-HR Jun AN/TSC-61B flight coordination central  
 TM 11-5895-474-10-HR Dec 85 AN/TSQ-71B landing control central  
 TM 11-5895-1107-24-1 Jan MX-10159/G input-output unit  
 TM 11-5895-1107-24-2 Jan MX-10220/G input-output unit  
 TM 11-5895-1108-24 Jan digital data modem control  
 TM 11-6130-417-24P Nov 85 PP-7833/U power supply  
 TM 11-6625-3038-20P Sep AN/USM-465A digital card tester  
 TM 11-6625-3048-24P Oct 85 TS-4072/ARM-185 data link test set  
 TM 11-6665-361-10 Jun MX-7338/PDR-27 test sample  
 TM 43-0003-10 Apr Demilitarization for HAWK  
 TM 43-0103 Jun 84 1A-16  
 TM 55-2350-272-14 Nov 85 Transportability guidance for SUSV  
 TB 55-2840-231-20-3 Jan OH-58A and OH-6A  
 TB 11-6625-450-10/1 Dec 85 TS-183 -183A, -183B battery testers  
 LO 5-3610-286-12 Jan Topographic support printing press  
 LO 5-6115-598-12 Jun 150-KW generator set  
 LO 9-2320-289-12 Jun CUCV  
 LO 9-1090-206-20 Mar M97A2 and M97A1  
 MCRL-2 Apr Master cross reference list  
 Pam 750-10 Feb Index of modification work orders  
 SB 10-523 Jun Size tariff for clothing  
 DA Form 5519-R Apr Tool sign out log/register

### Maintenance & Safety-of-Use Messages

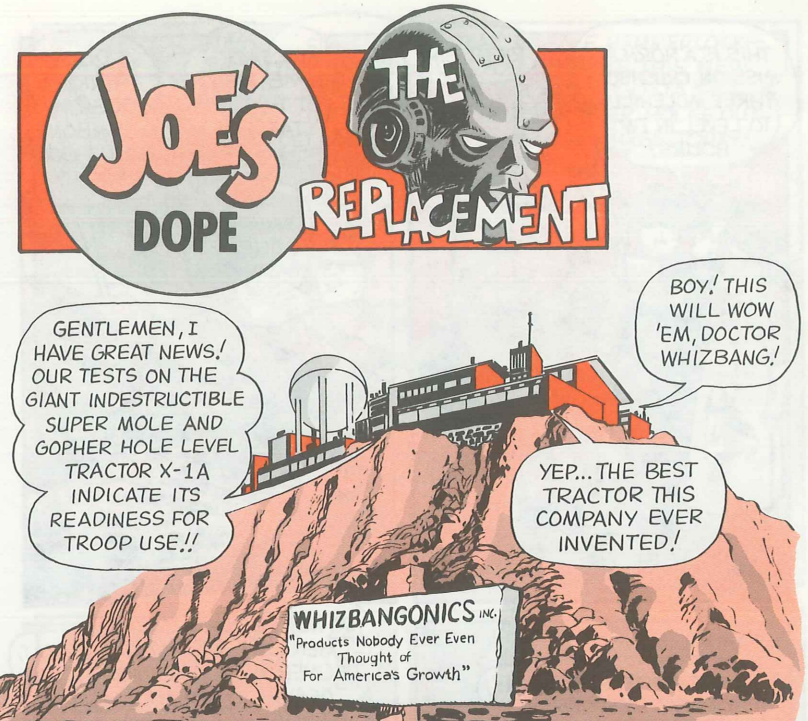
TROSCOM SOU-MES-02-86—600 GPH Reverse Osmosis Water Purification Unit (ROWPU), potential electric shock hazard, AMSTR-MES 201235Z May 86.  
 TROSCOM SOU-MES-08-86—1466A Landing craft utility, one time inspection for exhaust leaks, AMSTR-MES 021300Z Jun 86.  
 AMCCOM 86-14—M229 refill kit, changes paragraph 2c of AMCCOM MA 86-8, AMSMC-MAR-C 151710Z May 86.

AMCCOM 86-15—M3A4 smoke generator, NSN 1040-01-143-9506, proper shutdown procedure, AMSMC-MAR-C 221515Z May 86.  
 AMCCOM 86-16—mount, NSN 1040-00-347-2434, for M3A3/M3A4 smoke generators will not be used with M998 HMMWV, AMSMC-MAR-C 301535Z May 86.  
 TACOM 86-26—M88A1 MRV, limits when towing the M1A1 MBT, AMSTA-MCB 152200Z May 86.

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

#### SMART Message

SMART Msg #71—Invites members of the Army to share examples of locally devised personal computer logistical applications, DALO-PLR 282057Z Apr 86.



JOE'S DOPE

THE REPLACEMENT

GENTLEMEN, I HAVE GREAT NEWS! OUR TESTS ON THE GIANT INDESTRUCTIBLE SUPER MOLE AND GOPHER HOLE LEVEL TRACTOR X-1A INDICATE ITS READINESS FOR TROOP USE!!

BOY! THIS WILL WOW 'EM, DOCTOR WHIZBANG!

YEP... THE BEST TRACTOR THIS COMPANY EVER INVENTED!

WHIZBANGONICS INC.  
 "Products Nobody Ever Even Thought of For America's Growth"

### AND SO... A FEW WEEKS LATER

HMM... YOU SAY IT IS DURABLE?

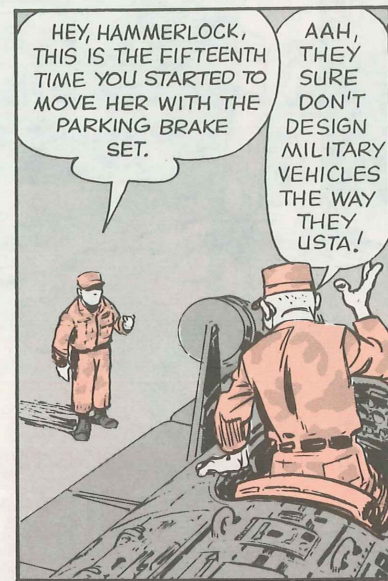
EVEN ABOVE AND BEYOND NORMAL WEAR AND USE!

WELL, PRIVATE CRUSHBONE, Y'LUCKY DOG... YA DREW A NEW DOZER AT LAST!

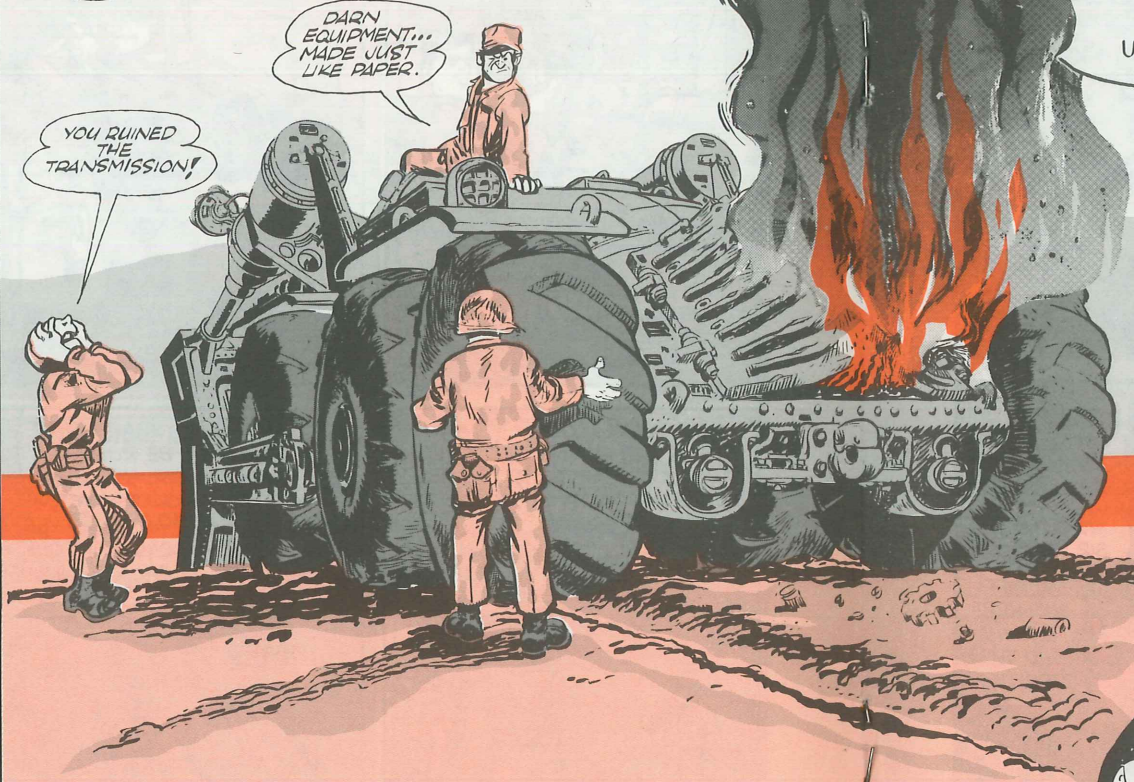
ABOUT TIME!







# Joe's Dope Sheet



Let's just call a spade a spade—  
Equipment will never be made  
That withstands careless use,  
Neglect or abuse—  
Use your "haid" and it's made—in the shade!



WE HAVE THE WORLD'S BEST EQUIPMENT ... *Take care of it*





GENTLEMEN...THIS IS THE ULTIMATE...I HAVE **ELIMINATED THE OPERATOR!**



SEE, THE **ROBOT** OPERATES THE VEHICLE, DOES EVERYTHING IN PERFECT TIMING...NEVER DOES ANYTHING WRONG. HUMAN BEINGS ARE **THRU!**



SO, WHY AIN'T YOU RICH, WHIZBANG?

MAINTENANCE PEOPLE FAILED TO LUBE ROBOT EVERY 5000 MILES...BUT, I AIN'T LICKED YET... I'M WORKING ON A GADGET THAT WILL KICK THE LIVIN' DAYLIGHTS OUTTA THE SUPERVISOR WHEN THE OPERATOR GOOFS!!

## Load Testing Not Required

HAS THAT STAND BEEN LOAD-TESTED?

IT DOESN'T HAVE TO BE, BECAUSE IT'S NOT A LIFTING DEVICE.



Dear Windy,

Our unit has several hydraulic maintenance stands that get a lot of use. TB 43-0142, Safety Inspection and Testing of Lifting Devices, does not mention them, but should they be load-tested periodically?

SFC D. M. H.

Dear SFC D. M. H.,

Since maintenance stands are not lifting devices, there's no need to load-test them. But they do have load limits, which should never be exceeded. For example, the B1 maintenance platform has a load capacity of 500 pounds. Be sure you know and observe the load limits for your stands and platforms.

Windy

## AVIATION MESSAGES

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

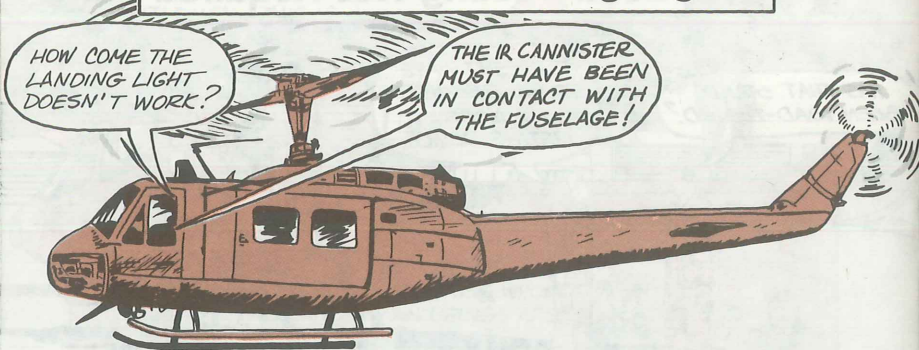
If your unit has not received a message you have an interest in, check with your higher headquarters.

AH-64-86-08, SOF, Technical, 161030Z Apr 86.  
CH-47-86-01, SOF, Technical, CH-47B/C/D, 102315Z Apr 86.  
CH-47-86-02, SOF, Technical,

272100Z Apr 86.  
CH-47-86-03, SOF, Operational, CH-47D, 272300Z Apr 86.  
CH-54-86-04, SOF, Technical, CH-54B, 272030Z Apr 86.  
OH-58-86-02, SOF, Operational, OH-58A/C, 031400Z Apr 86.  
UH-60A-86-06 SOF, Technical, 171600Z Apr 86.

MIM-AH-1-86-ME-01, 102300Z Apr 86.  
MIM-OH-58-86-ME-01, OH-58A, 050145Z Apr 86.  
MIM-OH-6-86-ME-01, OH-6A, 050145Z Apr 86.  
MIM-UH-60A-86-ME-04, 181700Z Apr 86.

## Check Modified Landing Lights

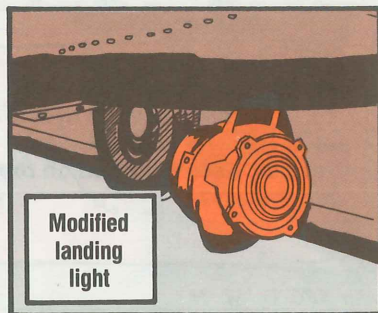


If the landing light on your Huey was modified for NVG training, check it out before you need it. Make sure the light's IR cannister doesn't contact the fuselage when it's fully extended.

If that happens, the motor in the light keeps running until it burns up.

Some landing lights modified by MWO 55-1520-210-30-57 are missing the rivet that keeps the "pink light" cannister from elevating into the bottom of the fuselage when it's fully extended.

When installed properly, the rivet will trip the motor's microswitch before the cannister makes contact with the fuselage.



MAKE SURE THERE'S NO CONTACT WHEN YOU TEST YOUR MODIFIED LIGHT. IF THERE IS, SEND THE LIGHT BACK TO AVIM FOR REPAIR.



Make sure your modified landing light has this rivet

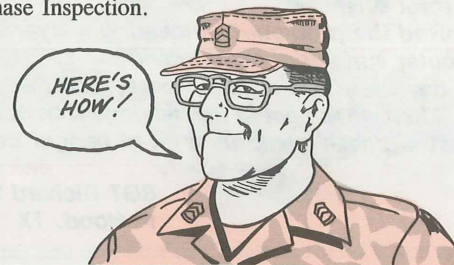


## Prevent ECU Burnout



Your TM's don't spell it out—yet—but your Cobra's Environmental Control Unit (ECU) needs a regular shot of lube. Without it, the turbine wheel bearing burns out. When that happens, you have to remove the ECU and send it to depot for repair. You're talking big bucks and lots of time!

The lube requirement is being added to the TM's, but there's no need to wait. Lube the ECU as soon as possible and schedule it every 150 hours beginning with the next Phase Inspection.



- Remove the fill plug on the turbine.
- Add about 50cc of lubricating oil, NSN 9150-00-180-6266.
- Wait a couple of minutes for the cotton pack to absorb the oil.
- Remove the drain plug and let the excess oil drain out.
- Reinstall the drain and fill plugs. Lockwire them in place with NSN 9505-00-293-4208.

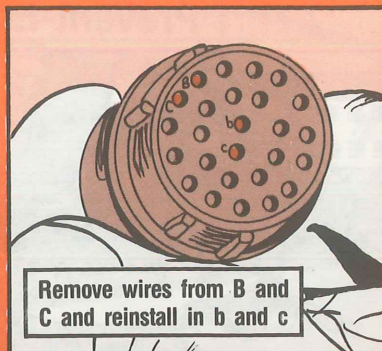
End view of cooling turbine

## Wiring Mixup?

If your AN/ARC-114 FM radio won't transmit in the cipher mode, you may have a simple wiring problem.

In OH-58's converted from A to C models, two wires may have been inserted into the wrong holes of plug P249—the larger of the two KY-58 speech set cannon plugs.

If wire numbers 1ARC114-32A20 and 1ARC114-29A20 are in upper case B and C, change them to lower case b and c. See the diagram on Page F02 of TM 11-1520-228-20-1.



## Grease Keeps Grit Out

Dear Windy,

*During a recent training exercise, my unit had problems with sand and grit getting into the hanger bearings on the tail rotor driveshaft.*

*We solved the problem by smearing a layer of grease on the outer surface of each bearing.*

*Every day we wiped off the grease, along with the dirt and grit. Then we re-coated the bearings with new grease.*

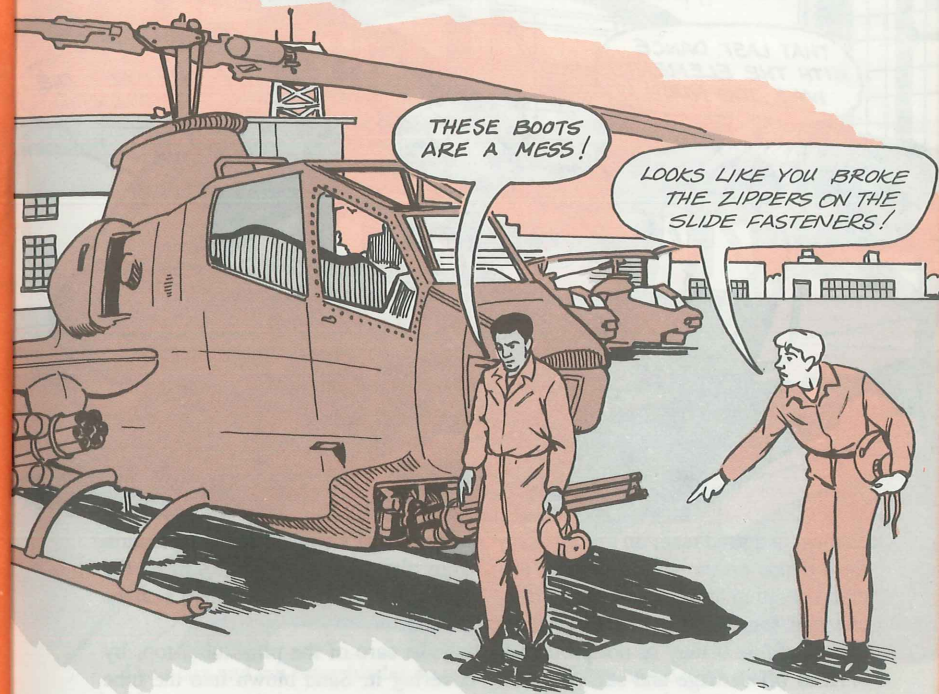
*The extra grease saved us a lot of hanger bearings.*

SGT Richard Solarzano  
Ft Hood, TX



Fliers' Boots...

## Give 'em Some Slack



The slide fastener unit on your fliers' boots can break if you lace 'em too tight. So give 'em a little slack—they'll last longer.

If your zippers break, replace the fastener assembly with NSN 8430-00-020-8448 for boot sizes up to 9 1/2 and NSN 8430-00-020-8447 for sizes 10 and larger. The NSN's are not on the AMDF, so order on DD Form 1348-6. The RIC is S9T.

## Use LSA-T Instead of CLP

Cobra mechs, don't put any more CLP on your rotary weapons. AMCCOM Pam 750-11-1 says CLP is no longer authorized as a cleaner and lubricant for the M134 minigun or the M197 cannon. Instead of CLP, use LSA-T, like it says in LO 9-1090-206-12 and LO 9-1090-203-12. NSN 9150-00-949-0323 gets an 8-oz tube of LSA-T.

## Get Some Protection



Wind and sand team up to do a crazy flash dance on the windshields of aircraft operating in the desert. The almost constant sandblasting can leave them unserviceable if they're not protected.

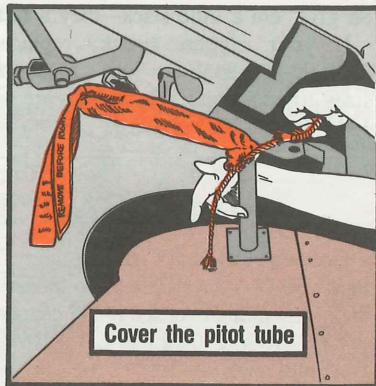
Head off damage and save yourself a lot of work polishing out scratches and replacing windows. Keep them covered when your bird's not in the air. Make sure the covers are on snug so wind and sand can't get under the edges.

Make sure the windshields are clean before you cover them, especially those made of plexiglass. Just run clean water over the window to remove any fine dust that can scratch the window when the wind moves the covers.

Keep covers from touching plexiglass windshields. Use cardboard, Styrofoam, newspapers or any other non-abrasive material. It'll prevent melting of the plexiglass in direct sunlight.

Your bird's engine needs protection from the elements, too. Cover the engine inlet whenever your bird's on the ground.

Take care of the pitot tube, too, by covering it. Sand blown into the tube can plug it up and it will give false readings.



## Blades Need Corrosion Protection



The main and tail rotor blades on your Huey, Cobra and Kiowa take a beating but keep on spinning.

Sand, grit, wind, and rain wear paint off leading edges of the blades, exposing bare metal and inviting corrosion.

You can protect Huey and Cobra metal blades with corrosion preventive compound (CPC), even though it's not required.

The best time to apply CPC is right after a wash job. But use it weekly during wet weather to maintain adequate protection. NSN 8030-00-838-7789 gets a 16-oz aerosol can of CPC.

Although CPC sheds water and protects blades from moisture, it is no substitute for routine cleaning of the blades. Wash and rinse the blades thoroughly every 50 flight hours or 30 days.

Use non-silicone wax, NSN 7930-00-267-5588, to protect OH-58 rotor blades. It, too, should be used after each washing.

An alternate method, if wax is not available, is to use corrosion preventive compound, NSN 8030-00-838-7789.

CPC is not required for OH-58 rotor blades.

# DEEP SIX THAT ROD

IT SAYS  
HERE IN PS  
THAT A SHALLOW  
GROUND CAN BE  
DANGEROUS!

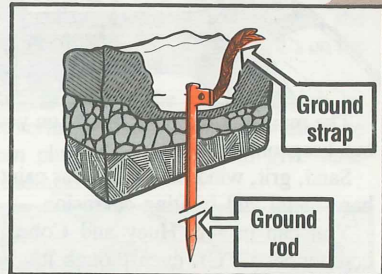


Never shortstop your short stopper when you drive your switchboard's ground rod.

A shallow ground is dangerous.

The ground rod isn't there to drain off the small voltage produced by the BA-30 batteries which power your switchboard.

It's there to protect you against the real bad boys—lightning and the jolt travelling through power lines.



## No Ground is DEADLY

A switchboard operator was killed recently when the WD-1 wire feeding his ungrounded SB-22 was strung over a power line. The Dec 85 issue of *Countermeasure* has the whole story.

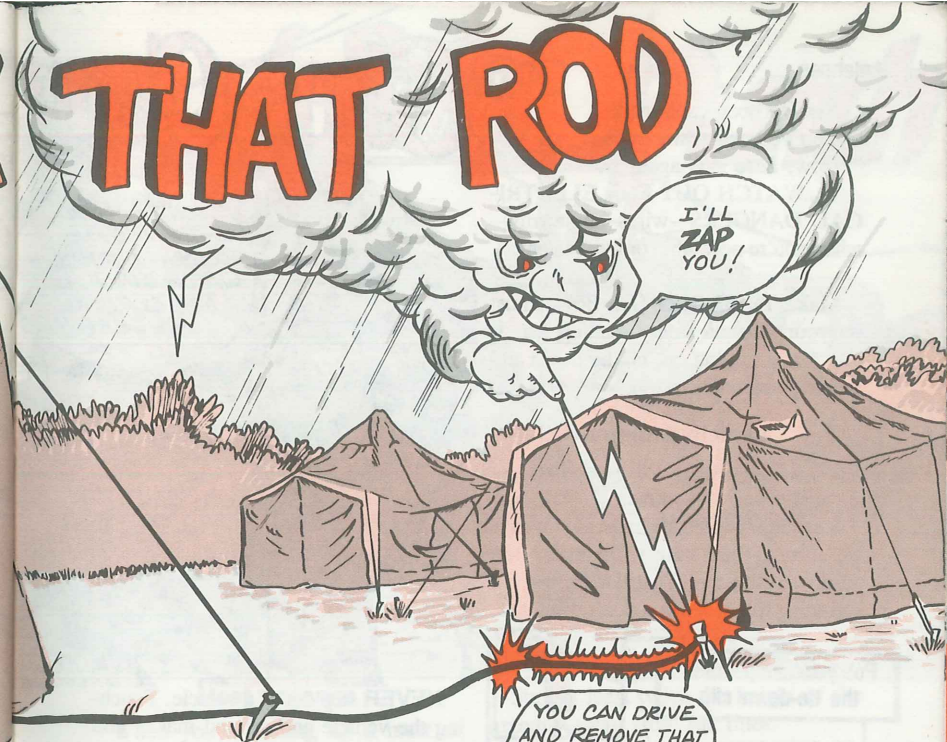
## Countermeasure

Volume 7 □ Number 1

Army Ground Accident Report

December 1985

### Switchboard operator electrocuted Accident review



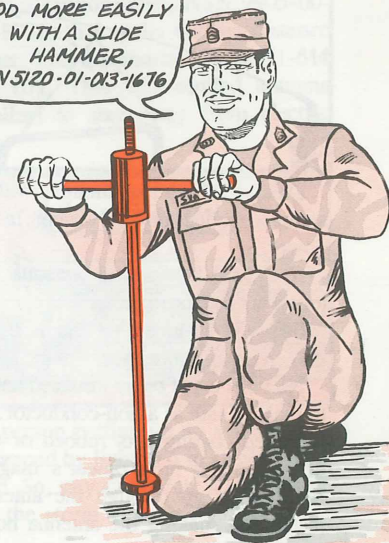
Use the new braided MWO ground strap with your switchboard. It's NSN 5805-01-163-8867.

Field wire is not good enough for a ground. Not only will the copper strands break after use, but the wire can pick up hum and static that ruins your commo.

If the ground strap's terminal doesn't fit your ground rod's attachment snugly, have maintenance add a terminal that will fit. Better safe than sorry.

Safe means driving the rod deep. If a one-piece rod like the MX-148 is a hassle, get the three-section rod used with most generator sets. It's NSN 5975-00-878-3791.

YOU CAN DRIVE AND REMOVE THAT ROD MORE EASILY WITH A SLIDE HAMMER, NSN 5120-01-013-1676





Antennas . . .

You've been cautioned!  
You've been warned!  
Now, here it is again . . .

. . . WATCH OUT FOR ELECTRICAL DANGERS—wires or storms—when you're near whip or mast antennas.

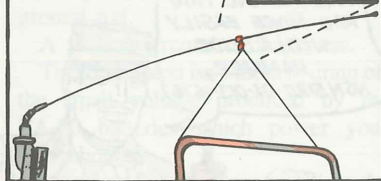
Make TB 43-0129 (Jan 86) a must on your antenna safety reading list. It tells about putting up, taking down and moving antennas.

### Vehicle Antenna

Tie down a whip antenna whenever a vehicle's on the move.

Stay clear of electric lines, if you can. Be sure to put your whip under the tie-down clip, too. That'll keep it from springing free when you don't want it to.

Put your whip under the tie-down clip

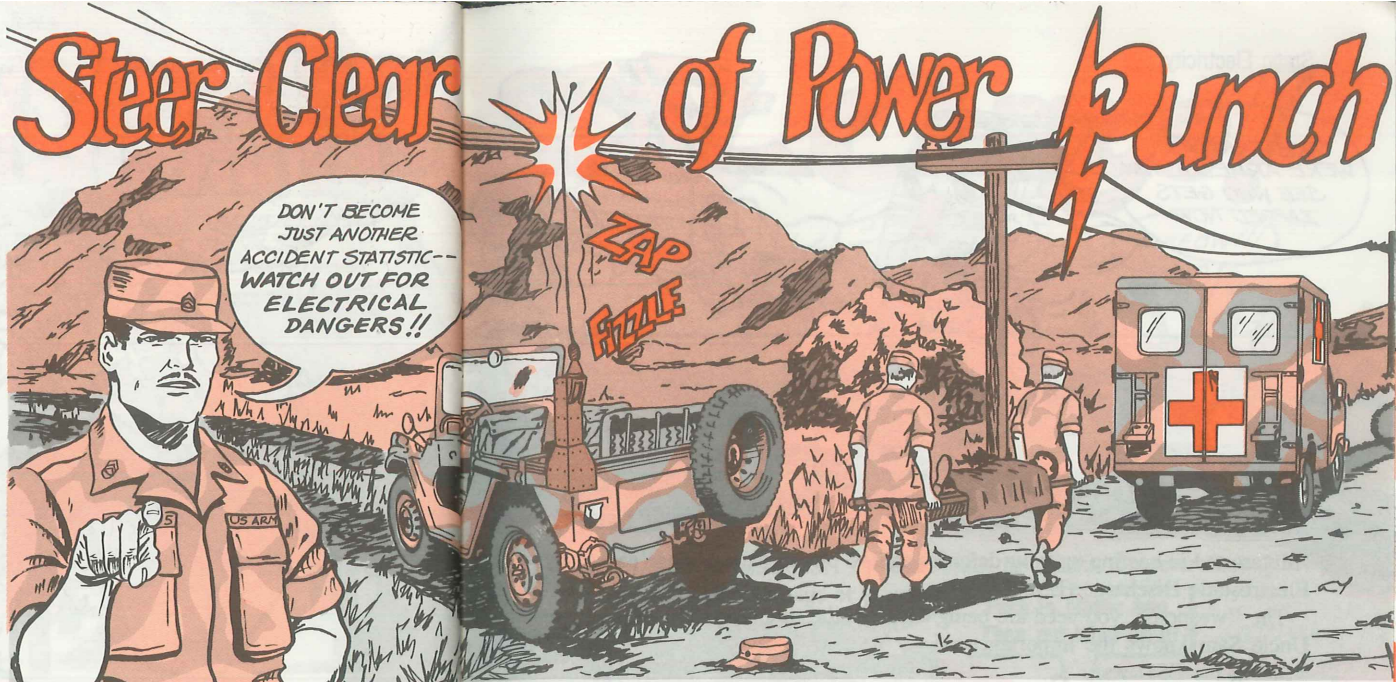


Delay transmitting, though, with the antenna pulled down, except in low power.

If a vehicle-mounted antenna does touch an overhead line:

**NEVER** assume the line is a low-powered telephone line.

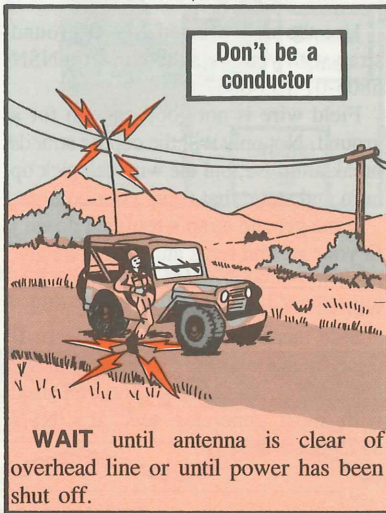
**NEVER** count on an insulated antenna to make it safe as a non-conductor. The insulated coating gets rubbed or worn off. Also the high power's magnetic field might go through the antenna's insulation, making the antenna hot.



DON'T BECOME JUST ANOTHER ACCIDENT STATISTIC—WATCH OUT FOR ELECTRICAL DANGERS!!

**NEVER** step out of a vehicle. Touching the vehicle and ground makes you a conductor . . . maybe a fried one.

Don't be a conductor

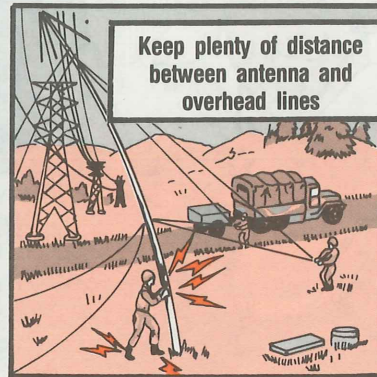


**WAIT** until antenna is clear of overhead line or until power has been shut off.

### Mast Antenna

When you're setting up a mast or tower antenna, such as an RC-292 or OE-254, scan the area in which it's being erected. Make sure there's plenty of distance between the mast and any electric lines.

Keep plenty of distance between antenna and overhead lines



Stay at least twice the height of the antenna away from the lines.

Get a caution label, NSN 9905-00-511-8751, that spells out the distance danger. This is authorized by SB 11-614 (Jun 67). This will remind antenna installers to stay away from electric lines.

Get caution label

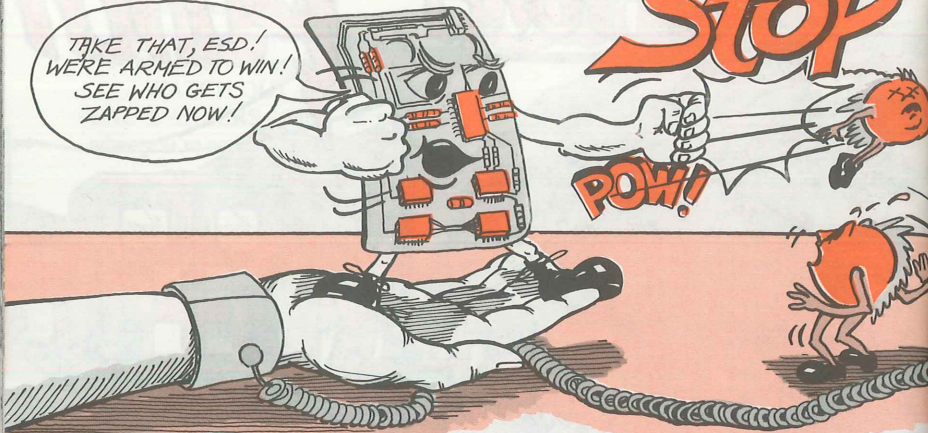


A person putting up an antenna can get zapped by lightning in an electrical storm. So, stay away from all that metal until the storm's passed.

# Stop

POW!

TAKE THAT, ESD!  
WE'RE ARMED TO WIN!  
SEE WHO GETS  
ZAPPED NOW!

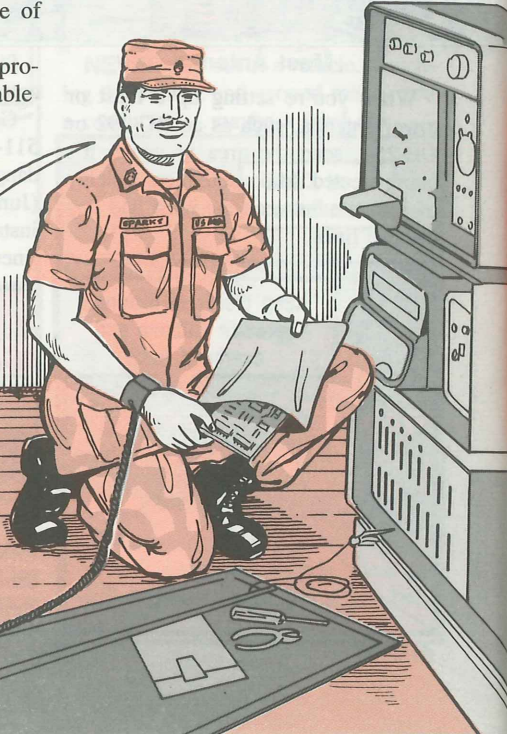


Interested in beefing up your defenses against circuit card damage caused by Electrostatic Discharge (ESD)?

The "weapons" you need are being added to the supply system all the time. Uncle Sam knows the importance of winning the ESD war.

For instance, a complete ESD protective work station is now available under NSN 4940-01-087-3458. It includes a 4-ft by 6-ft floor mat, a 2-ft by 4-ft table mat, a wrist strap and ground cords for both mats.

BE SURE TO HAVE YOUR  
WRIST STRAP ON AND YOUR  
MAT PROPERLY GROUNDED  
TO PROTECT CIRCUIT CARDS  
FROM DAMAGE.



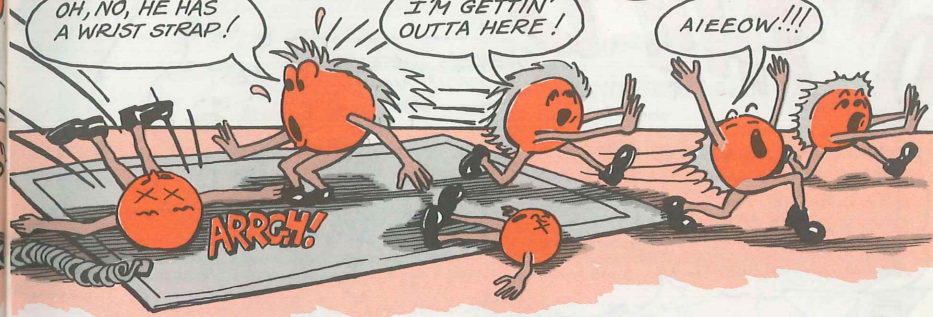
# That Charge!

OH, NO, HE HAS  
A WRIST STRAP!

I'M GETTIN'  
OUTTA HERE!

AIEEOW!!!

ARRGH!



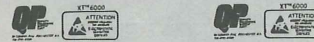
In PS 399, we listed NSN's for anti-static fast packs. There are now NSN's for anti-static storage bags or pouches:

Pack in plastic bag.  
Then put label on it!

Pouch/Bag Size NSN 8105-01-  
(in inches)

5 x 8	096-9527
12 x 18	096-9528
8 x 12	097-4507
10 x 12	120-3375
8 x 10	120-3376
6 x 10	120-3378
4 x 6	120-3380

All NSN's bring 100 bags  
or pouches.



**CAUTION**

SENSITIVE ELECTRONIC DEVICES  
DO NOT SHIP OR STORE NEAR STRONG  
ELECTROSTATIC, ELECTROMAGNETIC,  
MAGNETIC OR RADIOACTIVE FIELDS

package contains an ESD-sensitive item, label it with pressure sensitive electronic device CAUTION decals. This is a mandatory reg requirement.

Apply the labels in accordance with Mil-Std 129.

The yellow and black CAUTION labels are:

SIZE (in inches)	QUANTITY	NSN 7540-01-
2 by 2	500	109-8815
4 by 4	100	110-4906

A cheap way to make sure you have protection for repairable cards is to save the packaging materials they came with. Remember, unit package each circuit card individually to prevent component damage.

To make sure everybody knows your

# OVER THE BOUNCING

HERE'S EVERYTHING YOU NEED...

IT'S A CRYING SHAME BUT SHIPPING DAMAGE TO REPAIRABLE ITEMS OFTEN TURNS MINOR REPAIR JOBS INTO MAJOR REPAIR PROJECTS



For safe shipping know-how, start with a good library. These five pubs will get you on your way:

- SB 38-100, Preservation, Packaging, Packing and Marking Materials
- TM 746-10, General Packaging Instructions for Field Units
- TM 38-230-1, Preservation and Packing, Volume, 1
- TM 38-230-2, Preservation and Packing, Volume, 2
- MIL-STD-129, Marking for Shipment and Storage

Then, make sure you use the right materials. These include:



**BUBBLE PACK MATERIAL:**  
for wrapping, cushioning, immobilizing

Roll size NSN 8135-00-

3/16-in x 24-in x 500-ft	142-9016
1/2-in x 24-in x 250-ft	926-8991

## MAIN

**TAPE, PRESSURE-SENSITIVE:**  
for sealing, waterproofing

Roll size NSN 7510-00-  
4-in x 60-yd 890-9875

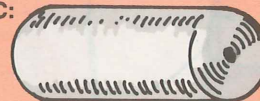


**SHIPPING BAGS, PADDED:**  
for small items

Size	Quantity	NSN 8105-00-
6 x 10-in	250	290-0340
7 1/4 x 12-in	100	290-0342
9 1/2 x 14 1/2-in	100	281-1168

**SHROUDING MATERIAL, PLASTIC:**  
skid-mounted and palletized items

Roll size NSN 8135-00-  
12-ft x 100-ft 579-6489



**BARRIER MATERIAL, GREASE/WATERPROOF:**  
wrapping items covered by corrosion preventive

Roll size NSN 8135-00-  
36-in x 100-yd 753-4661



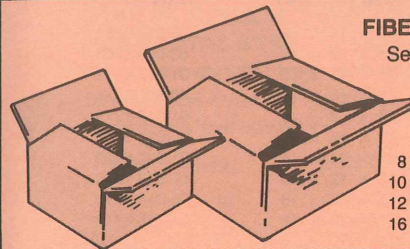
**CORROSION PREVENTIVE:**  
protects machined ferrous surfaces

Container size NSN 8030-00-  
1-gal can 244-1297  
5-gal pail 244-1298

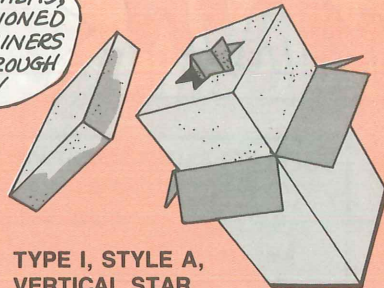
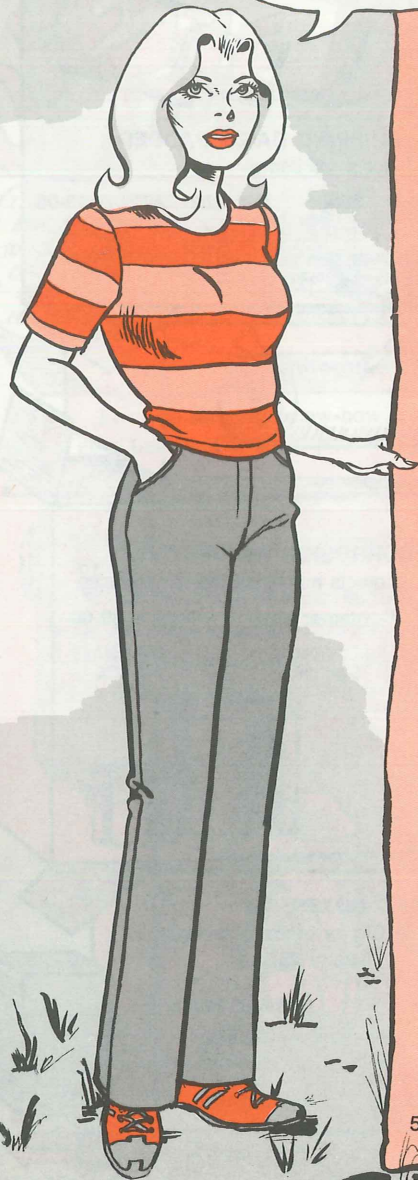


**FIBERBOARD BOXES:**  
See SB 38-100 for bursting strength (lots of 25)

Size	NSN 8115-00-
8 x 8 x 10-in	183-9499
10 x 8 x 6-in	183-9497
12 x 8 x 8-in	183-9493
16 x 12 x 8-in	183-9487



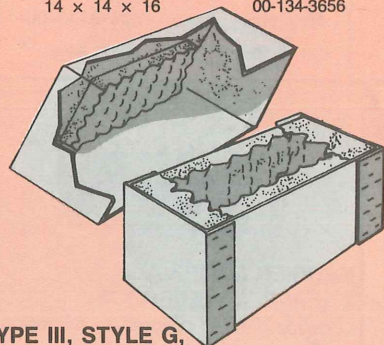
FOR YOUR FRAGILE ITEMS,  
FAST-PACKS—CUSHIONED  
FIBER BOARD CONTAINERS  
—WILL MAKE THAT ROUGH  
ROAD SMOOTH!



**TYPE I, STYLE A,  
VERTICAL STAR**

is good for delicate items like  
meters, gages and instruments:

Size (inches)	NSN 8115-
6 x 6 x 10	00-192-1603
8 x 8 x 12	00-192-1604
10 x 10 x 12	00-192-1605
12 x 12 x 14	00-134-3655
12 x 12 x 16	00-050-5237
14 x 14 x 18	00-134-3656

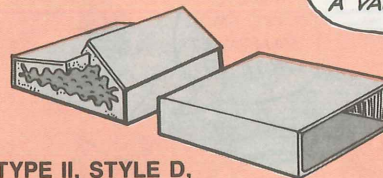


**TYPE III, STYLE G,  
TELESCOPING ENCAPSULATED**

is for bigger items, like receiver-  
transmitters, amplifiers, power supplies,  
and electronic indicators:

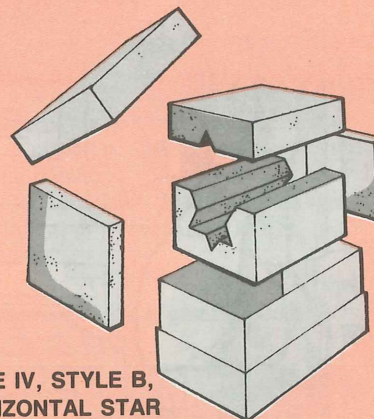
Size (inches)	NSN 8115-
20 x 14 x 9	00-516-0251
24 x 12 x 14	00-550-3558
24 x 18 x 16	01-015-1312
25 x 14 x 14	00-550-3574
26 x 9 x 9	01-015-1313
30 x 16 x 14	00-516-0242
30 x 27 x 14	01-094-6520
32 x 12 x 14	00-519-1825
32 x 18 x 16	01-015-1315
34 x 24 x 18	01-015-1314

THEY COME IN FOUR  
BASIC STYLES FOR  
SAFE SHIPMENT OF  
A VARIETY OF ITEMS!



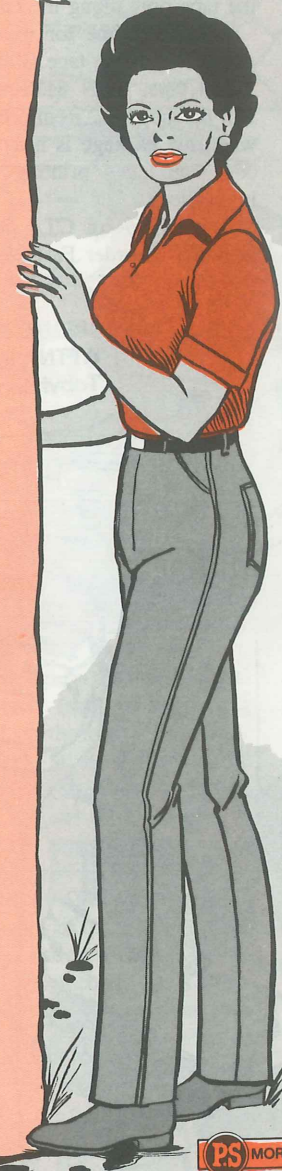
**TYPE II, STYLE D,  
FOLDING CONVOLUTED**  
protects flat items like circuit boards,  
modules and tubes:

Size (inches)	NSN 8115-
6 x 5 x 2 1/2	00-787-2142
6 x 5 x 3 1/2	00-787-2147
9 x 6 x 2 1/2	00-101-7647
9 x 6 x 3 1/2	00-101-7638
10 x 10 x 3 1/2	00-057-1244
12 x 8 x 2 1/2	00-787-2146
12 x 8 x 3 1/2	00-787-2148
13 x 13 x 3 1/2	01-057-1243
16 x 16 x 3 1/2	01-057-1245
18 x 12 x 2 1/2	01-019-4085
18 x 12 x 3 1/2	01-019-4084
24 x 16 x 3 1/2	01-093-3730



**TYPE IV, STYLE B,  
HORIZONTAL STAR**  
is good for shipping long, rectangular  
or cylindrical items like regulators,  
transmitters and amplifiers:

Size (inches)	NSN 8115-
20 x 14 x 14	01-010-8956
22 x 16 x 16	01-006-7257



Fast-packs are reusable if not abused. Open them by making a shallow cut along the taped seams. (On Type II, cut the tape only along the end seam.)


When it's time for reuse, just tape over the existing tape. For most jobs, 3/4-in tape, NSN 8135-00-802-8311, will do the trick. Reinforce the seams when the package is heavy, but don't cover up any printing or mailing instructions.

Appendix A of CTA 50-970 is the authority to order Fast-Packs.



FOR A  
FAST-PACK  
PAMPHLET  
WRITE TO:

USAMC-PSCC  
ATTN: SDSTO-TP-P (Fast-Pack)  
Tobyhanna, PA 18466-5097



A GOOD LIBRARY,  
THE RIGHT SUPPLIES  
AND CAREFUL PACKAGING-  
MEANS SMOOTH SAILING-  
FOR SHIPPED  
REPAIRABLES!

AUG 86

Shipping/Packaging Problems...

## Don't Spare the ROD



Have a gripe on shipping goofs or packaging blunders?

Get your complaints heard with an SF 364 Report of Discrepancy (ROD).

### Shipping

You need an SF 364 to grumble about shipping goofs when:

- You get more or fewer items than you ordered. The line item cost must be more than \$100 each. Of course, you send in an SF 364 on any classified, sensitive or controlled inventory item that's over or short regardless of dollar value.

- You get the wrong item or a

substitute that won't work.

- Data markings on the item are missing or incorrect (such as the wrong NSN painted on the item).

- You receive an item that is more than \$100 and has an expired shelf life.

- You get a duplicate shipment.

- You receive an item after you got an OK from support to cancel the item.

Here, too, the line item cost must be \$100. Send a copy of the status card that OK'd the cancellation with the SF 364.

- You receive somebody else's order.

- Your last status on an item over \$100 says a government activity or depot was shipping you the item by

- You receive an item after you got an OK from support to cancel the item.

AUG 86

55

parcel post, but it never arrived or came damaged.

- The supply paperwork (DD Form 1348-1) is wrong or missing.
- The condition code of the item you receive is wrong on the shipping document.

All errors with shipments from contractors or vendors should be reported on an SF 364 regardless of dollar value.

If the same errors happen again and again from the same supply source, fill out an SF 364—no matter what the item costs.



### Packaging

Fill out an SF 364 on packaging foul-ups when:

- Bad packaging leads to damage on gear or items that affect your combat or combat support mission or your safety and health. You need a hurry-up reply in this case.



CALL: AUTOVON 795-7150  
COMMERCIAL (717) 894-7150  
OR FTS 590 -7150

Followup with a written SF 364 within 24 hours.

- You find packaging problems on hazardous material regardless of item cost.

- Packaging fails to protect the item. It was damaged or lost—or parts of it were lost—and repairing it or replacing the missing parts will cost you more than \$50.



The SF 364 is used for a lot of other packaging problems, but most of those are related to warehousing and shipping-type folks.

If you have an item and packaging error on the same shipment, mark both boxes.

Be sure to check the codes carefully when you fill out your SF 364. The Action Codes help you ask for disposition instructions.

ACTION CODES	
1A	Disposition instructions requested ( <i>Reply on reverse</i> )
1B	Material being retained ( <i>See remarks</i> )
1C	Supporting supply documentation requested
1D	Material still required expedite shipment ( <i>Not applicable to FMS</i> )
1E	Local purchase material to be returned at supplier's expense unless disposition instructions to the contrary are received within 15 days ( <i>Reply on reverse</i> ) ( <i>Not applicable to FMS</i> )
1F	Replacement shipment requested ( <i>Not applicable to FMS</i> )
1G	Reshipment not required. Item to be re-requisitioned.
1H	No action required. Information only
1Z	Other action requested ( <i>See remarks</i> )

Action Code 1F "Replacement shipment requested" applies to local purchase items only. You must re-order if you need the original item.

Get help on where to send your SF 364 from AR 735-11-2, Reporting of Item and Packaging Discrepancies.

TEC Lesson #645-093-7565-A gives help on preparing the SF 364.

No SF 364's in stock? Order a pad of 100 with NSN 7540-00-159-4442.

WHAT HAPPENED TO YOU?



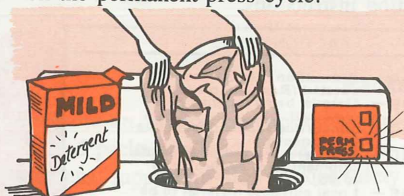
## Care for Your BDU

I WAS WRUNG OUT TO DRY!



Your uniform will last longer and look better if you take care of it. That means washing it the right way—and making repairs when needed.

Machine wash the BDU—including the camouflage cap—in warm water, using a mild detergent. Set the machine on the permanent-press cycle.



Never use chlorine bleach or starch. They mess up the BDU's visual and infrared camouflage protection.

Machine dry the cap, shirt and trousers on the permanent-press setting (130° F or less). Hang up the uniform as soon as you take it out of the dryer to cut down on wrinkles.

Or hand wash the uniform, also in warm water with a mild detergent. Never wring or twist the clothes, and be sure to rinse out all the soap. Hang

the BDU on rust-proof hangers to dry.

Press the BDU only if your local command OK's it. Again, use a permanent-press or low setting on your iron.

HOW ABOUT A PRESS?



SURE... IF COMMAND OK'S IT!

Chapter 4 of TM 10-8400-201-23 tells how to make repairs on the shirt and trousers. Here are the NSN's you need to put together a mending kit.

Item	NSN
Buttons	8315-00-899-0029
Thread	8310-01-066-0973
Leg tie straps	8315-00-255-7673
Material	8305-01-057-2131

The NSN's for the thread and material aren't on the AMDF. Order on a DD Form 1348-6. The RIC is S9T.

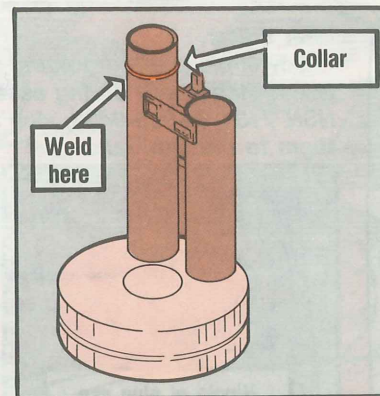
## Weld Ring Around the Collar

A missing smokestack collar will make an M67 immersion heater useless. The heater must be replaced.

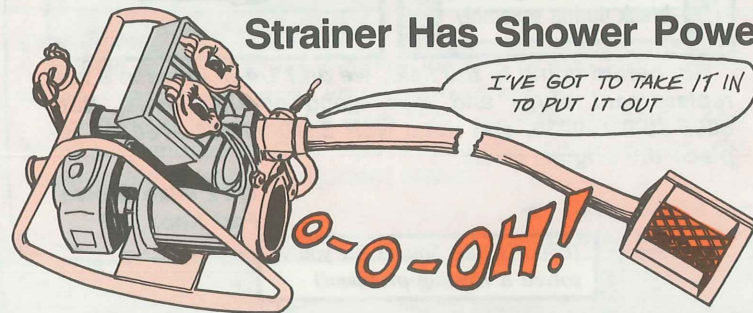
Sometimes the weld that holds the collar breaks loose, so make sure it's holding snug.

If the collar gets loose or comes off, report it.

Your mech'll weld the collar all the way around. This type of bonding will make it stronger and last longer.



## Strainer Has Shower Power



A clogged water line strainer on the water pump will reduce the water to a trickle or stop water altogether in an 8-shower head portable bath unit.

When the sediment strainer element is clogged, the water line strainer will stop up. If the element is missing, silt and dirt will foul the pump, hose, water heater and shower heads.

Make sure the element is in place before starting the pump.

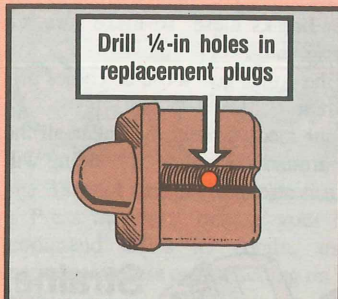
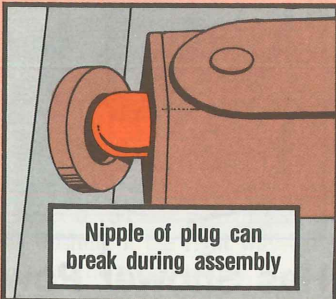
Clean the element every 8 hours of operation when the water source is a stream, lake, river or pond, like it says in Para 3-11 of TM 10-4510-201-14.



## Dowel Plug Fix

Dear Editor,

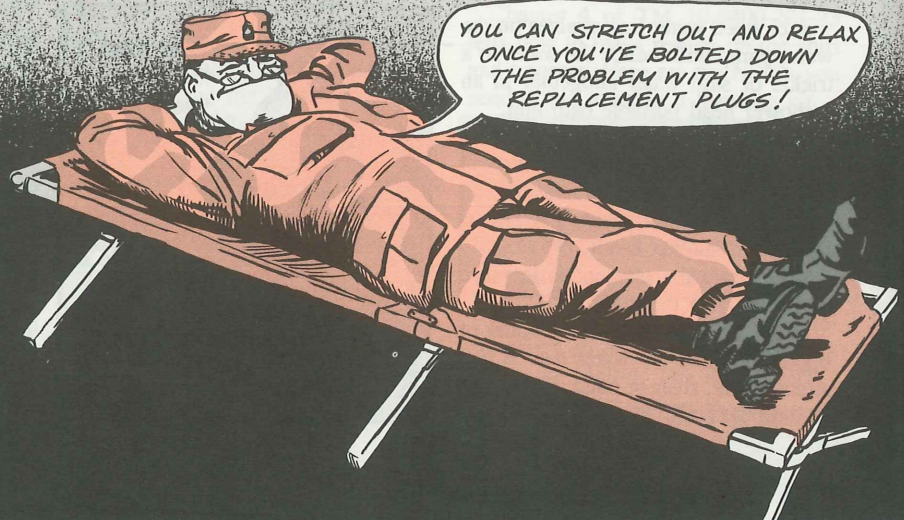
Dowel plugs of our folding cots often break when the cots are stretched out during assembly. But replacement plugs, NSN 7105-00-935-0433, don't have bolt holes for securing them to the side rails.



So, before going to the field, we drill 1/4-in holes in a few replacement plugs and take along enough bolts, NSN 5305-00-050-9236, and nuts, NSN 5310-00-934-9760, to replace the original rivets.

CW2 Mike Brown  
Fort Knox, KY

(Editor's note: Sounds like you've solved a riveting problem!)



## Equipment Status Worksheet

ONLY ONE FORM?



Dear Editor,

Instead of going to ten different places for info to make out forms, I've made a handy equipment worksheet.

The date of the latest DA Pam 310-1 microfiche number and frame are penciled in. Clear tape is put on the status column and color-coded to show equipment status.

Mr. David Shuler  
Ft Lewis, WA

### EQUIPMENT WORKSHEET

UNIT \_\_\_\_\_ ADDRESS \_\_\_\_\_ TEL# \_\_\_\_\_ UIC \_\_\_\_\_ DODAAC \_\_\_\_\_ MTO/EFF DATE \_\_\_\_\_ FAD \_\_\_\_\_ UNO A \_\_\_\_\_ UNO B \_\_\_\_\_ UNO C \_\_\_\_\_  
SECTION \_\_\_\_\_ DIC/NOIC \_\_\_\_\_ SUPPORT'S DODAAC \_\_\_\_\_ PLL DODAAC \_\_\_\_\_

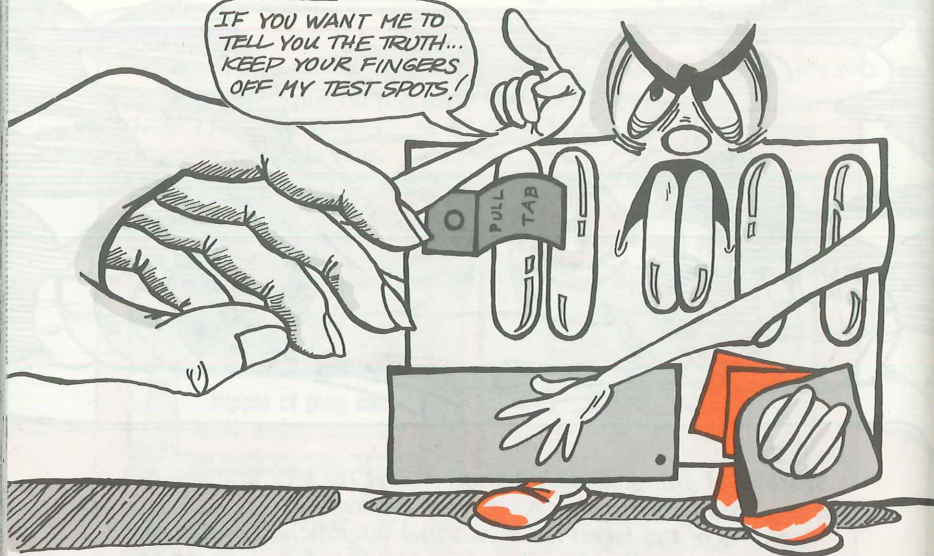
NOMENCLATURE	MODEL	S/N	ADM #	NSN	ERC	MCSR	ECC	W/ESDC	AUTH.	O/H	2400-9	LIN #	PUBLICATIONS (REF. DA PAM 310-1)	STATUS	(DATED )	MICROFICHE #	FRAME #

(Editor's note: Thanks for sharing your worksheet. I'm all for saving time. Remember, the Weapons/Equipment System Designator Code has been replaced by the new End Item Code. You'll want to change the W/ESDC column to read EIC.)



## Fingering Detector Trouble

IF YOU WANT ME TO TELL YOU THE TRUTH... KEEP YOUR FINGERS OFF MY TEST SPOTS!

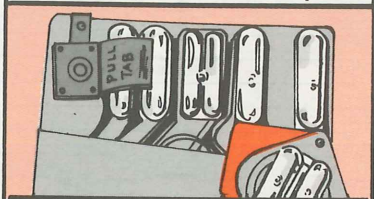


Keep your fingers off test spots when you use your M256 detector strips. Touching the test spots may contaminate them and give false readings.

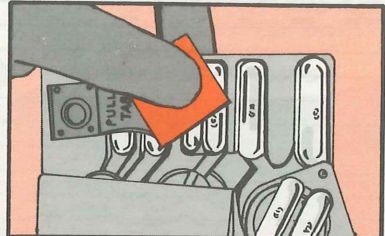
Keep the protective strip on until you're ready to make a test. Then use the protective strip to hold the M256.

Save your fingers by saving the protective pads from the hinged heater assembly. Use the pads to crush the M256's glass ampoules. The pads protect

### Save heater pads to break ampoules



Keep strip on until you're ready to make test



Use heater protective pads to break glass

your gloves from glass punctures.

When you're done with your M256, turn it in to your NBC NCO for proper disposal.

## How's your NBC Form?

Dear Editor,

I've made up an in-processing form for my NBC room which may be helpful to others.

When a new soldier in-processes to my unit, the form covers everything I need to know. The checklist works just fine.

NBC Inprocessing Checklist		
NAME	RANK	SSN
SECTION		
1. Protective Mask Type: _____	Checked By _____	Date _____
a. Fitting/Size _____	_____	_____
b. Testing _____	_____	_____
c. Eye Inserts YES _____ NO _____	_____	_____
d. Put On, Clear, and Check Mask for leaks with banana oil _____	_____	_____
2. Suit, Chemical Protective _____	_____	_____
a. Fitting/Size _____	_____	_____
3. Gloves, Chemical Protective _____	_____	_____
a. Fitting/Size w/inserts _____	_____	_____
4. Footwear, Chemical Protective _____	_____	_____
a. Putting On Footwear _____	_____	_____
5. Nerve Agent Antidote MK-1 _____	_____	_____
a. Give First Aid To Nerve Agent Casualty _____	_____	_____
6. Brief on Wartime Reserve _____	_____	_____
7. Read Unit NBC SOP _____	_____	_____
8. Additional _____	_____	_____
I Certify that I have completed processing as stated above.		
NAME _____	DATE _____	

SP4 Larry W. Holcomb  
USAREUR

(Editor's note: Sounds great to me and it should make for a smoother running NBC room.)



CARELESS OPERATING-  
PROCEDURES CAN MAKE  
EVEN THE MOST ADVANCED  
EQUIPMENT USELESS!

## No Need to Change Fuses

Forget instructions on Page 51 of PS 399 to change fuses of the AN/GRC-122, -142 RATT rig when you switch power source. The RATT rig has built-in protection from power surges and overload during AC operation. Therefore, you can leave the 6½-amp fuses in the AN/UGC-74 teletype-writer at all times.

## Turret Safety or Death?

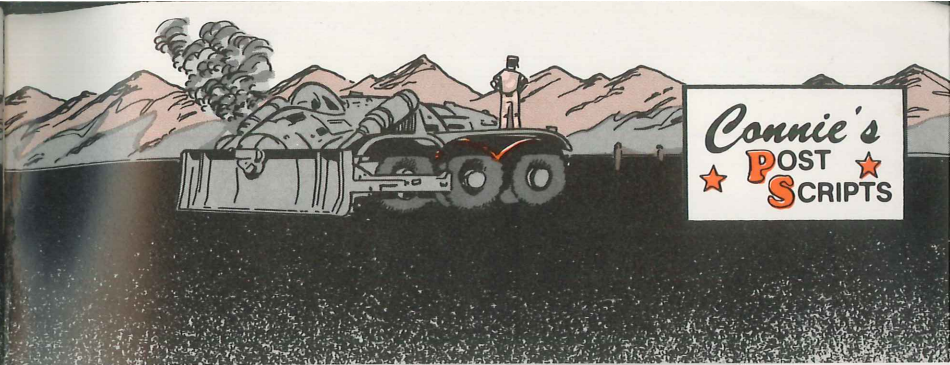
There's a good reason why your -10 TM's warn you to lock the turret before anyone climbs from the turret into the driver's seat or back out again. You lock it to prevent accidents. Someone did not lock the turret, the turret was traversed while someone was between the turret and hull—and some one got killed. Never make a move through the turret basket unless the turret is locked. Or you may not move again, ever.

Power Line Kits...

## Electrical Indicator Unsafe

You can be killed if you use the electrical indicator, NSN 6625-01-060-3728, in the power line maintenance service kits—it's unsafe! Turn it in. It's no longer required and will be dropped from SC 4940-95-CL-A86 and -A87. The word is in AMCCOM Safety-Of-Use Msg AMSMC-MAT 151431Z May 86.

Would You Stake Your Life <sup>right now</sup> on <sub>A</sub>



Connie's  
★ POST ★  
SCRIPTS

## Get Burner Repair Kit

You can get a burner repair kit for an M1950 Yukon space heater's oil burner with NSN 4520-01-202-4520. That saves replacing the entire burner. The kit contains a loop and two retainers, cotter pins and screws.

## Shackle NSN

If you need the shackle that holds the hook block to the front blade on M2380/2385 20-ton cranes, get it with NSN 4030-00-185-0487. The shackle will be added to Fig 295 of TM 5-3810-232-20P.

## Brake Caging Bolts

Get the brake chamber caging bolt for the spring brakes on M939-series 5-ton trucks with NSN 2530-01-095-3561. The plug for the brake chamber hole is NSN 2530-01-084-6975. These NSN's will be showing up in TM 9-2320-272-20P.

## ¼-ton Trailer Cable

Use NSN 2590-00-855-9304 to get the intervehicular cable for the M416A1 and M416 ¼-ton trailers. The cable listed in TM 9-2330-251-14&P for the M416 is too long.

## Red Tape Mistake

Change NSN 7510-00-550-7216 for CUCV, rear window, red tape listed on Page 36 of PS 402 to NSN 7510-00-550-7126.

## Turn In T142 Track

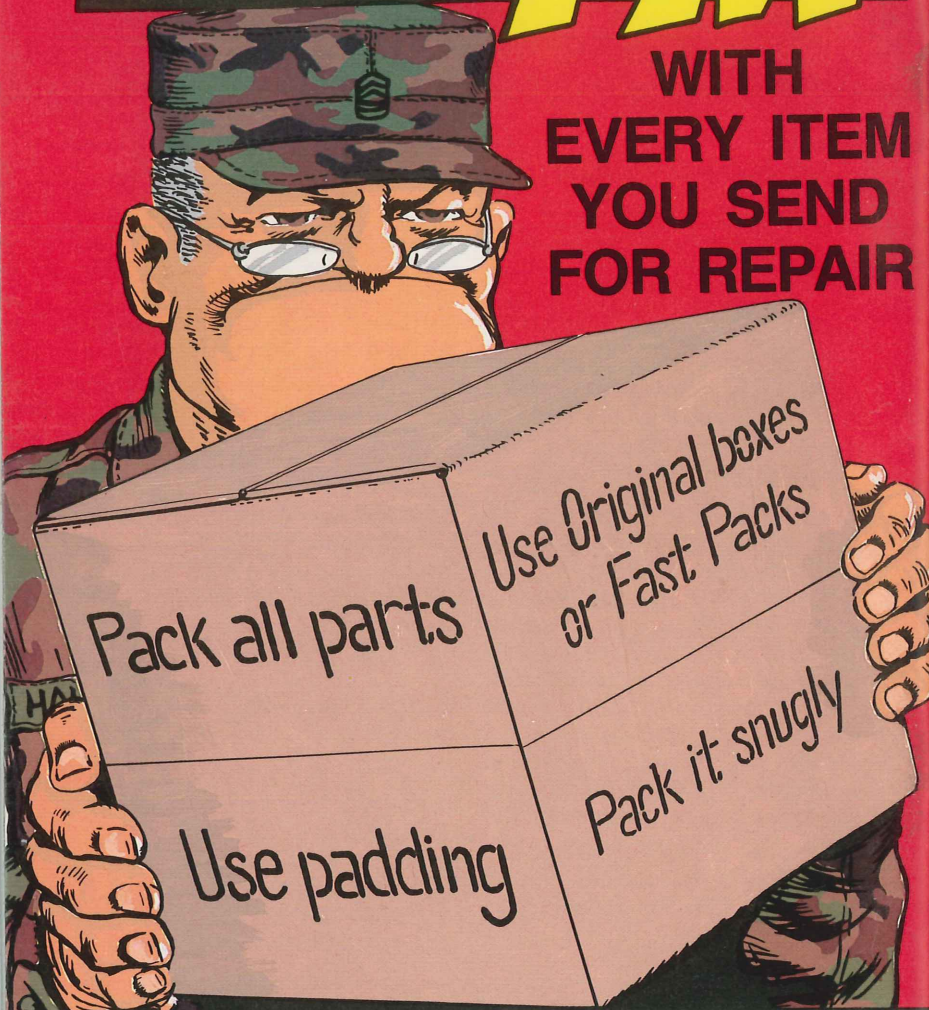
When you replace T142 track on an M60-series tank, turn in the old track for rebuild. Because of replacement costs and supply demand, depots world-wide are now in the T142 rebuild business. Track rebuild saves almost \$16 a shoe and makes replacement track available when you need it.

the Condition of Your Equipment?

# PACK

# PM

WITH  
EVERY ITEM  
YOU SEND  
FOR REPAIR



Pack all parts

Use Original boxes  
or Fast Packs

Use padding

Pack it snugly

See "Over The Bouncing Main" Pages 50-54