

Issue 292

PS

March  
1977

# THE PREVENTIVE MAINTENANCE MONTHLY

OH, WOW!  
A BROKEN  
FAN BELT!

NO WONDER  
THE ENGINE  
GOT HOT!

OUCH--  
AND THE  
RADIO'S CONKED  
OUT!...

WE'RE  
STUCK!

FACT IS, A  
NUCLEAR POWER  
PLANT HAS EXACTLY  
THE SAME PROBLEM--  
GETTING RID OF  
HEAT!

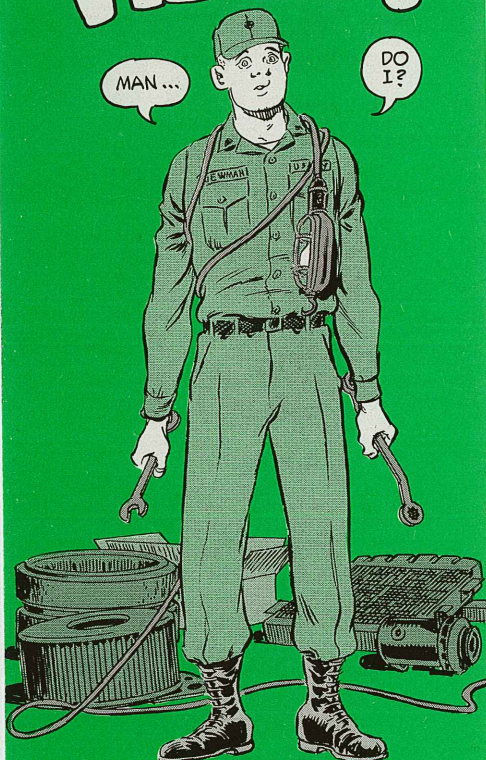
WOULDN'T YE  
THINK-- IN YIR  
NUCLEAR AGE--  
YE'D HAVE HEAT  
PROBLEMS LICKED!

MURPHY  
ANDERSON

See  
"KEEPING  
YOUR COOL"  
Pages  
29-36



# NEED HELP?



Inspection got you down?  
Readiness reports got you caged?  
You get gigs for things you didn't know about? Maintenance problems? Supply problems?

# Call MAIT

Solution: Call in **MAIT** (Maintenance Assistance and Instruction Team). **MAIT** is on your post or in your Division or command to help you keep your equipment combat ready. They're there to help ... never hinder.



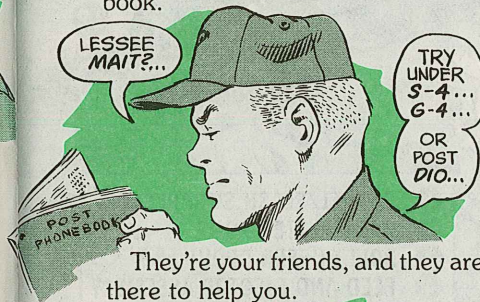
**MAIT** does not inspect. They'll assist and instruct; that's their name. And, when they find things about your equipment, your records, your PLL or whatever that



needs a boost, they'll tell you what's wrong, how to fix it up ... even lend a hand.



Call **MAIT**. They're in the phone book.



They're your friends, and they are there to help you.



## PS THE PREVENTIVE MAINTENANCE MONTHLY

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ISSUE No. 292 MARCH 1977

### FIREPOWER 2-17

BYOI...M85 MG 2-15 Chaparral 16,17

### GROUND MOBILITY 18-27

POL Tanker	18-21	Tarp Tie-down	26
Tie-down Kit	22-23	Gama Goat	27
5-Ton Wrecker	24-25	Tractor Truck Tip	27
		M870 Semitrailer	27

### AIR MOBILITY 37-47

Huey	37,40	Commercial Pubs	40
New Tail Rotor		Connector Adapter	41
Assy	38-39	MWO Update	41
Cobra	39	M-693/A Maint	
FOD	40	Kit	42-47

### ELECTRONICS 48-55

AN/VRC-12	48-51	AN/PVS-5 Goggles	53
AN/GRC-106	52	RC-292 Antenna	53
AN/GRC-103	52	Cable Rings	54
AB-652 Antenna	53	CE-11 Reel	54
		AN/MPQ-4A	55

### COMBAT SUPPORT

New Publications	28	M17 Mask	60-61
Keep Your Cool	29-36	Toolroom Techniques	62-63
60-KW DED Generator	56-58	Hand Tool Replacements	64
5-KW Generator	59		

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to: Or call AUTOVON 745-3503

MSG Half-Mast  
PS Magazine  
Lexington, KY  
40511

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FIREPOWER



BE YOUR OWN INSPECTOR

# M85

**A**n oldie goldie like your M85 —no kinks, no jinx— is a real dream machine gun. But it still needs a lot of PM care to keep it spittin' bullets smooth and sassy.

**WHISSST!**

TH' PM CHECK LIST THAT FOLLOWS WILL MAKE YIR JOB EASIER AS YE STRIP YIR GUN DOWN AN' PUT IT T'GETHER AG'IN!

HALLOOO, YOU M85 TYPES...

'TIS **BE YOUR OWN INSPECTOR** TIME...

- 1 BARREL/FLASH SUPPRESSOR
- 2 BACK PLATE GROUP
- 3 BOLT BUFFER GROUP
- 4 FEED AND EJECTOR ASSEMBLY
- 5 SEAR ASSEMBLY
- 6 CHARGER ASSEMBLY
- 7 BOLT ASSEMBLY
- 8 COVER ASSEMBLY
- 9 BARREL EXTENSION ASSEMBLY
- 10 FEED TRAY ASSEMBLY
- 11 ACCELERATOR ASSEMBLY
- 12 RECEIVER GROUP ASSEMBLY

## .50-CAL MACHINE GUN

AND A HAPPY ST. PADDY'S DAY TO YOU ALL FROM ME, TOO!

AN' WHILE YER DOIN' TH' WHOLE SMEAR, BE EXTRA CAREFUL YE DON'T LOSE INY SPRINGS, PINS, RETAINERS AN' SICH!

SOOOO-OOO, ON WITH YOUR **BYOI...** AND PLEASE NOTE THAT ALL **BOLD FACE** ITEMS GET TAKEN CARE OF QUICK AS A WINK!!

PS MORE



## BARREL/FLASH SUPPRESSOR

'SPECIALLY SCAN THIS!...

SUPPRESSOR—Loose; prongs bent and base cracked.

BARREL—Loose; burred, cracked, bulged, rusty, dirty; bearing and camming surfaces galled, nicked, corroded, burred; rifling scored, nicked, scratched; lands damaged; chamber powder-fouled, rusty.

WAY T' GO, LASS!  
YOU M85 TYPES WILL FIND ALL INFO SHOWN AS WHITE ON GREEN TELLS IT LIKE IT IS!

Here's the best way to beat the barrel rust and carbon hex: After firing, clean the bore with RBC, wipe dry... then add a light coat of LSA. Just before firing, run a patch thru a couple of times. The bore should be dry to stop carbon build-up and stop the big bang caused by the increased chamber pressure due to the oil in the bore.

BARREL LOCKING LUGS—Cracked, missing, broken, worn, chipped.

BARREL LATCH SLOT—Damaged, worn.

Keep those 2 barrel bearing surfaces smooth. Your M85 will last longer—and you'll be more apt to hit your target.

Never use abrasives like steel wool, emery, crocus cloth, or felt wheel on the bearings. You'll scratch 'em and scratches are dirt traps. That means more wear 'n' tear. Carbon removing compound and cleaning rags will do a bang-up job on the bearings.

Busted or missing barrel locking lugs'll stop-fire your M85 quick-like. Here're 2 dandy sure cures: (1) PI—Preventive Inspection—before you assemble it, and (2) PM—Preventive Maintenance—while you're handling it. Never toss the barrel assembly onto the rack, or use the locking lug end as a hammer.

## BACK PLATE GROUP

BACK PLATE ASSEMBLY—Parts loose, missing, rusty, cracked, dirty.

LATCH AND LOCK—Won't work right.

FIRING RATE SELECTOR—Won't hold in either "H" or "L" positions.

STRIKER—Won't turn when you move the firing rate selector.

QUICK RELEASE PINS—Ball detents missing, damaged.

TRIGGER EXTENSION ASSEMBLY—Extension hook bent, cracked; chain links broken; worn, rusty.

SOLENOID—Plunger and striker springs weak, sluggish.

Hold it! You never oil the solenoid and never use any drycleaning solvent or RBC on it. All you do is wipe the grease and dirt off with a dry, clean lint-free cloth.

TIP: Check out the time delay cylinder like so: Rotate it with your thumb... let it go... and listen for a definite click! You never make any adjustments on the cylinder—that's strictly a DS job.

PAY HEED T' THESE, LADS!

PS MORE



## BOLT BUFFER GROUP

DRIVING SPRING—Bent, kinked, set; wire strands broken.



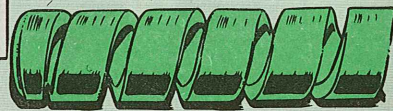
Check carefully—there're 6 strands and they should be brazed together at the ends. Springs should have at least 17 inches free length.

NE'ER FEAR T' ASK FER HELP!

DRIVING ROD—Bent, cracked, broken, separated from retainer.

NOTE: Yelp for your armorer if any bolt buffer part is damaged. He'll get DS to check the whole bit.

BUFFER SPRING—Cracked, set, broken, burred.

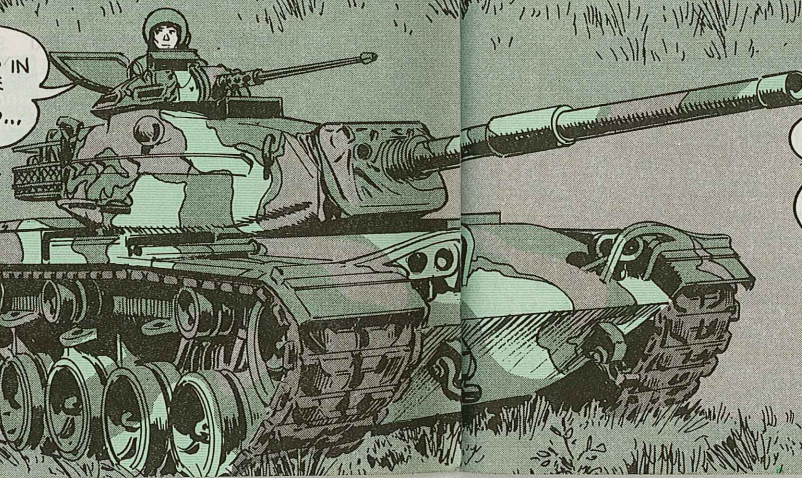


BUFFER SLEEVE—Cracked, burred, damaged; rough edges; lugs broken, cracked.

ALL BECAUSE NOBODY CALLED IN DS ABOUT THE BUFFER SPRING BEING CRACKED...

YUP...WE'VE GOT .50 CAL MG PROBLEMS, CONNIE!

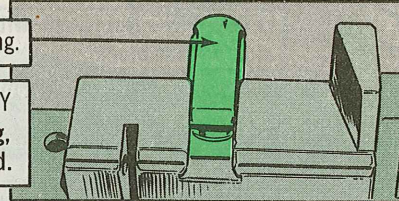
?



## FEED AND EJECTOR ASSEMBLY

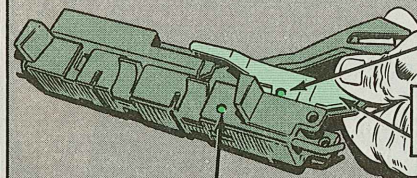
RETAINER—Missing.

FEED ASSEMBLY—Parts missing, cracked, damaged.



HERE'RE A COUPLA IMPORTANT PM POINTERS-- KEEP ON THE ALERT FER SICH TROUBLE, LADS.

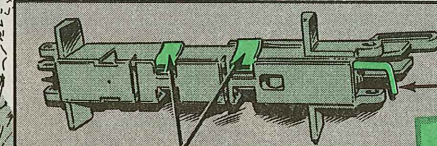
EJECTOR PIN—Loose, damaged, not staked; spring weak, damaged.



CARTRIDGE EJECTOR—Edges burred; bent; spring weak.

A weak spring won't return the ejector to proper position so it can be struck by the rearward movement of the bolt.

LEVER PIN—Missing, bent, loose, not staked; spring weak, bent.



BELT RETAINING PAWL PIN—Missing, bent.

When you remove the feed assembly actuator be careful you don't lose the retaining pin.

BELT RETAINING PAWLS—Cracked, burred; springs weak, cracked.

NEGATORY, TIMOTHY!

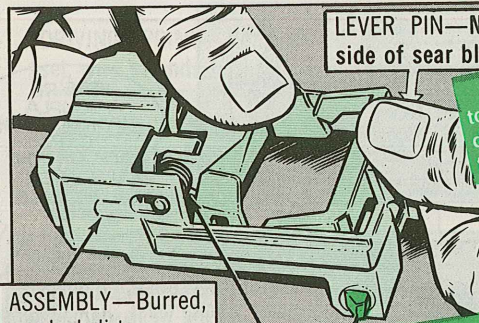
...AND NOW IT'S BROKEN!!  
DON'T THESE MORTALS EVER LEARN?



PS MORE



## SEAR ASSEMBLY



LEVER PIN—Not flush with left side of sear block.

NOTE: Never try to drive the pin toward the right side because you'll damage the sear detent spring that's at the other end of the pin.

CHECK--CHECK--  
AND THEN  
CHECK AGAIN!

ASSEMBLY—Buried, cracked, dirty.

BOLT SEAR SPRINGS—Weak, broken.

SEAR DETENT—Spring weak; retaining pin missing, worn, loose.

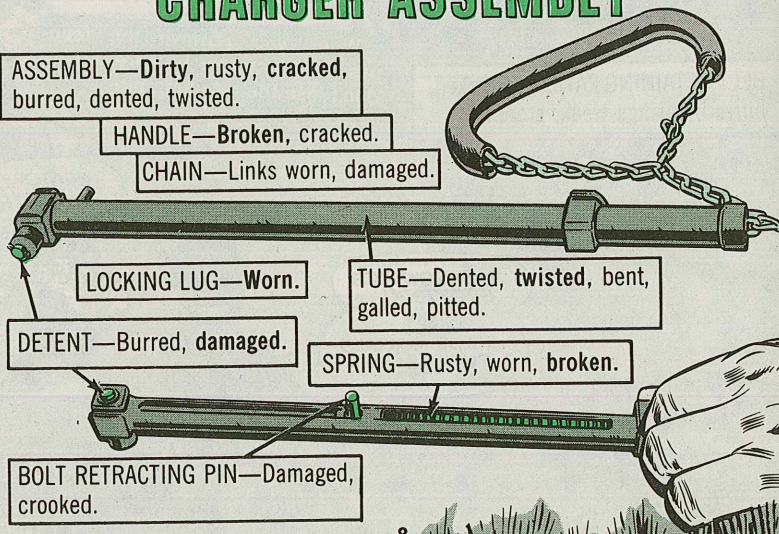
TIP: You'll be smart to check the sear detent action to see that it holds the sear assembly in the receiver. Check the location of the sear pin in the long sear pin hole. The 2 sear buffer units are no good when the sear pin's not touching or is not positioned at the rear of the elongated sear pin holes in the block.

## CHARGER ASSEMBLY

ASSEMBLY—Dirty, rusty, cracked, buried, dented, twisted.

HANDLE—Broken, cracked.

CHAIN—Links worn, damaged.



LOCKING LUG—Worn.

TUBE—Dented, twisted, bent, galled, pitted.

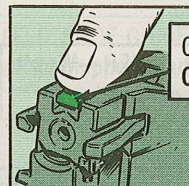
DETENT—Buried, damaged.

SPRING—Rusty, worn, broken.

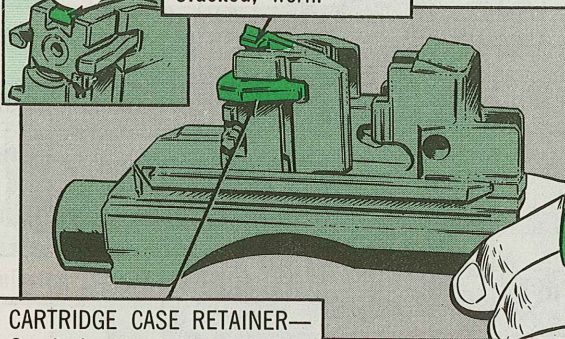
BOLT RETRACTING PIN—Damaged, crooked.

8

## BOLT ASSEMBLY



CARTRIDGE RAMMER—  
Cracked, worn.

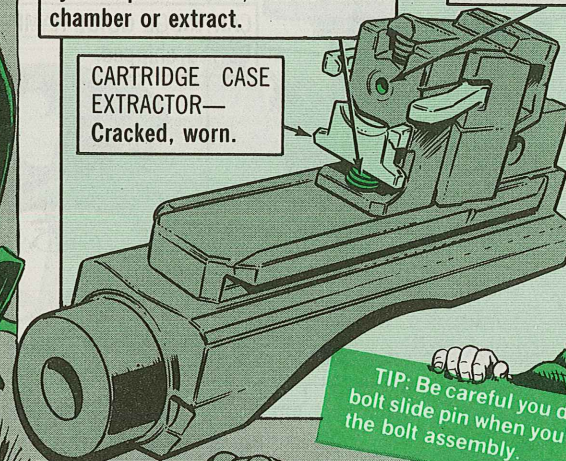


CARTRIDGE CASE RETAINER—  
Cracked, worn.

SPRINGS—Weak, worn, set; won't eject spent cases; round won't chamber or extract.

FIRING PIN—Won't protrude thru bolt face, missing; tip broken.

CARTRIDGE CASE EXTRACTOR—  
Cracked, worn.



MR. FROG-- D'YA  
KNOW WHAT A  
CARELESS GUNNER  
MIGHT DO?

TIP: Be careful you don't lose the bolt slide pin when you're handling the bolt assembly.

BEE-DEE-  
DEE-  
YUP!

CROAK!

9



## COVER

COVER LATCH LEVER—  
Binds, won't release.

BELT FEED LEVER —  
Won't move easy-like;  
broken.

BELT FEED SLIDE —  
Damaged, broken.

BELT FEED PAWL—  
Broken, burred; spring  
broken, weak.

CARTRIDGE GUIDE PAWLS  
—Worn, broken, chipped;  
springs weak.

LATCH COVER—Won't  
work, damaged.

LOCK PIN—Broken, missing.

QUICK RELEASE PINS—Bent,  
broken; ball detents broken.

CARTRIDGE GUIDE RAMP—  
Burred, chipped.

THESE LADS  
ARE **REALLY**  
ON TOP OF IT,  
CONNIE!

EVERYTHING SEEMS  
UP-TO-SNUFF ON THE  
COVER ASSEMBLY!

**GREAT--NOW, BEFORE  
MOVING ON TO THE REMAINING  
ASSEMBLIES, HERE ARE SOME  
FINAL CHECKS AND DOUBLE-  
CHECKS THAT SHOULD BE MADE...**

## ASSEMBLY

FEED SLIDE GUIDE—Damaged,  
edges chipped, burred.

CARTRIDGE  
STOP PAWL  
PLUNGER—  
Burred; spring  
weak, missing.

CARTRIDGE STOP  
PAWL—Burred.

GUIDE SPRING  
PINS— Bent,  
burred; springs  
weak, broken,  
kinked.

CARTRIDGE LINK STRIPPER—  
Burred; pins missing, damaged;  
springs weak, broken.

Be sure the cover latch action is OK by turning and releasing the lever. Check the spring action when you press down on the belt feed pawl, link stripper and the 2 cartridge pawls. Doublecheck the belt feed slide movement and move the belt feed lever to see that the cartridge stop

pawl goes down like it's supposed to. All parts must return quick-like when you let go the lever.

Remember to give the detent pawl notches a good once-over. If they're too worn, the cover assembly won't hold in the open position like the parts are supposed to be held.



## BARREL EXTENSION ASSEMBLY

LOCKING SURFACES—Cracked, chipped, burred.

INTERLOCK—Cracked, chipped, bent, burred, damaged. Won't return to its original position for any reason.

BARREL EXTENSION—Cracked, pitted, burred, rusty, dirty, galled, chipped, chrome flaking.

GUIDE RODS—Bent, damaged.

Keep a real sharp eye on those retaining pins holding the 2 rod assemblies in the barrel extension. If you press in on the rods, the pins might drop out and get lost. But, if the pins drop out by themselves, it means the return springs are NO GOOD and need replacing by DS.

USE SPECIAL CARE IN THESE AREAS.

SPRINGS—Weak, broken, kinked, set, rusty, missing.

## FEED TRAY ASSEMBLY

ASSEMBLY—Bent, edges burred; link guide burred; link guide plunger chipped, burred; spring weak, missing; dirty, rusty, twisted. Link guide assembly loose.

12

## ACCELERATOR ASSEMBLY

ACCELERATOR—Cracked, worn; pins damaged, bent, worn.

BARREL LATCH—Won't work right.

The accelerator plunger must move. Check it by pressing the accelerator rearward with your hand. Everything must pop back when you let go.

Be mighty careful not to lose the accelerator pin or either of the accelerator plunger retaining pins. Too much tilting and shaking will cause 'em to drop out. Play it cool—never push in on the accelerator more 'n you have to. Your armorer can stake the 2 little pins in place, so let him know if they're dropping out.

COVER DETENT—Pawl worn; springs weak, kinked, broken; pin burred, bent.

BARREL LATCH LOCK—Burred, chipped; pin bent, worn.

ACCELERATOR PLUNGER—Chipped, burred; springs weak, broken; pin missing, bent, burred.

HOUSING—Damaged, edges rough; won't fit.

## RECEIVER GROUP ASSEMBLY

SAFETY—Housing loose, cracked; screw damaged, threads stripped; plunger bent, broken, burred; spring weak, broken, kinked; pin missing.

HOUSING

HOUSING SCREW

PLUNGER

ASSEMBLY

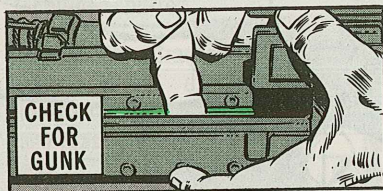
PIN

Always check the safety for positive engagement with the sear while the weapon's assembled. Remember—you never charge your M85 while it's in the S position. The safety must be in the F position before charging or firing.

13



Look for stuff like carbon, rust, galling, grease, mud and the like on the barrel bearing surfaces inside the barrel support.



When you clean 'em off, tho, be careful you don't change the critical dimensions and finishes. Remember that the larger these inside bearings are, the greater will be the whip. (This is just the opposite of the bearings on the outside of the barrel. The smaller the outside bearings, the greater the whip.)

The wrong kind of PM on these bearings surfaces could make you miss your target.

When putting the barrel together, take it easy and make sure the arrows line up. On the latest models, the arrows are missing. So, line up the notches on the barrel and jacket. Don't forget to retract the bolt about an inch when adding the barrel. Listen for a definite **CLICK!**

If there's no **CLICK**, the barrel could go down range when you fire the first round. So-o-o-o, check for click before you pull the trigger.

Now, just before you fire, give the barrel a little extra right 'n' left twist to be double sure it's locked tight.

Loose rivets? Don't worry about 'em unless you see movement between the side plates, bottom plate or barrel support.

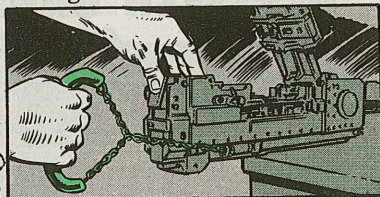
Also, don't fret if you can squeeze a bit of oil from between the receiver parts.

Here's something to watch for real careful-like: See that the barrel latch and lock won't bind for lack of lube. They should move free 'n' easy. Of course, you want to be sure you have a positive lock of the barrel in the receiver. Otherwise, you could have a loose barrel chasing a round down range!

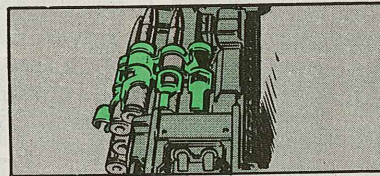
## LOADING TIPS

Your M85 is one of the easiest weapons to use if you keep these PM tips in mind:

1. The bolt must be forward and the safety must be in F position for loading.



2. Place the belt with the open sides of the M15A2 links facing down. Put the first round over the belt holding



pawls. Close the cover. Hold it! Make sure the safety's in the F position. Pull to the rear once on the charger. You should have a little slack after the bolt is seared up. Check by pulling on the charger. If you don't have slack, the bolt is not fully seared. Call the armorer maintenance type for help, pronto. Now you're ready to let go. But watch it! If the bolt's not engaged by the sear, it will go all by itself.

O' course, you always want to make sure the weapon is clear for PM action. Here's how:

1. Safety in the F position.
2. Pull the hand charger handle back to lock the bolt to the rear.
3. Put the safety in the S position.
4. Hold the hand charger to the rear and raise the cover and the feed tray. Look and feel to be sure there's no ammo present.



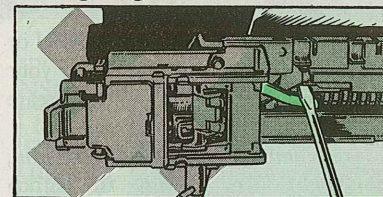
Watch it, Buddy! If it's not in the S position and the bolt comes forward, it could snap your fingers off!

5. If no ammo's found, put the safety in F position.
6. Depress the manual trigger and ease the bolt forward under control of the charger handle.

If you load the weapon with the bolt seared to the rear and the cover closed, or place a round in the chamber for a 1-shot deal with cover open or closed, you'll damage the ejector during firing.

Here's why: The belt feed lever will not engage the feed actuator lever, and you'll have a greater recoil force which pivots the ejector into the bolt path. This'll damage the ejector every time.

One more PM tip: When boresighting never use a screwdriver



or similar tool to pry on the ejector while removing or installing the bolt assembly. You'll bend the ejector for sure. And remove the feed housing and ejector assembly when you boresight the weapon and when you remove or install the bolt.

You have only 2 Basic Issue Items to worry about:

BII	NSN
Barrel w/flash suppressor	1005-00-463-4616
Ruptured case extractor	4933-00-716-0041

## PUBLICATIONS

You'll find all your M85 poop in TM 9-1005-231-10 (May 74), TM 9-2350-215-10 (Feb 65), TM 9-2350-215-20 (Feb 65), and LO 9-2350-215-12 (Jan 74).







## DRY IT UP!

HEY! WHERE YOU GOIN' WITH THAT HOSE?

I GOTTA CLEAN OUT TH' ELECTRICAL COMPARTMENT!

HOLD ONE! THAT'S NOT HOW YOU DO IT!

SAVED...

Water lying around in the MPU or rear electrical compartments of your Chaparral launch station can create problems, big and little.

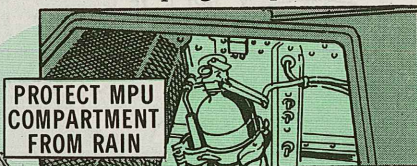
So, whether the water's from rain, condensation or washing the launch station, the continuing idea is to dry it up.

Vehicle washing is the bad guy so far as the rear electrical compartment



is concerned. If you don't mop up the excess, the water can short out your communications, run down batteries... and really screw up your generator set control box (GSCB). Remember: you never hose down the electrical compartment.

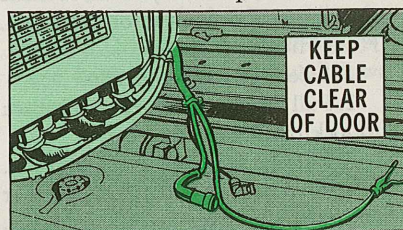
The MPU compartment can take on water during washing, rain and whatever. Sponge it up and check it



often for water—and use your cargo cover to help keep the rain out.

## COMMO CABLE

Remember to keep the commo

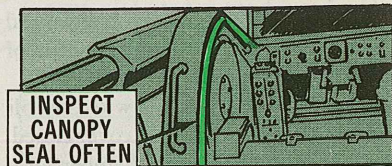


cable clear of the control panel door before you close it. Naturally, that goes when you remove the RT-524 receiver-transmitter for any reason.

If you leave the cable dangling outside, the door can cut it.

## CANOPY

Another kind of leak is one you also can do without. Inspect the canopy seal often on the launch station canopy. Look for warping, breaks or tears.



The canopy can be a gasser with a leaky seal, and you or your buddies don't need that kind of gas (toxic fumes).

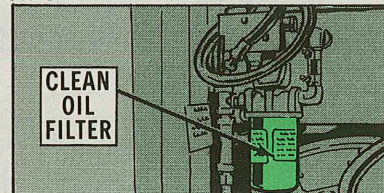


## CARRIER TRANSFER SEALS

If you've got a problem with the power pack transfer seals blowing out on your carrier, read on.

The seals in question are in the M730, Chaparral; M548, cargo; M667, Lance, and XM727, Hawk.

Sometimes, during storage, the differential brake bands flake off and clog the differential oil filter and its bypass valve. Or, metal chips from the transfer clog the differential oil pump and its relief valve. Sometimes, too, the chips clog the transfer scavenger pump or the check valve in the line from the scavenger pump to the tee that connects to the oil pump and oil filter. All of that is bad news for the seals.

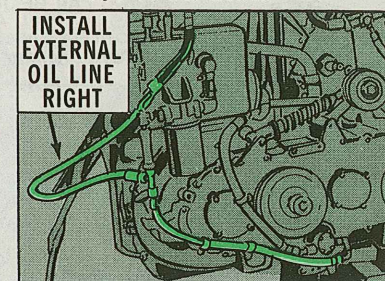


You can beat it by cleaning the filter and by draining and flushing the lube system.

Another way is to be sure the following MWO's have been applied:

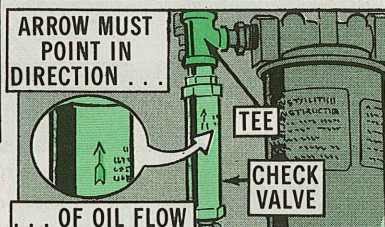
**MWO 9-2520-238-30/2** (provides deflector which improves lubrication)  
**MWO 9-2300-401-20/1** (increases size of lines)

Also, be sure you have the correct oil spray nozzle, Part No. 11647722, NSN 4730-00-147-2081.



Finally, the external oil line must be installed right (be sure oil lines are not crossed and that quick disconnect couplings are fully connected). If the line's not installed right, pressure will build up and pop the seals.

The arrow on the check valve body



of the external line must point in the direction of oil flow... away from the transfer scavenger pump and toward the tee connecting to the differential oil pump and filter.





# GROUND MOBILITY



POL  
TANKERS

# PM

Super operators of petroleum tank vehicles know para 71, TM 10-1113 (Jun 69) is their primer. It's their first reading for daily PM each time they use the tanker.

YOU CAN BE JUST AS CAREFUL AND KNOWLEDGEABLE OF YOUR EQUIPMENT!



HERE'RE SOME SPECIAL PM POINTERS TO HELP YOU...

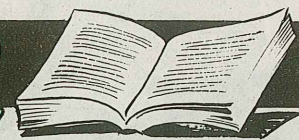
As you approach your vehicle, look for wet spots under it. They could be from fuel or oil leaks.



EITHER IS A FIRE HAZARD!

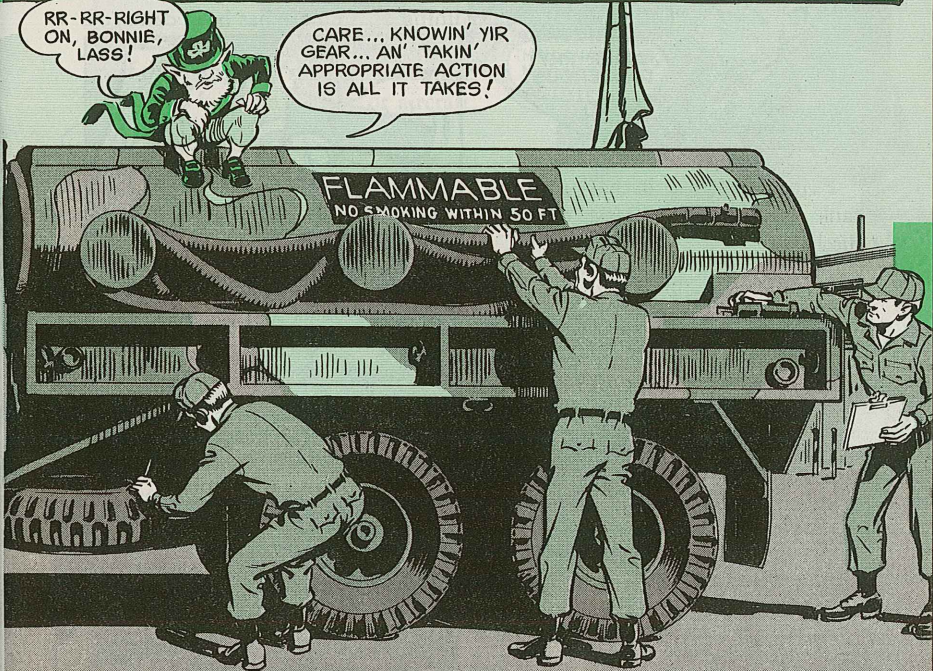
18

# PRIMER



RR-RR-RIGHT ON, BONNIE, LASS!

CARE... KNOWIN' YIR GEAR... AN' TAKIN' APPROPRIATE ACTION IS ALL IT TAKES!



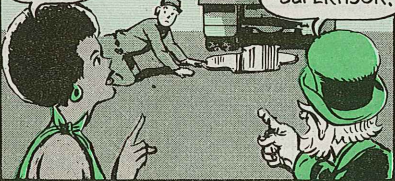
Check under the tanker again for leaks after you start operations.

Look for bare wires that could cause a short or electrical spark...

LEAKS YOU CAN'T STOP?

YUP!

REPORT 'EM TO YOUR SUPERVISOR.



VA-RRROOM!

PS MORE

19



WATER IN FUEL IS LIKE A RATTLER IN YOUR BED...



VURRR-RRY DANGEROUS!

F'rinstance, water in the bottom of a tank can cause a static electrical discharge.

Fungus grows f-a-s-t in water.

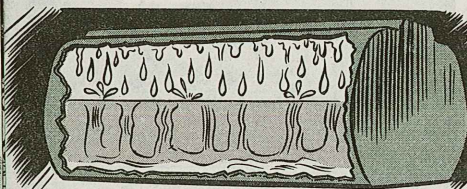
HEH-HEH!

I'LL SOON BE BIG ENOUGH T' REALLY CLOG UP TH' WORKS!

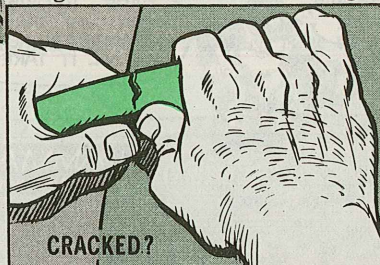


Water freezes in aircraft fuel lines and carburetors.

Take time to drain water from hoses and tanks. Temperature changes during the night—or while the tanker is not being used—can cause condensation to form inside the hoses and tanks.



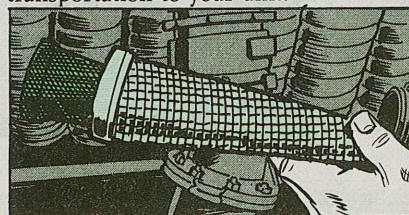
Take a good look at hoses. Bulges, blisters and soft spots mean that the lining of the hose has been damaged.



CRACKED?

Tears, rips, cuts and gouges call for hose replacement.

Got a new hose? Then run fuel thru it until the nozzle strainer catches all the dirt and hose particles left inside it during manufacture, storage, and transportation to your unit.



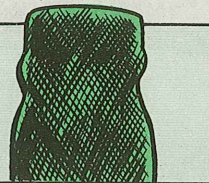
Eagle-eye the 100-mesh strainers—screens—in the nozzles. They catch loose bits of rubber, tar, glue and carbon that are dislodged from the inside of hoses.

THEY CATCH TRASH BEFORE IT GETS INTO THE TANKS!



Some of this junk can punch holes in the screens.

GET JUNK OUT OF SCREENS



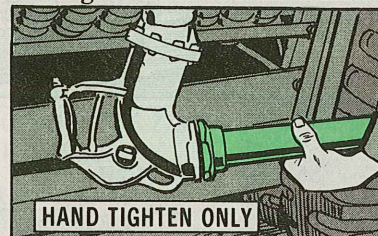
If this happens, replace 'em before you pump fuel into vehicles or aircraft.

HOLD ONE!

DID YE CHECK YIR STRAINER, TROOPER?

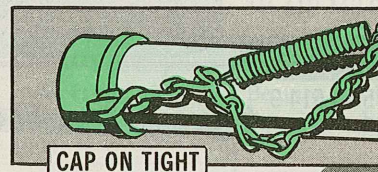


Keep a spare strainer on hand. Handle strainers with care. When you replace a strainer, turn the brass tube handtight **ONLY** into the nozzle.



HAND TIGHTEN ONLY

Keep the dust cap on nozzles . . . tight!



CAP ON TIGHT

NEED HELP WITH YOUR FUEL HANDLING PROBLEMS?

ASK YOUR CO TO REQUEST ASSISTANCE, THRU CHANNELS, FROM THIS ACTIVITY...

U.S. Army General Material and Petroleum Activity  
ATTN: STSGP-FT, NCAD,  
New Cumberland, PA 17070



REMINDE YIR CO ALSO, LADS, THAT THESE PEOPLE WILL SEND A POL EXPERT TO YOUR UNIT TO GIVE TECHNICAL ASSISTANCE IN ALL PM AREAS RELATIVE TO POL TANKERS!

PS END



## TIE-DOWN STRAP WRAPUP

Dear Half-Mast,

I ordered a tie-down kit—NSN 5340-00-185-6829—for my 600-gal trailer mounted tank unit. All I got was 1 strap. I expected more straps for my rough terrain hauling jobs.

What's the deal, Sarge?

SGT A. J. K.

SGT.  
HALF-MAST  
MUST HAVE  
THE ANSWER!

Dear Sergeant A.J.K.,

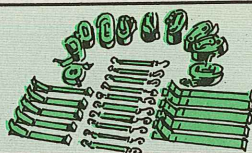
You ran into a P-manual and supply mix-up, for sure.

Here's how to get those rough terrain tie-down straps for a truck-mounted liquid dispensing tank and pump unit on the trailer-mounted job:

If your unit is equipped with the Wisconsin engine you need:

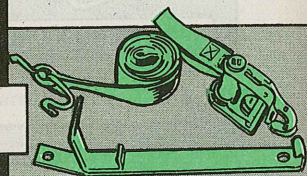
Nomenclature	NSN	Part No.
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KIT, TIE-DOWN ROUGH TERRAIN	5340-00-185-6829	5-14-514-7
--------------------------------	------------------	------------

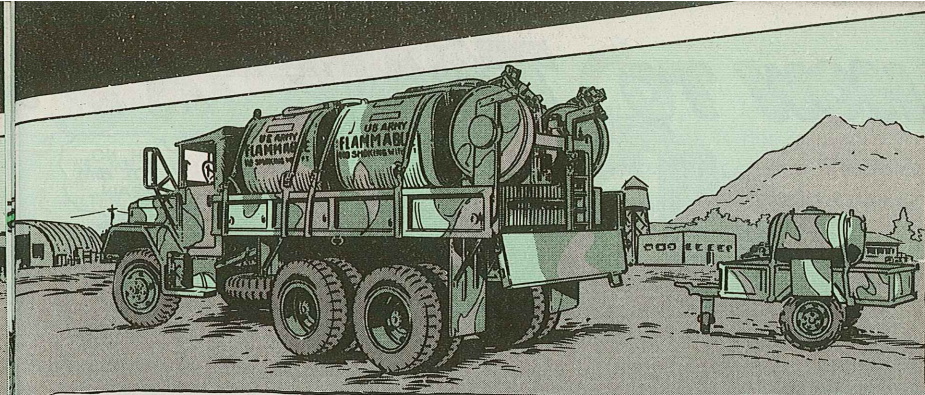


THE RT TIE-DOWN KIT CONSISTS  
OF THE FOLLOWING ITEMS.  
THE FSOM IS 97403.

4 ea tie-down assy, tank, vertical, c/o	5340-00-444-7462	5-14-514-8
--	------------------	------------



1 ea tie-down assy, pump, rear, c/o	5340-00-185-6828	5-14-514-9
---	------------------	------------

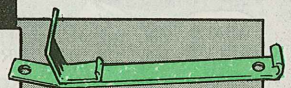


Nomenclature	NSN	Part No.
4 ea webbing, w/hook and ratchet	No NSN	5-14-514-8-4

NSN 5340-00-444-7462  
GETS YOU ONE EACH  
PN 5-14-514-4 &  
PN 5-14-514-8-1



4 ea clip, tank, tie-down	5340-00-445-7117	5-14-514-8-1
------------------------------	------------------	--------------



1 ea webbing, w/ bottom clip and ratchet	No NSN	5-14-514-9-4
--	--------	--------------



1 ea clip, top, pump tie-down	No NSN	5-14-514-9-1
----------------------------------	--------	--------------



BOLT/HOOK MS 27953-9 LH THREAD  
LH JAM NUT MS 27952-7 TURNBUCKLE BODY  
PN 27954-5

RH JAM NUT MS 35691-34

BOLT/HOOK  
MS 27953-10 RH THREAD

If your unit has the 3½-HP Mil Standard engine, you need 10 ea tie-down straps, PN 13217E7150(97403).

Use an exception data supply type request for all items with only a part number identification. Be sure to add the 5 digit FSCM with each PN.

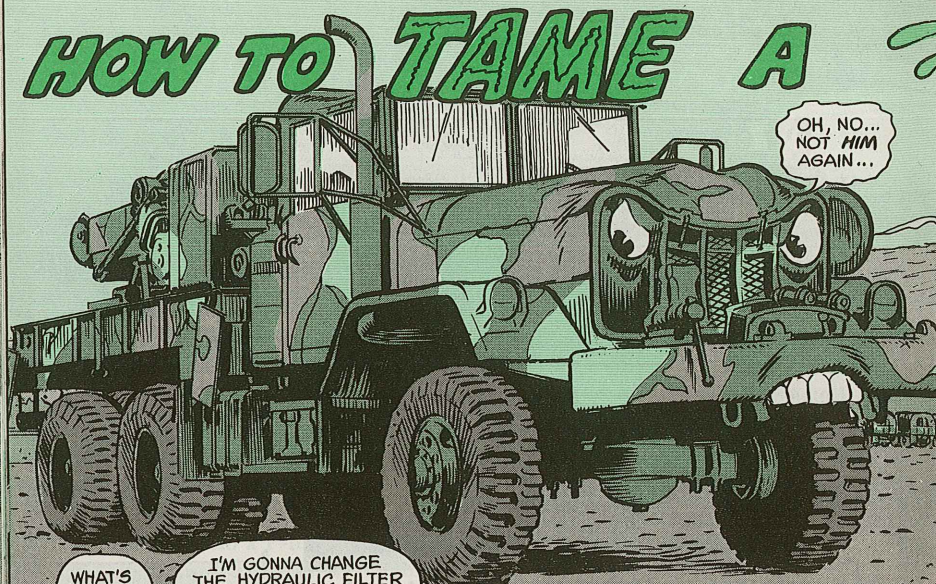
TM 5-4930-227-24 (Apr 70) is being changed to show correct NSNs and PNs.

YOU GET TWO  
TURNBUCKLES, HERE'S  
A PART NUMBER  
BREAKDOWN FOR THEM...  
GET 'EM BY  
THE EXCEPTION  
DATA ROUTE.





# HOW TO TAME A



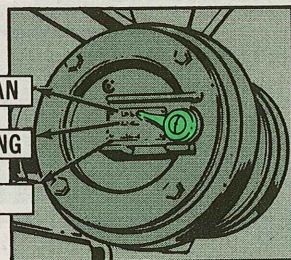
Working on your 5-ton wrecker truck's crane hydraulic system is no fun—when you find yourself wading around in 70 gallons of oil.

This can happen if you don't know about the automatic shutoff valve in that filter mounted on the back of the hydraulic oil reservoir. All M816

**FILTER IS CLEAN**

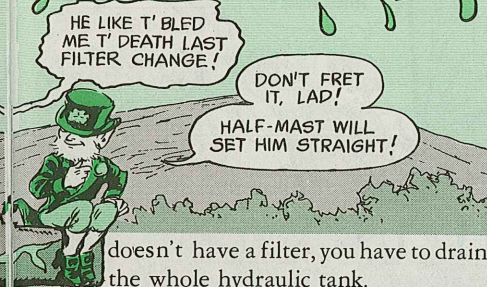
**NEEDS CLEANING**

**BY-PASSING**



wrecker's have this filter, and so do most M543-series wreckers. It's not on early model M543's or any M62's or on the M819 and M246-series 5-ton tractor wrecker trucks. If your wrecker

# GUSHER



doesn't have a filter, you have to drain the whole hydraulic tank.

When you pull the cartridge out of the filter housing, you trigger the shutoff valve inside. You will get some oil—anywhere from 1 to 3 gallons—so you need a container handy to catch that much.

But the valve will stop the rest of the oil from pouring out of the reservoir.

**QUICK IS TH' WORD!**



The faster you get the cartridge out of there, the less oil will escape from the reservoir.

Watch it! The valve may stick—and not work. If more than 3 gallons of oil comes out, push the cartridge back in and pull it out again. This should release the shutoff valve.

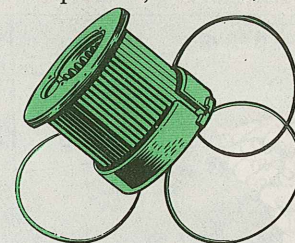
You get the straight poop on this filter in TM 9-2320-260-20 (Jul 72), pages 2-332 and 2-333, para 2-224.

But you don't get the full picture in TM 9-2320-211-20 (Jun 73). Those instructions on pages 2-218 and 2-219, para 2-296, can give you a bum steer.

For instance, just loosening the filter's cover plate is not enough to shut off the reservoir oil flow. You've got to pull the filter cartridge out of the housing to work the shutoff valve.

And you do not install a new cover plate and preformed packing along with cleaning the filter element. Like it says in TM 9-2320-260-20, you replace only those parts that're worn or damaged.

A repair kit, NSN 2590-00-041-



## FILTER AND GASKETS IN KIT

3101, is not yet in TM 9-2320-211-20P, but it is listed in TM 9-2320-260-20P (Nov 72) under Part No. 5704497.

Be quick, too, when you're installing the filter cartridge and cover. That shutoff valve will open when you shove the cartridge in—and oil will come out of the reservoir. And you have to hold the cover tight against the filter housing while you're putting the 4 cover screws back in and getting 'em tight.

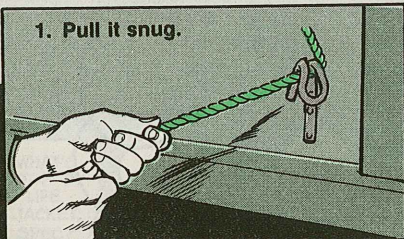
Remember, when you're working anywhere on the wrecker's hydraulic system—and you don't want all of that oil pouring out of the reservoir—you can take out the filter cartridge to shut off the oil.



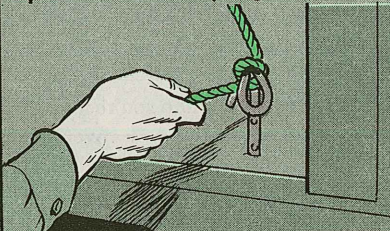
# TARP TIE-DOWN

Here's the way to solve a knotty little problem with a no-knot tie-down that'll leave you a lot of time for your other PM chores!

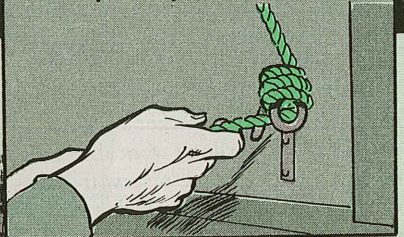
1. Pull it snug.



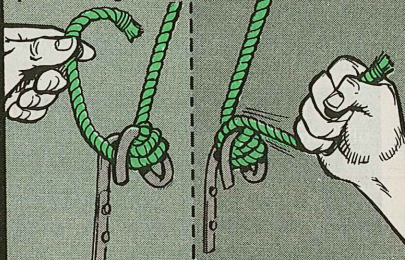
2. Around once. Pull tight enough to squeeze back of loop together.



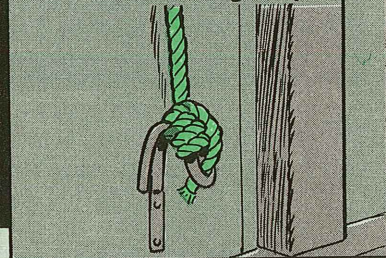
3. Wrap a couple more times.



4. Up through wedge and yank to pinch it tight.



5. Tuck end through loop.



AND THAT'S  
ALL THERE IS  
TO IT!

26

THERE!  
MAYBE THAT  
WILL HOLD YA  
THIS TIME!

AHEM!  
THERE'S  
A NICE  
EASY  
WAY, SOLDIER!



## M870 TIRE & TUBE

NSN 2610-00-752-9937 will get tires and NSN 2610-00-260-7354 will get tubes for the M870 40-ton low bed semitrailer. Add the NSN's to page 25 of TM 5-2330-360-14 (Mar 76).

GAMA GOAT ENGINE . . .

## NEEDS TO BE IN TB



Dear Half-Mast,  
TB 750-652 (Jun 70) has information on operation and maintenance of several Detroit Diesel engines. But the Gama Goat's 3-53 engine is not included.

What's the word on this engine?

SSG R.E.R.



YEAH,  
SOME OF  
THAT'S GOOD  
FOR THE GOAT  
ENGINE,  
TOO!

Dear Sergeant R.E.R.,

TB revision will include the engine used in the M561 and M792 1¼-ton vehicles. In the meantime, though, go ahead and use the TB for things that apply to all Detroit Diesel engines—including the Gama Goat's engine.

Half-Mast

## TRACTOR TRUCK

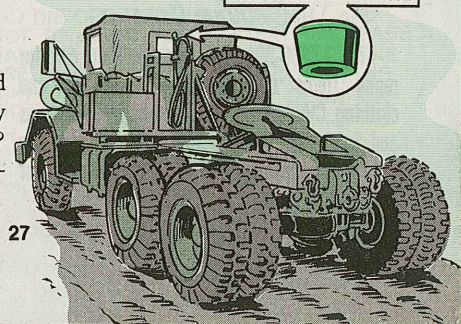


# TIP



Need a tip for the service air and emergency air hose support assembly on your 5-ton or 10-ton tractor truck? Get Tip, Furniture, Leg, NSN 5340-00-543-7141.

INSTALL TIP HERE

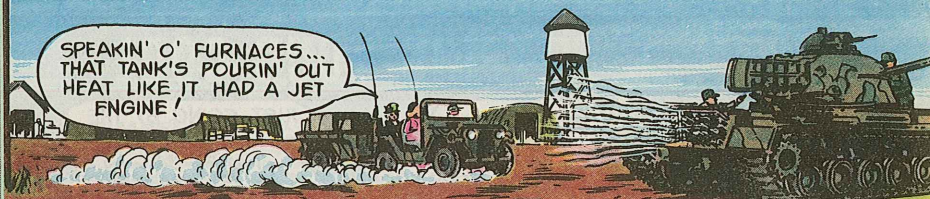


27









NOPE... THAT'S JUST THE HEAT PUT OUT BY THE ENGINE AND TRANSMISSION... LIKE **TWO** "FURNACES"!

HOT OIL IN THE ENGINE AND TRANSMISSION IS PUMPED THROUGH COOLERS. THESE ARE LIKE THE RADIATOR ON A WATER-COOLED ENGINE.

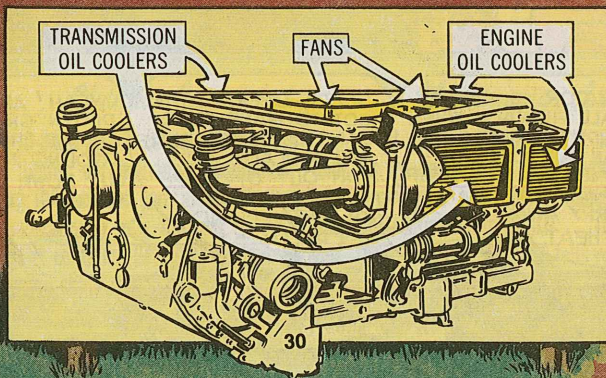
IT'S AIR COOLED, TOO, WITH BIG FANS TO PULL COOL AIR DOWN THROUGH THESE TOP GRILLS AND BLOW HOT AIR OUT THE REAR GRILLS!

AIR PICKS UP HEAT FROM THESE OIL COOLERS... AND MORE HEAT IS PICKED UP AS THIS AIR SWEEPS AROUND THE ENGINE AND TRANSMISSION!

FOR SURE, THAT TANK'S A DEAD DUCK IF ITS COOLING SYSTEM GETS FOULED UP...

...LIKE DIRT-CLOGGED OIL COOLERS...

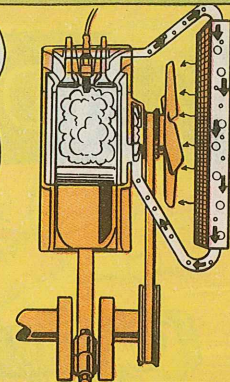
...OR CRUD ON THE ENGINE AND TRANSMISSION!



SEEMS T'ME THAT HEAT'S TH' BIGGEST ENEMY YER GEAR'S GOT!

THAT'S NOT QUITE RIGHT! **UNCONTROLLED** HEAT IS THE ENEMY! A CERTAIN AMOUNT OF HEAT IS NEEDED FOR GOOD ENGINE OPERATION, **TOO MUCH** HEAT IS WHAT DOES THE DAMAGE!

BESIDES THE TERRIFIC HEAT FROM BURNING FUEL, AN ENGINE GETS HOT FROM PLAIN OL' FRICTION... ALL OF THOSE PARTS MOVING AROUND INSIDE! BUT ALL OF THIS HEAT IS NO PROBLEM... IF YOU **CONTROL IT!**

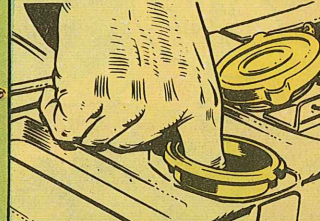


A LIQUID COOLING SYSTEM GETS RID OF ENGINE HEAT JUST FINE -- IF YOU MAKE SURE THE COOLANT LEVEL IS OVER THE TOP OF THE RADIATOR CORE... AND WATCH FOR BUM RADIATOR HOSES AND OTHER LEAKS!

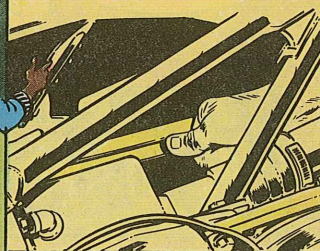
YEAH--AND MAKE SURE THERE'RE NO BUGS OR OTHER TRASH PLUGGING THE RADIATOR... SO AIR CAN GET THROUGH!

FAN BELTS HAVE TO BE TIGHT, TOO, TO TURN THE FAN AND WATER PUMP. IF YOU CAN PUSH THE BELT MORE THAN A HALF-INCH--HALFWAY BETWEEN THE PULLEYS--THE BELT'S TOO LOOSE!

Keep coolant level over top of radiator core. Report any signs of dirt or oil in the coolant.



Make sure engine fan belts are tight.





Joe's

# Dope Sheet

Your battle with heat can be won  
As long as it's kept on the run...  
When cooling's OK  
It'll chase heat away  
Before any damage is done.

YAY,  
CONNIE!

THAT'S  
A BIG  
10-4,  
CONNIE!

YOU HELP  
KEEP US  
TRACKIN',  
CONNIE!

CONNIE --  
YOU GENERATE  
MORE HEAT THAN  
ALL OF US PUT  
TOGETHER!

BUT WE  
LOVE IT!

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

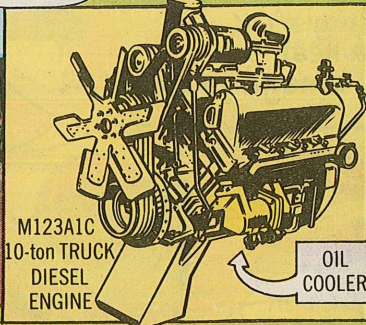
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.



SO GOOD OL' FASHIONED WATER IS TH' WHOLE ANSWER EH?

OH NO!! THE ENGINE OIL IS REAL IMPORTANT IN COOLING. OIL CARRIES FRICTION HEAT AWAY FROM MOVING PARTS. THEN WATER PICKS UP THE HEAT FROM THE OIL!

THAT 10-TON TRUCK GOES A BIT FURTHER. BESIDES ITS WATER COOLING SYSTEM, IT'S GOT A SPECIAL OIL COOLER TO HELP OUT ON THE JOB!



M123A1C  
10-ton TRUCK  
DIESEL  
ENGINE

OIL COOLER

SO IT'S MIGHTY IMPORTANT TO KEEP THE ENGINE OIL LEVEL UP TO SNUFF, TOO... AND CHANGE OIL BEFORE IT GETS LOADED WITH SLUDGE THAT'LL PLUG UP OIL PASSAGES IN THE ENGINE.

Make sure your engine's got enough oil ...

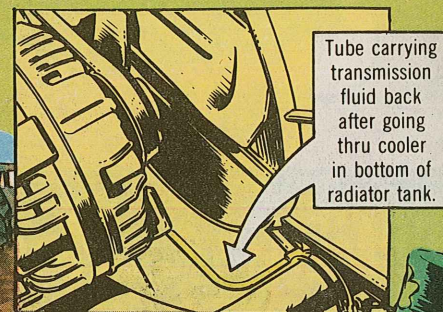


... Clean Oil!

THERE'RE OTHER SPECIAL COOLING SYSTEMS ON DIFFERENT EQUIPMENT!

FOR INSTANCE, THAT M880-SERIES 1 1/4-TON TRUCK HAS A TRANSMISSION COOLING SYSTEM.

HOT TRANSMISSION FLUID IS PIPED THRU THE BOTTOM OF ITS RADIATOR. THE ENGINE'S WATER COOLING SYSTEM TAKES IT FROM THERE!



Tube carrying transmission fluid back after going thru cooler in bottom of radiator tank.

HERE WE ARE AT THE COMMO SHOP. PROBABLY THE RADIO'S JUST GOT A LOOSE CONNECTION -- WE WON'T BE LONG!

HOLY SMOKES! THIS RADIO'S BEEN FRIED!

LOOK AT THE DIRT AROUND THAT AIR INLET!

IT'S A SURE BET THE FAN AND AIR CHANNELS ARE PLUGGED... AND HEAT BUILDUP KNOCKED OUT YOUR RADIO!

! GULP? ?



HEAT?...

WHY EVEN I KNOW THERE'S NO ENGINE IN THAT RADIO...

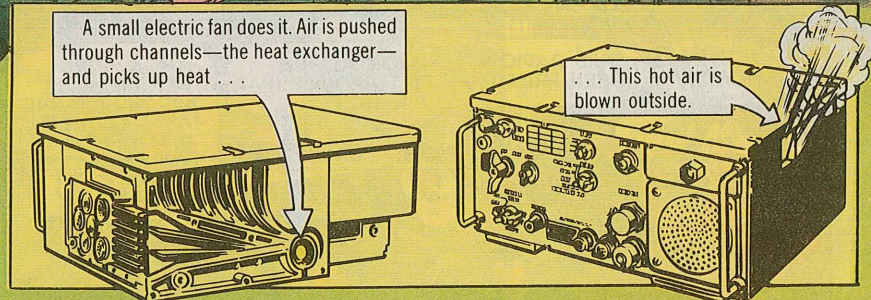
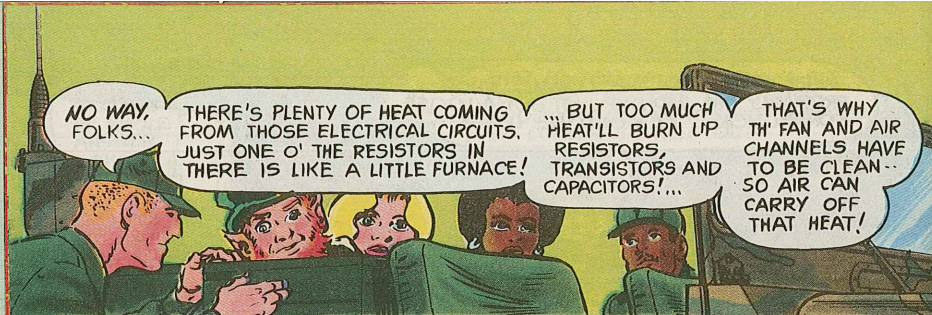
WHERE COULD TH' HEAT COME FROM?...

THERE'S NO BURNING FUEL NOR FRICTION FROM MOVING PARTS...

ARE YE PUTTIN' US ON, LAD?







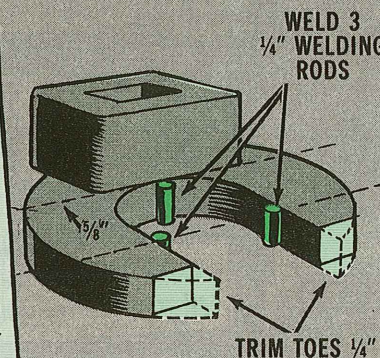
Dear Editor,  
Here's a locally-made tool for removing Huey tail rotor sprockets that'll save you a lot of downtime.

Get hold of a 1 1/4-in crowfoot wrench, 3/8-in drive—NSN 5120-00-293-2567—that has been condemned. Trim its "toes" about a quarter inch—that's for clearance. Weld three 1/4-in diameter bits of welding rod to the wrench's jaws—one at the jaw curve midpoint; and one on each "toe", 5/8-inch down the centerline from the midpoint.

After you've de-chained the sprocket, slide the wrench on (weld-rod bits in tooth troughs). Slap on a ratchet large enough to hold the sprocket steady while you apply enough muscle to remove or replace the 100 to 300 in-lb torqued retaining nut.

You'll find this a heap better 'n using a vise and breaking some teeth on the sprocket.

Peter M. Frinchaboy  
California ARNG



(Ed Note—All right! Oughta save both time and sprockets.)



PUZZLED ABOUT  
YOUR MODEL 212  
TAIL ROTOR?

# Q AND A ON

## NEW ROTOR SYSTEM

You Snake charmers should now have the new Model 212 tail rotor assembly, called for in MWO 55-1520-221-30-45 (Nov 75), on the AH-1G, AH-1Q and TH-1G. They replace the P/N 204-011-801-series tail rotor.

The big blades give improved directional control and also cut down on maintenance chores. The poop on the blades is in TM 55-1520-221-20 (Dec 75). Here're the most frequently asked questions on the new system:

**QUESTION**—Is retorque of the tail rotor retaining nut required after installation?

**ANSWER**—No!

**QUESTION**—Does the 100-hr track and balance requirement apply to the Model 212 tail rotor system?

**ANSWER**—No! There is no specified interval.

**QUESTION**—What is the blade to vertical fin clearance requirement?

**ANSWER**—You won't find any limits in the pub because the system is not adjustable. No check is required.

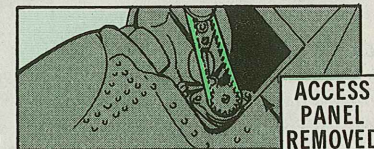
**QUESTION**—Is there a chance of over-torquing the tail rotor drive system?

**ANSWER**—Yes, but only if it's improperly rigged, which is true for any rotor system.

“OPEN THE  
DOOR, SAM!”

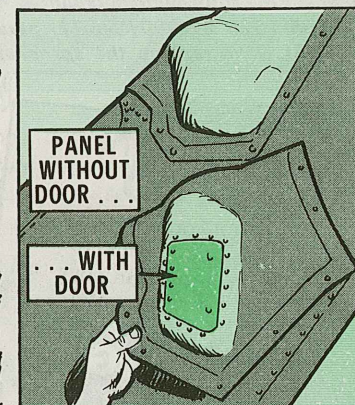
OK!

Eyeballing the silent chain in a Cobra means taking out umpteen screws to remove the access panel.



ACCESS  
PANEL  
REMOVED

There is a better way!



PANEL  
WITHOUT  
DOOR ...

... WITH  
DOOR

Just put an observation door in the panel, following the poop on page 4 of TB 750-992-3 (Apr 73).

IF YOU CAN'T  
SCROUNGE UP A  
COPY, JUST WRITE  
TO PS MAGAZINE  
FOR THE DRAWINGS!



**QUESTION**—If one blade is removed for air shipment is rebalance required?

**ANSWER**—No, provided the same blade is put back along with the same hardware and balance weights.

**QUESTION**—What parts must be removed to take off one blade?

**ANSWER**—Remove the 2 blade attaching bolts and disconnect the pitch change link from the pitch horn.

**QUESTION**—What additional special tools are required?

**ANSWER**—The only tool not common to both systems is adapter plate, NSN 4920-00-437-5112. The plate is used during static balancing of the new blades.



## SAVE THE SPROCKET

THE  
-34 SAYS WE  
REPLACE TH'  
SPROCKET, JOE!

BUT TH'  
-20 SAYS NO, MOE!

SORRY, MOE!...  
GO BY TH' -20!  
TH' -34 IS WRONG  
AND A CHANGE IS  
IN TH' WORKS!

Dear Windy,

At my unit, part of the new 3-level maintenance set-up, we've come up with a clash in Huey TM's.

TM 55-1520-210-34 (Sep 71), para 8-14d(7), says replace sprocket when replacing tail rotor control chain.

TM 55-1520-210-20 (Sep 71), para 9-15g(3), says replace the sprocket

only if it's worn more than a specific amount.

Which TM do we follow?

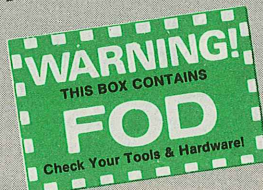
SSG S.G.G.

Dear Sergeant S.G.G.,  
Go by the -20. The -34 is wrong, and a change is in the works.

Windy

## GENTLE ON MY FOD

If you keep FOD on your mind, it'll stay out of the works. Remind yourself often—put FOD labels on your tool boxes.



TO GET 'EM,  
DROP A LINE  
TO...

U.S. Army Agency for Aviation Safety  
Ft Rucker, AL 36360

## ASK FOR 'EM!

Some of the commercial pubs for aircraft ground support equipment are being turned into TM 55-series manuals.

MEANWHILE, IF  
YOU NEED A COMMERCIAL  
PUB YOU CAN GET IT  
BY WRITING TO...

Commander  
US Army Aviation  
Systems Command  
ATTN: DRSV-FREP  
PO Box 209  
St. Louis, MO 63166

## SEND THE "WHOLE" ENGINE

I AIN'T GETTIN'  
INTO THAT CONTAINER  
WITHOUT ALL MY  
PARTS!

NOOOO  
WAY!

There's an ignition part, birdmen, that is not making the scene at overhaul. Connector adapter, NSN 5935-00-106-0096, is part of the thermocouple and harness assembly on the T53-L13, L15, L701 and L701A engines.

This little gem costs 50 bucks so it doesn't take many of them to run up the tab when the depot has to buy new ones.

'Course, Fig 57 of TM 55-2840-229-34P (Jun 73) shows the adapter is part of the engine, not the airframe. So, if you're not sure about sending a part, eyeball the engine manual.

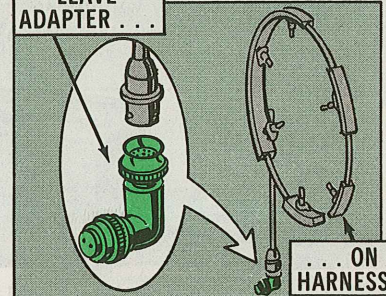
MWO UPDATE GIVES YOU . . .

## DELAYED PM

THOSE CATS WHO  
DID TH' MWO GOOFED  
UP! THEY DIDN'T DO  
ANY PM ON MY BIRD!

BACK, BUDDY!  
MWO IS THEIR JOB!  
PM IS YOURS!

LEAVE  
ADAPTER . . .



Fact is, any time you get ready to bolt down the lid on a component container, make a final check to make sure you're sending the complete part . . . makes sense!

OK. Your aircraft goes in for application of MWO.

A big thing to keep in mind is this: The team of specialists does not do routine maintenance on your bird.

They apply the MWO and correct any safety-of-flight faults. That's all.

So, when you get your bird back you'll have to polish up your tools and go to work. Your chores will be bigger because you'll have to pull the deferred maintenance.



FOR AIRCRAFT CABLES 'N' WIRING...

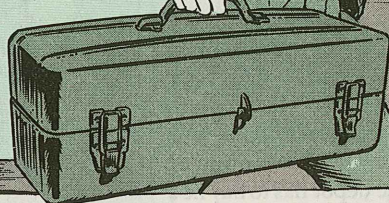
## ELECTRONIC EQUIPMENT

# MK-693/A

NSN 5821-00-045-9695

### Contact?

It's roger all the way with the tools and connections in your MK-693/A maintenance kit. You find 'em all listed in SC 5821-91-CL-E04 (Aug 75).



OK, TROOPS-- GATHER 'ROUND AND WE'LL CHECK OUT YOUR MK-693/A KIT!

? WHO SENT YOU HERE, DUDE?

WHY, WINDY-- IT'S MACON SPARKS!

HMMMMPH! IS HE FROM OUR MAIT?

I DUNNO-- BUT HE SURE STIRS UP MY MATING INSTINCTS!

WHATEVER HE'S SELLIN'... I'LL BUY!!

WOW!

CLIP ASSEMBLY, TOOL: 3/8-in to 1/2-in cap



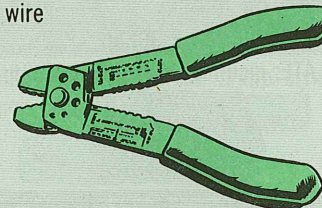
NSN 5120-00-693-9532

CONTACT ASSEMBLY, ELECTRIC: perm, crimp style; cop 16-14 size wire, insul



NSN 5999-00-502-8816 10

CRIMPING TOOL: terminal, hand, w/cutting jaw, stripper; 22-1 AWG wire



NSN 5120-00-278-2423 (when exhausted, use 5120-00-277-8310)

CRIMPING TOOL: term, man comp type, for cop insul term; 26-10 AWG wire



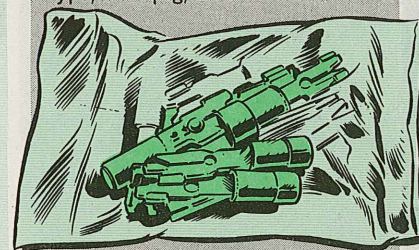
NSN 5120-00-596-9313

DRILL, HAND: solid wdn hndl, sngl spd, w/o ratchet 0.15-in to 1/4-in cap



NSN 5110-00-243-0884

FERRULE, ELECTRICAL: wristlock type, dbl sprg, 22-14 AWG wire



NSN 5940-00-296-5326 10 in pkg

You get 1 each unless noted otherwise. Items marked with a star \* are available with exception data supply request.

ADHESIVE, LIQUID: 2-oz btl



NSN 8040-00-221-3811 2

BRUSH, WIRE: rotary end



NSN 5130-00- pilot dia, in

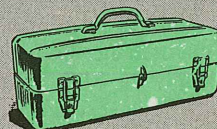
540-6647	1/8
540-6646	5/32
540-6645	3/16

CAP, ELECTRICAL: class 1



NSN	wire sz	quantity, pkg
661-0416	22-18	5 in pkg (4 pkg)
729-1628	16-14	25 in pkg
807-3775	12-10	100 in pkg

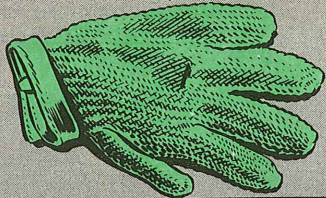
CHEST, TOOL: 19-in lg, 8 1/4-in w x 9 3/4-in h



NSN 5140-00-957-4203

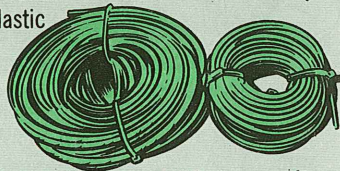


GLOVE: Wire mesh, rh, med size



NSN 8415-00-292-9236

INSULATION SLEEVING, ELECTRICAL: flexible extruded vinyl plastic

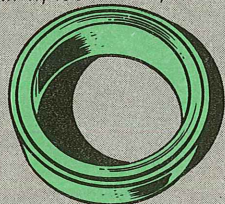


NSN	sz AWG	quantity, ft
5970-00-		
683-4031	18	25
235-2721	14	25
557-6244	12	25
556-2717	7	25
263-1325	5	25

sz i.d., in.

811-9461	7/16	25
557-6254	1/2	25
843-1255	5/8	25
557-6247	3/4	25
828-1090	7/8	25

INSULATION TAPE, ELECTRICAL: 1.75 in w, .002-in thk, 85-ft lg roll



NSN 5970-00-543-1005

KEY SET: skt hd screw, spline type, short series, w/L-type hndl; 9 keys w/case

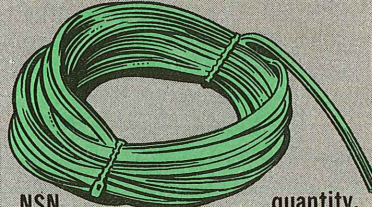


NSN 5120-00-970-8947

c/o 1 ea of following:

NSN	w. across flats, in.
5120-00-	
*901-6633	0.035
288-9085	0.050
293-0195	0.062
224-2496	0.069
249-9670	0.072
044-2391	0.076
223-6995	0.098
224-2482	0.110
827-2967	0.500

NONMETALLIC CHANNEL: rubber



NSN	quantity, ft
9390-00-	
038-2168 (Beech)	25
247-7282 (MIL-R-3065)	25

PLATE: mounting, nylon 1/2-in x 3/4-in



NSN 5975-00-966-4323 12

PLATE: mounting 1/2-in x 2-in

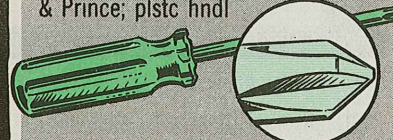
NSN 5940-00-966-6066 12

RETRIEVING TOOL: magnetic, telescpc



NSN 5120-00-545-4268

SCREWDRIVER: cross tip, strgt; Reed & Prince; plstc hndl



NSN	bld, dia, in	bld, lg, in
5120-00-		
596-0866	3/16	3
237-8173	1/4	4

SEALANT & POTTING COMPOUND: kit, NSN 8030-00-174-2597 (This has a shelf life of 6 months and is not issued with the set. Order a 6-months supply when needed.)



SHEARS: strgt trim, 1 ptd bld, 1 bev bld 2 1/2-in min lg, 7-in lg oa



NSN 5110-00-293-9199

SPLICE, CONDUCTOR: crimp style, cop insul



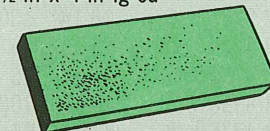
NSN	wire sz	quantity, pkg
5940-00-		
840-0139	18 AWG	25/pkg
500-8723	10 AWG	10/pkg

SPLICE, ELECTRIC:

NSN 5999-00-502-8816



STONE, SHARPENING: med grit 1/4-in x 1 1/2-in x 4-in lg oa



NSN 5345-00-190-5524

STRAP, TIEDOWN



NSN	Used With	quantity
5975-00-		
111-3208	1 1/4" dia, bdl	50
074-2072	1 3/4" dia, bdl	50
156-3253	4" dia, bdl	50

STRIPPER, WIRE: hand, No. 22-No. 8 AWG and AN wire rng, floating hndls, size 3 blds



NSN 5110-00-268-4224

TAPE, LACING AND TYING: imprgntd, waxed, nylon, .012-in x .062-in, 250 yd spl

NSN 4020-00-656-1257



TERMINAL, LUG: crimp style, cop  
insul



NSN	stud sz	wire sz	quantity
5940-00-	sz	sz	
113-9828	4	22-18	25
813-0698	6	22-18	250
557-1629	8	22-18	25(4 pk)
577-3711	10	22-18	25
615-6073	4	16-14	50
283-5280	6	16-14	100
143-4774	8	16-14	25
143-4780	10	16-14	25
204-8990	6	12-10	10(5 pk)
143-4775	8	12-10	25
143-4794	10	unspec	25

TERMINAL, QUICK DISCONNECT: br,  
interlock; insul; tin pltd



NSN	wire, sz	quantity, pkg
5940-00-		
804-9185	18 AWG	10(3)
804-9184	16-14 AWG	10

TERMINAL, QUICK DISCONNECT:  
female, cop; tin pltd, insul; 10 AWG  
wire size

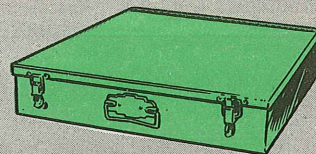
NSN 5940-00-877-9111 10 in  
pkg

TOOL, HAND: adjustable, tiedown  
strap installing



NSN 5120-00-781-7891

## TOOL KIT, CRIMPING:



NSN 5180-00-937-6846

c/o 1 ea of following:

BIT, INSERTION TOOL: elec con-  
tact, 22 ga

\* NSN 5120-00-407-0730

BIT, REMOVAL TOOL: elec socket,  
22 ga

NSN 5120-00-407-0731

BIT, REMOVAL TOOL: elec pin  
contact, 22 ga

NSN 5120-00-407-0732

CASE, TOOL, for kit, w/inserts,  
w/instructions

\* NSN 5140-00-437-1797

CRIMPING TOOL, CONTACT: hand



NSN 5120-00-924-7811

CRIMPING TOOL, FRAME: CHS hex,  
pop-out die type

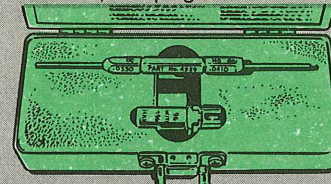


NSN 5120-00-809-7627

DIE SET: CHS dbl hex, 0.160-  
in/0.309-in across flats

\* NSN 5120-00-809-7505

GAGE KIT, crimping tool: MS 3196-2



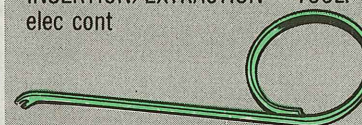
NSN 5220-00-879-3138

c/o 1 ea of following:

HANDLE: INSERTION/REMOVAL  
BIT TOOL: elec cont

NSN 5120-00-407-0729

INSERTION/EXTRACTION TOOL:  
elec cont



NSN 5120-00-968-5880

INSTALLING TOOL, CONNECTOR:  
elec cont



NSN Gage

5120-00-

079-4600 12

079-4599 16

079-4598 20

859-9548 coaxial

POSITIONER, ELECTRICAL CON-  
TACT:

NSN Buchanan  
5120-00- Cat No

937-6840 11697-1

937-6843 3538-1

937-6844 3538-2

\* 809-7514 11764

\* 179-3579 11470-2

NSN Gage  
5120-00-

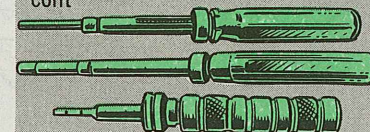
075-2547 12

075-2546 16

075-2545 20

\* 179-3588 22

REMOVAL TOOL, CONNECTOR: elec  
cont



NSN Gage/ident

5120-00-

079-9461 12

079-4602 16

079-4601 20

928-4419 coaxial

931-2788 4 Cannon

Royal-D

conec pins

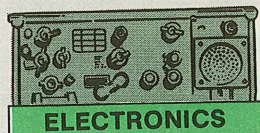
WIRE TWISTER, PLIER: w/wire  
cutter, 9-in nom size



NSN 5120-00-305-2306







## ELECTRONICS

A little preventive maintenance here and there puts you on top of things when it comes to communicating with your AN/VRC-12 series radio set. It's mainly a matter of seeking out and heading off these conspirators of silence that can sneak up on you when you're not prepared:

WHO IS THIS SPARKS BIRD?

DOES HALF-MAST KNOW HE'S HERE?

IS THAT UNIFORM REGULATION?

HE'S CUTTIN' IN ON YER TERRITORY, EH, ROMEO?

WITH PM YOU CLOSE

# THE COMMUNICATIONS GAP

OK, GANG... ANY PROBLEMS?...

MACON, MY SET KEEPS HEATIN' UP!

CAN YOU HELP ME?

MY CONNECTORS ARE ALWAYS SHORTIN' OUT, MACON!

CAN YOU EXPLAIN THIS TM PARAGRAPH TO ME?

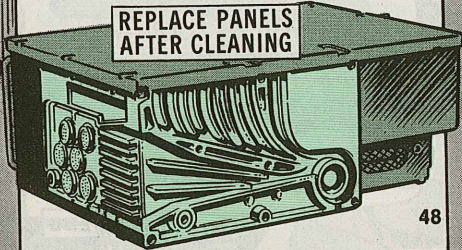
ME TOO!

YOU'VE CLOSED TH' GAP WITH ME, GUY!

**DIRT**—Dust and dirt can gang up on your gear and short it out through the connectors. And, with the RT's, the dirt gets sucked in through the blower motor and onto the cooling fins. This'll heat 'em up.

To counter this attack, take off the back and side panels and brush out the dirt. Be sure to replace the panels before turning on your set so the cooling system can do its job.

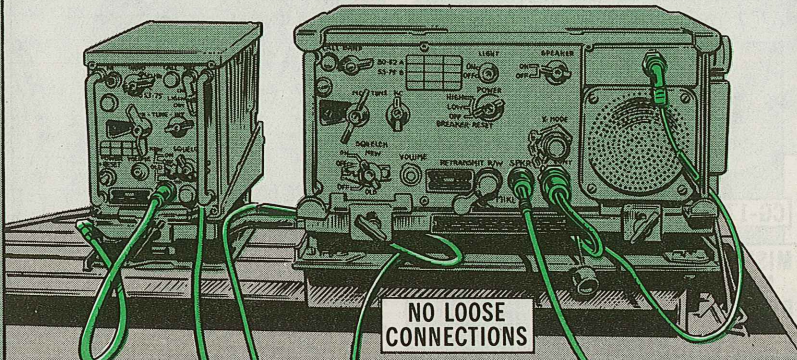
REPLACE PANELS AFTER CLEANING



48

**LOOSENESS**—Loose connections lead to poor contact . . . and will head you into unneeded repairs. So, firm up those cable connectors to the radio's receptacles.

The same thing goes for control knobs and switches. You may wind up with a knob missing if you neglect a loose holding screw. Keep 'em snug.

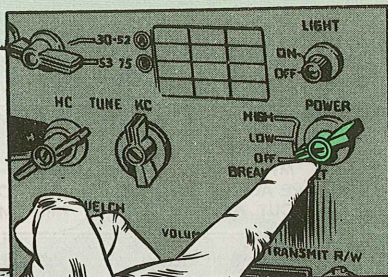


NO LOOSE CONNECTIONS

49



**POWERED POWER**—If the power goes off for no apparent reason in your radio while you're transmitting, wait a minute or 2. Then, reset the circuit breaker switch. If it goes off again you need to get your radio to your maintenance people, pronto.

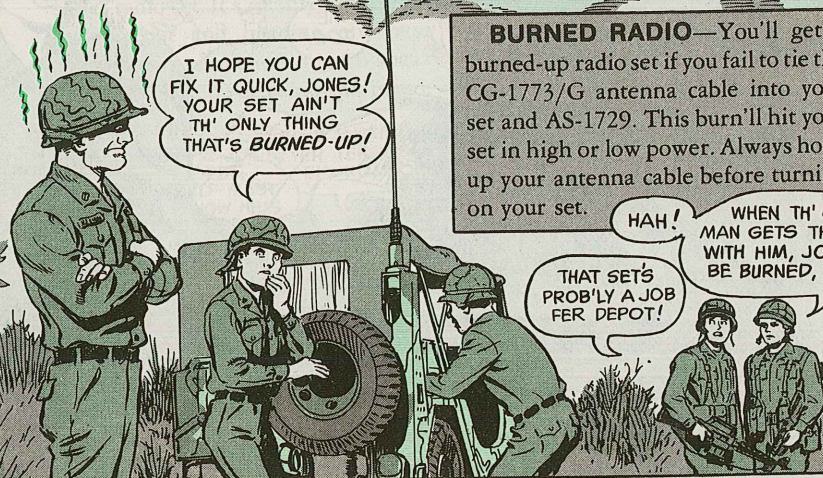


**BURNED RADIO**—You'll get a burned-up radio set if you fail to tie the CG-1773/G antenna cable into your set and AS-1729. This burn'll hit your set in high or low power. Always hook up your antenna cable before turning on your set.

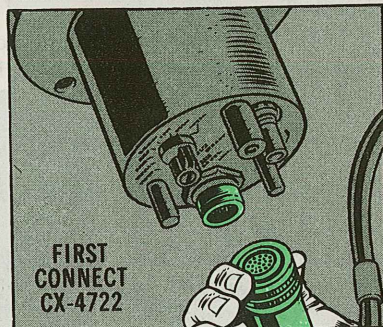
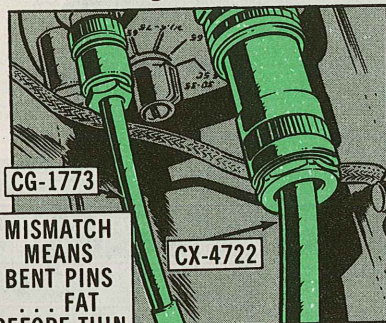
HAH! WHEN TH' OL' MAN GETS THROUGH WITH HIM, JONES'LL BE BURNED, TOO!

THAT SET'S PROBABLY A JOB FER DEPOT!

I HOPE YOU CAN FIX IT QUICK, JONES! YOUR SET AIN'T TH' ONLY THING THAT'S BURNED-UP!

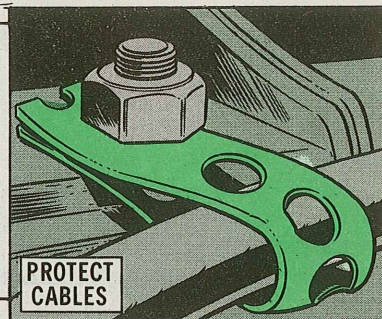


**KINKY CONNECTION**—If you mismatch the CG-1773 cable with the J2 receptacle on the antenna's MX-6707 matching unit, you'll get bent



pins. To avoid this pin mish-mash, always connect the CX-4722 antenna control cable to the J2. Then, make your CG-1773 hookup.

**CABLE CRUNCH**—When your set's out of its mount the cables have no place to go but, maybe, in the floor of your vehicle. This'll leave you with foot-stomped connectors. To beat the feet to the punch, tape the cables, like the CG-1773, to the mount. Or you can slap a perforated clamp strap NSN 5820-00-783-9035 to the cable

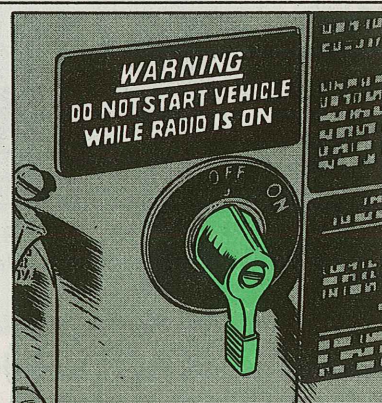


### COVER RECEPTACLES



**COVERLESS**—Leaving receptacles bare on your MT-1029 and MT-1898 mounts when your set's out of your vehicle can give you moisture and corrosion you can do without. Put those covers in place to protect the receptacles.

**VOLTAGE SPIKE**—Starting your vehicle with your radio set on can zonk your set. Remind yourself to turn your radio off by putting a DA Label 132 where it really catches your eye. Near the vehicle's ON-OFF switch is a good eye-catching location for you. SB 11-624 (Mar 70) tells you about the warning label, and you can request as many as you need on DA Form 17.



AND, MAKE SURE YOUR MX-7778A TRANSIENT SUPPRESSOR IS INSTALLED IF YOU HAVE A TRACKED VEHICLE!





## CUT ANGRY-106 MONITOR MARK

Are you rating RED with those ESC checks on your AN/GRC-106() radio set or AN/GRC-142(), AN/VSC-2 or -3 RATT Rig 'cause you miss the 50-mile mark when you're being monitored?

Well, GREEN for go may be headed your way since that monitored groundwave transmitting distance has been cut to 20 miles, like with AN/GRC-122() in TM 11-5815-334-ESC-2 (Jun 76). So, keep an eye out for this 20-mile info in an upcoming change to TM 11-5815-334-12 (May 70).



## LONG SCREW'LL SHORT RT



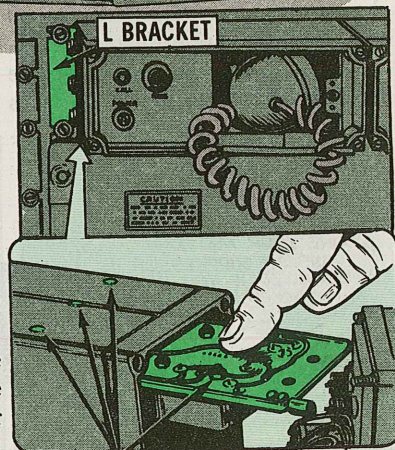
Need a screw or two in your AN/GRC-103 radio set's RT-773 order wire receiver-transmitter?

Hold it!

Before you tighten the RT-773 chassis to the relay rack's L bracket, make sure you have the right length screw.

It takes a No. 10-32, 3/8-in screw NSN 5305-00-989-7435.

If you use too long a screw when the RT's fastened from the left side, the screw will short out the wiring or break the printed circuit board.



52

TOO LONG A SCREW CAN  
DAMAGE CIRCUIT BOARD

AB-652 ANTENNA ...

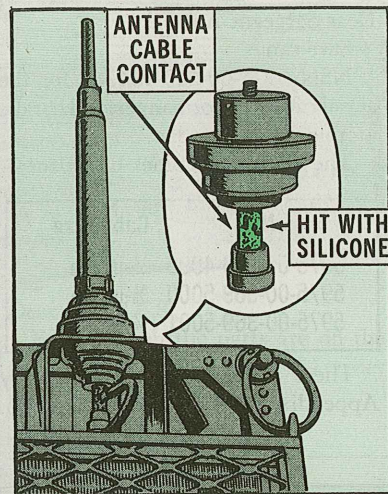
THERE...



## LAY IT ON WITH SILICONE

...THAT TAKES CARE OF YOUR RUST PROBLEM!

NOT WITHOUT SILICONE COMPOUND IT DOESN'T!



After you've given your AB-652 antenna a rust-removing treatment, with sandpaper or wire brush, go a step further and coat the vulnerable parts with a light film of silicone compound.

That'll keep you from having to perform your rust-removing chores all over again—real soon.

Give silicone attention to the antenna cable contact as well as the outside metal part.

NSN 6850-00-880-7616 gives you an 8-oz tube of silicone compound.

Be sure the bowl gasket is firmly seated, with no chance for leakage. A shaky gasket allows moisture to build up in the bottom of the bowl.

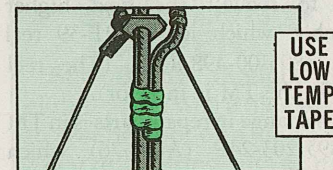
## GOGGLE BATTERY

Has the green glow gone from your AN/PVS-5 night vision goggles? Before you head 'em off for repair, switch the installed BA-1567/U battery NSN 6135-00-485-7402 with the spare you're carrying. Sometimes the battery goes dead before its time. And, remember to always take out the battery when your goggles are idle.

## TAPE YOUR COAX

When the tape tying the coax cable to your RC-292 antenna equipment turns loose, blasts of air will fling the cable about. This'll leave you with damaged connectors or broken cable.

To save the antenna's cable and connectors from tugging wind and weight, use a low-temperature tape NSN 5970-00-816-6056 that'll snug 'em up to the mast sections.



53



## NSN'S FOR CABLE RINGS

I'M ORDERING AERIAL CABLE RINGS AND DRIVE RINGS...



FINE... BUT REMEMBER RINGS COME IN 3 SIZES!

Dear Half-Mast,  
My signal unit lays out a lot of telephone cable in the field. Can you give me the stock numbers for the aerial cable and drive rings?

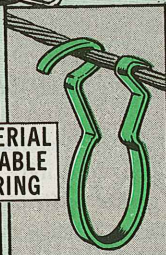
SGT A.R.F.

Dear Sergeant A.R.F.,  
Sure can.

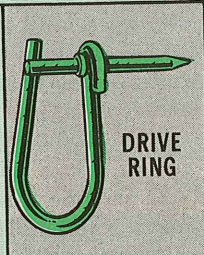
NSN 5975-00-223-1847 is for the aerial cable ring or hanger. It'll handle a cable up to 2-in dia.

The drive ring comes in 3 sizes—

AERIAL CABLE RING



DRIVE RING



NSN

Cable size

5975-00-369-4999 ½-in dia

5975-00-369-5000 ¾-in dia

5975-00-369-5001 ¾-in dia

These rings are authorized by  
Appendix A of CTA 50-970 (Jul 74).

*Half-Mast*

AHA! HERE'S THE REEL DEAL!



## CE-11 REEL DEAL

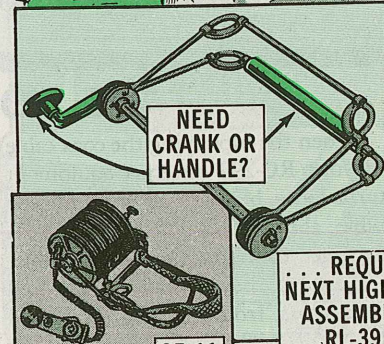
...BUT HERE'S THE REAL REAL DEAL, GOOD BUDDY!



Are you looking for a crank or handle assembly for your CE-11 reel equipment?

Stop looking 'cause they're no longer repair parts. To get 'em you have to request the next higher assembly, which is the RL-39 reel NSN 3895-00-498-8343. (The reel NSN in the TM is in error).

This change in repair parts is in TM 11-3895-203-24P (Apr 76) which supersedes the repair parts list in TM 11-3895-203-15 (Apr 67).



CE-11

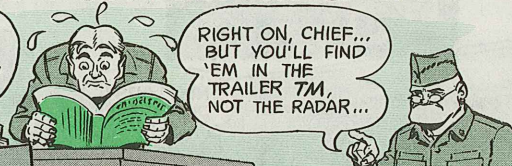
... REQUEST  
NEXT HIGHER  
ASSEMBLY,  
RL-39

## TRAILER PARTS FOR AN/MPQ-4A

DRA! THOSE PARTS GOTTA BE LISTED SOMEWHERE!!



RIGHT ON, CHIEF... BUT YOU'LL FIND 'EM IN THE TRAILER TM, NOT THE RADAR...



Dear Half-Mast,  
I can't find the stock numbers for parts on my AN/MPQ-4A radar set. The items I need are jack handle, handle assembly, spring and nut stop. They're not in the radar parts manual.

CW4 H.C.S.

Dear Mr. H.C.S.,

Even though the parts are on the radar set, they are for the M454 trailer chassis, the radar carrier.

Parts and NSN's are—

NSN

Handle, jack 2590-00-930-3555

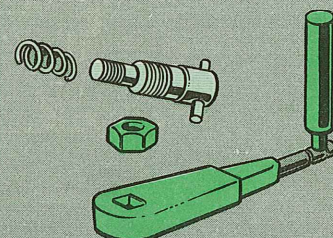
Handle assembly 2590-00-930-3547

Spring 5360-00-930-3549

Nut, plain, cap 5310-00-059-9271

You'll find 'em listed in Ch 2 to TM 9-2330-234-15 (Mar 60).

*Half-Mast*



Next Month In LS  
TOW MISSILE SYSTEM BLAST

M880 ... WEIGHT CLASS

V-BELTS MEAN GO!

SB-22 SWITCHBOARD

IT  
SHOULDN'T  
HAPPEN...

SP4 B.A.D. thought the clutch pedal was a nice place to rest his foot on a long haul. They're putting in a new clutch—to the tune of 85 bucks.



COMBAT  
SUPPORT

60KW DED ...

# GENERATOR

# PM RAPPING

NIX, LADS!  
DON'T IDLE-  
SET!

CONNIE HAS SOME  
NEW STARTING INFO  
AN' SOME NEW  
HARDWARE NSN'S  
FER YE!

DO YOU  
BELIEVE WOT  
HE'S SAYING,  
KOWALSKI?

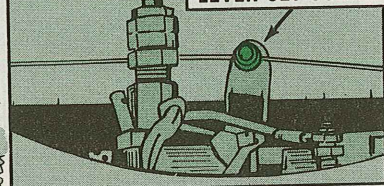
NOT ME!  
I AIN'T  
IRISH!

An MEP105A or MEP115A generator set needs special PM care when you crank 'er up.

One thing it doesn't need is idling. Fact is, this diesel-engine-driven set is not made to warm up.

So if you try to idle the MEP105A or MEP115A set by backing off the fuel injection pump lever set screw you'll

DON'T TOUCH FUEL  
INJECTION PUMP  
LEVER SET SCREW



screw up the excitation system. Like maybe 2 resistors—R225 and R226—on the electronic component board and electrical components of the governor control unit.

Figures 2-6 and 2-7, TM 5-6115-545-12 (Jun 73) have the straight poop on starting the set. Idling is not part of this poop, podner.

ALSO, THIS'LL HELP YOU PROTECT THOSE 2 RESISTORS ON THE MEPO06A SET!

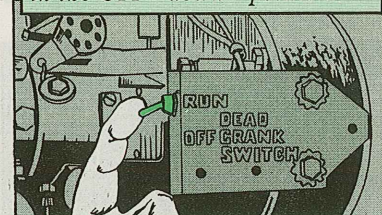
1. After you get the set started, leave the Main Load Contactor in the OFF position.
2. Increase the speed to 48 HZ.
3. Loosen the hex screw that secures the throttle cable on the manual control fuel injection pump lever (Fig 3-10, in the Dash 12).
4. Hold the pump lever so that the set maintains a frequency of 48 HZ.
5. Push the manual throttle control completely in, while still holding the pump lever, to keep frequency at 48 HZ.
6. Retighten the hex screw on the pump lever.
7. Recheck the unit to be sure the speed doesn't drop below 48 HZ with the throttle control pushed all the way in.

If your set has been out of service for some time—or setting idle in temperatures below 32°F for 24 hours—you could have another problem—bearing failure.

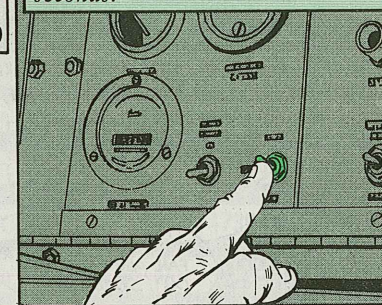
Take the turbocharger impeller shaft bearings for example. The lube

damage to the engine and turbocharger assembly:

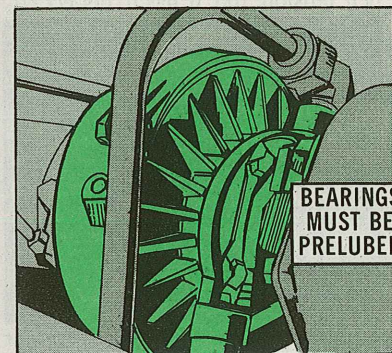
1. Place the dead crank switch in the OFF—down—position.



2. Crank the engine for 15 seconds.



3. Wait at least 3 minutes and crank it again.



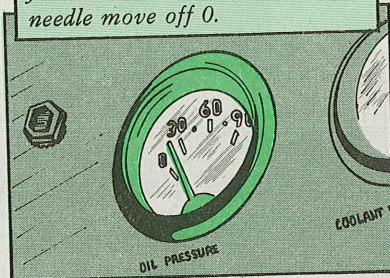
BEARINGS  
MUST BE  
PRELUBED

drains away, dries up or hardens on the bearings. Since you don't idle the set, those 2000 operating RPM's hit and heat the unlubed bearings as soon as the engine starts. This is guaranteed to burn 'em up!

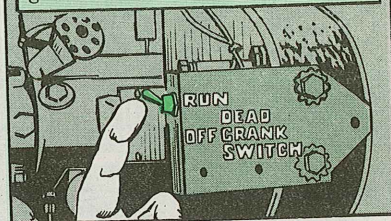
Here's how you prelube the bearings and stop downtime and



4. Repeat this procedure until you see the oil pressure gage needle move off 0.



5. Put the dead crank switch in the ON—up—position and you're ready to start the generator.



## FAN BLADE BUMMER

Stop fan blade and fan guard damage that's caused when vibration loosens the air shroud and fan guard mounting hardware.

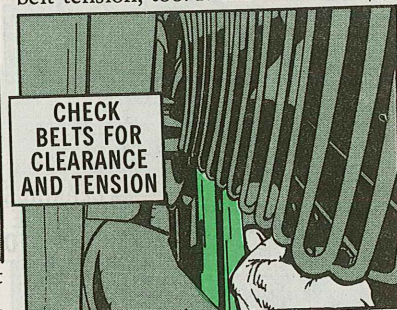


Replace the 4 non-locking flat washers MS27183-10—item 2, fig 46, TM 5-6115-545-24P (Jun 73)—with 1/4-in ID internal-external tooth washer MS45904-68 (96906) NSN

5310-00-889-2528.

After you add the new washers, check the clearance between the fan blades and the guard 'n' shroud.

Doublecheck the cooling fan drive belt tension, too. It has to deflect  $9/32$



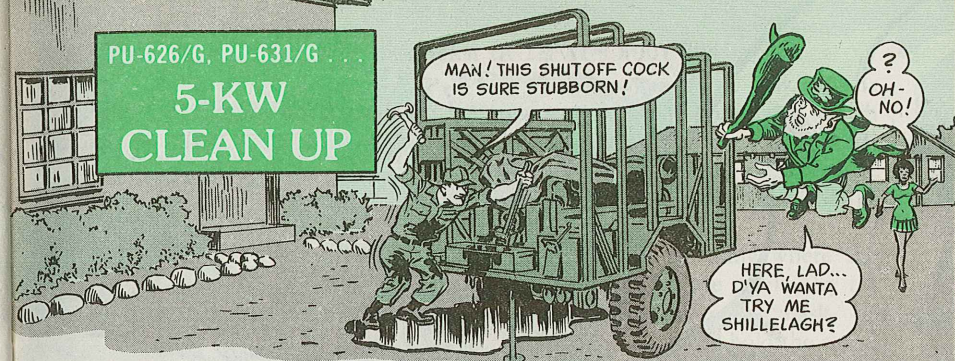
inch with 12-to-14-lb pull at the center point between the water pump and crankshaft pulleys.

HEY!... CAN'T DRY M' SOCKS! YER @★!! FAN AIN'T PUTTIN' OUT, SOLDIER!

SORRY 'BOUT THAT, TIM... FAN BLADE'S BUSTED AG'IN!

YOU CAN STOP THAT DAMAGE BY GETTING NEW TOOTH WASHERS TO SECURE YOUR SHROUD!

## 5-KW CLEAN UP



Cleaning up an oily mess wastes valuable PM time.

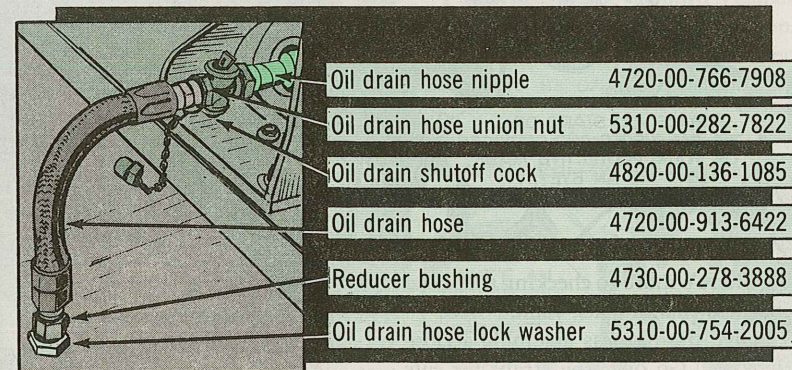
F'rinstance, a banged-up oil drain valve—or a missing or damaged oil drain hose—on your trailer-mounted 5-KW generator sets is a real mess-maker.

Some troops will use any size wrench that's handy to open the shutoff cock during an oil change. They'll even bang it with a hammer! Pretty soon you're cleaning up a leaky valve mess daily.

Sure, it's a mite unhandy to turn the valve, but patience here means more time for more important jobs.

Some troops will drain the oil out of the generator when a drain hose is missing or leaky. Some mess in the trailer! Not to mention oil-soaked hoses, dangerous footing.

You're supposed to cannibalize the oil-drain hose and reducer bushing. But if the can point cupboard is bare, use these NSN's for these items—and related parts:



TM 5-6115-365-15 (May 66) comes up short on these numbers for the PU-629/G and PU-631/G sets. You'll find 'em on page 4-15 for the PU-618/M set.



FOR YOUR M17/M17A1 MASK . . .

# HARNESS HANDLING

BEFORE YOU START ON THE PM CHECKS AND SERVICES ON YOUR PROTECTIVE MASK, LEND ME AN EYE!...

There's more to checking that head harness than a quick yank.

Give the harness assembly a close look-see. Go over the straps for cuts and tears—a little fraying is no problem.

HMMM...

MORE FRAYS... NO TEARS...

Gently stretch the harness at least 3 times as if you were putting on the mask. If the harness goes back into the original shape each time, no sweat. But, if the harness stays stretched, tell your mask specialist.

Does the harness show mildew?

CHECK FOR MILDREW



Get with your specialist and clean it up. As long as the mildew hasn't damaged the harness, a thorough cleaning of the harness and the carrier will solve your problem.

Use a clean cloth or soft-bristle brush dunked in warm, soapy water (soap, NSN 8520-00-228-0598 is OK).

HOWZAT, PERCY?

GOOD SHOW!

GOOD! CHECKS OUT OK!



Rinse well with cool, clean water. Make sure the harness and carrier are dry before you store the mask, or next time you check, the mildew may have taken over.

Check the hardware. Any clips or buckles damaged or missing? Watch for worn spots on the hardware. Exposed brass coming through the black coating can ruin the rubber of your mask.

Eye the tab assembly where the harness hooks to the mask. Dry rot setting in there can ruin a mask.

To test for dry rot, hold the metal clip and buckle and the rubber tab between your thumb and forefinger. Use the eyerings to hold the faceblank with your other hand.



Pull gently on the tab until it comes  $\frac{1}{2}$  to  $\frac{3}{4}$  inch from its normal position.

If the tab resists your pull and then returns to its original position, it's OK.

But, if the tab pulls too freely—and stays extended—turn in the mask.

THAT'S ALL THE HANDLING YOUR MASK HARNESS REALLY NEEDS!





# TOOLROOM TECHNIQUES



Keeping up with the daily goings-on of a toolroom and tools may not be so easy, but a few tips will make your going smoother.

No matter if you are a toolroom manager or a mechanic, you can use better ways to identify, control and account for tools. Try these—

## TOOLROOM MANAGERS—

Tell every person of his/her responsibility for the hand tools before signing them out.

Check a tool set or kit for completeness before issuing it and after it's returned.

Make sure each tool, tool kit and tool set is well marked for both permanent and quick ID.

Have a method to know where your tool sets and kits are located.

## TOOL USER—

You are responsible for all tools you sign for. That's the word in Para 1-4i of AR 735-5.

It's a good idea to have a way to check tools fast. Shelling out your own green for lost tools is no good. Keep

TOOL SECURITY IS IMPORTANT!

TOOL KIT ARTICLES IN P.S CAN HELP!

USE 'EM!

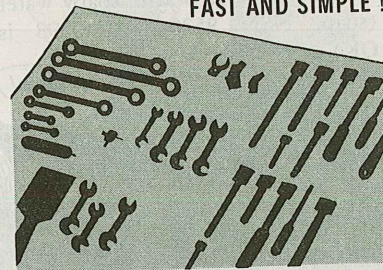


your tools secure. If you're not using 'em, lock 'em up.

## IDENTIFY TOOLS—

Tool boards and canvas or paper layouts are handy to check tool kits for completeness. The layout has an

**A HANDY TOOL LAYOUT . . .  
MAKES TOOL CHECK  
FAST AND SIMPLE!**



outline of each tool in the kit. Use a felt-tipped pen to outline the tools.

Canvas and plastic layouts have a big advantage: they're portable. You can take 'em along and see if the kit's complete at the end of the day or when you turn 'em in.

Well marked tools are less prone to "wander" or get mixed in the wrong tool kit. Mark each tool to match its tool box.

HEY-WOW!

HERE'S MY KIT, CONNIE . . . AN' IT SHOWS EACH TOOL!

NOW I CAN BE READY FER TH' IG!

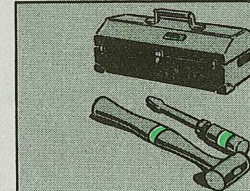
YEH--BUT WHAT GOOD IS IT...? WHEN HE CAN'T FIND 'EM!

IT'S EASIER--AN' CHEAPER--TO MARK 'EM!

MEBBE HE'LL BUY 'EM AT SSSC!

RIGHT ON! COLOR CODE AND ETCH EVERY TOOL!

For fast, at-a-glance ID, color code tools with a patch of tape or a dab of paint. Use color-coded paint and



**KEEP  
TOOLS  
FROM  
STRAYING!**

**COLOR CODE  
BOTH TOOLS  
AND BOX**

stencils or tape to mark unit ID, tool box number, and USA markings on the tool box.

Also get the "Property of US Govt" decals from GSA under NSN 7690-00-130-3251 for tool boxes and large tools.

Etch the tools and tool boxes for a permanent ID. Use unit ID, tool box number and US or USA markings on each tool and box. Para 1-8j, AR 735-5 has the word on etching.



**VIBRATOR  
TYPE CAN  
DO IT!**

Use one of these etching tools:  
Vibrator type NSN 5130-00-596-8404  
Electric arc NSN 5130-00-596-1062  
Electric arc NSN 5130-00-203-7943

Use tool checks, NSN 9905-00-473-6336, to locate tools fast. You can etch

**TOOL  
CHECKS  
ARE . . .**



**. . . HANDY  
AND  
EFFICIENT!**

or stamp them with a mechanic's personal and unit ID. The mechanic turns in the check when he signs out a tool, set or kit. The toolroom manager places the check where the tool or set belongs. That tells at a glance who has the set.

It's easier to take monthly inventory if you have pictures to go by. Pictures in supply catalogs on your sets and kits help.

## SPECIAL TOOLS—

Although there's no requirement to keep a hand receipt annex on special tools, it's a good idea. Some special tools are costly. They're listed and illustrated in your equipment's -20P TM, so they're easy to identify. It's easy to forget about special tools, so some method of controlling them will help.



## REPLACE HAND TOOLS



When a mechanic loses or damages a tool through carelessness, a Statement of Charges or Report of Survey can cause heartburn for everybody.

Now, there's a way out. You can pay cash for a replacement at the Self-Service Supply Center (SSSC).

DA Message DACA-FAL-S 131926Z May 76 has the word. You can replace lost or damaged authorized unit hand tools without the hassle of DA Form 444, DD Form 362 or DD Form 200.

Forget about buying tools to work on your own bus, tho, that's out!

But if a unit tool turns up busted or missing, tell your maintenance supervisor.

If you want to replace the tool, your commander will give you an

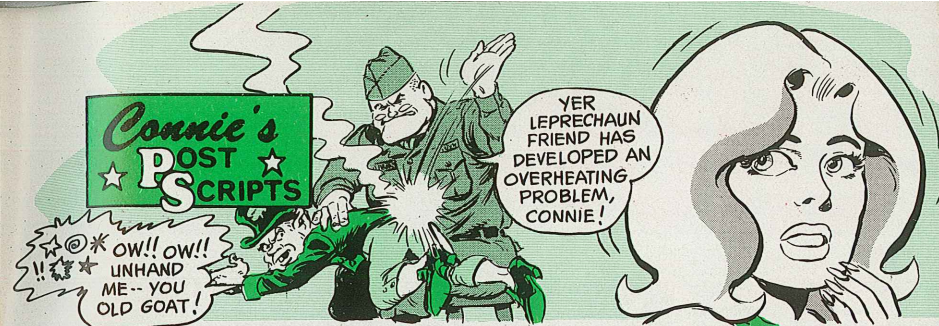
authorization statement. The 3-part note gives you authority to buy one or more tools (by name) for cash from the SSSC to replace lost or damaged tool(s) your unit is authorized.

You take 2 copies with you to the SSSC. The 3rd stays on file at the unit.

That's it. A note from the CO and a short shopping trip.

'COURSE, YOUR BEST BET IS NOT TO LOSE OR BREAK THE TOOL IN THE FIRST PLACE--

--CAUSE THE COST OF REPLACEMENTS CAN NOW COME STRAIGHT OUT OF YOUR POCKET!



## Rough Service Lamps

Several lightbulbs for rough and tumble use are listed in C 6200-IL (microfiche). A few worth mentioning are: NSN 6240-00-299-3394 (230-V, 100-watt); NSN 6240-00-155-8659 (230-V, 50-watt); NSN 6240-00-824-4676 (115-V, 100-watt); and NSN 6240-00-519-0853 (24-V, 50-watt).

## Generator Operators

Ignore the air, fuel, and oil filter change intervals for generators you saw on page 28, PS 290. Your command got the straight poop on this in USA TROSCOM Msg AMSTS-MMG 211700Z Mar 75. You change oil and oil filters on all your 15-KW thru 200-KW generator sets every 300 hours or 6 months—whichever comes first.

## RCM—Best With Less

RCM—Reliability Centered Maintenance. This is a big idea that calls for doing only the maintenance that is absolutely needed to keep your equipment reliable in combat. No eyewash stuff, no changing parts needlessly. You may never see RCM as such, but as time goes by you'll find the unnecessary deleted as your manuals are changed. You'll see RCM-sparked maintenance designed into new equipment. It'll mean less time, effort and money applied to maintenance but equipment that'll be just as good as ever.

☆U.S. GOVERNMENT PRINTING OFFICE: 1977 - 757-002/5

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

## New Supply Message

You supply types better beat a path over to your message center. There's a new message out redefining exception data supply procedures. Ask for DA Msg DALO-SMS 271743Z Dec 76.

## ALICE Update

Repairing the small arms ammo case that's part of your ALL-Purpose Lightweight Individual Carrying Equipment—ALICE-gear? You need NSN 5340-00-753-5573 for the plastic fastener. Forget the NSN for this item you saw in PS magazine 286 (Sep 76).

## M880 Transfer Lube

OE/HDO is the right lube for your M880-series 1½-ton truck's transfer case—just like it says in LO 9-2320-266-12 (Oct 75). Pay no mind to that "GO" on page 3-2, Ch 1 (Jul 76), TM 9-2320-266-10. The straight poop is on page 3-4 of that TM change.

## Don't Dump PMS Cards

When your aviation unit switches over to the new Phased Maintenance Inspection System, hold on to your old Preventive Maintenance Services cards. Why, you ask? The daily inspections won't change. You'll still use the old PMS cards to do them.



# CHOP THE IDLE!

YOU  
M577 TYPES  
AREN'T ON TH'  
MOVE

WHY ARE  
YOU RUNNING  
YOUR MAIN  
ENGINE?

WELL, ER...  
WE GOTTA KEEP  
OUR COMMO GEAR  
OPERATING...

“GULP”

USE YOUR  
GENERATOR!...

STOP  
ABUSING YOUR  
ENGINE!

## SAVE...

- FUEL • OIL
- MAIN ENGINE WEAR