

Issue 504

PS

November  
1994

# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-504

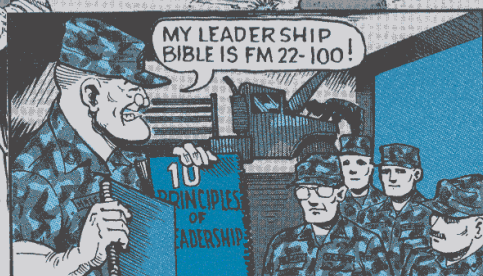
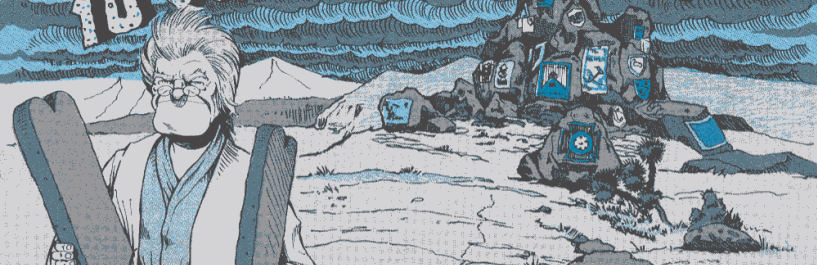
Read and  
heed, then  
pass along!

CAMP  
BASEY  
EXPRESS

SURE GLAD  
WE PULLED  
OUR PM.



# 10 COMMANDMENTS OF LEADERSHIP



**I. THOU SHALT BE HONEST**

TRAIN TO BE PROFICIENT!

**II. THOU SHALT BE PREPARED**

**III. THOU SHALT BE RESPONSIBLE**

SEEK AND TAKE RESPONSIBILITY!

**IV. THOU SHALT BE DECISIVE**

MAKE SOUND, TIMELY DECISIONS!

**V. THOU SHALT PRACTICE WHAT YOU PREACH**

SET THE EXAMPLE, SET STANDARDS, THEN FOLLOW THROUGH!

COACH, ENCOURAGE AND TRAIN!

**VI. THOU SHALT KNOW THY SOLDIERS AND CARE FOR THEM**

**VII. THOU SHALT KEEP THY SOLDIERS INFORMED**

LISTEN, BE OPEN TO OTHERS IDEAS!

HELP SOLDIERS DECIDE HOW TO DO THEIR JOB RIGHT!

**VIII. THOU SHALT MAKE THY SOLDIERS RESPONSIBLE**

**IX. THOU SHALT BE CLEAR AND DECISIVE**

EXPLAIN THE TASK, WHY IT NEEDS TO BE DONE, THEN LET THEM DO THE JOB!

**X. THOU SHALT BUILD A TEAM**

A GOOD TEAM FINDS WAYS TO DO THE JOB!



THE PREVENTIVE MAINTENANCE MONTHLY

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

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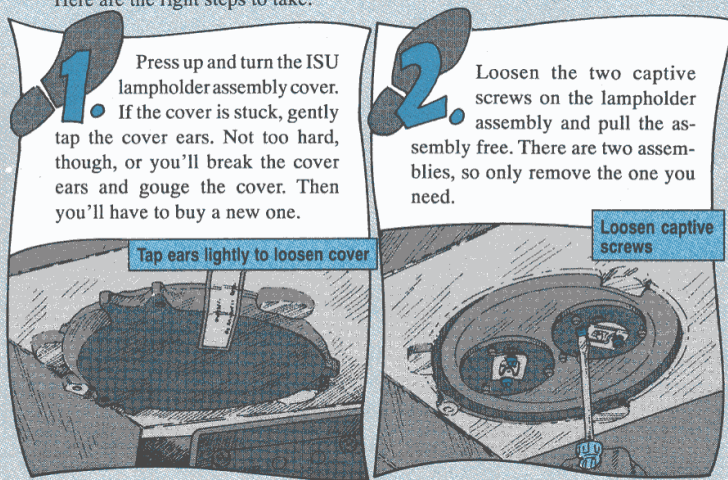
# Use Care to



**M**echanics, it'll be lights out for sure if you're not careful when you change the lamp in the M2/M3 Bradley's Integrated Sight Unit (ISU).

Rough handling damages the lampholder assembly cover. You can also break off the lamp inside its holder.

Here are the right steps to take:

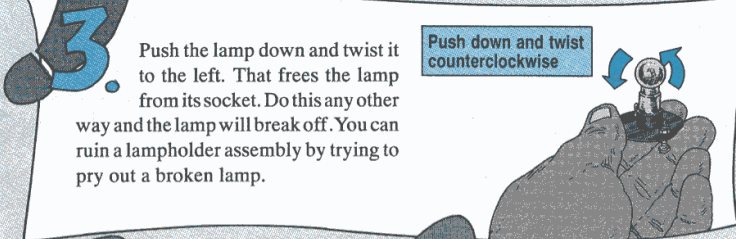


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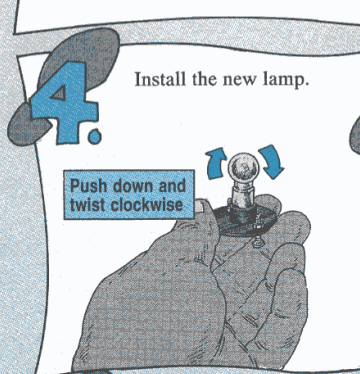
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# Remove ISU Lamp



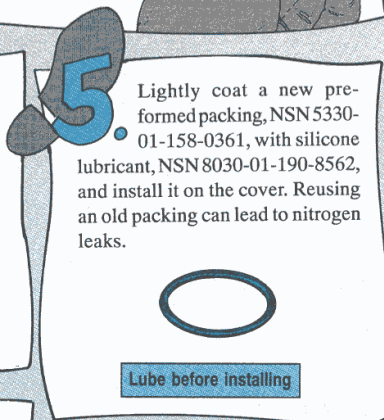
**3.** Push the lamp down and twist it to the left. That frees the lamp from its socket. Do this any other way and the lamp will break off. You can ruin a lampholder assembly by trying to pry out a broken lamp.

Push down and twist counter-clockwise



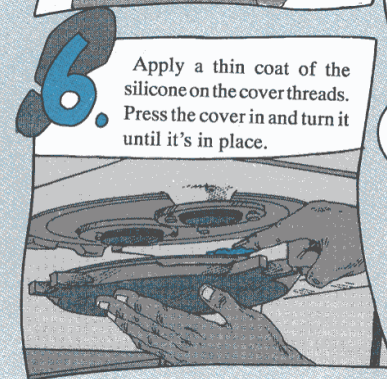
**4.** Install the new lamp.

Push down and twist clockwise.



**5.** Lightly coat a new pre-formed packing, NSN 5330-01-158-0361, with silicone lubricant, NSN 8030-01-190-8562, and install it on the cover. Reusing an old packing can lead to nitrogen leaks.

Lube before installing



**6.** Apply a thin coat of the silicone on the cover threads. Press the cover in and turn it until it's in place.

FINISH THE JOB BY CHECKING CAREFULLY FOR ANY LEAKS AFTER CHARGING.

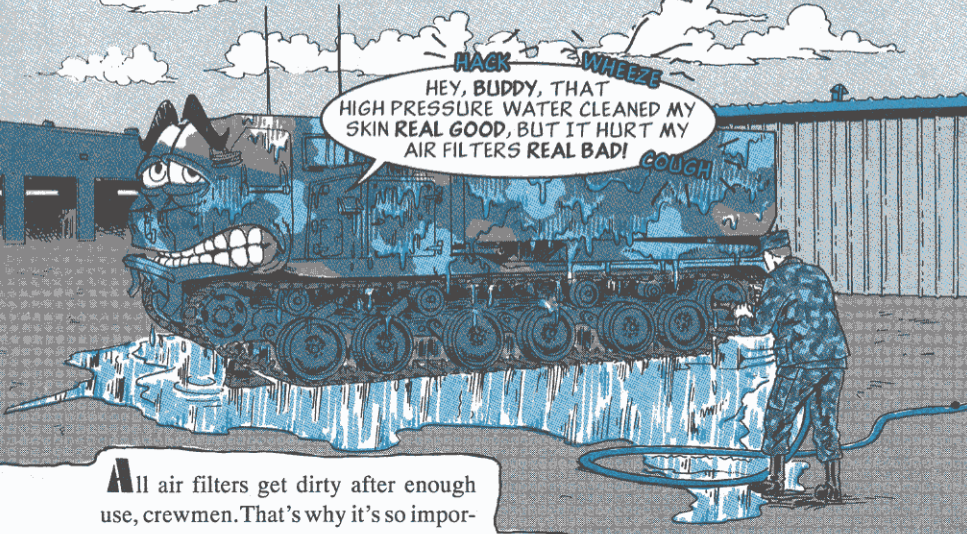
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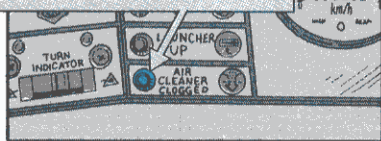
# Give Filters Some TLC



**A**ll air filters get dirty after enough use, crewmen. That's why it's so important to get them cleaned or replaced when required by your Bradley or MLRS's PMCS schedules.

Between cleanings, watch the **AIR CLEANER CLOGGED** light on the Bradley and keep an eye on engine performance.

**AIR CLEANER CLOGGED** light on? Clean filter

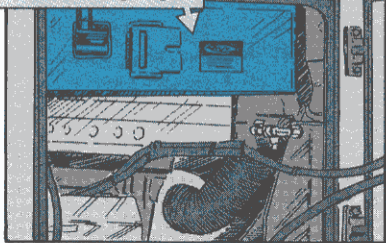


If your vehicle starts blowing too much black smoke or if engine power starts lagging, look to a clogged V-pack element as the first cause.

A second filter killer is water—especially water from high pressure hoses.

Always keep water away from the filter when washing your vehicle. Then double check the air box afterwards, just in case. If the filter is damp, let it air dry before using the vehicle.

Filter damp? Air dry before starting engine



Take no shortcuts when taking care of your filter and you'll stay off the road to reduced performance and engine damage.



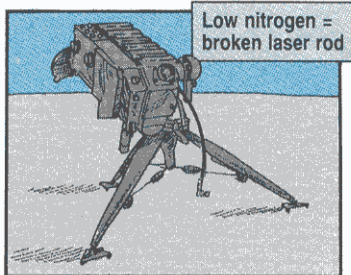
# THE \$164,000 QUESTION

**M**echanics, have the ground/vehicular laser locator designators (G/VLLDs) in your unit's M981 FISTVs been checked lately? Think carefully! Your answer could be worth \$164,000!

The G/VLLD is supposed to be turned in to DS every 180 days for purging and charging. A longer period allows the nitrogen pressure to get low enough to cause damage to the laser rod.

When that happens, the G/VLLD is nothing but an expensive pile of junk. A new G/VLLD will cost your unit more than \$164,000.

Schedule the G/VLLD for purging and charging while the vehicle's in for semi-annual service. That keeps the G/VLLD up and ready when it's needed.



M578, M110A2 Vehicles . . .

## Shed Light on the Problem

**Dear Half-Mast,**  
I'm having trouble finding the lampholder base for the dual headlight on an M578 recovery vehicle.

Fig 52 of TM 9-2350-238-20P shows the front headlight assembly but leaves out the base. Can you help?

SSG W.S.P.

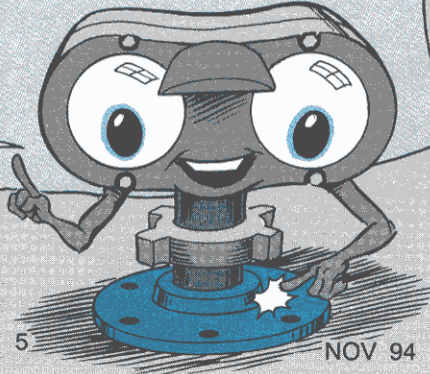
Dear SSG W.S.P.,

You bet! That lampholder base is hidden in the TM with the headlight wiring harness assembly. Look in Fig 85.

The base is just as hard to uncover for the M110A2 SP howitzer. You'll find it listed in Fig 83 of TM 9-2350-304-20P.

Half-Mast

REMEMBER,  
MY BASE IS PART OF  
THE WIRING HARNESS, NOT  
THE HEADLIGHT.



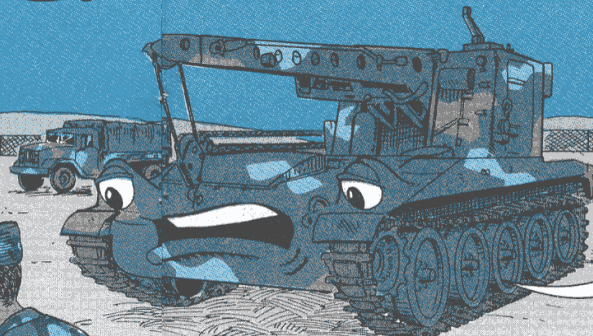


# CHALK IT UP TO PM

YOU MECHANICS OUGHT TO KNOW THAT BUM AIR CLEANER BOX SEALS CAN PUT A HURT ON YOUR VEHICLES' ENGINES. HERE'S HOW TO SOLVE THE PROBLEM.



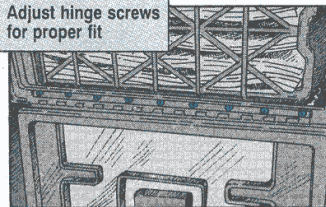
the air cleaner  
check the air cleaner  
always check the air cleaner  
always check the air cleaner  
always check the air cleaner  
check the air cleaner  
check the air cleaner  
check the air cleaner  
check the air cleaner  
check the air cleaner



THAT'S RIGHT, 1000 TIMES! MAYBE NEXT TIME YOU'LL PAY ATTENTION TO MY AIR CLEANER BOX!

Loosening all nine screws will let you shift the door approximately  $\frac{1}{16}$  to  $\frac{1}{8}$  inch to the left or right.

Adjust hinge screws for proper fit



If you still can't get the door to fit, resist the temptation to beat it into shape with a big hammer. Instead, order a new access door with NSN 5340-01-270-3688.

This door has a new lock that gives a better seal. You can also save big bucks since it's about \$150 less than the old access door.

Regardless of which door you use, you still need to make sure you've got a good seal. Do that with the chalk test.

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Clean off the air cleaner box where the door seal touches it. Rub chalk all over the seal's surface, then close the door. If the seal leaves a solid chalk mark all around the box, you're ready for operation.



THE CHALK WILL TELL YOU IF YOU HAVE A GOOD SEAL.

Gaps in the chalk marks mean you probably need a new seal. Get one with NSN 5330-00-745-7781. Use adhesive, NSN 8040-00-152-0063, to stick the seal in place.

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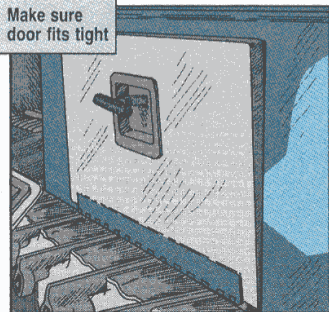
**M**echanics, that big engine in those M578 recovery vehicles and M110A2 SP howitzers need lots of clean, fresh air to breathe. To get clean air, you need to make sure the door closes tight on the air cleaner box. A leaking door lets in dirt and sand that lead to engine failure.

The biggest problem is with the old access door. It has a locking bar that doesn't always keep the door sealed firmly against the vehicle. Even when it does, the door doesn't always match the opening in the hull.

Test the door for a good fit before you mount it. If the door fits before mount-

ing, but not after, it may be a matter of adjusting the hinge screws.

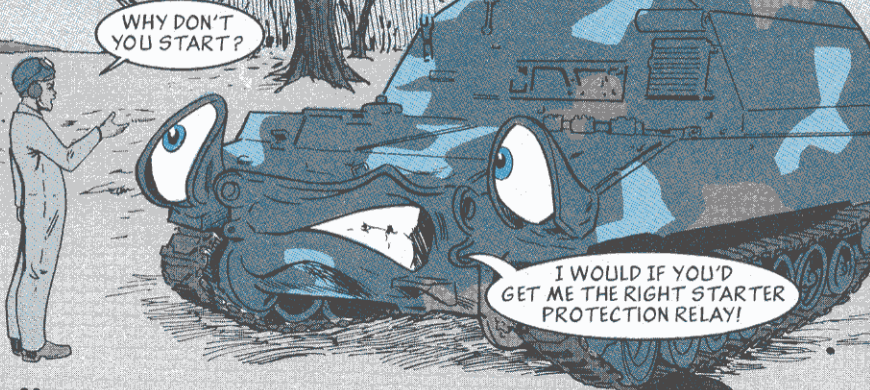
Make sure door fits tight



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# PUT A STOP TO STARTER SHUTDOWN



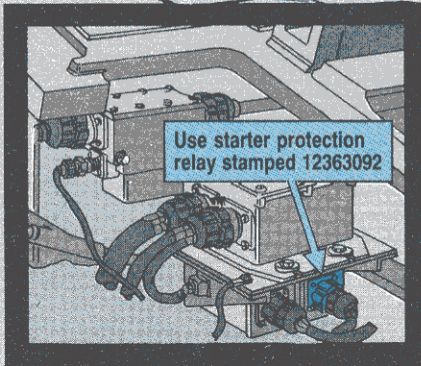
**M**echanics, if you're getting constant reports of starter lock-up on M109A4/A5 howitzers and M992 ammo carriers, look to the the starter protection relay first.

When the howitzers were converted from -A2 and -A3, the starter relay was replaced with a starter protection relay.

Problem is, that protection relay can short out during startup, causing the starter to shut down before the engine starts. This is because the relay cuts off all power to the starter.

Before you troubleshoot or replace the starter, activate the combat override switch and engage the starter. If the engine cranks, the problem is the protection relay.

Get a new starter protection relay with NSN 5945-01-291-0734. That relay, which is stamped with part number 12363092, has a special internal filter to stop premature starter shutdown.





M198 Towed Howitzer . . .

# DON'T SPURN THE SPINDLE

TAKE IT EASY, CREWMEN AND MECHANICS, WHEN CLOSING THE BREECH BLOCK ON THAT M198 HOWITZER WHEN THE OBTURATOR SPINDLE ASSEMBLY IS REMOVED.

**CLANK**

WHOOPS,  
THERE GOES THE  
CAM PLATE.

If you don't, two things can happen, and both are bad:

1. The spring tension of the counter balance will cause the breech block to slam shut against the cam plate with the cam plate taking the force of the closure.
2. The breech block rotates past fully closed. The combination of the two may shear the screws that secure the cam plate to the breech and also cause damage to the breech block lever.

Over-rotation  
of breech block  
breaks lever

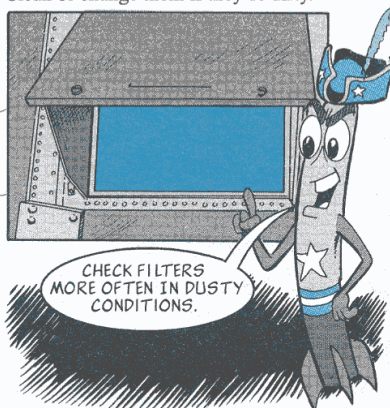
Never clean or store the howitzer without the spindle assembly in place. However, if your local SOP says you must, let the breech block rotate down slow and easy so everything works the way it should the next time you need it.



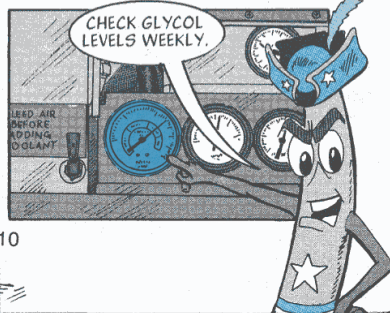
# GOOD VIBRATIONS

IF YOU WANT YOUR PATRIOT'S AN/MPQ-53 RADAR TO KEEP PICKING UP THOSE GOOD VIBRATIONS THAT WARN OF THE ENEMY, YOU'VE GOT TO PICK UP ON THIS GOOD P.M.

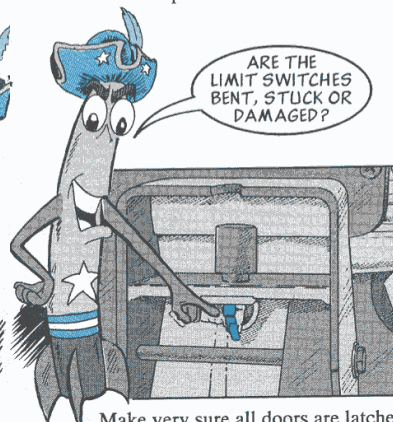
**P**ay close attention to your Patriot system's filters in dusty areas. If the filters clog, electronic components overheat and blow expensive circuit cards. Eyeball the filters frequently. Clean or change them if they're dirty.



Eyeball the ethylene glycol level weekly. If it gets low, stuff like the driver tank, high level traveling wave tube, and cross-field amplifier (CFA) electron tube burn up. Tell your repair-man if the level's low.



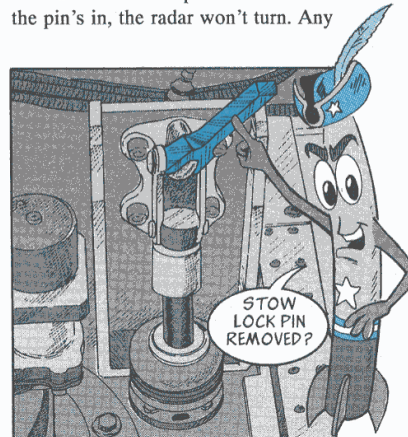
Before you go to the field, look at the outrigger limit switches. There are three on each outrigger. If they're bent, stuck, or damaged, they won't let the radar be leveled. Report bad ones.



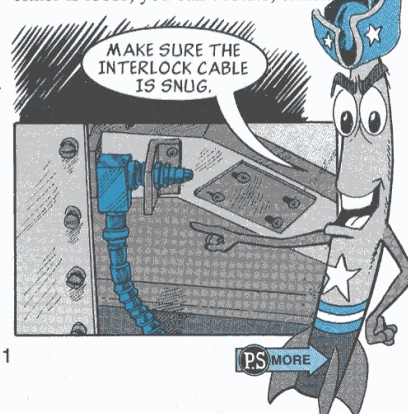
Make very sure all doors are latched and shut before you traverse or road march. If you forget just one door, it can catch as the radar moves and bend. That ruins the electro-magnetic interference (EMI) shield and the radar is out of business.



Also before you traverse, make sure the stow lock pin's removed. If the pin's in, the radar won't turn. Any

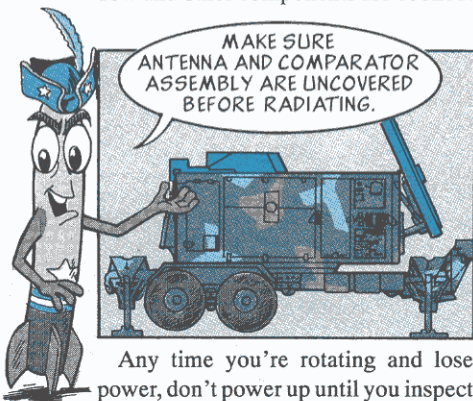


time the radar doesn't move after five seconds, shut down and look for the lock pin. If it's been pulled, feel the interlock and its cable for looseness. If either is loose, you can't rotate, either.

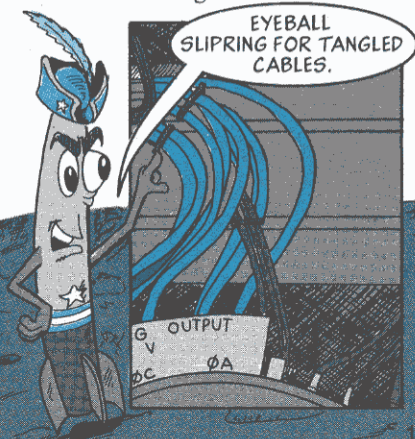




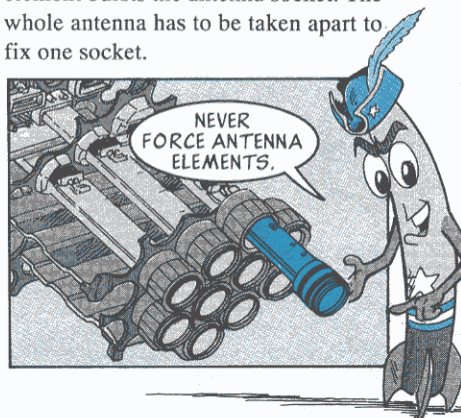
Before you radiate, doublecheck that the covers have been removed from the comparator assembly and the antenna. If a cover's left on, it reflects the radio waves and the radar becomes like a microwave oven. The wave guide window and other components are cooked.



Any time you're rotating and lose power, don't power up until you inspect the slipring for tangled cables or arcing. Often a cable has fallen out of the cable tray or the tray is loose. If you operate like that, cables rip out or the whole slipring burns up. A good check is to manually rotate the radar to see if the cables are clearing.



Never muscle antenna elements in place. An element should go in with just slight pressure. If it doesn't, turn the element and try again. Forcing an element bursts the antenna socket. The whole antenna has to be taken apart to fix one socket.





# MAKING DOOR PINS

Dear Connie,

If the stow pins for your Patriot's radar and generator airvent door side panels disappear, the only way you can replace them is to order new doors. There are no NSNs for the pins. That's a huge waste of money.

It's much easier and cheaper to make replacement pins. For the radar inlet door pin, cut off 2 1/2 inches of a coat hanger or something similar and curl it like this:



For the generator inlet door, cut off 12 inches of 1/8-in wire or rod and bend it like this:



SGT Dana Dewan  
Ft Bliss, TX

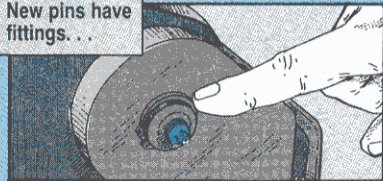




# LUBE ALL OUTRIGGER PINS

**T**here are now two different outrigger pins in the field for the Patriot's M860A1 trailers. The new pins have lube fittings for a grease gun.

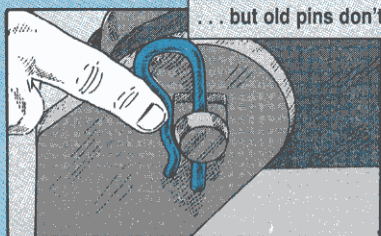
New pins have fittings. . .



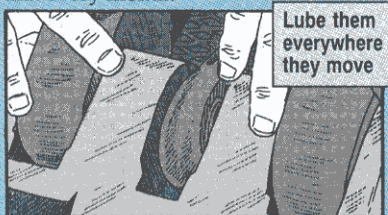
But the old pins don't have fittings. Some Patriots think that means the old pins don't need lubing.

Wrong!

Unless the old pins get a monthly lubing, they bind and outriggers are damaged.



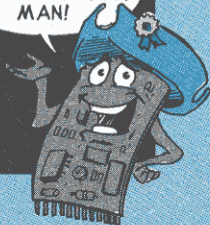
How do you lube 'em? Get an oil can filled with OE/HDO-30 oil . . . or any motor oil . . . and lube each joint of the outriggers—everywhere they move. Do that every month.



## Patriot Card Testing

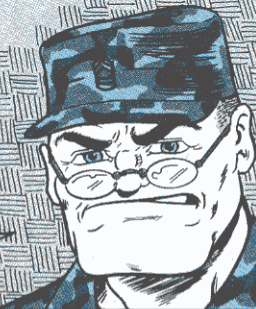
**P**atriot repairmen, you no longer need to spend thousands of dollars for new circuit cards when the old circuit cards go out. Let your support know that Ft Bliss and Letterkenny Army Depot can test and repair the cards. That can save your unit big bucks. If your DS needs help, their local MICOM LAR has the details.

IT ONLY  
TAKES A MINUTE,  
MAN!





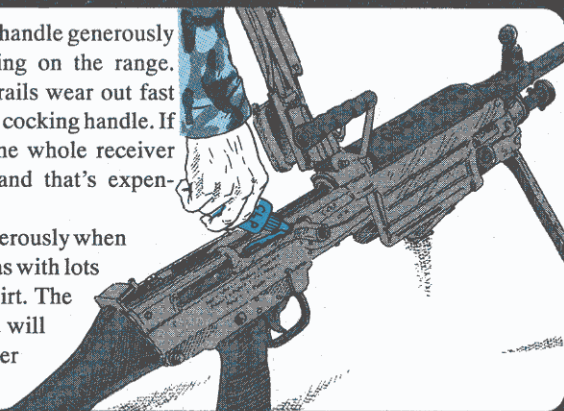
TO THE  
PM POINT!



**L**et's get right to the PM point on a few things you can do to keep your M249s firing hot and heavy:

💧 Lube the cocking handle generously with CLP while firing on the range. Without lubing, the rails wear out fast from the action of the cocking handle. If the rails wear out, the whole receiver must be replaced—and that's expensive.

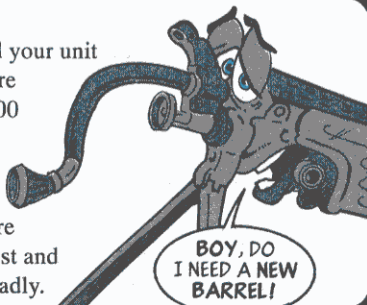
But do not lube generously when you're located in areas with lots of blowing sand or dirt. The lube attracts grit that will wear out the receiver rails even faster.



💧 Change barrels during firing.

That will give barrels a longer life and your unit more accuracy. During both sustained fire (50 rounds per minute) and rapid fire (100 rounds per minute), change the barrel every 200 rounds.

Never fire a burst of more than 25 rounds or fire continually for 200 or more rounds. That also wears out the barrel fast and can cause a cookoff if the M249 feeds badly.



BOY, DO  
I NEED A NEW  
BARREL!

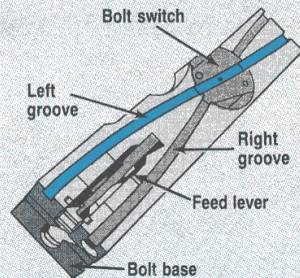


# STRAIGHT SHOOTIN'

**S**ometimes the most important part of taking care of your M2 machine gun is simply putting it back together straight. Here are the worst problems:

## Bolt switch

For left-hand feed, put in the bolt switch so the left groove beginning at the bolt's base is unblocked. The switch's big end will be forward. Do it just the opposite for right-hand feed. If you put the switch in backwards, the feed lever lug and bolt switch are KOed.

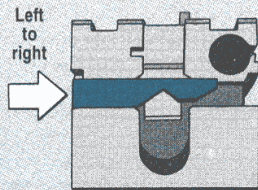


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## Sear slide

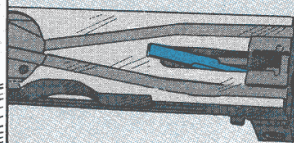
Slide the slide in left-to-right. Get it backwards and your M2 won't fire from the M63 mount.



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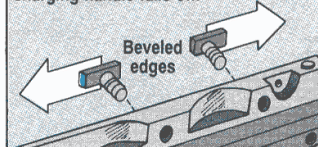
## Cocking lever

Slide the bolt forward in the receiver with the cocking lever forward. If the lever's left back, the bolt's jammed in the receiver and you're in a jam with your armorer.



## Shoulder bolts

Put the two shoulder bolts through the receiver side plate so their beveled edges point in opposite directions. If you point them in, the side plate works loose and breaks the bolt stud. The charging handle falls off.

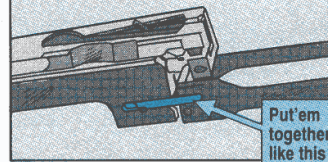


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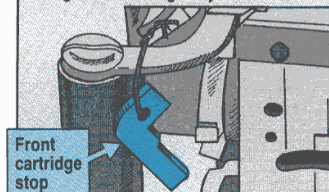
## Bolt, buffer, and barrel extension

Put the bolt, buffer, and barrel extension back together before you put them in your M2. Slide all three into the receiver in one piece with the cocking lever forward. Then put in the driving spring rod assembly and backplate. That prevents the burrs and scrapes you'll get from assembling them inside the receiver.



## Front cartridge stop

The stop will disappear when you're firing blanks if you don't put it someplace safe...like tied to the backplate handle. String—or better yet—facing wire does a great job.



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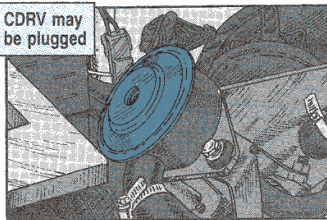
# KEEP CRANKCASE VENTED

OOH,  
I'M ALL STUFFED  
UP!

HOLMES, WHAT  
COULD BE AILING THIS  
VEHICLE?

**A** clogged crankcase depression regulator valve (CDRV) on your CUCV or HMMWV, or a plugged-up oil filler cap on your CUCV, adds a lot of pressure to the crankcase—enough to cause oil leaks, blown seals and ruined engines.

CDRV may  
be plugged



You will usually see a clue before clogs blow seals or ruin engines, though.

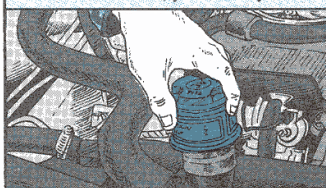
You may find oil on the engine or on the ground if the truck's been running for awhile. The pressure has forced oil past gaskets and seals. A badly plugged valve can even blow out the rear main seal.

You may see black exhaust, too. The pressure has drawn oil from the crankcase and sent it to the intake manifold.

If you see any or all of these symptoms, check out the venting system.

The CUCV's oil filler cap is easy to test. Just remove it and shake it. If it rattles, it's OK. If it doesn't, replace it. Do this every semi-annual service.

Shake it...if it rattles, you're ready to roll



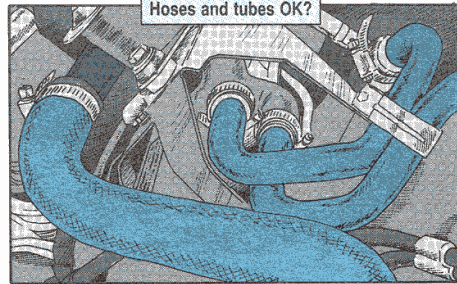
IT'S ELEMENTARY,  
WATSON, IF YOU LOOK FOR  
THE PROPER CLUES.

The CDRV doesn't have such an easy test. DS uses a manometer, NSN 6685-00-857-4895, connected to the oil dipstick tube. The pressure reading should be between two and five inches of vacuum at 2,000 RPM.

At unit level, remove the valve and hose and clean them with a rag. If you find oil dripping from inside, replace the CDRV.

Eyeball the hoses and connectors to the valve. A hole in a rubber hose could let in dirt that plugs up the valve. Never clean the oil filler cap or CDRV with solvents or pressurized air. You'll just damage the diaphragm inside. That can give you the very problems you're trying to solve.

Hoses and tubes OK?





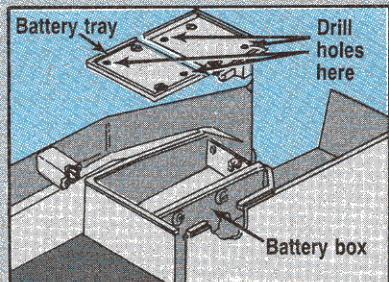
# DRAIN BATTERY TRAY

Dear Editor,

We've found water pooling up in HMMWV battery trays. In winter, this water freezes, damaging batteries.

We get rid of it by drilling a 5/16-in drain hole in the lowest part of the tray.

**Billy J. Morgan**  
Ft McClellan, AL



FROM THE DESK OF THE Editor 

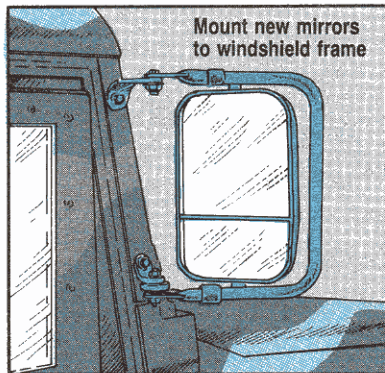
Good work, Sir. That'll keep your batteries dry. Tank-Automotive Command suggests even more holes. After removing the trays from the HMMWV, drill four 1/2-in holes, as shown. Do not drill any holes in the metal battery box.

## For a Clear View

The older HMMWV side view mirrors vibrate so much that you can't see what's behind you. For a clear view, look no further than Fig 348 of the -20P TM to get a "West Coast" mirror.

The larger mirror also has a convex, wide-angle view area that makes driving a lot safer. Order a left and right mirror kit with NSN 2540-01-302-2595.

Then use riveter, NSN 5180-01-201-4978, from the HMMWV's special tools, to install the blind rivnuts that come with the kit. They'll keep the mirrors from falling off.



H-HOW  
MANY ARE  
BACK  
THERE?



I C-COUNT  
TH-THREE!





# TIGHTEN LOOSE HANDLES



GROUND MOBILITY

**Dear Editor,**

The HMMWV door handle assembly on the soft side vehicles (M998, M1035, M1037, M1038 and M1042) comes apart frequently.

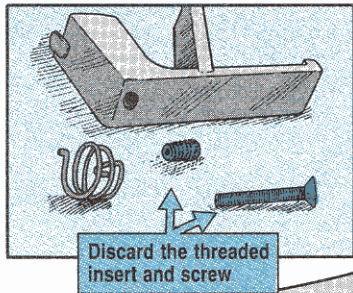
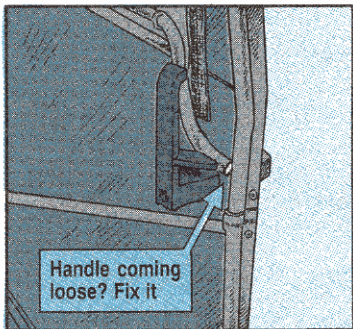
There is a fix in the TACOM EIR Digest TB 43-0001-39-3 (Oct 90), but I've found an easier way.

I take the handle apart and discard the threaded insert and screw. Using the drill, NSN 5130-00-293-1849, from the Common shop sets, I drill a 1/8-in hole in the center of the inner door assembly. The hole should be 1 inch deep.

Then, I assemble the handle and fasten it all together with one 2 1/4-in drywall screw.

I've been doing this for quite some time. It works so well, I decided to share the idea.

**Harvey G. Hoff**  
Lebanon, OR



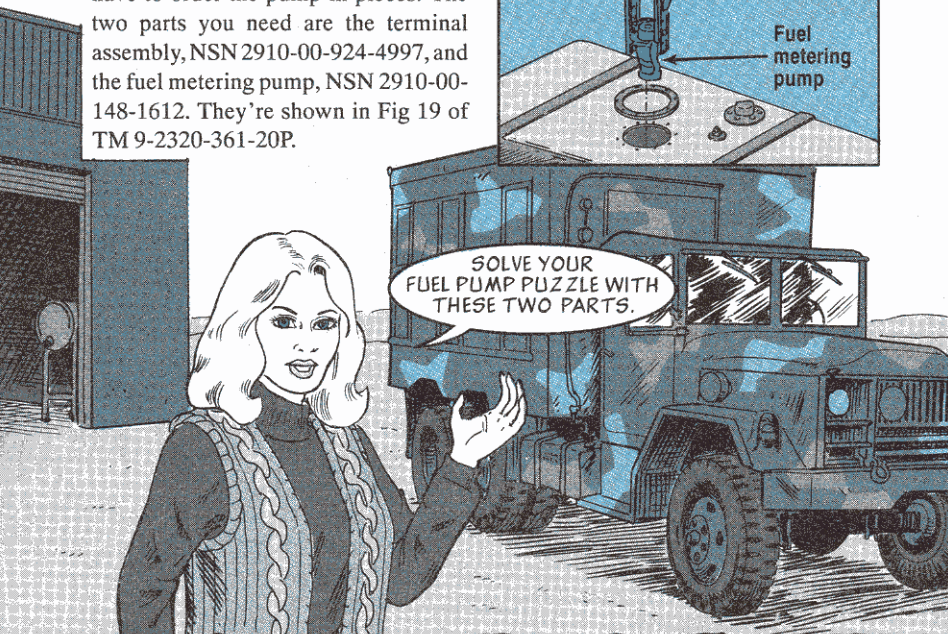
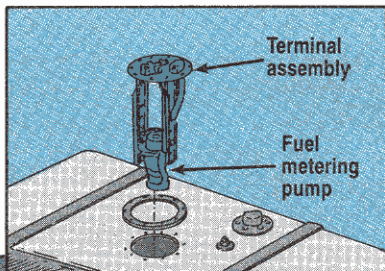
FROM THE DESK OF THE Editor 

Thanks for sharing your idea, Sir. We've gotten the same fix from others. In any case, the truck headshed (TACOM) has evaluated all fixes, and still believes the one on Pages 3-17 through 3-21 of TB 43-0001-39-3 (Oct 90) is best and easiest.



# FUEL PUMP PUZZLE

**T**he in-tank fuel pump assembly, NSN 2910-00-937-5076, for your M44-series trucks is no longer available. You have to order the pump in pieces. The two parts you need are the terminal assembly, NSN 2910-00-924-4997, and the fuel metering pump, NSN 2910-00-148-1612. They're shown in Fig 19 of TM 9-2320-361-20P.

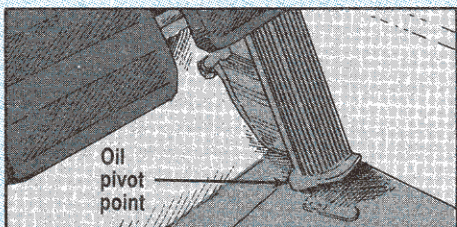


Tactical Trucks . . .

## Oil the "Gas" Pedal

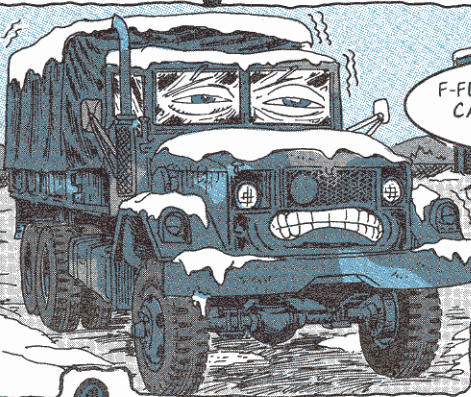
**B**inding or sticking accelerator linkage is bad news. If it sticks in the "go" position, you have a runaway truck on your hands.

Give dirt and moisture the one-two punch by cleaning and oiling all pivot points.





# Stop Fuel Line Freeze-up

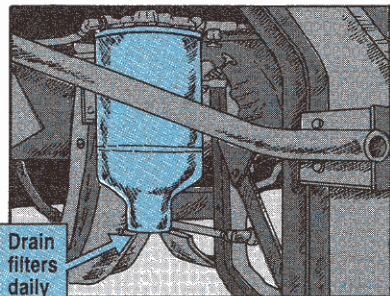


Condensation forms inside a fuel tank when temperatures rise and fall. This moisture settles in low spots, then when it gets cold enough to freeze the water, your truck won't run.

To put the skids to frozen fuel lines, slide into these simple steps:

- Fill fuel tanks to within two inches of the bottom of the filler neck. Be careful when you refill to keep out ice and snow.

- Drain fuel filters every day you operate. If you get more water than usual, get the tank drained and cleaned.



- If needed, add icing inhibitor to the fuel. Make sure it hasn't already been added, though. More than one pint per 40 gallons can cut performance or damage engines.

Add the inhibitor first so it can mix properly. Use this much additive:

Additive	Fuel
1 pint (2 cups)	40 gallons
3/4 pint	30 gallons
1/2 pint (1 cup)	20 gallons
1/4 pint	10 gallons

Here's what you use:

## Diesel Fuel Inhibitor

SIZE	NSN 6850-01-
5-gal can	377-5074
55-gal drum	089-5514

## Gasoline Inhibitor

SIZE	NSN 6810-00-
1-gal can	597-3608
5-gal can	275-6010

JP-8 jet fuel comes with an inhibitor, so don't add any. Jet A-1 fuel does not. Treat it like diesel fuel.



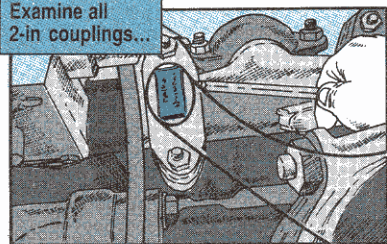
# UNSAFE TO FUEL?

**O**ne bad 2-in fuel coupling on your HEMTT tanker can spoil your whole day. Give them the once-over ASAP!

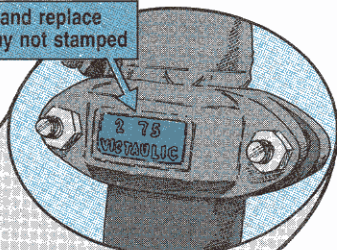
Replacement couplings, NSN 4730-00-400-8972, come with bum gaskets. They absorb fuel, swell, distort and deteriorate, which lets fuel leak and causes contamination.

Eyeball all 28 2-in couplings. They're shown as Item 40 in Fig 310 of TM 9-2320-279-20P. If you find "2 75 VICTAULIC" stamped on them, they're OK.

Examine all  
2-in couplings...

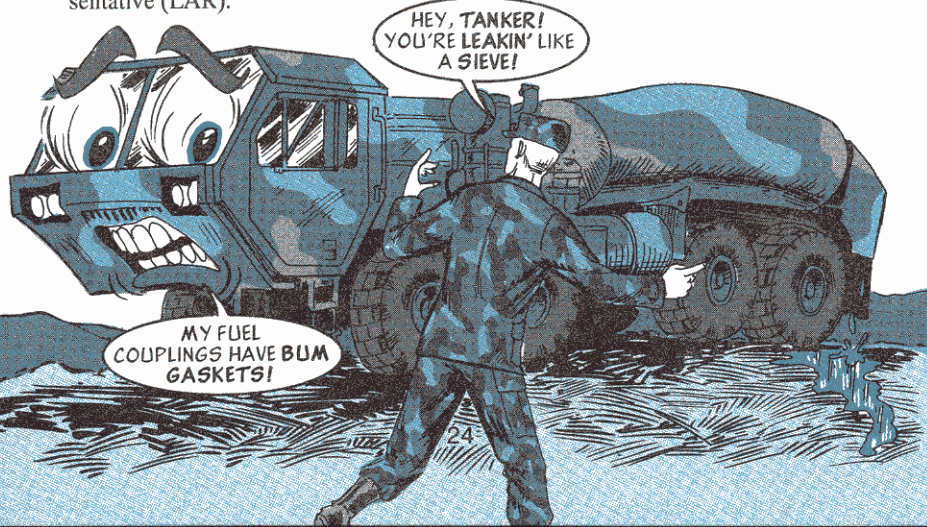


...and replace  
any not stamped



Remove any coupling not stamped "275 VICTAULIC" and eyeball the gaskets.

The inspection dope is in Tank-Automotive Command (TACOM) Safety-of-Use Message 94-09 issued in March. If you didn't do the work then and don't have a copy of the message, see your local TACOM Logistics Assistance Representative (LAR).





# Purging Change



**F**irst, put your hands on a copy of TACOM Msg AMSTA-M 111944Z Feb 94. If you don't have a copy, see your local TACOM LAR or write to Half-Mast.

The message gives all the details on how to use reusable, biodegradable purging solution. The solution comes with NSN 7930-01-350-7034 (six gallons) or NSN 7930-01-350-7035 (55 gallons).

Then, remember this: You can reuse the solution up to three times. After that, you take it to an authorized hazardous waste disposal site to get rid of it.



Getting Back . . .

# V-Belts for an Emergency

There's no good reason to be stranded out in the boonies because of a broken V-belt, drivers. With your CO's OK, every truck can carry enough adjustable link belting to make a temporary emergency repair.



Here's what's available:

Belting width	NSN 3030-00-
3/8 inch	224-8357
1/2 inch	224-8358
21/32 inch	233-9126
7/8 inch	224-8356

The instructions for making the belt the correct length come with the belting.

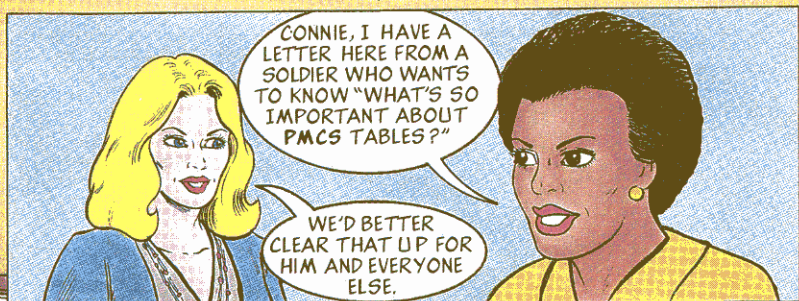
Get a tool to connect the belting with NSN 5120-01-347-4947.



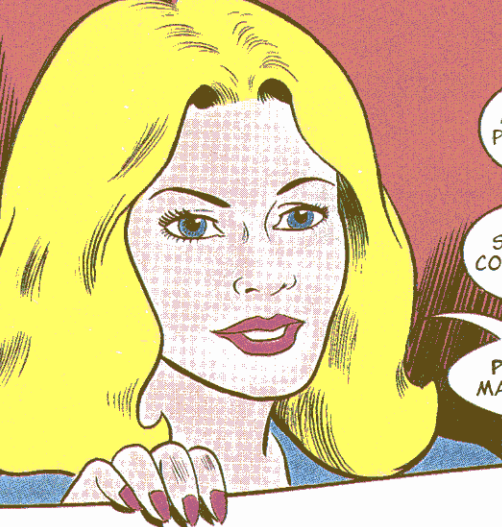
The tool's not absolutely necessary, but it makes connecting the belting a lot easier. A screwdriver can also be used to spread the link slot to connect the belting.



# PMCS ON THE TABLE







THAT'S WHY YOU MUST STRESS THE IMPORTANCE OF PERFORMING PMCS TO YOUR DRIVERS, OPERATORS AND UNIT REPAIRERS.

WHAT'S MORE, YOU MUST SHOW THEM HOW TO PERFORM PMCS CORRECTLY—BY READING AND HEEDING THE WORD IN THE PMCS TABLES.

LET'S TAKE A LOOK AT THE PMCS TABLE. FIRST, THE COLUMNS. MAKE SURE YOUR PEOPLE UNDERSTAND WHAT EACH COLUMN MEANS.

TM 9-6115-648-14&P

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (cont).

B – Before      D – During      A – After      W – Weekly      M – Monthly

Item no.	Interval					Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
	B	D	A	W	M		
12	•					AIR HOSES, FITTINGS AND BRAKE AIR CHAMBER	

➡ **Item No.:** The order in which to perform the checks and services. The item number identifies the equipment area recorded on DA Form 2404 or DA Form 5988E, Equipment Inspection and Maintenance Worksheet.

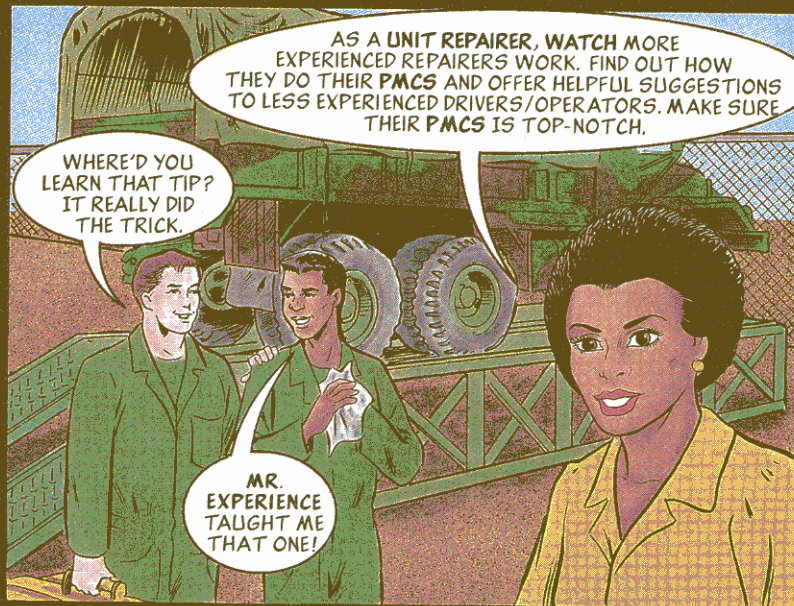
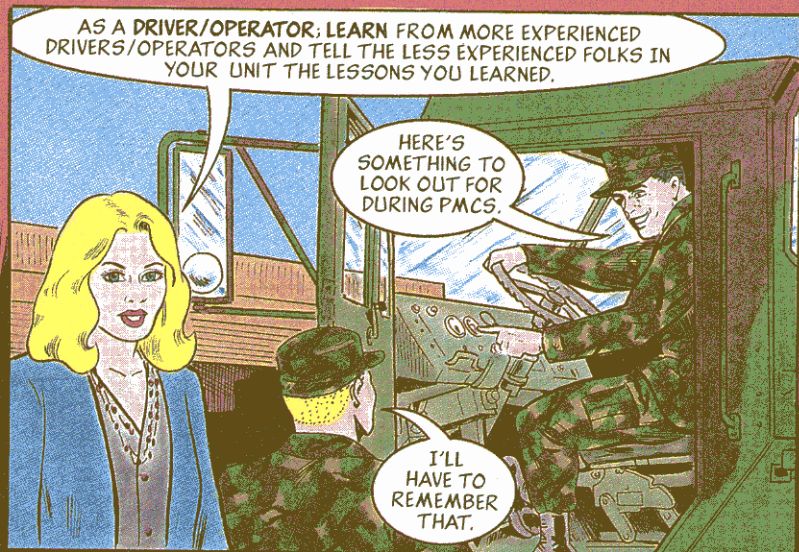
➡ **Interval or When:** Tells when to do the check or service. Operator/crew checks and services could be required before, during or after operations, or on a weekly, or even a monthly schedule. Unit checks and services could be semiannual, annual or biennial—every two years. Or the service frequency could be based on the number of miles or hours of operation.

➡ **Item to be Inspected:** The part or general area on the equipment where you do the check or service.

➡ **Procedures:** The actual check or service and how to do it.

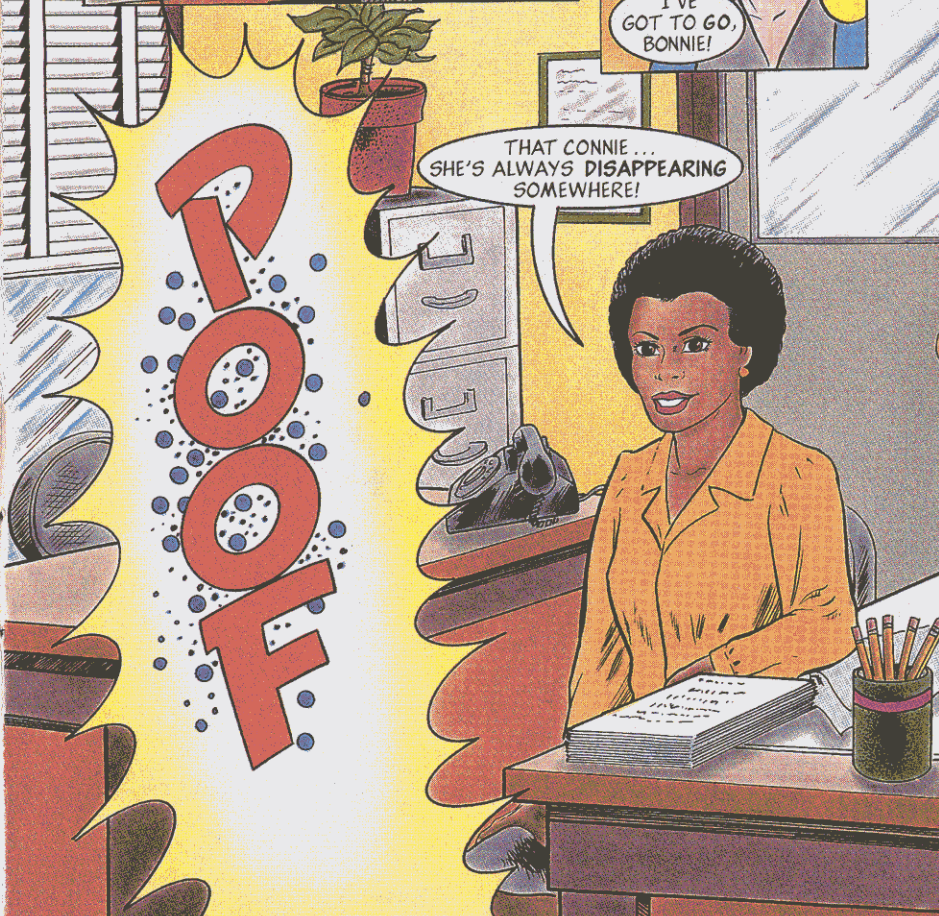
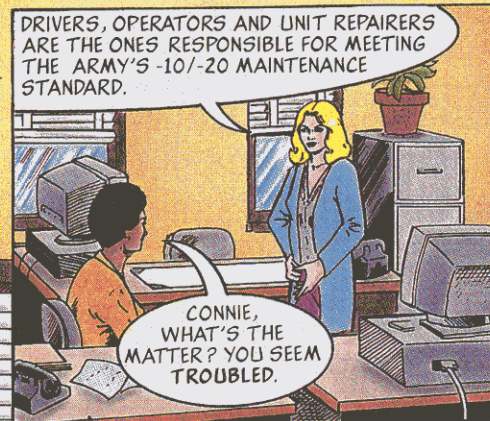
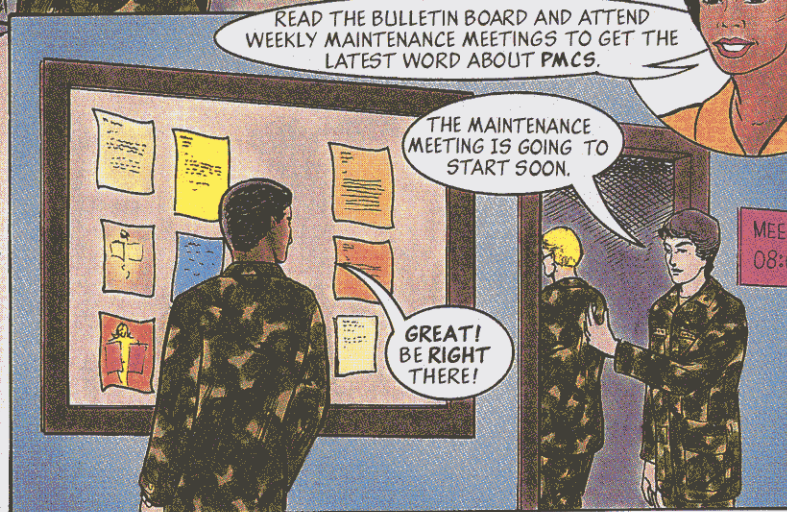
➡ **Equipment is Not Ready/Available If:** Found only in Operator/Crew PMCS tables. This column shows conditions that make the equipment unsafe or not mission capable. Never use equipment with a condition found in this column. Get it fixed.







# Heed the Word





# IDLE, IDLE, TOIL AND TROUBLE

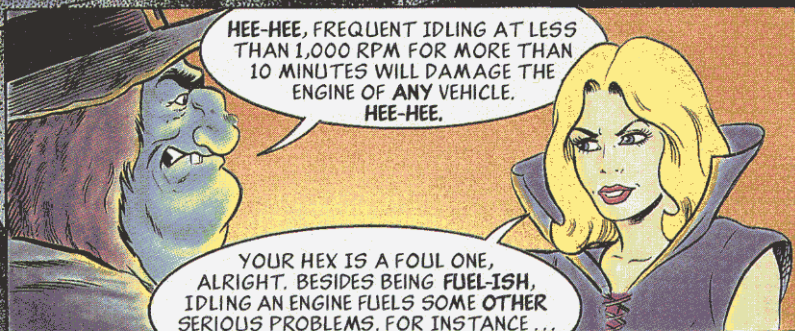
HEE-HEE-  
HEE! SISTER, THIS  
IS YOUR BEST  
HEX YET!

WHAT KIND  
OF TROUBLE ARE YOU  
TWO BREWING?

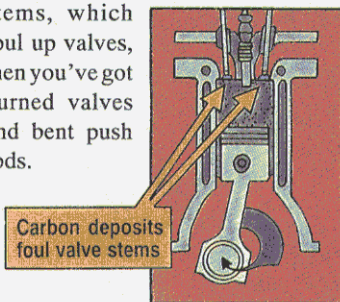
JUST A LITTLE  
DIESEL ENGINE IDLING  
HEX. COME TAKE  
A LOOK, DEARY.

I MUST  
IDLE ENGINE AT  
LESS THAN  
1,000 RPM...  
1,000 RPM...  
1,000 RPM...

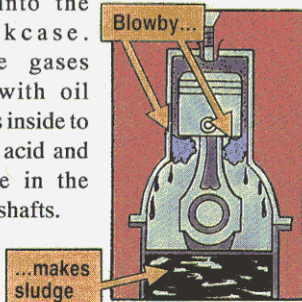




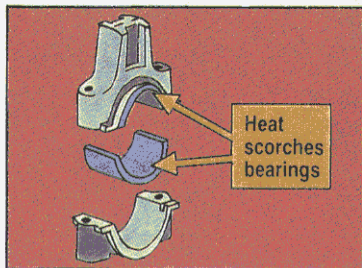
- ① Fuel and oil are not completely burned in the combustion chambers. Carbon deposits are left on the valve stems, which foul up valves, then you've got burned valves and bent push rods.



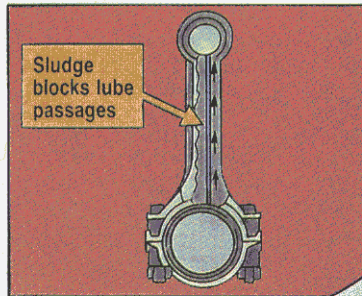
- ② Moisture and unburned fuel, or "blowby," gets around the pistons and into the crankcase. These gases mix with oil fumes inside to make acid and sludge in the crankshafts.



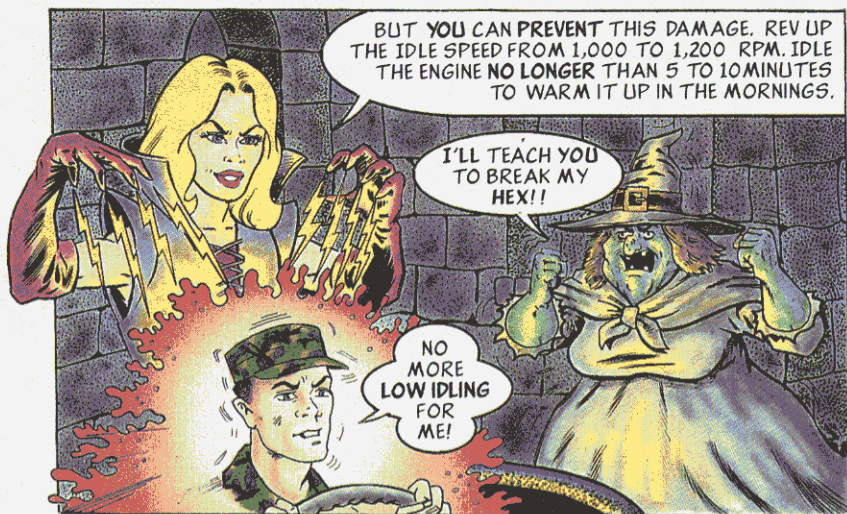
- ③ The engine oil breaks down, and poor lube causes burned-up bearings.



- ④ Sludge blocks out oil so that it can't get through to lube and cool. Heat and friction are murder on your engine.



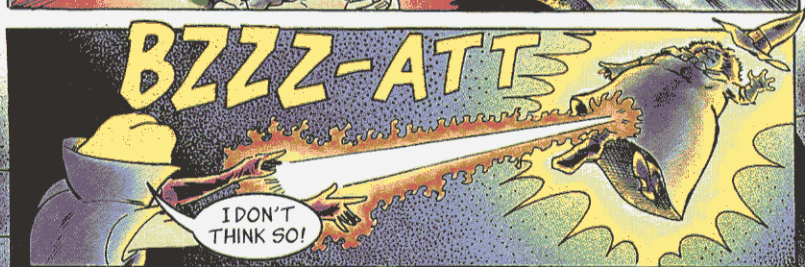




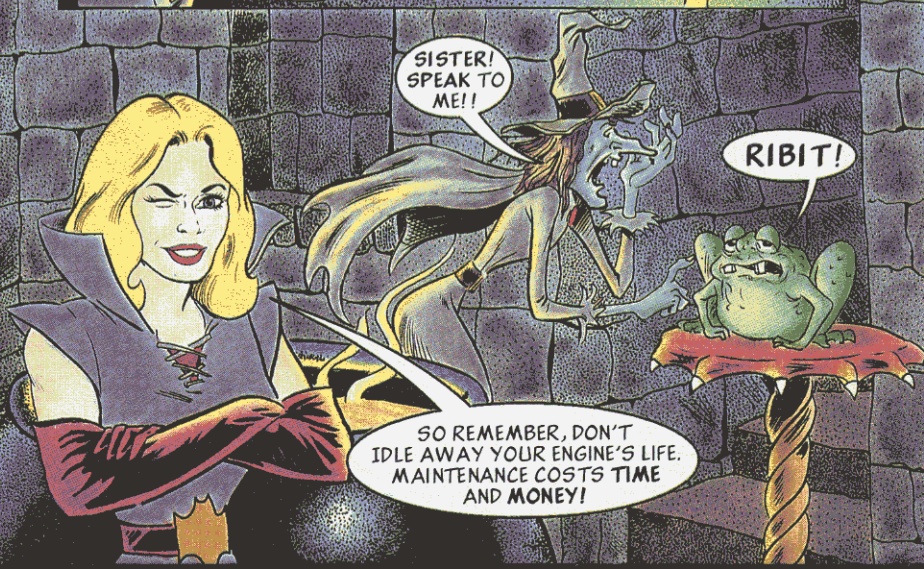
BUT YOU CAN PREVENT THIS DAMAGE. REV UP THE IDLE SPEED FROM 1,000 TO 1,200 RPM. IDLE THE ENGINE NO LONGER THAN 5 TO 10 MINUTES TO WARM IT UP IN THE MORNINGS.

I'LL TEACH YOU TO BREAK MY HEX!!

NO MORE LOW IDLING FOR ME!



I DON'T THINK SO!



SISTER! SPEAK TO ME!!

RIBIT!

SO REMEMBER, DON'T IDLE AWAY YOUR ENGINE'S LIFE. MAINTENANCE COSTS TIME AND MONEY!



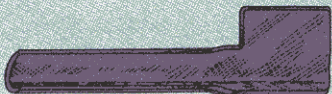
# Relieve the Stress

Dear Windy,

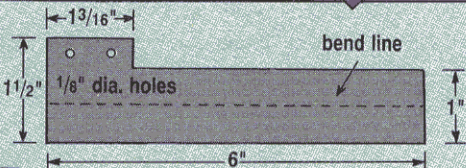
An age-old problem for Chinook mechs is the crew's microphone cord ripping out from the push-to-talk switch.

I've solved the problem with a support that takes the stress off the cord.

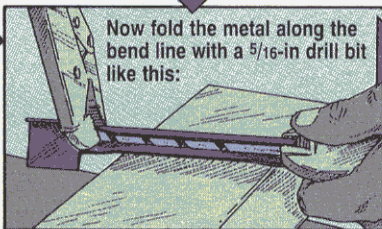
Here's what it looks like:



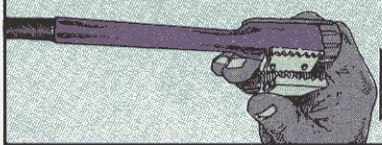
Here are the dimensions you use to cut the sheet metal:



Now fold the metal along the bend line with a  $\frac{5}{16}$ -in drill bit like this:

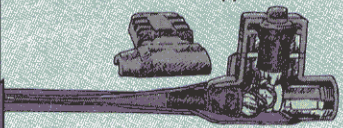


Then reconnect the clip using the same hardware. But this time, the support is between the clip and the switch like this:

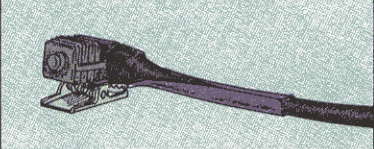


Round off the corners and file the edges so that they're smooth.

Remove the clip from the push-to-talk switch and attach the support like this:



Here's your finished product:



**SGT Jonathan Scarber**  
Ft Wainwright, AK

Dear Sergeant Scarber,  
Thanks for the great support!

*Windy*



# LASER PROTECTION LOWDOWN

Maintenance on mast mounted sights and pilot night vision sensors might require laser protection for your eyes. But are spectacles enough or do you need goggles?

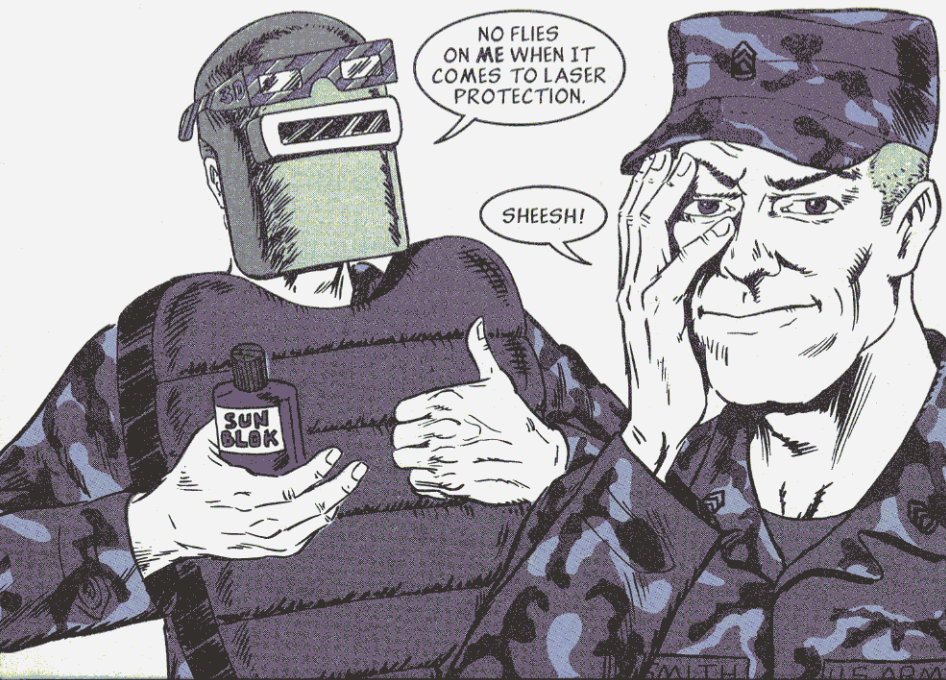
Eyeball this info for the answer:

Direct eye exposure to invisible laser radiation could blind you, but normal preventive maintenance should not put you in danger.

However, when your supervisor says protection is needed, wear laser safety goggles, NSN 4240-00-258-2054. Some of you are wearing laser protective spectacles, NSN 1680-01-169-3151, and that's just not enough protection. They do not have a great enough optical density.

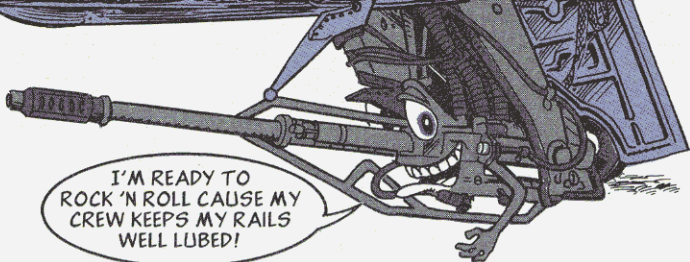
The standard optical density for most laser equipment is 4.4 to 5.8. Safety goggles, NSN 4240-00-258-2054, have an optical density of 6 — so, you're covered. But, laser protective spectacles only have a density of 3.5 to 4, which leaves your eyes exposed!

So, know your maintenance job well. Know when laser exposure is possible and know when to wear laser protective goggles.





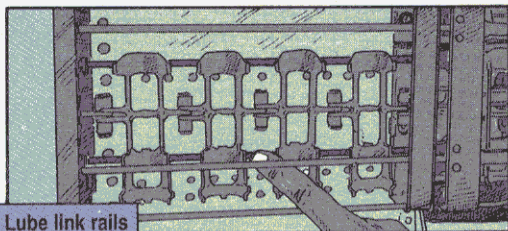
# On the Rails



**T**he two rails that move the 30-mm automatic gun's carrier links through the ammo conveyor assembly need lube.

Your TM tells you to add a light coat of GIA, MIL-G-23827, before firing and semi-annually, but that might not be often enough.

Do a feel-and-eye check on the rails as you do other work on the ammo conveyor assembly. If they're bone dry, grease 'em.



Aircraft . . .

## Plastic Windshield Fix Kit

**P**lastic windshields have advantages over glass, but some disadvantages, too. They scratch, develop crazing and get hazy. These problems increase in sandy areas with high heat.

To solve these problems, use plastic transparency kit, NSN 4920-01-332-1685. The kit lets you repair windows that normally would need to be replaced. Repairs can be done by hand or with an orbital sander, NSN 5130-01-333-3179.

Use the windshield repair limits in your -20 TM and follow the instructions in the kit.





# RETAINING RING REMOVAL

It's a tough job to remove the spiral retaining rings on Huey and Cobra tail rotor drive shaft and gearbox couplings using a knife blade, screwdriver or awl, like it says in TM 55-1500-204-25/1.

Removing the rings this way takes time, causes you to scratch the coupling's cover plate and jab your hands in the process.

So make it a snap to remove the ring by making this tool.

Salvage a broken No.2 cross-tip, offset or standard screwdriver, or use 3/16-in or 1/4-in bench stock 4 to 6 inches long.

YOU NEED A  
SCREWDRIVER!

I'VE  
ALWAYS USED A  
KNIFE BLADE.

AN AWL  
IS ALL YOU  
NEED!

Grind the last  $\frac{3}{16}$  inch to  $\frac{5}{16}$  inch of the metal shaft to  $\frac{3}{16}$  inch across. Shape that part of the shaft like an hourglass with the middle  $\frac{1}{8}$ -in wide.

Taper the tool to 1/32-in thick at the end.

Put the tool's tip into the slot between the retaining ring's exposed tang end and the recessed groove at right angles to the ring and coupling face.

Bear straight down on the tool, turning it clockwise about  $\frac{1}{8}$  turn.

The tang pops out and up, free from the groove. Complete the removal by grabbing the snap ring end and peeling it out. Be sure to hold the cover against the internal spring load.

ALL THREE  
OF YOU ARE WRONG.  
I MADE A TOOL THAT  
MAKES RETAINING RING  
REMOVAL A SNAP!

noitcegnI  
yoriM

## Inspection Mirror

**G**ot a broken inspection mirror, NSN 5120-00-618-6902, in your general aircraft mechanic's tool kit? You've gotta have a good mirror, you see. You can order a complete mirror, or replace just the glass with NSN 5120-00-363-3914 for about 1/10 the cost of the new mirror.

## Go Army!

**G**oing to a maintenance class, on TDY, or on vacation? Want to stay in billeting on an Army installation while you're gone? Here's good news. You can dial just one number and get all the information you need about reserving a room at any Army installation around the world. If you're stationed CONUS, call 1-800-GO-ARMY-1 (1-800-462-7691). If you're OCONUS in Germany, call 01-30-81-7065; Korea, 00-78-11-893-0828; or Italy, 16-78-70555.



# Make a Moving Tool

Dear Windy,

You can get stuck removing the chip detector from the main module sump on the Black Hawk's main transmission.

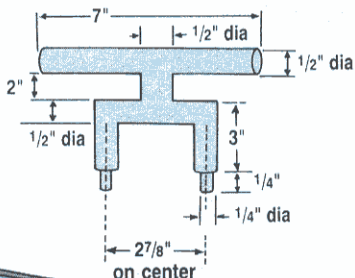
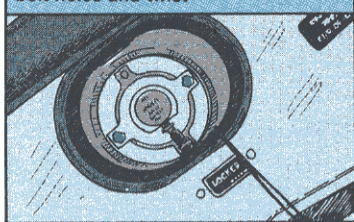
You've got to turn the sleeve in the sump to OFF to stop the flow of oil, but that sleeve always sticks. Most mechs grab two pliers and go at the sleeve. That damages the rivets and the sleeve.

We had our sheet metal shop make this tool from 1/2-in rolled stock and told them it had to withstand at least 30 lbs of force.

With just a little twist of this tool, no more stuck sleeves.

Ssg Marc Petersen  
Ft Richardson, AK

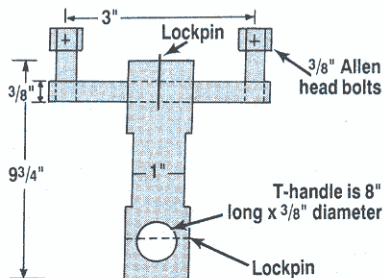
Remove sleeve bolts, insert tool into bolt holes and twist



Dear Sergeant Petersen,

Another sticky situation solved! We also heard from Roger Gonzales and Colleen Smith at Ft Hood with a solution for the same problem. Here are the dimensions of their tool:

*Windy*

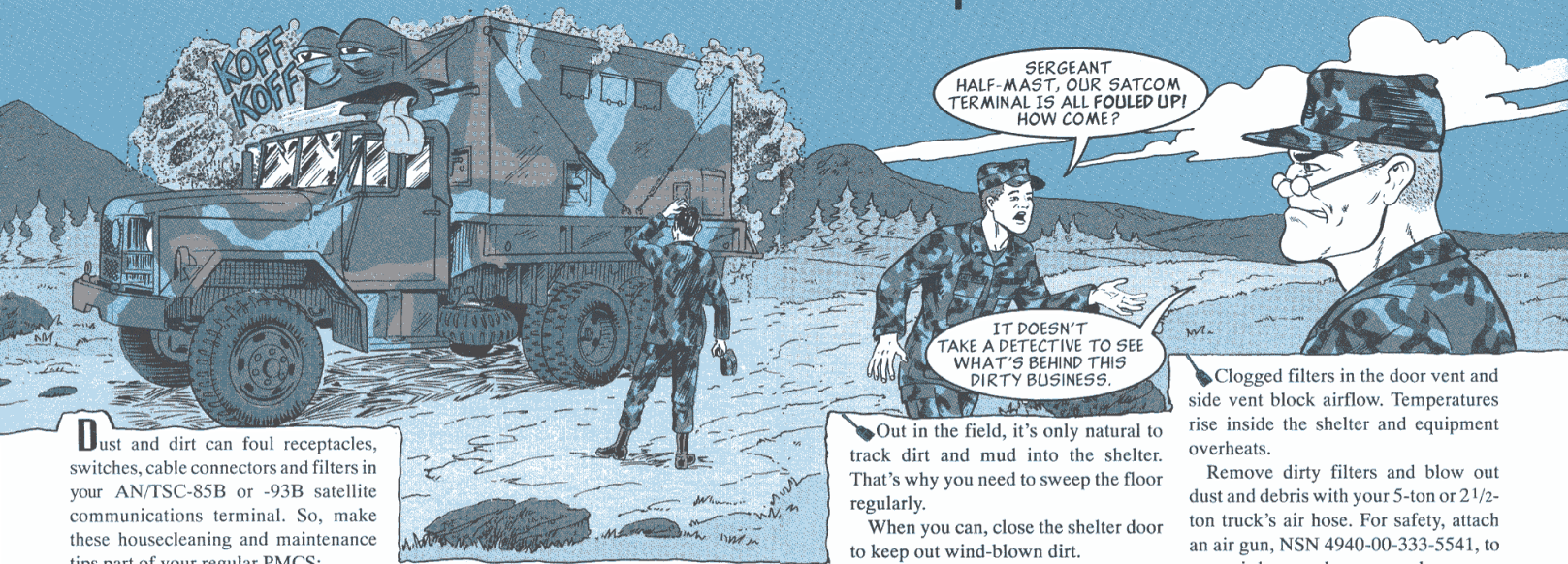








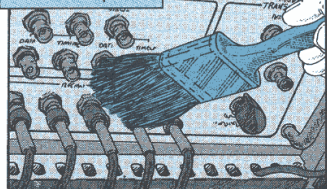
# You'd Better Clean Up Your Act!



**D**ust and dirt can foul receptacles, switches, cable connectors and filters in your AN/TSC-85B or -93B satellite communications terminal. So, make these housecleaning and maintenance tips part of your regular PMCS:

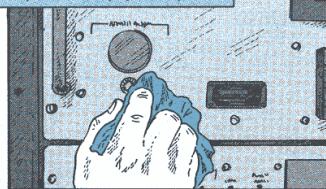
- Dust and dirt on equipment front panels make for bad electrical connections. Fine dust also has a way of sneaking into the equipment itself, where it can coat delicate parts and lead to overheating.

## Dust off receptacles



- Use a nylon brush, NSN 8020-00-245-4517, to dust off receptacles, toggle switches and rotary switches. And use general purpose detergent, NSN 7930-00-926-5280, and a clean rag to wipe down panels.

## Wipe down equipment panels

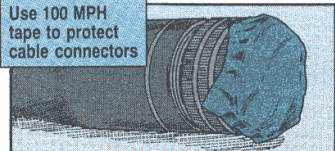


- Out in the field, it's only natural to track dirt and mud into the shelter. That's why you need to sweep the floor regularly.

When you can, close the shelter door to keep out wind-blown dirt.

It's a good idea to store the shelter's power cable on the floor when the system's shut down. Just make sure you put covers, NSN 5935-00-304-4681 and NSN 5935-01-131-0255, on the connectors. If you don't have covers, 100 mile-an-hour tape over the connectors provides temporary protection.

Use 100 MPH tape to protect cable connectors



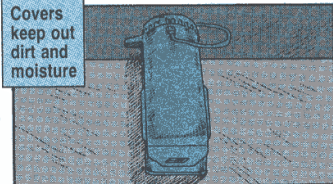
- Clogged filters in the door vent and side vent block airflow. Temperatures rise inside the shelter and equipment overheats.

Remove dirty filters and blow out dust and debris with your 5-ton or 2 1/2-ton truck's air hose. For safety, attach an air gun, NSN 4940-00-333-5541, to your air hose and wear goggles.

Another good way to clean filters is to rinse them in water and let them air dry.

- Outside, at the signal entrance ports, it's especially important to put covers, NSN 5935-00-883-4265, on unused receptacles. Those covers are your best defense against dirt and moisture.

Covers keep out dirt and moisture

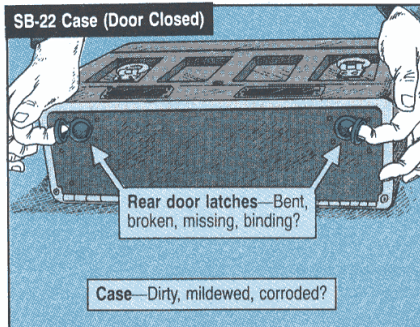




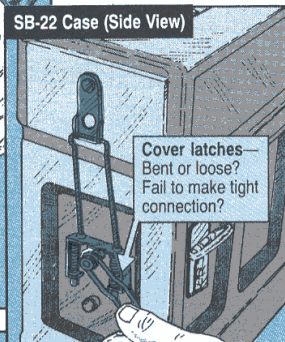
# BE YOUR OWN INSPECTOR

**K**ee the art of conversation alive and well by following this preventive maintenance checklist for your SB-22()/PT telephone switchboard. If you find any problems, report them to your unit repairer.

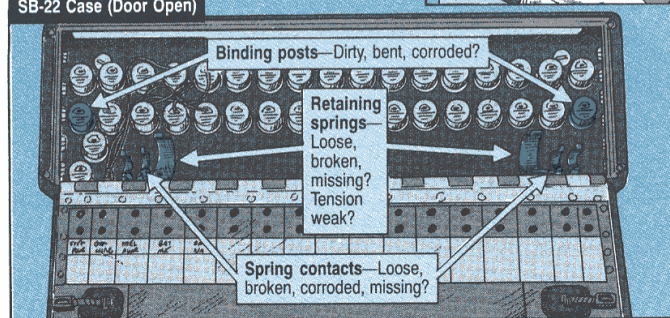
SB-22 Case (Door Closed)



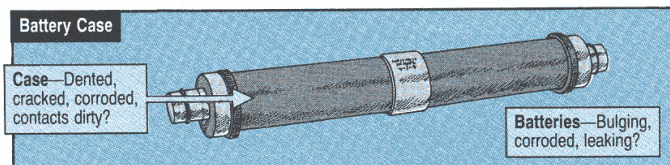
SB-22 Case (Side View)



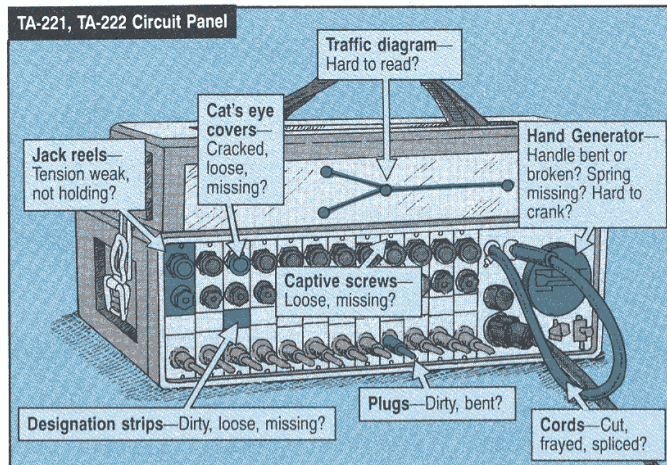
SB-22 Case (Door Open)



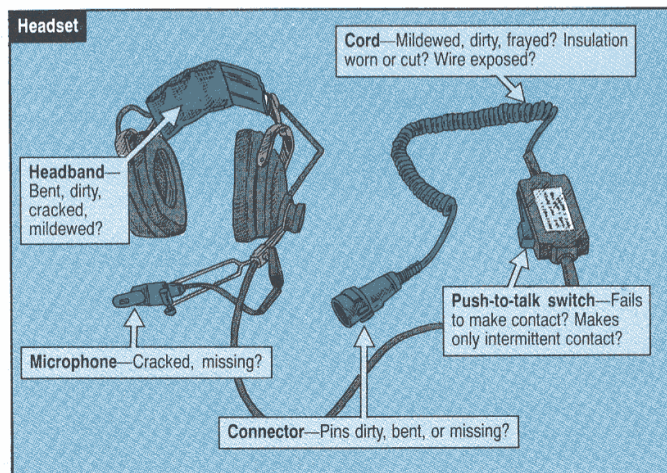
Battery Case



TA-221, TA-222 Circuit Panel



Headset





# Plugging PLGR Parts



ITEM	NSN
AS-4333/V remote antenna	5985-01-375-4660
Remote antenna cable	6150-01-375-8662
Carrying case	5895-01-375-7528
BA-5800/U lithium power battery	6665-99-760-9742
AA Alkaline battery	6135-00-985-7845
Lithium memory battery	6135-01-301-8776
Power adapter	6130-01-376-2168
Vehicular installation mount	5975-01-375-1302
External power cable	6150-01-375-8661
PLGR to PLGR cable	6150-01-375-8663
Personal computer cable	6150-01-375-8664
Havequick cable	6150-01-375-8665
SINCARS cable	6150-01-375-8666
Battery holder for 8 AA Alkaline	6160-01-385-4358

Some NSNs were not on the AMDF at press time.



# GET THE POINT?

Antennas like the OE-254 or the RC-292 can be downright dangerous before you raise the mast. The pointed ends of the exposed antenna elements are like raised swords just waiting to run you through.

Blunt those sharp ends by putting tip caps, NSN 5985-00-930-7223, on all antenna elements. Hold the caps on tight by wrapping them with electrical tape, NSN 5970-00-419-4291.

Cap all elements...

No tips? Tape a rubber ball or rubber tubing to the elements — anything to blunt the ends. If there's absolutely nothing available, post a warning sign or signal near the antenna to alert people to the danger. That's especially important at night.

For more info on safe antenna erection, look at your

TMs and TB 43-0129, safety measures when installing and using antennas.

...then tape them





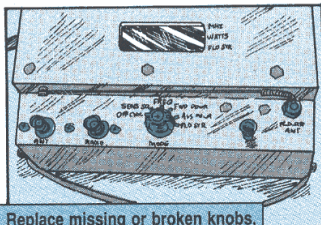
# Passing the Test



Using the AN/PRM-34 test set can give your radio PM a real boost. Just make sure you include a little PM for the test set itself.

Here's what you need to do:

- ✓ Look at the front panel. If the MODE knob, PUSH TO TEST switch, ANT and RADIO connectors or screws are missing or broken, get them replaced. Never leave any open places that invite dust, dirt or moisture inside.



Replace missing or broken knobs, switches, connectors and screws

- ✓ Give a little tug on the ANT and RADIO cable connections. Make sure they're hooked up tight. Loose connections

during testing can damage your radio or give a false failure indication.



- ✓ Use a clean, soft cloth to wipe sand, dust, grime and moisture off the surface of the test set. Never use abrasive cleansers on the painted surface or the display window.

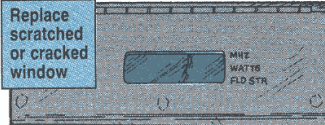
Clean surfaces with soft cloth



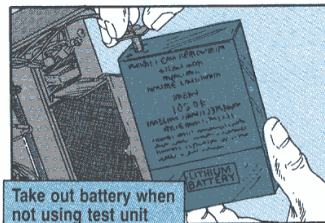
- ✓ Get your support to replace the display window if it's so badly cracked or

scratched that you can't read the numbers.

Replace scratched or cracked window



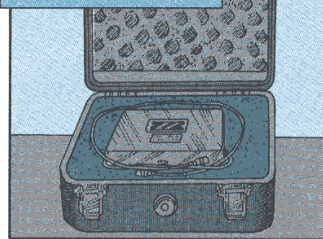
- ✓ Remove the lithium battery if you plan to store the test set for longer than 30 days.



Take out battery when not using test unit

- ✓ If you're not using the test set, store it in the transit case. That'll protect it from dirt and moisture. If the case gasket's torn or missing, have support replace it.

Store test set in transit case



- ✓ Always let the radio warm up for at least five minutes before testing it. If the radio's cold, you'll get inaccurate test results.

AN/GRC-103 ...

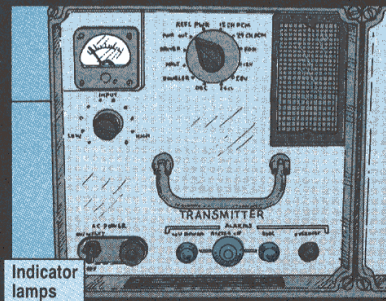
## The Right Light

Here's a bright idea. Use only a 1.12 watt bulb for the indicator lamps on your AN/GRC-103 radio.

Indicator lamps on the T-983 transmitter, the R-1329 receiver and the RT-773 receiver-transmitter all need 1.12 watt bulbs. Higher wattage bulbs draw more power and create heat.

If you install a high wattage bulb in one of the alarm indicator lamps — on the T-983 transmitter, for example — it'll cause the alarm control circuit board to overheat. And sooner or later overheated circuits will shut down your transmitter.

So when you install a new light bulb, make sure it's 1.12 watts. NSN 6240-00-155-7836 brings a box of ten bulbs.



Indicator lamps



# Don't Drag Your Heels



**O**perators, if you haven't checked your forklift's lifting forks lately, chances are you're dragging your heels — literally.

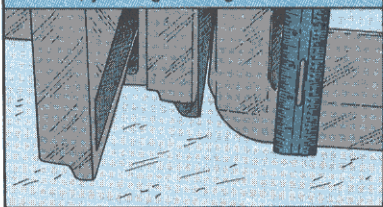
Using the forklift eventually causes the lifting chain to stretch. That lets the fork heels drop and drag against the ground when the mast is in the vertical position. Pretty soon, you have to replace the forks.

Prevent premature wear by helping your mechanic check the forks at every scheduled service. Here's how:

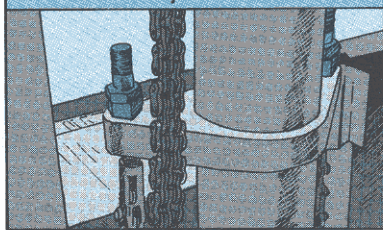
1. Put mast in vertical position. Use a level to make sure it's straight or you won't get an accurate measurement.



2. Measure distance from ground to bottom of fork heel. If measurement is  $\frac{1}{2}$  inch, you're good to go. If not...



3. Adjust height of fork heels using forklift's chain adjustment bolts.





# Put the Pulley in Its Place

Dear Connie,

We've been having a rash of cut hoses and electrical cables on our forklifts. Just replacing the hoses or cables won't do the job.

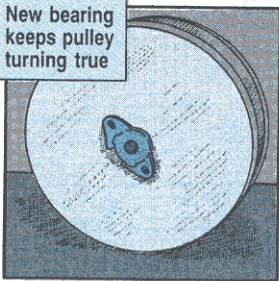
They are cut because the plastic bearing inside the pulley breaks, letting it wobble and slice through the cables and hoses.

The only fix is to order a new bearing, NSN 3130-00-133-6791, when you order the other parts.

New bearings keep the pulley running true, which keeps new hoses and cables safe.

CW3 Mark K. Beckley  
Ft Benning, GA

New bearing  
keeps pulley  
turning true



A NEW BEARING  
SHOULD STOP THE PULLEY  
FROM WOBBLING AND CUTTING  
HOSES OR CABLES.





# SEE SPOT GO



**I**f you see black spots before your eyes when you look through your AN/PVS-5 or -7 night vision goggles, it doesn't mean you need an eye exam. It just means there's dirt on the lenses or small blemishes on the image intensifier tube.

First order of business is to clean the objective and eyepiece lenses, the sacrificial window and the light interference filter with lens paper, NSN 6640-00-240-5851, and clean water.

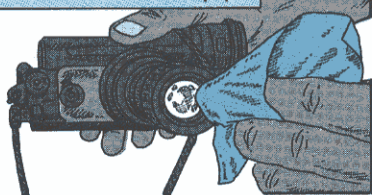
When you clean the demist shields, make sure the shields and the lens paper are dry. You'll damage the coating if the shields are wiped wet.

If you still see black spots after cleaning the lenses, you've got blemishes on the image intensifier tube.

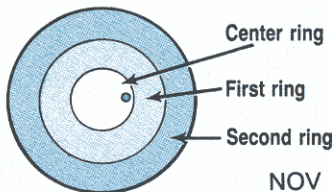
Blemishes are no problem unless the spots keep you from doing your mission. If they do, turn in the goggles to your support for repair.

Make sure to identify on the maintenance request where the spot is located in the circle of vision.

Clean lenses with lens paper



Identify spot location





# BATTERY QUIZ

**T**ry this pop quiz on the BA-5567/U lithium battery, NSN 6135-01-090-5365, and the AA alkaline battery, NSN 6135-00-985-7845. Both are used in night vision goggles (NVGs).

**Question:** Which NVGs use either one BA-5567/U or two AA alkaline batteries?

**Answer:** The AN/PVS-5B, -5C, -7A and -7B.

**Question:** What's the preferred NVG battery for everyday use and training exercises?

**Answer:** The AA alkaline. There are more in stock and the AA is cheaper than the lithium battery.

**Question:** What's the preferred NVG battery for combat missions?

**Answer:** This is a trick question. You can use either the lithium or alkaline battery for combat missions in temperate climates.

**Question:** Which battery performs better in cold weather operations?

**Answer:** In temperatures of 0°F or lower the lithium battery lasts longer.

**Question:** Which battery performs better in hot weather?

**Answer:** Makes no difference. Both batteries have about the same life span in hot weather.

**Question:** Which battery can be stored outside in hot weather longer without weakening?

**Answer:** The lithium battery. Just remember to store it in a covered, well-ventilated area that keeps it out of direct sunlight and prevents heat buildup.

## PM KNOWLEDGE BOWL

THIS BATTERY OF QUESTIONS WILL TEST YOUR NIGHT VISION IQ.

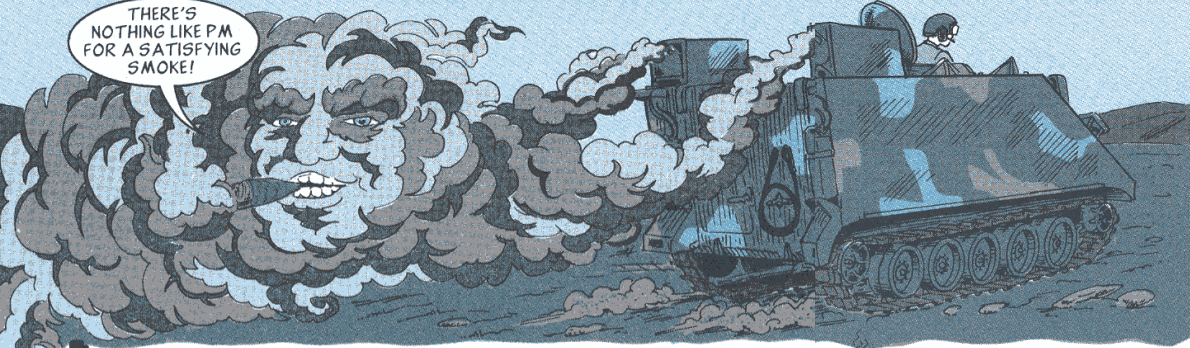
HOW DID YOU DO?

Five of six - excellent.  
Four of six - good.  
Three of six - fair.  
Two of six - go back to number one and study, study, study!



# SMOKING OR NON-SMOKING?

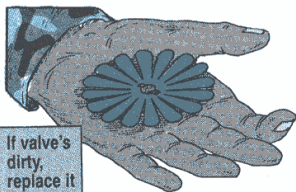
THERE'S  
NOTHING LIKE P.M.  
FOR A SATISFYING  
SMOKE!



If you want your M157 to smoke like a smoke generator should, get fired up on these tips:

## PM

Before you go to the field, eyeball the engine valve. A dirty valve means bad compression. Your M157 will be difficult to start and will run poorly. Replace the valve with a clean one.



Be sure to screw the heads back on so that the lugs on the machine ring at the end of the head fit into the cutouts in the combustion chamber. After you get the ring hand-tight, tighten it a 1/4-in turn with your wrench. But no more. Too much force damages the head, head

gasket, or chamber retaining rings. The head won't come off or it will leak and cause poor compression.

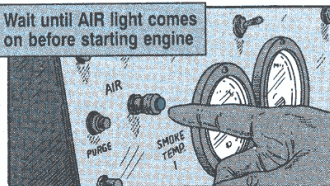
If you will be operating in extremely hot weather (above 95°F), ask your mechanic to lower the fog oil pump pressure to 25 PSI. High temperatures cause an electrical heat buildup in the control panel. That can short out electrical parts.

## Starting and Stopping

Starting your M157 can be tricky. For instance:

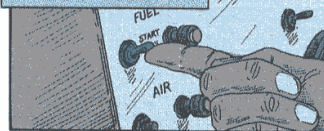
If you don't wait for the AIR light to come on before you turn on the engine, you'll have starting or purging trouble.

Wait until AIR light comes on before starting engine



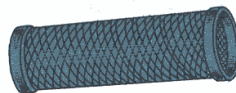
You must hold the FUEL switch up—you can't flick it up. It's spring-loaded and won't stay. But never hold it up longer than 30 seconds or you'll burn out the FUEL switch itself or the K101 switch on the generator.

Hold FUEL switch up, but no more than 30 seconds



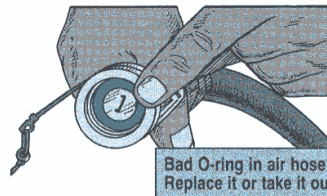
## Troubleshooting

If fog oil's not getting to the generator, a clogged fog oil tank strainer is usually the problem. Make that your first check. Clean it with drycleaning solvent.



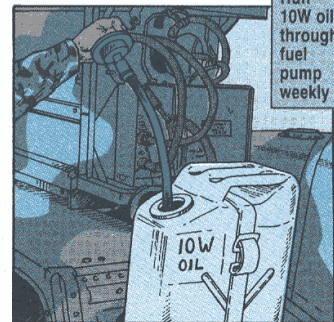
No fog oil? Check tank strainer

If the air compressor won't shut off, check the O-rings in the quick disconnects of the air hoses and check the hoses for looseness and cracks. A bad O-ring or hose causes a bad seal. Remove a bad O-ring. That will seal the hose enough to operate. Get the O-ring replaced as soon as possible.



## Storage

If your M157's going to sit for more than a week, hook up the fuel pump to a can filled with SAE 10W oil and let the fuel pump run five minutes. Do the same with the fog oil pump. That coats the insides of both pumps and prevents them from corroding.





Fuel ...

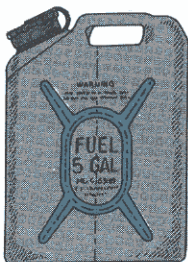
# New 5-Gallon Plastic Can



**T**here's a plastic 5-gal fuel can available. You use the plastic can every place you use the metal one—except, **you never use the plastic can around the motor pool, on construction sites, or where OSHA safety rules require an approved safety can.**

Here's some late breaking news: You're supposed to use this can on all OCONUS missions, **NOW.**

New  
plastic  
fuel can



By 1 Oct 96, you'll have to use the plastic can — **PERIOD.** It'll be mandatory to meet new United Nations and Department of Transportation rules for packaging and transporting fuel in the US.

The good news is the new can uses the same vehicle — and generator — mounted carrying brackets as the metal one.

More good news is you can use all the pieces from the old metal Jerry can, like the metal pour spout, gravity feed kit adapter for heaters and stoves, and other adapters used with small generator sets.

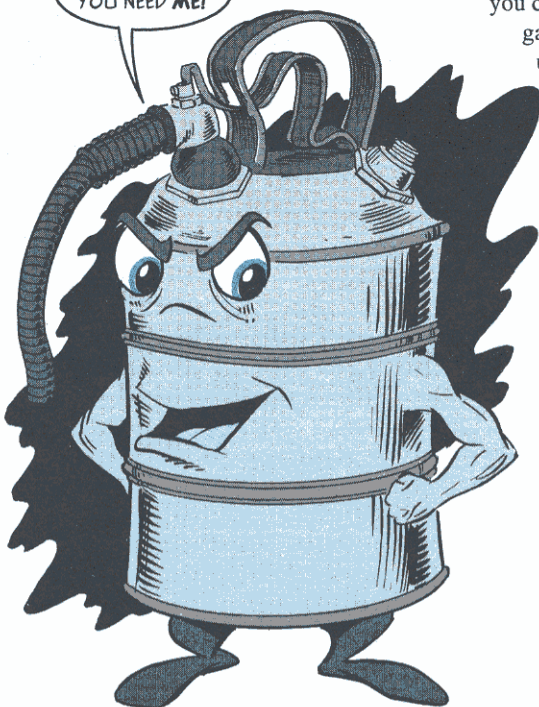
Here's what you can get:

COLOR	NSN 7240-01-337-
Sand	5268
Olive drab	5269



# FUEL SAFETY CANS

FOR SAFETY,  
YOU NEED ME!



There are two types of safety cans you can get for temporary storage of gasoline and other flammable liquids to use in motor pools, at construction sites, and where OSHA safety rules require an approved safety can.

The openings have flame arrestors.

Type I has a short, rigid spout with a spring-hinged cap:

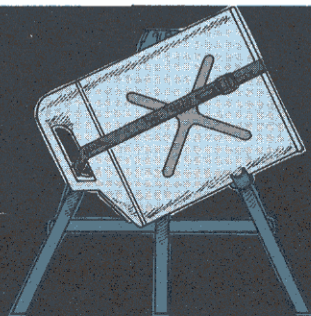
SIZE	NSN
1-gal	7240-00-240-6957
5-gal	7240-00-177-4997

Type II has a flexible metal hose spout:

SIZE	NSN
1-gal	7240-00-177-4999
3-gal	7240-00-248-9620
5-gal	7240-00-240-6958

## Fuel Can Cradle

NSN 7240-01-318-5222 gets a fuel can cradle for use with the space heater in your tent.





# Go to the Head of the Class



THERE ARE 10 CLASSES OF SUPPLY THAT TELL YOU WHAT SUPPLY GROUP DIFFERENT ITEMS COME UNDER. THESE 10 SUPPLY CLASSES TELL YOU WHERE TO GET THE ITEMS.

CHECK THIS LIST OUT AGAINST YOUR SYSTEM.

CLASS	ITEMS	DIVISIONS	SOURCE FOR NONDIVISIONAL UNITS	SOURCE FOR SEPARATE BRIGADES
I	Subsistence	Forward Support Bn Main Support Bn	S & S Co	Supply Co of Support Bn
II	Clothing, kits, tools, individual and house-keeping equipment	S & S Co or Self Service Supply Center (SSSC) CIF for OCIE	S & S Co or SSSC CIF for OCIE	Same as for Class I or SSSC CIF for OCIE
III	POL (fuel, antifreeze, lubricants)	Supply Co or Main Supply Co	S & S Co	Same as Class I
IV	Construction material	S & S Co	S & S Co	Same as Class I
V	Ammunition	Class V Section, Supply Platoon (Ambi Div) or Main Supply Platoon (Abn Div). Ground divisions use non-divisional DS Ammo Co	DS Ammo Co	DS Ammo Co for light infantry units, S & S Co for airborne units, S & T Co for air cavalry units
VI	Personal demand items	Army/AF Exchanges (AAFES) S & S Co in tactical situations	Same as divisions	AAFES or same as Class I in tactical situations
VII	Major end items	S & S Co or Trans Acft Maint Co (DS); DS Maint Co for float items	Same as divisions	DS Maint Co
VIII	Medical materiel	Medical Co	Medical Co	Medical Co
IX	Repair parts	DS Maint Co	DS Maint Co	DS Maint Co
X	Agriculture, economic development	Can be any organization at any level ordered to provide items.		



The Supply Categories of Materiel Code (SCMC) on the AMDF lists the class of supply and subclass for each item.

The subclass is a 1-letter code that breaks the class down even further. For example, lock washer, NSN 5310-00-616-3555, is coded 9T; lamp, NSN 6240-00-155-7836, is coded 9G. They're both Class IX repair parts, but the lock washer (subclass T) belongs to the industrial supplies group and the lamp (subclass G) is a commo/electronics item.

The code reference guide (LOGSA Pam 18-1) lists each subclass that shows up in the SCMC column of the AMDF.

So, never just stop with the class of supply; eye that subclass, too.

Then, the next time you can't get an item through your regular source of supply, glance over this list or find a copy of FM 704-28, Classes of Supply. Could be you're trying to get the item from the wrong people, or could be the item is coded wrong on the AMDF. Either way, the solution may be another supply source.



## This Is a Stickup

When you box up material for shipment or storage, you need to stick a label on the box so that everybody knows what the package contains. In fact, some labels are mandatory.

Here are NSNs for some common labels:

NSN 7540-	Title	Size (inches)
00-559-2335	Fragile (gummed)	2 1/2 x 2 1/2
00-559-2337	Fragile (gummed)	4 x 4
00-139-4834	NMCS (Not Mission Capable Supply)	3 x 1 1/2
00-139-4835	NMCS (Not Mission Capable Supply)	5 x 3
01-109-8815	Caution-Sensitive Electronic Devices (intermediate and exterior container)	2 x 2
01-110-4906	Caution-Sensitive Electronic Devices (intermediate and exterior container)	4 x 4
01-317-7371	Caution-Sensitive Electronic Devices (unit container)	2 x 5/8
01-044-7185	Equipment Warranty	3 x 2

DON'T GET **STUCK**  
WITH UNIDENTIFIED PACKAGES!  
STICK THE RIGHT LABEL  
ON US!

## HOWZAT with the HAZMAT Pub?

The good book on marking HAZMAT and other items for shipment or storage, MIL-STD-129, is now in four different parts.

To order just the parts you need, read this:

MIL-STD-129M—gives the basics for marking general supply items.

MIL-STD-129-1—deals with the marking of ammunition and explosives.

MIL-STD-129-2—gives instructions for marking medical materials.

MIL-STD-129-3—deals with the marking of semiperishable and perishable subsistence.



TO ORDER  
ANY OR ALL OF  
THESE PUBS,  
WRITE ...

Naval Publications and Forms Center  
DODSSP - Customer Service  
Standardization Documents Order Desk  
700 Robbins Ave, Bldg 4D  
Philadelphia, PA 19111-5094

Or call:

DSN 442-2179/2626  
Commercial (215) 697-2179/2626

Or order by fax:

DSN 442-1462  
Commercial (215) 697-1462





MISTRESS CONSTANCE,  
I HAVE A  
MAINTENANCE PROBLEM!



### M934A1 Ladder NSN

The boarding ladder that comes with your M934A1 5-ton expansible van is too short. Soldiers can fall and get hurt. To get a longer ladder, order NSN 2540-01-372-6677. It's coded ACC "J" on the AMDF, which means it will take a while for the ladder to come in.

### SEE Hood Latch Facts

You won't find a number for a hood latch for the small emplacement excavator. If you need one, order CAGE 64678, PN 406 752 00 50 on a DD Form 1348-6 from RIC S9C.

### Howitzer Pressure Gauge

The valve on the air pressure gauge assembly, NSN 6685-00-248-6974, for the M198 towed howitzer takes a real beating. Once worn, you can't get a tight seal to the vehicle's check valve-and gas hisses out. No need to replace the gauge, though. Instead, order a new valve with NSN 4820-00-245-7699.

### Trailer Nuts & Bolts

Info for mounting bolts and nuts for the taillight mounting bracket on M101- and M116-series 3/4-ton trailers and chassis is missing from TM 9-2330-202-14P. Get the bolt with NSN 5305-01-140-9118 and the nut with NSN 5310-00-087-4652.

### M939A2 Vent Valve NSN

No use looking in your -20P TM for the vent valve on front wheel driving spindles for this 5-tonner. The valve's not there. Use NSN 4820-01-285-6159 to get the valve.

### M1 Hydraulic Pump

Page 15 of PS 501 said to replace the quick disconnect O-rings on your M1-series tank's main hydraulic pump during every semiannual maintenance. Don't. The O-rings are designed to last at least three years. Change them only at failure to decrease the chance of contaminating and damaging the pump.

Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-Series

**Would You Stake Your Life *right now* on the Condition of Your Equipment?**

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**Your ENGINE  
Won't Run on**

**WATER**

**Keep  
Fuel  
Tanks  
Filled  
to**

**CAUTION  
Lines**

NO CAUTION LINE?  
FUEL TANK MARKING IS  
COVERED IN FIG 20 OF  
TB 43-0209.

CAUTION  
DO NOT FILL ABOVE THIS LINE  
TO ALLOW FOR EXPANSION

