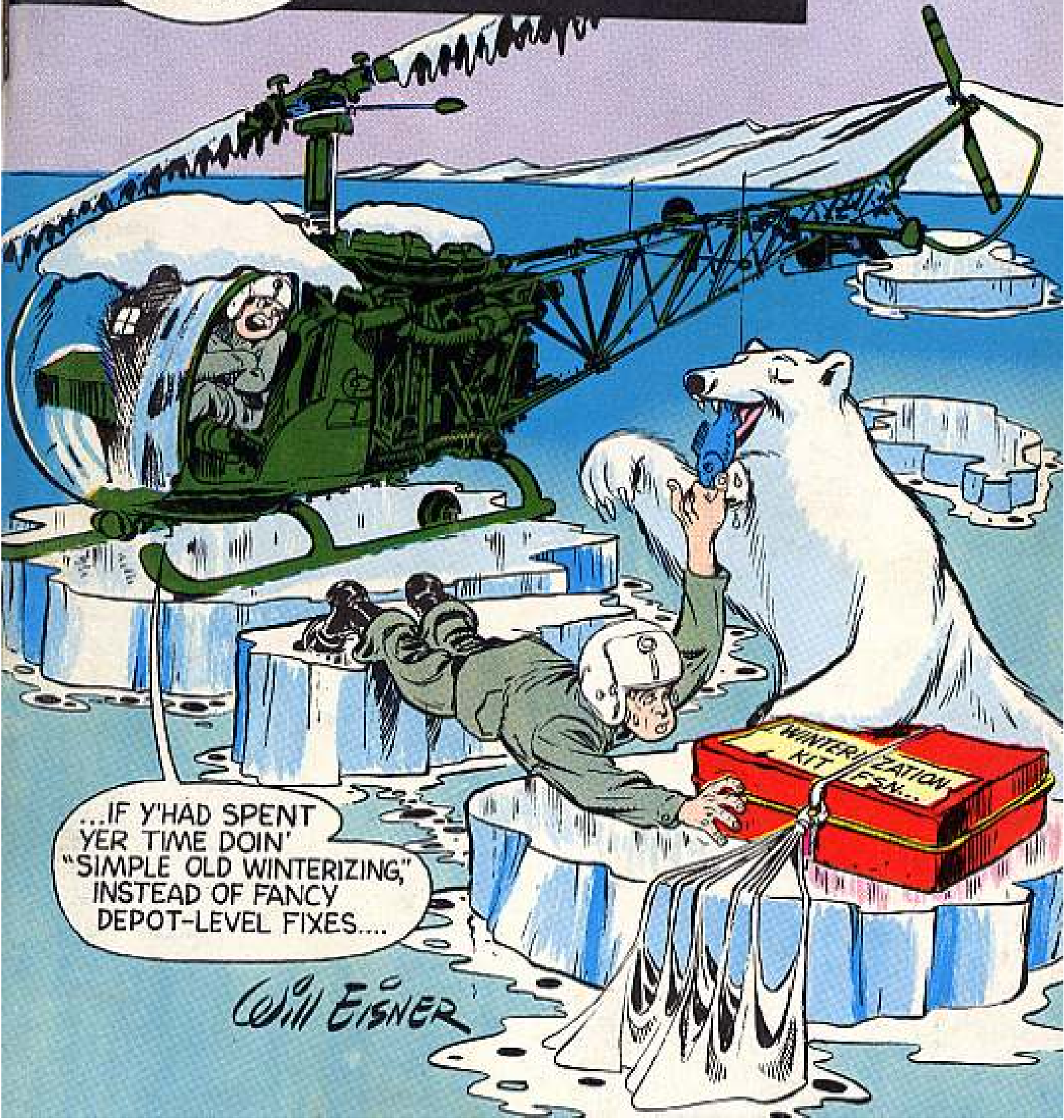


Issue 158

**PS**

1966 Series

**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**



...IF Y'HAD SPENT  
YER TIME DOIN'  
"SIMPLE OLD WINTERIZING,"  
INSTEAD OF FANCY  
DEPOT-LEVEL FIXES....

*Will Eisner*

# IT'S GOTTA BE... MODIFIED

When your outfit receives a new truck, tank, gun, or some such item from your support or from a depot, you expect it to be complete and up-to-snuff. Right?

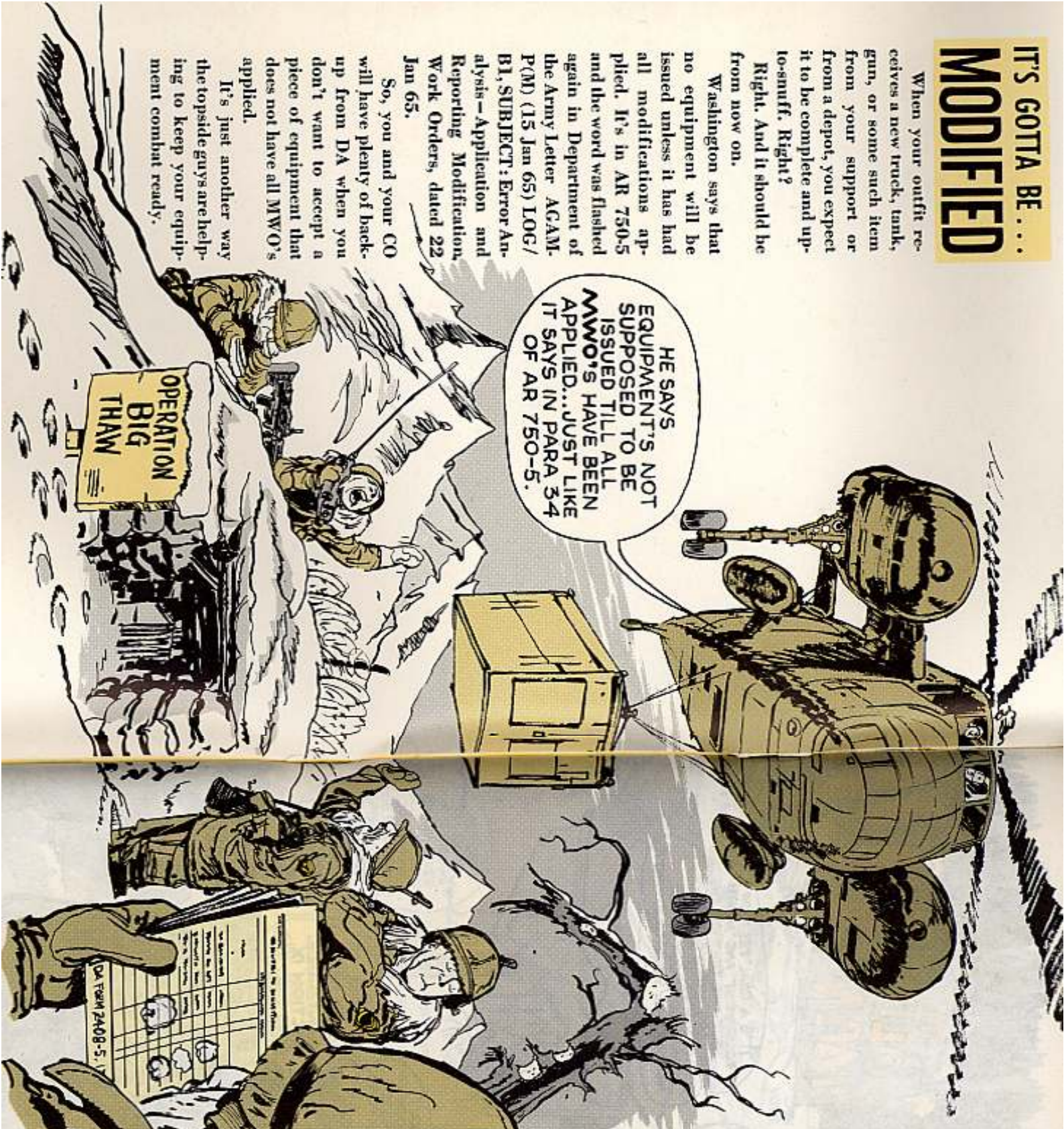
Right. And it should be from now on.

Washington says that no equipment will be issued unless it has had all modifications applied. It's in AR 750-5 and the word was flashed again in Department of the Army Letter AGAM-P(M) (15 Jan 65) LOG/B1, SUBJECT: Error Analysis—Application and Reporting Modification. Work Orders, dated 22 Jan 65.

So, you and your CO will have plenty of backup from DA when you don't want to accept a piece of equipment that does not have all MWO's applied.

It's just another way the topside guys are helping to keep your equipment combat ready.

HE SAYS  
EQUIPMENT'S NOT  
SUPPOSED TO BE  
ISSUED TILL ALL  
MWO'S HAVE BEEN  
APPLIED...JUST LIKE  
IT SAYS IN PARA 34  
OF AR 750-5.



**PS**

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THE PREVENTIVE MAINTENANCE MONTHLY  
Issue No. 158 1966 Series

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Sgt. Welf-Mark,  
PS Magazine,  
Fort Knox, Ky.  
40121



Some got it wet 'n' hot, some got it dry 'n' cold. But most guys are cangling with a nasty kind of winter, trying to outguess the weather to keep their equipment operating and in top shape. One day you're whipped with howling wind, drifts, ice and bitter cold. Then you're whopped with a thaw — slush, mud, maybe even rain. And back again to frozen ruts and ice-slicked roads hiding under a new coat of powder snow.

# IT'S FIKLE... OLD MAN WINTER'S BITE

IT'S A REAL TEST OF EQUIPMENT AND MEN!! ...BUT THE TEST OF THE DRIVERS AND MECHANICS COMES FIRST. IF YOU DON'T COME OUT ON TOP, NEITHER WILL YOUR EQUIPMENT!!

CHAIN SAWVY SCHOOL

NOTHIN' COMPLICATED ABOUT CHAINS AS ANYBODY WHO'S READ TM 9-1870-1 (FEB 55) ALREADY KNOWS.

WHILE THIS TM IS ON TIRE CARE AND MAINTENANCE SECTION IX GIVES THE POOP ON CHAINS!

GO OVER 'EM CLOSE WHEN Y'R PUTTIN' 'EM ON OR TAKIN' 'EM OFF...LOOK FOR THIN OR BUSTED LINKS!

REPLACE 'EM QUICK— IF A CROSS-CHAIN GIVES OUT WHEN Y'R OPERATING... GET A REPAIR LINK IN... QUICK!! THEN, FIRST YOU GET REPLACE JUST THE CROSS-CHAIN!!

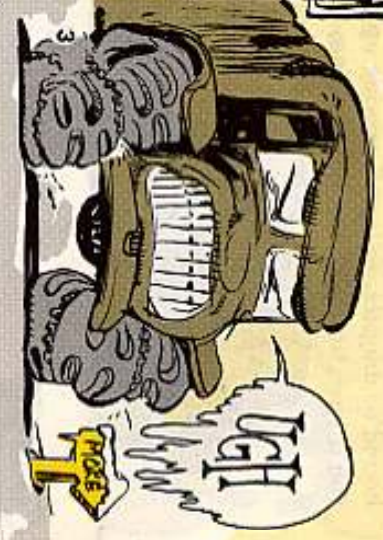
Y' CAN SAVE TIME BY CHECKING YOUR "COUNTRY STORE" FOR CROSSCHAINS!

FSN's for chains and crosschains are in TM 9-2300-223-20P (Oct 64), pages 261-264. Repair links are listed in TM 9-1870-1 (Feb 55), Table III, pages 126 and 127. FSN's aren't given, but the old ordnance stock numbers are. So here're the FSN's you can match up the repair link OSN's for your size tires:

FSN 25-40-693-1039 (H014-0583246) for most passenger cars.  
FSN 25-40-693-1040 (H014-0583247) for most commercial trucks.  
FSN 25-40-693-1041 (H014-0583248) for tactical trucks up to 5-ton.

Along with eyeballing your chains every time you take 'em off, give 'em a good cleaning and oiling. They rust and go to pot bad enough if they're left piled up wet and dirty, but road salt left on 'em is the beginning of the end for the whole chain assembly.

"Like a glove" is not — repeat not — how chains should fit your tires. Chains are supposed to creep, or move, on your tires. Snug chains are slow death to tires as they gouge into the rubber. So adjust 'em on the loose side.



## ICY CLAWS

Tires suffer, too, if you park your vehicle in water, mud or slush for the night. Frozen in, the rubber just naturally takes a beating as you tear out of that ice trap.



Park on brush, planks (no nails, pul-leezell), logs or flat stones to keep your tires high and dry.

This's a good idea even if it's below freezing when you park, because a thaw and refreeze can come around before you get rollin' again.

If your tires do get frozen in, take a couple o' minutes to chip the ice or frozen mud loose—carefully and with a dull tool—before taking off.



**SOFT FOR SNOW OR MUD**

Soft tires give you better traction in loose snow, but on frozen ground or hard-surfaced roads, low pressure will flex the life out of your tires. Flexing makes heat and also breaks down the cords inside. You'll get cracking of the rubber, too, then water will get in for the kill.



**HARD FOR SMOOTH HARD SURFACE**

*Note: In areas where the temperatures reach -50°F. or colder, inflate truck tires 20 pounds above normal for long standby periods or overnight. Before operating the vehicle, reduce the tire pressures to normal.*

## EASY DOES IT

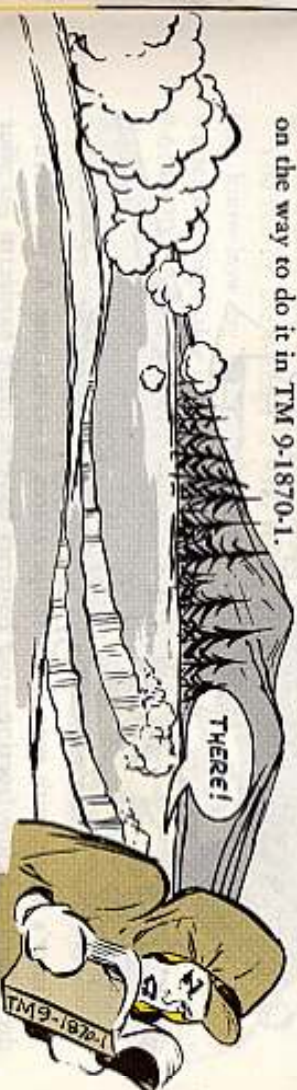
Stuck in snow or mud? Just remember your tactical wheeled vehicle is no horrod or dragster, so lay off revving up the engine and slipping the clutch or you'll have little troubles growing into big ones.



And if you're trying to get out by rocking—shifting back and forth to first and reverse—make sure your throttle's not out. Your engine has to be able to drop back to idle and the gear sets have to stop revolving before you shift. You don't want your gears spittin' teeth like a boxer leading with his chin.



Besides, with power in four or six wheels and with chains, you've got the stuff to pull out of most holes with no sweat. If you don't have chains on when you get stuck, you'll know how to put 'em on even then if you've brushed up on the way to do it in TM 9-1870-1.



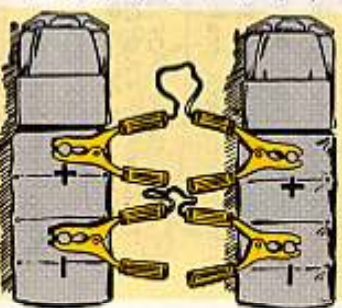
Your time may come—if it's never happened before—when you need a tow. Or maybe you're called on to give someone else a tow. F'r'goshakes, make sure you're up on the TM lowdown for towing that particular vehicle before trying to start-by-towing or blasting out of that bottomless hole.

Except when it's in the way and blocking a mission, a paralyzed truck usually isn't as big a problem as it would be with its guts mangled. So if you're short on towing know-how, get someone who isn't.

## JUMP STARTING

You'll probably be needing a hand—or giving one—to start a stalled vehicle more in winter than at other times. Jump-starting from another vehicle's batteries may be more convenient, faster and easier than towing.

Most important to remember is hooking the jump cables from positive-to-positive and negative-to-negative between the two battery setups. If you aren't dead sure which is which, look for the ground hookup—it runs from the negative battery post on all tactical wheeled vehicles.



## BABY THOSE BATTERIES

You may not be in Alaska or some other "extreme cold" area ( $-20^{\circ}$  to  $-60^{\circ}$ F), but you don't fluff off on special cold weather battery maintenance. You could need that last flicker out of your batteries to get started, so give 'em tender, loving care.



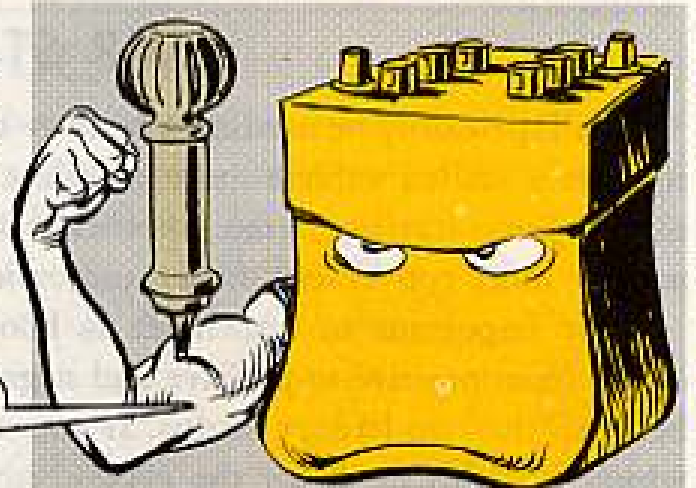
Winter's hump, with even lower temperatures, is yet to come. As the mercury drops farther below freezing, your batteries have to battle harder to get your engine started. They feed the starter, which has to buck cold-stiffened oil and grease in every moving part back to the transmission.

And you draw more on your batteries for lights when daylight is shorter. Heaters take electricity, too. This along with the usual demands, such as operating communications equipment. And give your batteries a break, by turning off all electrical accessories before starting your engine.

Your well-cared-for batteries may come to the rescue of some guy whose battery PM is on the shiftless side.

A battery that isn't up to full charge—1.275 specific gravity corrected to  $80^{\circ}$ F—isn't ready to meet all of winter's demands. Give your batteries a hydrometer check real often.

A DIFFERENCE OF 25 POINTS  
TWEEN ANY TWO CELLS IS YOUR  
SIGNAL TO GET A REPLACEMENT!



Keep the electrolyte level over the tops of the plates to take advantage of all the juice your battery can put out.

Before adding water, tho, make sure the battery's either going to be operating for at least an hour or will be in a warm place for several hours. The new water has to have a chance to mix into the electrolyte or it'll freeze and bust your battery.



Those good battery-cleaning habits you developed in warmer weather are a lifesaver now. Cold pulls a battery's power down anyhow, so if it's leaking current across a dirty, corroded top, it's getting a dirty deal all the way around.

You can up the voltage of your battery know-how by spending a chilly winter evening inside the covers of TM 9-6140-200-15 (Jul 58) with Change 1 (Jan 62).



## LUBRICATION

Figure it takes  $2\frac{1}{2}$  times as much power to turn over your cold engine at  $0^{\circ}\text{F}$  as is needed at  $80^{\circ}\text{F}$ . So give your batteries and starter all the help you can by getting real chummy with your TM's lubrication instructions for unusual conditions. And look close at what your vehicle's LO spells out for different oil and grease to fit the temperature.

Different temperature ranges make a difference, too, in what grade of fuel you use in diesel and multi-fuel engines, so put your finger on the right dope in your TM or LO.

On-again-off-again heating and cooling of your engine always makes for condensation of moisture sucked in with air during operations. With the outside temperature skidding up and down, too, you've got a water factory in your crankcase. This contaminated, sludged-up oil gives your engine lousy lubrication, cutting down power, slowing or stopping flow through oil lines and playing hob with bearings.

Water will settle to the bottom of your crankcase. Sitting in the oil sump, it'll freeze and drop the gate on oil flow through your engine's lube system.



## TIME TO CHANGE?



Oil may need changing more often this time of year on account of getting gooked up faster. When you're making your before-operations-check, look close for water drops on the dipstick. If you're not sure, draw off a little oil into a glass or bottle and watch to see if any water settles to the bottom. See any? Get your crankcase drained and refilled fast!

Rubbing some oil between your fingers will show if it's getting gritty and needs changing. Just because oil's a little dirtier — darker colored — than when it was put in doesn't mean it needs early changing, tho.



Take a whiff of your dipstick, too. Some fuel can get by your pistons before the engine heats up. Enough of this thins your oil, makes for poor lubrication and sets up a very explosive situation. Fuel contaminated oil has to go, but fast!

## SEEKIN' LEAKS

Water in the crankcase could be coming, too, from a leak in your cooling system. Maybe a blown gasket or a cracked block. Sometimes you'll spot this sort of trouble first when oil shows up in your radiator. If it's real bad, you might find your coolant level has dropped all of a sudden and your oil level has shot up. Then beat feet for your support to dig into it.

With a pressure cap on your radiator, you won't likely lose much of the water part of your coolant by evaporation — and none of the antifreeze will get out thataway. So a drop in the coolant level probably means a leak.



COULD BE ANY OF THESE THINGS!

POPPED



RADIATOR SEAM

CRACKED



OR ROTTEN HOSE

LOOSE



CORE PLUGS

LOOSE



DRAIN PLUGS

LEAKING



PETCOCKS

LOOSE



HEAD BOLT

Antifreeze doesn't dry up quick, so you may find wet spots are actually leaks. Be suspicious of rusty or grayish-white stains on and around your radiator and wherever there's a fitting, connection or joint.

Small leaks can become big ones — and they usually do, all of a sudden, when you're operating and pressure's up in your cooling system. So beat those leaks to the punch. Mushy or cracked hoses are signs of leaks to come. Other leaks you can catch early by being on the ball with close, daily inspections.

Before adding either water or antifreeze solution to raise a low coolant level, check the freezing point of the coolant to see which you need. Your antifreeze won't be "anti" if it's diluted too much with water.

Along with what your vehicle's TM tells you about maintaining your cooling system, soak up the dope in TM 9-2858 (May 45) to be in-the-know on "Cooling Systems: Vehicles and Powered Ground Equipment."



## TIGHTEN UP

Loose or missing bolts, nuts, rivets and other parts mean worse-trouble-to-come if you ignore 'em. This includes cracking or breaking of parts when the temperature tumbles and metal gets brittle. If there's no slack, your vehicle will move out and take the bumps as one unit instead of like a string of railroad cars starting up.



## STICKY GAGES



Gages and sending units can get tricky when cold pushes and pulls their dainty innards. Make sure you're getting the messages you expect from your instruments. If not, the trouble could be right there in front of you, but a check all the way through to the sending units — and maybe farther — is the safest bet.



## SNAP, CRACKLE, POP

Rubber and leather get stiff when they're real cold and'll crack if bent quick or sharp. Most plastic gets brittle and'll crack or break if it's hit or twisted.

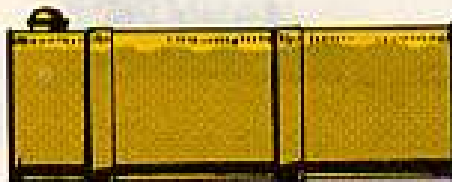
Canvas that's been water soaked and then frozen can crack, too. This isn't likely, tho, if your tarp's mounted the right way on your truck or trailer so there're no low spots for rain or melted snow to puddle. Keep your tarp tied down snug, but be ready to loosen it up when it and the ropes get wet. Wet ropes and canvas will shrink, pulling grommets loose, tearing seams and ripping wherever there's strain.



Mildew settles in quick when a warm spell hangs on for a few days. So make sure your tarp's dry and clean before stashing it away — in a clean, dry place, natch.

## DRY FUEL TANK!

Even a Saturday night asphalt cowboy knows a fuel tank's no place for water. You get it tho, when that dampness in the air space condenses. And it'll work on into your fuel lines, too. If it doesn't freeze and pop a pipe, it'll stop you cold when it gets into your engine. So keep that air space as small as possible by keeping your fuel tank loaded.



KEEP AS NEAR TO FULL  
AS POSSIBLE

Some water's going to get by you, tho, so you meet it head-on with alcohol. This's added to gasoline at the rate of a half-pint of alcohol for each 10 gallons of fuel. You get it by asking for: Alcohol, denatured: grade III, Fed. O-E 760b. FSN 6810-543-7415 brings a gallon, and FSN 6810-201-0907 is for 5 gallons.

TM 9-207 (Sep 59) gives you scads of dope on cold weather operation and maintenance of your tactical wheeled vehicle, including a rundown (Table I) on antifreeze, fuel, hydraulic fluid and lubes.

Change 1 (Feb 63) to this TM has a special warning on adding alcohol to your fuel system:

**"CAUTION. ALCOHOL WILL NOT BE ADDED TO DIESEL FUEL SYSTEMS."**

Even tho alcohol's bad medicine for diesel systems and great stuff for gasoline, too much in gasoline is no good either. Bum engine operation and damage to valves and fuel pump diaphragms can be caused by overloading your fuel system with alcohol.



## STAY ALIVE

Carbon monoxide is a silent killer. All it needs is a broken or cracked exhaust system to sneak out and go to work. Good insurance against a case of rigor mortis is a tight exhaust system from front to end. And keep a window cracked for fresh air while on a long run.



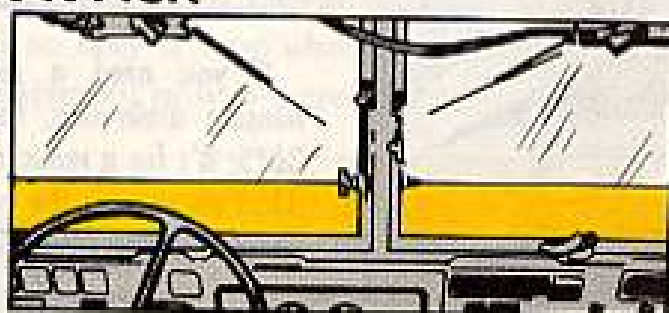
If you must keep the engine idling to keep your radio going, run it at high idle—about 1000 RPM. Keep the cab well vented and stay awake. When there're exhaust fumes around, the next snooze you take may be your last.

## CR-R-R-R-ACK

A windshield that has set out in  $-10^{\circ}\text{F}$  weather for a long spell, like over-night, is in no condition to be hit by a hot blast of air from your vehicle heater. If the glass is warmed too fast it'll crack and break.

Cold soaked glass should be warmed gradually. Get the cab warmed first and then defrost the windshield. Start off on low and work up to high.

A good trick is to stick a 4-in strip



of tape across the bottom of the windshield to act as a heat buffer. This'll keep the windshield from cracking when it's accidentally blasted with hot heater air.

## GETTIN' WITH IT



HERE'RE SOME  
5-TON G744-SERIES  
**PARTS TIPS**

**TIP 1**

If you need a replacement flywheel-housing drain-plug, forget FSN 4730-278-3875; it's for a reducer. Use FSN 4730-278-3380 along with the nomenclature on page 14 of the -20P (Mar 63).



**TIP 2**

The rear-spring-saddle lifting-pin. If you're looking for a retaining-pin with a hook and chain, you can get it with FSN 2510-316-1009. This is the same pin that's shown on page 182 in the -35P (May 64). It's available to -20P users.



**TIP 3**

Looking for replacement mud-flaps for your M54 cargo truck? Then you'll need this number—FSN 2540-715-7407. Ask for Guard, Splash Wheel.



**TIP 4**

Every 5-tonner needs a cotter pin locking the nut that secures the steering-knuckle arm-ball. Without this cotter pin the arm-ball can work loose and — POW . . . curtains! Keep the ball's nut torqued to 140 lbs-ft and lock it with a 7/8x1 1/2-in cotter pin FSN 5310-013-7204.



**SIZZLE, CRACKLE AND POP**

When was the last time you looked at your 5-ton truck's battery cables and terminal connections?

Many are jammed between the batteries, hold-down or carrier box in a way that pinches, chafes and cuts them. Then the cables end up in an arcing and sizzling dead short.

Installing battery cables on any 5-ton G744-series truck takes special care because they're easily jammed when the carrier is pushed under the cab.

Sliding the battery carrier into place is no slam-bang job. It must be eased in place while the cables are being held so they'll loop above the batteries. Check your 5-ton truck's battery compartment now—here's what you should find:

Positive cable free, no kinks or chafing where it travels behind the truck frame.

The cables should be looped above the battery—not jammed down between or behind the batteries and box.

The rear (-) and forward (+) cables should be attached so their terminals are straight up when tight on the post lugs.

Center connecting cable and its terminals lying flat and not chafing against the hold-down bracket. The hold-down bracket snug but not too tight.

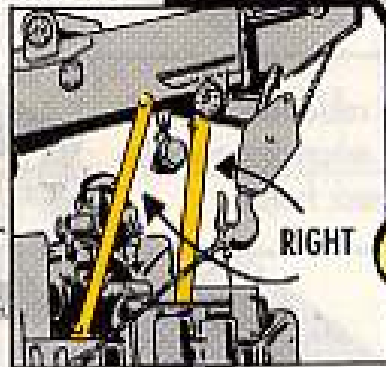
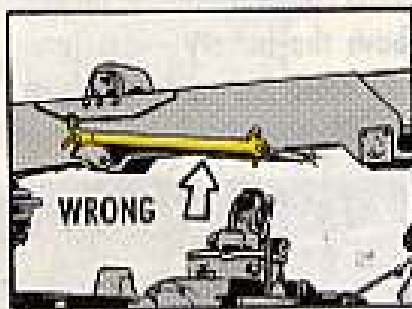
## GO "LEGS DOWN"

Pivot your eyeballs to Change 3 (Jan 65) to TM 9-2320-211-10 (Mar 63) to save the pivot post on your M62 or M543 5-ton wrecker.

On page 2 it tells you to change para 23f on page 54 of the TM, where you find directions for securing the wrecker crane for traveling.

The important point: The shipper brace assembly is supposed to be in the DOWN position and secured to the floor brackets. This supports the weight of the shipper and boom and relieves the pivot post of this load while traveling.

Pictures on page 11 of the TM show the supports of the M543 in the right position for traveling, and the same setup goes for the M62.



## ELEMENT FOR CHANGE

USE THESE TWO GASKETS.  
TOSS OUT THE EXTRA ONE.



Need a replacement oil filter element and the gaskets to make a filter change on your 5-ton multifuel engines? If so, ask for Parts Kit, Oil Filter, FSN 2940-884-4801.

You won't find this element kit in the -20P for the M61A2 chassis and M51A2, M52A2, M54A2, M55A2 and M543A2 trucks, but it is listed on page 29 in the multifuel engine Manual, TM 9-2815-210-35P (Sep 64).

LO 9-2320-211-12 (Jun 64) wants the engine oil filter element changed every 6,000 miles or every 6 months. And the TM 9-2320-211-20 (Mar 63) MAC says organizational mechanics can do the job. The details on how to change the element are in Ch 1 (Jul 64) to the same -20 TM.

# TIRE

# PRESSURES



## G742 SERIES 2½-TON TRUCKS

All you jockeys for G742-series 2½-ton trucks (and that includes the M35A1 now, too) will get the latest dope on tire pressure in TM 9-2320-209-10 (Feb 65).

Table 9, page 37, gives the rundown for both gasoline and multifuel engine jobs—with 11:00 x 20 size tires (used on trucks with singles) and 9:00 x 20 size tires (used on trucks with duals). This inflation data is for trucks either with or without a front winch.

This new TM supersedes TM 9-2320-235-10 (Dec 61) for the M35A1 and also the operator's portion of TM 9-8022 (Dec 54) for the other trucks in the G742-series. So take note that the highway tire pressure for multifuel, dual-wheel jobs has been upped to 50-PSI. And it's been cut to 25-PSI for cross country for gasoline, dual-wheeled trucks.

CONDITIONS	GASOLINE		MULTIFUEL	
	1100x20	900x20	1100x20	900x20
Highway (psi)	70	45	70	50
Cross-country (psi)	35	25	35	35
Mud, snow, and sand (psi)	15	15	15	15

## 1½-TON TRAILERS

Here's the latest tire pressures for all 1½-ton two-wheeled trailers covered by TM 9-2330-213-14 (Jan 64). This takes in everything that's mounted on the M103-series chassis and the M104, M105, M106 and M107-series trailers, plus the M448.

How much air each model gets depends on the size of its tires. Here're the pressures you want to maintain to be just right:

CONDITIONS	TRAILER TIRE SIZE	
	900x20	1100x20
Highway (psi)	45	50
Cross-country (psi)	35	35
Mud, snow and sand (psi)	20	25

# 1/4-TON TOPIX

## SIDE CURTAINS



Dear Half-Mast,  
When side curtains are ordered as a soft closure kit and installed on our 1/4-ton trucks, do they become part of the vehicle? And must they be transferred with it?

Dear Sergeant U. C. B.,

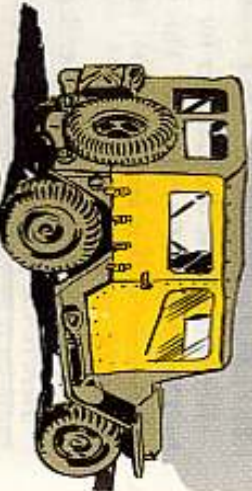
The only time side curtains stay with a vehicle and become part of it is when they're issued together.

When curtains are requisitioned and installed as a closure kit, they fall into a category of winterization equipment covered by SB 9-16. This SB authorizes soft closure kits for vehicles operating in temperatures between +40° and +5°F — when the area commander wants you to have them. You remove these kits if the vehicle is:

**A** Shipped to an area where the temperature doesn't justify the need.

**B** SHIPPED OUT FOR RECONDITIONING AND RE-ISSUE TO A DIFFERENT OUTFIT.

**C** When the vehicle is classified not economically repairable.



## SAFETY CHAINS



The need for safety chains on 1/4-ton trailers that're towed over public highways has been kicked around more than a soccer ball.

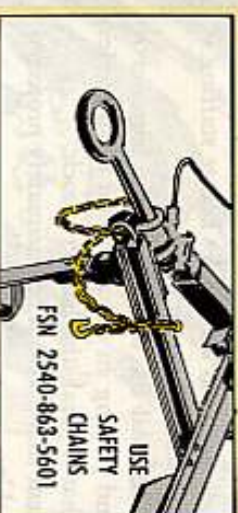
Since some truck and trailer combinations don't have safety chains, the topic is usually an opener for a rhubarb. Especially with CMMI people.

Normally, the Army doesn't manufacture its vehicles to meet every state's traffic safety requirements. This is because there are so many different things called for in the various states.

But in general... it is Army policy to comply with state laws on vehicle safety devices whenever possible.

Whether you use safety chains or not on your 1/4-ton trailers boils down to the policy adopted by your area commander. If he wishes to meet state vehicle safety requirements, then that's the order to follow.

Some outfits have been pointing to TB 9-871A1 (Jul 54) as their authority to remove safety chains and eyebolts from their 1/4-ton trailers. This TB only applied to the M100 and it was rescinded way back in 1959. This bulletin never did apply to the M416 1/4-ton trailer.



If there is a need to use chains for the M151 truck and M416 trailer combination, install two new safety chains (FSN 2540-863-5601) on the trailer. And hook 'em on the M151's lifting eyes.

# GOOD PRACTICES NEVER DIE

OK, OK,  
GASP! I'LL  
NEVER START 'ER UP  
UNTIL I MAKE SURE  
THE RADIO'S OFF...  
NOW LEGGO!



**Dear Half-Mast,**

**At one time all our radio-equipped tactical trucks were required to carry a marking on the instrument panel saying "shut off electrical accessories prior to starting."**

**Is this requirement still in effect?**

**Lt E. F. R.**

Dear Lieutenant E. F. R.,

Putting the warning on the dash is no longer required. The marking was required by TB Ord 2300-20/3, but this TB was rescinded by DA Circular 310-4 (Feb 62).

But the requirement of turning off all electrical accessories before starting is still a good practice. And good practices are always in effect.

When you crank a truck engine, it needs all the umph from the batteries it can get. Especially in cold weather. And putting an extra load on the batteries at a time like this could be the straw that'll break the battery's back.

Then there's some electronic equipment that may not be adequately protected against the big voltage dip while cranking.

Good starting practice always demands that all electrical accessories be turned off before cranking the engine. And it should be done whether the warning is on the dash or not.

## NO TIME FOR SPARKIN'



Dear Half-Mast,

The batteries in one of our M-series tactical trucks keep going down and we can't seem to find the cause of the trouble. Is there supposed to be a slight arc between the negative battery cable and the negative post?

R. M. P.

Dear R. M. P.,

You found the clue to your battery mystery. You should get no arcing between your negative battery post and cable—if all electrical switches are off.

You've got a short someplace that's putting a constant drain on your battery. Hunt for a short in your ignition switch, voltage regulator and light switch, and then, if you haven't found it, trace through your wiring harness.

Your vehicle TM usually gives all the dope on using the low-voltage circuit-tester to check out your vehicle's electrical system. If it's not covered there, then TM 9-4910-401-12 or TM 9-4910-402-12 will do the job.

*Half-Mast*

## BALLS O' FIRE!

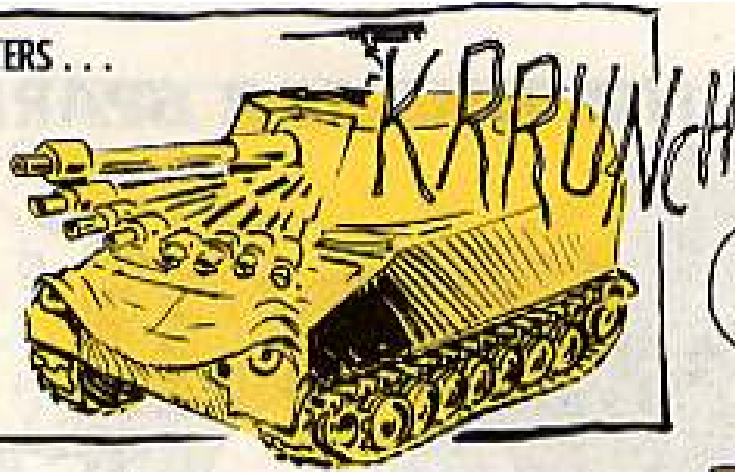


Blowing dirt around with an air hose is asking for chunks of grit or even slivers of metal in your eyes if you don't wear your protective goggles. You'll be lucky if you wind up with only sore eyeballs. So guard your baby-blues with those goggles in your No. 1 Common Tool Set. They're Goggles, Industrial, FSN 4240-269-7912. Also, there are lots of other hazardous maintenance jobs where you'll find it safer to wear goggles.



ON M108/M109 SP HOWITZERS . . .

# LOOSE SLIP-RING SCREWS

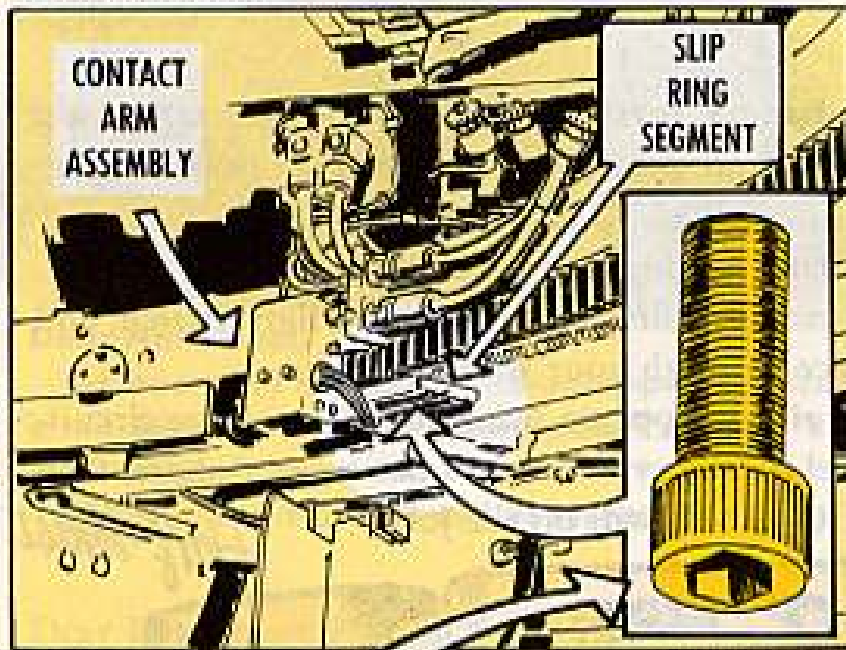


KEEP A  
CLOSE  
CHECK HERE  
AND SAVE  
TRAVERSING  
SWEAT.

Watch yourself—

On early production M108 and M109 SP howitzers the cab slip ring segments aren't held by self-locking screws, like they should be.

Equipment vibration jogs the screws loose and when you go to traverse the cab, K-R-U-N-C-H . . . the contact arm assembly plows into the loose screws and the slip ring segments.



KEEP THESE TIGHT UNTIL YOU CAN  
GET THE SELF-LOCKING SCREWS



The crash damages the contacts and cracks the contact holder to bits. This'll not only short out your cab circuits, it means you may be out of traversing power for sometime, 'cause the contact holder is a non-stocked item.

So best check those slip ring retaining screws right away. If they're not the self-locking kind you'd best see the supply people soonest. Keep 'em tight till you get the self-locking type.

The slip ring takes self-locking screw, FSN 5305-989-0502 (96906-21262-44), and a flat washer, FSN 5310-965-7698 (10936216). See TM 9-2350-217-25P/2 (Nov 64) pages 8-9.

Later production M108's and M109's have self-locking screws on the slip ring segments, so they don't have this vibration problem.



# NOW HEAR THIS!

Make sure you've got your ear plugs all snugged into your ears while your tiger's purring.

Howcum?

'Cause tests show that without the ear plugs, the high noise level can permanently damage your hearing . . . 'specially on the M108/M109 SPH's and the Chinook (CH-47) helicopter.

Ear plugs come in different sizes. A big ear uses a big plug — small ear, small plug, etc. The ear plugs tested for use with your intercom headset pulled over your ears, are listed in FSC C6515-IL (Sep 64).

Ask for Ear Plug, Noise Protection (24 in a package) . . .



Extra Small .....	FSN 6515-664-7858
Small .....	FSN 6515-299-8290
Medium .....	FSN 6515-299-8289
Large .....	FSN 6515-299-8288
Extra Large .....	FSN 6515-664-7859

For the handy carrying container, ask for: Case, Ear Plug, FSN 6515-299-8287 (12 in a box).

TA 8-100 (Dec 64), Allowances of Army Medical Service Expendable Supplies, authorizes the plugs. Your unit medic will help you get a good fit.



# GAGING IT

When you turn to Fig 207 in TM 9-2350-217-20 (Jan 65) what do you see? You'll spot a sprocket wear-measuring gage used for checking wear on the drive side of the sprocket used on the single-pin track of your M108 and M109 SPH's.

Along with the gage (FSN 5210-757-2745) comes the template, which is held onto the gage by a small chain. So you really have all the parts in one bundle.

This is fine and dandy except the gage isn't handy. It's not in supply yet. So, here's what you can do. You can order another Gage, FSN

5210-981-2765, that works fine for the first two wear readings of  $\frac{1}{8}$  inch and  $\frac{1}{4}$  inch. By this time, maybe the new gage'll be in the supply system. If you still can't get the right gage and you have to go onto the next wear limit of  $\frac{3}{8}$  inch then, 'bout all you can do is use Rule, Steel, Machinists, FSN 5210-234-5223, that's in your Automotive Mechanics Tool Kit. Take the measurement from the same spot used with the gage.



**SPROCKET WEAR GAGE**  
USE ON SPROCKET 10930584  
PLACE GAGE BETWEEN SPROCKET TEETH.  
REVERSE SPROCKETS FIRST TIME WHEN WEAR ON DRIVE SIDE IS  $\frac{1}{8}$  INCH. REVERSE AGAIN WHEN WEAR IS  $\frac{1}{4}$  INCH ON DRIVE SIDE. REPLACE SPROCKETS WHEN WEAR IS  $\frac{1}{4}$  INCH ON BOTH SIDES OF TOOTH.

FINAL DRIVE SPROCKET

**COUPLA POINTS ON REVERSING**

1. If the sprockets on both the left and right side of the vehicle are worn and need reversing, the complete sprocket hub assemblies may be swapped from left to right and vice versa.



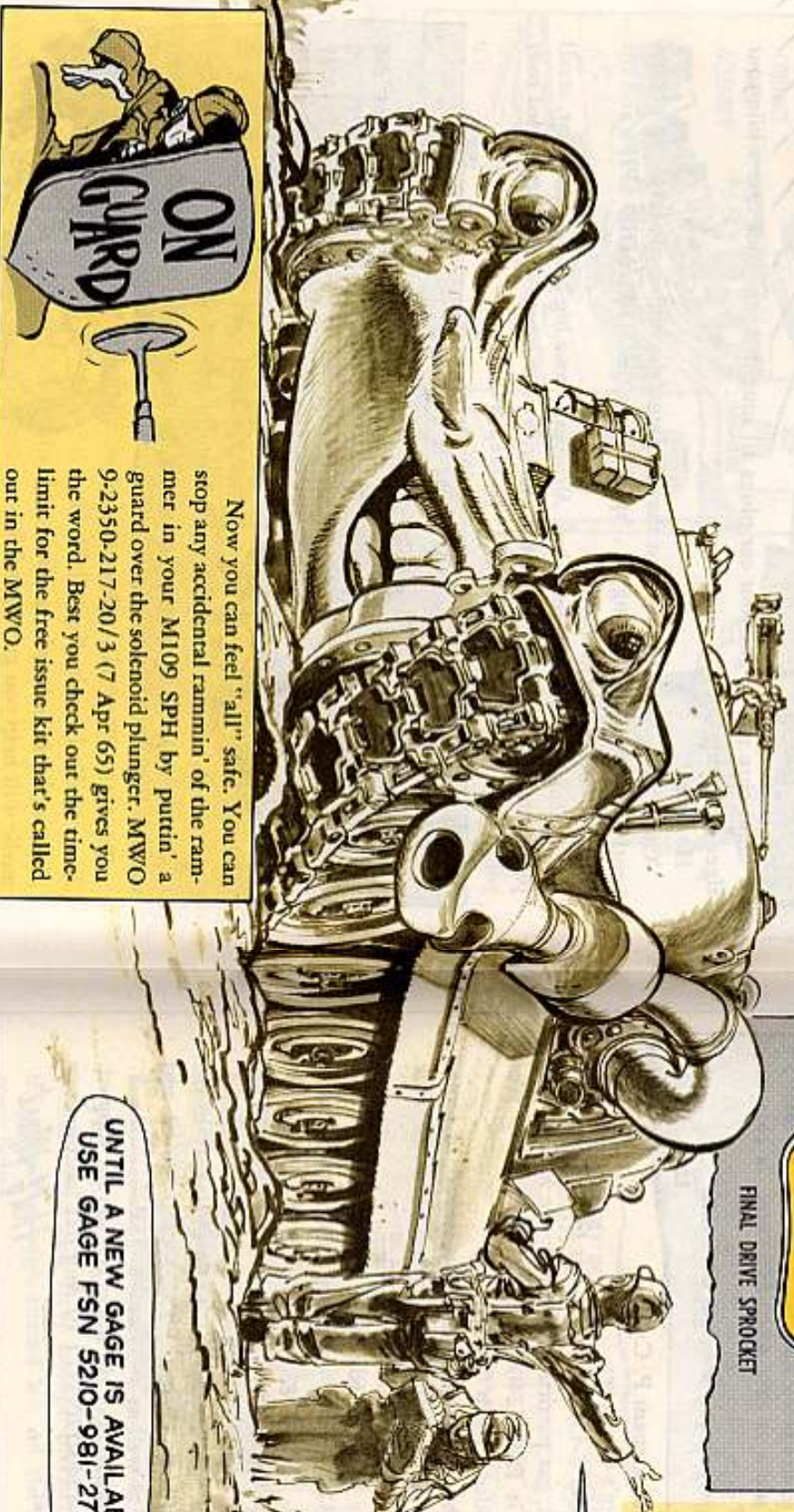
TO OPPOSITE SIDES ... INSIDE TO HERE

2. If the sprockets on only one hub assembly need to be reversed, you can remove the sprockets from the hub and place the outside sprocket on the inside and the inside sprocket on the outside of the hub.

When the wear on both sides of the tooth reaches the maximum  $\frac{1}{2}$ -in wear level, replace the sprockets, FSN 2520-986-9891.

SOB!  
IT'S NOT IN  
THE SUPPLY  
SYSTEM YET...

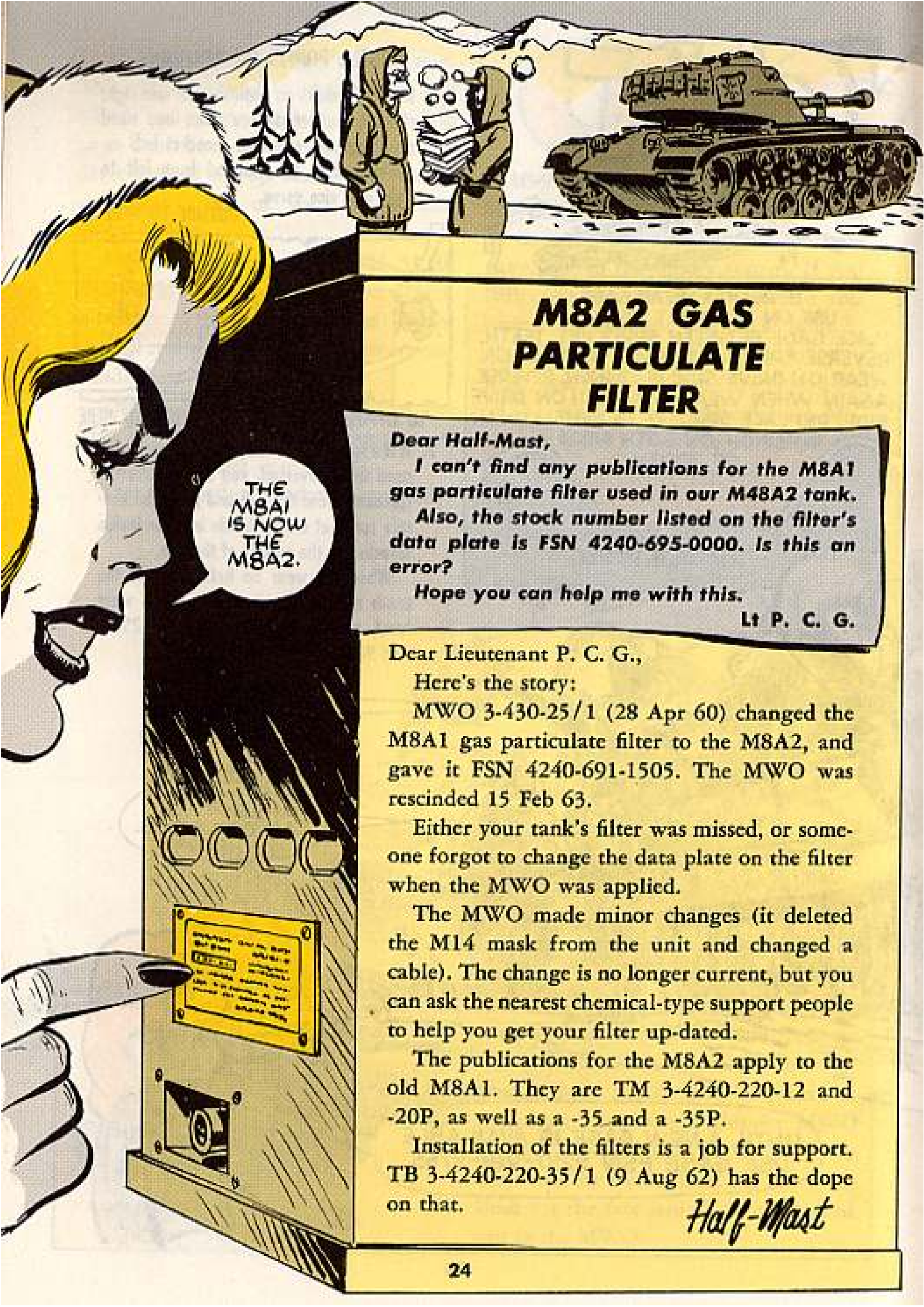
YAH! BUT YOU  
CAN GET A SUB.



Now you can feel "all" safe. You can stop any accidental rammin' of the rammer in your M109 SPH by puttin' a guard over the solenoid plunger. MWO 9-2350-217-20/3 (7 Apr 65) gives you the word. Best you check out the time-limit for the free issue kit that's called out in the MWO.

UNTIL A NEW GAGE IS AVAILABLE  
USE GAGE FSN 5210-981-2765.





THE M8A1 IS NOW THE M8A2.

## M8A2 GAS PARTICULATE FILTER

*Dear Half-Mast,*  
*I can't find any publications for the M8A1 gas particulate filter used in our M48A2 tank. Also, the stock number listed on the filter's data plate is FSN 4240-695-0000. Is this an error?*  
*Hope you can help me with this.*  
**Lt P. C. G.**

Dear Lieutenant P. C. G.,  
Here's the story:  
MWO 3-430-25/1 (28 Apr 60) changed the M8A1 gas particulate filter to the M8A2, and gave it FSN 4240-691-1505. The MWO was rescinded 15 Feb 63.

Either your tank's filter was missed, or someone forgot to change the data plate on the filter when the MWO was applied.

The MWO made minor changes (it deleted the M14 mask from the unit and changed a cable). The change is no longer current, but you can ask the nearest chemical-type support people to help you get your filter up-dated.

The publications for the M8A2 apply to the old M8A1. They are TM 3-4240-220-12 and -20P, as well as a -35 and a -35P.

Installation of the filters is a job for support. TB 3-4240-220-35/1 (9 Aug 62) has the dope on that.

*Half-Mast*

IF YOUR M60 HAS A DOZER . . .

## WATCH THE PARTICULATE

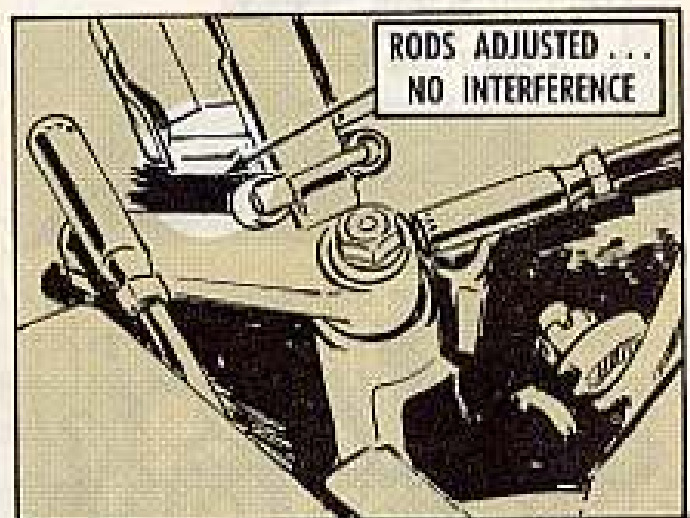
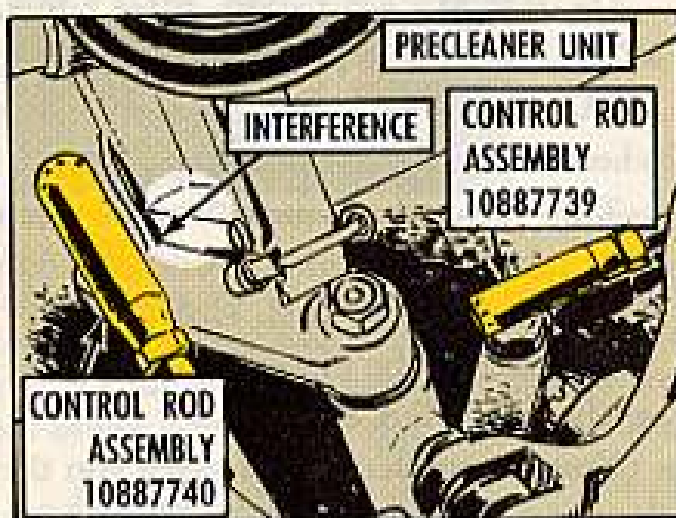
When you mount the gas particulate precleaner unit on your M60-series tank, you may not be able to raise the M9 dozer.

The shifter's arm (Part No. 10884185) may butt into the left-hand corner of the precleaner unit.



The simple answer is to make with a small adjustment to the two shifter control rods. You make one of 'em about a  $\frac{1}{2}$  inch longer . . . the other about a  $\frac{1}{2}$  inch shorter, like so:

ROD ASSEMBLY NO.	LENGTH (INCHES) BEFORE	ADJUST TO
10887739 →	5-7/8 →	6-7/16
10887740 →	3-7/8 →	3-7/16



You may have to vary that adjustment—more or less—so's to get the free shifter movement. Keep enough threads on the control rods for a safe grab. If there's not enough thread left on the rod, you'd better call support to get some help.



Two things a smart man never does . . . he never draws to an inside straight and he never leaves an opening unprotected.

Like the bolt holes on his M113-series vehicles or his M114 Scout, f'rinstance. They need lots of lovin' attention.

Neglect 'em and they get filled with mud, rock dust and other stuff. Then, when you try to use 'em again (like when you replace your track shrouds) the bolts don't work right.

Best way to protect the bolt holes is with the bolts themselves. Keep the bolts in place even when the track shrouds (or other equipment) that they secure are in storage. That way, the holes will be in good shape when you need 'em.

This is so important that some inspection teams throw a shortcoming gig for every bolt hole without a bolt—even if the bolt doesn't hold anything.

## SAFE FILTER

WOW! AM I  
GLAD I CHANGED  
TH' UNIT'S GAS FILTER...  
THERE GOES PERCY  
'N' HIS FOUR KIDS.

On the gas particulate filter units, M7A1, M6, M6A1, M11, M12, M13, M8A2 and M8A3, you have to know when to replace the unit's gas filter.

This means you must always keep close tabs on the unit's operating time in a contaminated area. How?

You record the filter's exposure time on the unit's DA Form 2409.

Your equipment's TM gives you the dope on keeping a running total on the filter's working time, how to figure up remaining life of the gas filter and how to replace and handle contaminated gas filters.

# M88 VTR LUBE CHANGE

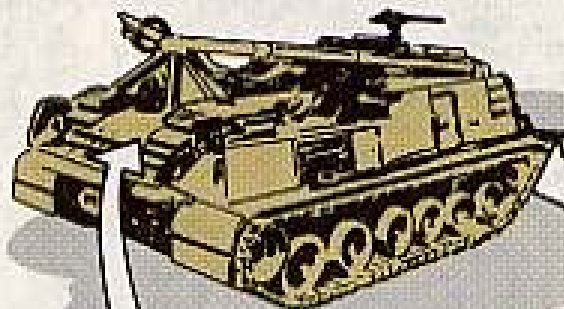
I F'GOT  
SOMETHIN'.

The compensating idler arm bearings on your M88 VTR need to be lubed quarterly with GAA grease . . . so do it, Mac, before you hit the sack.

Some outfits have been flipping the pip on this because the lube point is not shown on page 20 of LO 9-2320-222-12 (Jul 63).

The lube fitting is shown on page 3 to Change 1 (Mar 65) of the LO, but it's shown in the wrong position. It should be the way the rescinded MWO 9-2320-222-10/1 (Feb 64) said — with the lube fitting at the bottom of the compensating idler and the pressure relief fitting at the top.

PRESSURE RELIEF FITTING



# DECK BOLT SAVER

EXHAUST  
DOORS



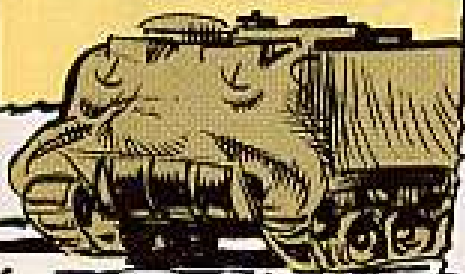
Dear Editor,

We had a lot of trouble burning off the rear deck bolts on our M88 VTR's during winching and lifting. Then we started running them with the left and right exhaust doors open, in the UP position. That cured it. Thought I'd pass this along.

(Ed Note:

Glad you did. But keep 'em closed while you're towing . . . could damage your buddy or his equipment if they're open.)

SP5 Edward E. Eakins  
Fort Riley, Kansas



A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Form 310-4 with latest changes.

#### TECHNICAL MANUALS

TM 1-1H-23C-4, C2, Aug. OH-23.  
TM 1-225, C1, Jul, ACft Nov.  
TM 5-315, Aug, Fire Protection by troop org.  
TM 5-2805-208-14, Aug, Eng, Gas Mtl Std Mdls: 1A08-111, 1 1/2 HP; 2A016-111, 3 HP.  
TM 5-2330-200-15, Aug, Trailer, basic utility, 2 1/2-ton.  
TM 5-6115-323-15, Aug, Gen, GED, 1.5KW, 5F-1.3-MD, AC, and DC-1.5-MD/28V.  
TM 5-6115-341-15, Jul, Gen Set, Gas Eng: 0.4 KW, AC, PU-432 8/U, Admiral MdL GJ4266.  
TM 5-6673-239-15, Jun, Light, Signal, Surveying: 5-In Dia Reflector.  
TM 9-1410-250-15P/2/1, Aug, Org, Nike-Herc, Nike-Herc (Imp.)  
TM 9-1430-250-12P/10/1, Aug, Org, Nike-Herc (Imp).  
TM 9-1430-250-15P/13/1, Aug, Org, Nike-Herc (Imp).  
TM 9-1440-250-15P/3/2, Aug, Org, Nike-Herc, Nike-Herc (Imp).  
TM 9-1450-375-12P/1, Aug, Org, Pershing.  
TM 9-2320-274-14, Aug, Chassis, Trailer, 3 1/2-Ton, 2-WHL, M536; Chassis, Trailer, 2 1/2-Ton, 2 WHL, M537.  
TM 9-2350-215-10, C1, Jul, M60 Tank.  
TM 10-500-10, Aug, Rig 1/2-Ton UH Trks.  
TM 10-500-79, Jul, Rig Airfield Repair Kit for Airdrop.  
TM 10-1101, Jul, Para Hdq Op.  
TM 10-1670-203-23P, Aug, Parachute, cargo extraction, 15 ft dia.  
TM 10-1670-221-23P, Aug, Parachute, Cargo extraction, 28 ft dia.  
TM 10-1670-230-23, Sep, Capsule, Cargo, Aerial Del 500 Lb Cap.  
TM 10-1670-231-20, Aug, Parachute, Cargo, 24-ft Dia Nylon Canopy.  
TM 10-4510-201-20, Aug, Bath Unit, Part, 8-shower head.  
TM 11-372-4, Aug, Telephone Cable Splicing Joining Cable Conductors.  
TM 55-1013-203-10-1, Aug, How Air Transport CH-47.  
TM 55-1520-200-24P, C1, Aug, USD 1 (MGM-57).  
TM 55-1510-201-20P, C3, Sep, U-1.  
TM 55-1520-202-20P, C1, Aug, CH-34.  
TM 55-1520-206-10, C2, Aug, OH-23.  
TM 55-1520-206-20 PMD, Jun, OH-23.  
TM 55-1520-206-20 PMI, Jun, OH-23  
TM 55-1520-209-10, C10, Aug, CH-47.  
TM 55-1520-209-20, C1, Jul, CH-47.  
TM 55-1520-210-10, C4, Jul, UH-1.  
TM 55-1520-210-20, C4, Sep, UH-1.  
TM 55-6600-200-20, C1, Aug, Marking of Instruments.

#### LUBRICATION ORDERS

LO 5-4310-250-15, Oct, Comp, Rot, Air, DED, 250CFM, 100PSI, Davay M250RPV.

LO 5-6115-320-12, Aug, Gen Set, 45 KW, AC, Alresearch MdL QTGE70-6-1.  
LO 5-6230-200-15, Aug, Searchlight, 30-in, DC, 80 V, 200 AMP, Strong Elec Co, MdL 78001-1.  
LO 9-2300-216-12, Aug, M107 5P Gun, M110 5P How.  
LO 9-2350-222-12, Aug, Veh, Combat Eng, Full Trkd, T 118E1.  
LO 10-4230-203-15, Aug, Delousing Outfit: Curtis Auto Devices Inc, MdL CDR-70000.  
LO 10-4930-206-13-1-2, Aug, Lube Unit Pwr Op, Part.

#### MODIFICATION WORK ORDERS

MWO 9-1005-247-30/1, Jul, XM2.  
MWO 9-2300-216-30/5, Aug, M107 SP Gun, M110 5P How.  
MWO 9-2300-216-30/6, Sep, Gen, Fid Arty, SP, 175-MM, M107; How, SP: 8-in, M110; Replacement, Rammer Solenoid Valve.  
MWO 9-2320-224-20/2, Aug, M114/M114A1, Steering Relay Bracket.  
MWO 9-2300-224-30/14, Aug, Carrier, Pers, Full-Trkd, M113, to Provide Storage for M28 Wpns Sys.  
MWO 55-1510-203-34/3, C1, Sep, U-6.  
MWO 55-1510-204-34/73, Sep, OY-1.  
MWO 55-1510-205-20/1, Aug, U-1.  
MWO 55-1510-206-34/47, C1, Aug, CV-2.  
MWO 55-1510-206-34-48, C1, Sep, CV-2.  
MWO 55-1510-206-34/57, C3, Aug, CV-2.  
MWO 55-1520-202-34/1, C3, Sep, CH-34.  
MWO 55-1520-202-34/6, C1, Sep, CH-34.  
MWO 55-1520-204-34/32, C1, Sep, OH 13.  
MWO 55-1520-208-34/7, Sep, UH-1.  
MWO 55-1520-209-34/115, Sep, CH-47.

#### TECHNICAL BULLETINS

TB 9-1400-299-10/2, Aug, Mtl & Rocketry Sys Imp Report and Maint Digest.  
TB 9-1400-375-25, Aug, Org, Pershing.  
TB 9-1400-500-12/1, Aug, Org, Hawk.  
TB 9-1400-549-10/1, Aug, Mtl and Rocket Sys Equip Imp Report and Maint Digest.  
TB 9-1400-549-10/2, Aug, Mtl and Rocket Sys Equip Imp Report and Maint Digest.  
TB 9-2300-278-20, Sep, Veh Protection.  
TB 55-1510-203-20/4, Oct, U-6.  
TB 55-1520-209-30/2, Sep, CH-47.  
TB 750-101, Jul, Equip Imp Report and Maint Digest, Electronics Cmd.

#### MISCELLANEOUS

SB 740-2410-98-EQ1, Sep, Tractor, Full Trkd, Low Speed, DED, w/wo Attachments.  
SC 92-XL-1, Aug, GML M22.  
SC 92-XL-5, Aug, GML M22, 2.75 RL XM2.

#### REPRINTS

Listed here are older publications that are freshly available as a result of reprinting. Order copies on DA Form 17.

#### TECHNICAL MANUALS

TM 3-1040-224-12, Oct 64, Comp, recp, power drvn flame thrower, 3 1/2 CFM, AN-M4.

TM 5-4210-202-10, Nov 59, Trk, fire fighting, Walter MF.

TM 5-4310-243-15, Dec 62, Comp, recp, air, Selm; 175 psi, Champion OEH-34-30-Eng-1.

TM 5-4320-216-15, Sep 61, Pump, Cent, 4-in, 200 GPM, 300 ft head.  
TM 5-4320-219-12, Nov 61, Pump, cent, gas; 6-in; 1560 GPM Corver KM6H-S.

TM 5-6115-305-10, Sep 62, Gen, Del: 1.5KW, AC, Wispower D15H182.  
TM 9-1010-205-12, Feb 61, M79 Grenade launcher.

TM 9-1055-201-12P, Dec 62, 3.5-in Rocket launcher.

TM 9-1340-204-12P, Apr 64, 318-mm Rocket (LilHejahn).

TM 9-1430-250-20/6, Incl C1 thru C11 (C), Feb 61, Nike-Herc.

TM 9-1430-251-12/1, Incl C1 (C), Aug 64, Nike-Herc & Imp Nike-Herc.

TM 9-2320-251-14P, Mar 62, Trailer, cargo, 1/2-ton, M416; chassis, M569.

TM 9-2320-257-24P, Nov 61, Semi-trailer, 6-ton, van, XM555, XM556, 10-ton, van, XM557, XM558.

TM 10-4510-201-10, Jan 65, Bath Unit, part, 8-shower head M1958.

TM 10-4930-204-25P, Aug 63, Tank & Pump Unit, liquid dispensing, United Mfg & Engr Corp, Style 1.

TM 11-282, Jun 55, AN/FBC-15 radio set.

TM 11-289, Dec 63, RT-66, -67, -68, Receiver-transmitter

TM 11-530, Dec 59, Install practices for acct electric and electronic wiring.

TM 11-5820-243-20P, Jul 59, PP-764 [ ]/G power supply.

TM 11-5820-310-12P, Jul 59, OA-1395/GRC antenna-filter group.

TM 11-5820-312-12P, Feb 61, OA-1393/GRC antenna filter group.

TM 11-5820-337-20P, Nov 59, R-390/UBR radio receiver.

TM 11-5820-398-20, Dec 62, AN/PKC-25 radio set.

TM 11-5820-461-10, Jun 62, AN/GRC-50(V) radio set.

TM 11-5825-203-20, Apr 61, OA-1451 [ ]/PER receiver group.

TM 11-5830-200-20, Jan 59, AN/UIH-2 Public address set.

TM 11-5935-200-15P, Jul 59, MX-1258/U lube socket adapter kit.

TM 11-5965-263-13P, Sep 62, M-80/U Microphone.

TM 11-6115-226-15P, Nov 60, PU-269 [ ]/G gen set.

TM 11-6125-204-12, Sep 60, PU-235 [ ]/U Motor gen.

TM 11-6625-514-20P, Jan 64, AN/GRM test set.

TM 11-6625-564-12, Oct 64, MK-731 Maint kit.

TM 11-6760-213-10, Apr 61, LM-33 [ ] photo flash unit.

TM 55-405-1, Nov 61, Maint Engr Manual, Gen.

#### MISCELLANEOUS

LO 3-3431-205-15, Aug 63, Welding Mach, Arc, Libby LE 300.  
MWO 9-2320-212-20-8, Jul 62, Trailer, flatbed, 2-ton, M243, M261, low bed, M260, Van, M259, M339; 3-ton, Van, M242; 2-ton, Van, M244, M262, M258; replacement of left wheel studs and stud nuts.  
MWO 55-1520-210-34-6, Jul 64, Windshield Wiper for co-pilot.  
TB CML 68, Jan 61, Test Kit, impregnate-in-clothing, M2.



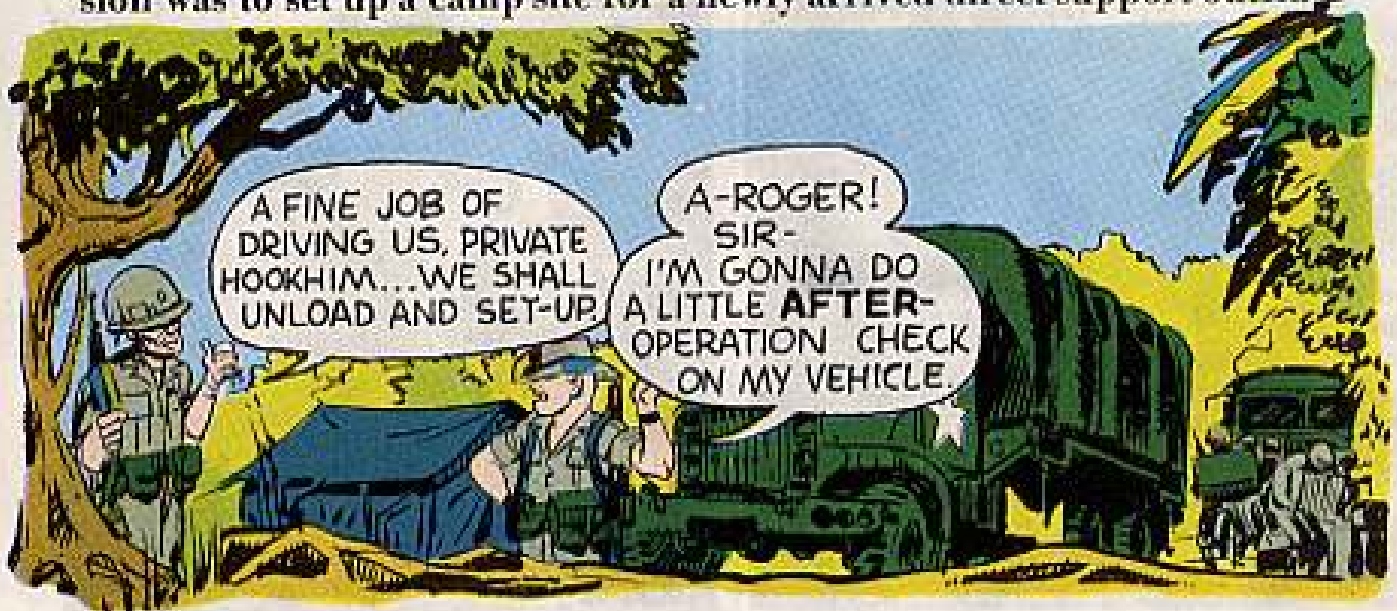
# JOE'S DOPE

DOING WHAT  
YOU'RE  
SUPPOSED  
TO DO

GREETINGS  
COMRADE HO...THE  
FOLLOWING IS A REPORT  
CONCERNING THE CAPTURE  
OF PRIVATE  
HOBART J. HOOKHIM,  
NOW OUR PRISONER...



On Monday, Hobart J. Hookhim was assigned to drive a unit of government soldiers to the hamlet of DINGH DOHNG. . . . Their mission was to set up a camp site for a newly arrived direct support outfit.



A FINE JOB OF  
DRIVING US, PRIVATE  
HOOKHIM...WE SHALL  
UNLOAD AND SET-UP

A-ROGER!  
SIR-  
I'M GONNA DO  
A LITTLE AFTER-  
OPERATION CHECK  
ON MY VEHICLE.



HOLD ON, HOT-SHOT HOOKHIM! WE'RE ONLY DRIVERS... **NOT TRAINED MECHANICS.** AND, WE DON'T HAVE TH' TOOLS AND PARTS TO MAKE REPAIRS.







# Dope Sheet

## KEEP THE SYSTEM WORKING WHEREVER YOU ARE



### DEPOT

#### MAINTENANCE

Work done in rear areas and at fixed store-side installations. Rebuilds, repairs, assemblies; major overhaul.



### GENERAL SUPPORT

#### MAINTENANCE

Handles jobs which cannot be done by Direct Support.



### DIRECT SUPPORT

#### MAINTENANCE

Supplies all parts and technical guidance. Does work per -30 TM, uses parts -30P TM authorizes.

### Company Mechanic and Battalion Mechanic



#### ORGANIZATIONAL MECHANIC

Uses -20 TM and the maintenance allocation chart (MAC) authorized tools controls job he can do — uses only parts from -20P TM. Battalion mechanics have more tools.

### ORGANIZATIONAL MAINTENANCE

#### OPERATOR

Maintenance starts here. Prevention is his job — He checks, adjusts, deems, operates, reports faults on DA 2404. Uses -10 TM.



The Goal is "Keep Ready To Fight."

Your part is to do **your** Job Right.

The system will perk If y'stick with **your** work.

Good team-play delivers the Might!

# 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.



OK... WOT'S NEXT?  
MAH-ROAN... THEM RADIOS  
LOOK MIGHTY SICK TO ME.  
LEMME AT 'EM! I'LL SHOW  
YOU SOME INSTANT RE-  
MODELING...IMPROVES  
RF OUTPUT UMPTEEN  
PERCENT  
AT LEAST!

@#\*!!  
OH VICTOR  
CHARLIE!  
WHERE IS  
THY  
STING!



WILL VA LISTEN, HOOKHIM... YOU  
ARE DOING A **DIRECT SUPPORT JOB!**  
AS THE **MAC** SHOWS...WHEN IT FALLS  
IN THE -30 TM AREA OF  
RESPONSIBILITY... STOP!  
HOOKHIM, **STOP...**



HOOKHIM! YOU....  
HAVE RUSHED IN WHERE  
EVEN DEPOT MAINTENANCE  
FEARS TO TREAD...WITHOUT  
SPECIAL TRAINING, PARTS  
'N' TOOLS!! DID YOU  
EVER READ AR 750-5  
WHICH GIVES Y' THE  
DEAL ON CATEGORIES  
OF MAINTENANCE?

CAN IT!  
YR' DISTURBIN'  
MY TRAIN O'  
THOUGHT.



**NOW!** TO  
CHECK OUT THE  
PERIMETER  
DEFENSES.  
LET ME SHOW  
YOU GUYS HOW  
TO...

CAP IT,  
HOOKHIM!  
VICTOR CHARLIE'S  
DELIVERIN'  
INCOMING MAIL!  
**HIT IT!!**

WHRRR RRRR

HOOKHIM, IN YOUR DUMB-GASSED WAY Y' THINK YOU'RE DOIN' THE ARMY A FAVOR... BUT YOU'RE JUST FOULIN' UP THE WORKS... THE MAINTENANCE SYSTEM DIVVIES THE WORK-LOAD INTO FOUR LEVELS- EACH OF WHICH HAS **SKILLS, TOOLS AND PARTS** IN ACCORDANCE WITH THE KIND OF WORK ASSIGNED TO IT!



IN AN OPERATION THE SIZE OF THE ARMY, EVERYONE'S GOTTA STICK TO HIS SPECIALTY AND DO IT WELL... OTHERWISE YOU'LL HAVE SOMETHING LIKE A FIRE DRILL IN THE BRONX ZOO...

UH, OH, LOOKS LIKE WE GOT TROUBLE.



YOU'RE RIGHT... THE RADIO YOU FIDDLED WITH IS NO-GO, THE GENERATOR YOU "FIXED" IS KAPUT... AND IF YOU CAN GET YOUR TRUCK ROLLING I SUGGEST WE GET OUT BEFORE WE ALL BUY IT!!



**ULP... OK YOU GUYS!!** TEAR GAS BACK TO BASE CAMP... I'LL HOLD 'EM AS LONG AS I CAN... GET A HUEY TO DO THE AIR EVAC BIT FOR ME.





NATURALLY, COMRADE, WE QUICKLY OVERRAN THEIR DEFENSES... UNFORTUNATELY, WE WERE ONLY ABLE TO CAPTURE THIS ONE PRISONER WHO CLAIMS HE IS A MASTER MECHANIC, REPAIR GENIUS AND JACK-OF-ALL-TRADES....



HEY, CHARLIE, DIG THIS CRAZY MODIFICATION I'M PULLIN' ON YOUR "ZAP" GUN.. BY A SIMPLE REVISION I'M STEPPING UP YOUR ROUNDS-PER-MINUTE, NOT COUNTING BLOWBACK AND...



AHA, AN OLD FRENCH LAND MINE... EH?? NOW, LET ME SHOW YOU HOW A LITTLE REDESIGN AND MODIFICATION WILL...

HMMM, A VERY ACCURATE REPORT, COMRADE.

ONLY ONE THING TO DO WITH HIM.



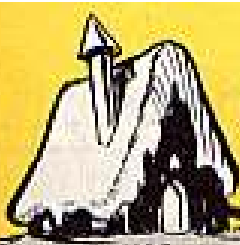
**SEND HIM BACK TO HIS OWN OUTFIT!!**

... A MAN LIKE HIM WILL DO MORE DAMAGE TO THEIR SIDE THAN A HUNDRED OF OUR TERRORIST-SABOTEUR LIBERATORS.

DIABOLICALLY CLEVER, CHAIRMAN MINGH!!

THIS... COULD BE FOR REAL!!!

THE END.



## A CRANK IS FOR CRANKING

Anybody who'd lift a telephone set by the generator crank handle probably gets mighty wet in a rainstorm.


Consider the consequences of that foul deed: The handle breaks. It can't be replaced. The telephone gets dead-lined. And so on.

It doesn't have to happen. There're plenty of better ways to lift sets such as the TA-43 and TA-312. Like, by the carrying strap, f'rinstance.

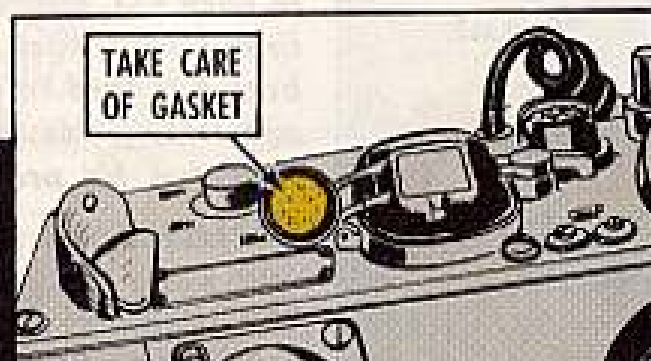
So, next time you see a Joe reach for the crank handle to lift the telephone, tell him about a coupla' better ways. It's to your interest, especially if the set being lifted is the one that might have to be used to call you or your buddy.

'Nother thing, since you're in out of the rain: When you're cranking the handle, four or five turns is enough to operate the set. Anything over that usually is wasted effort . . . and makes for unnecessary wear and tear.

A final caution: The rubber gasket on the audio cap of the TA-43 and TA-312 can't be replaced via the supply system, so take care of it.



THAT, JOE,  
IS MY PHONE.  
GO EASY!!





# WHEN THE MUSIC STOPS, LOOK...



Yep! A sidetone's mighty pretty music to your ear when you're listenin' to the receiver of your TA-43/PT or TA-312/PT telephone set for sound.

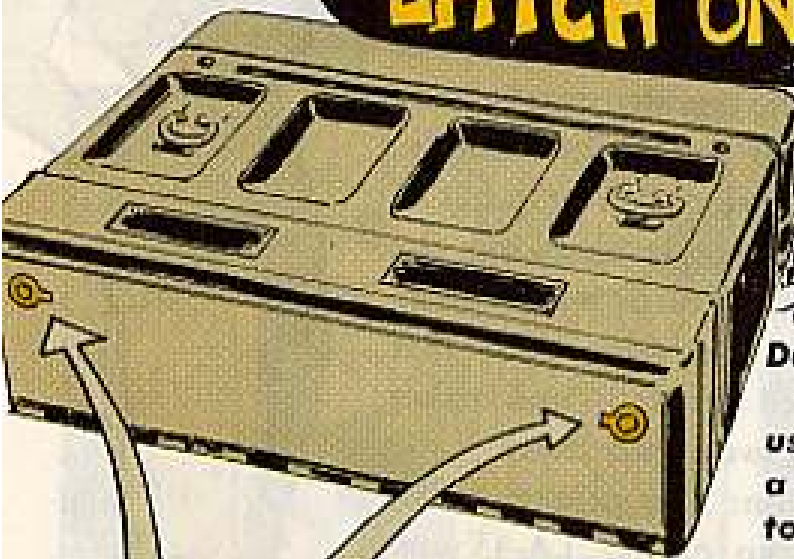
When your set's dead silent, though, hold one before you ship it off for repair. It might just be asleep.

Take a look at the CIRCUIT SELEC-TOR SWITCH. If it's aimed at CB

(common battery), you won't hear a sidetone. You get no sound until the switchboard operator or party at the other end plugs you in.

The only time you'll hear a sidetone is when the switch is in the LB (local battery) or CBS (common battery sig-nal) position.

## LATCH ON TO THIS!



Dear Half-Mast,

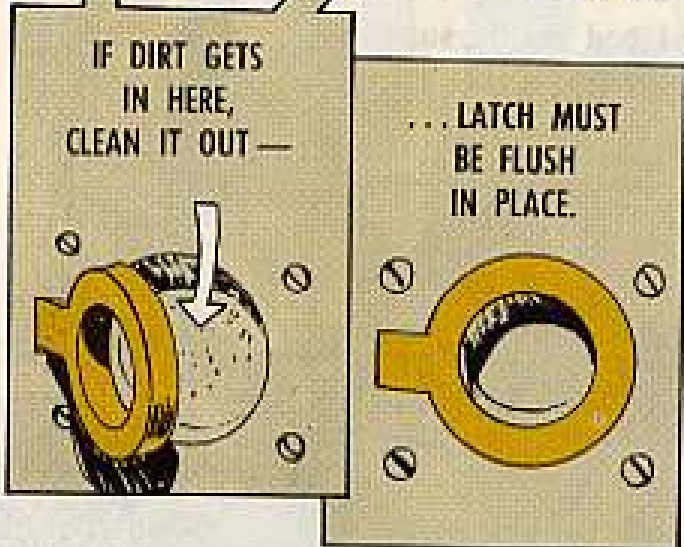
I wish you'd tell your readers who use the SB-22/PT Switchboard to take a second after closing the rear cover to make sure the recessed latches are recessed.

Lots of times dirt will get in the recess slot, or the rear cover won't close all the way, causing the latches to stick out. First chance they get they break off — such as when the switch-board is laid in a truck or snags on something. Result — all kinds of sweat that can be prevented with a little care.

SFC E. P.

Dear Sergeant E. P.,  
Wilco and out.

*Half-Mast*



# RIBBON FOR YOUR WIRE



Dear Editor,

No more tying white ribbons to WD-1 field wire for us. To keep helicopters from coming down on it, tearing it up or getting tangled in it, we use this trick:

A 12-in piece of white textile tape (FSN 8315-958-0744) is tied to a snap hook (FSN 5340-526-3665). The hook and tape are put onto the field wire.

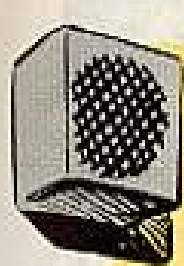
The tape's a GSA catalog (Dec 64) item, and the hook's listed in FSC catalog C5340-IL-A (Vol. 3, Nov 65) page 712.

The beauty of this fix is when we recover the wire, the hooks drop to the ground and can be recovered in nothing flat.

The old way of tying on the tape kept us climbing trees to untangle the tape from branches, or it broke the wire.

MSgt Lester Giles  
Fort Hood, Texas

(Ed Note — That should wrap it up.)



NO PANIC BUTTON



Hold one with that panic button! Sure, SB 11-466 (Issue Parts List) has been rescinded, but it's due back quick-like where it'll do the most good. Namely, as an additional section of SB 11-131, Vehicular Radio Sets and Authorized Installations.

## KEEPS RUST ON THE RUN

Dear Editor,

We were plagued with rust, due to condensation, on the metal parts inside our AB-15/GR antenna base. That is, until we started putting a light coat of electrical insulating compound on 'em before assembling the base.

As long as the gaskets for the vehicle-mounted antenna base are on right and tight and the insulator bowl's crack-free, moisture's one enemy we lick with no sweat.

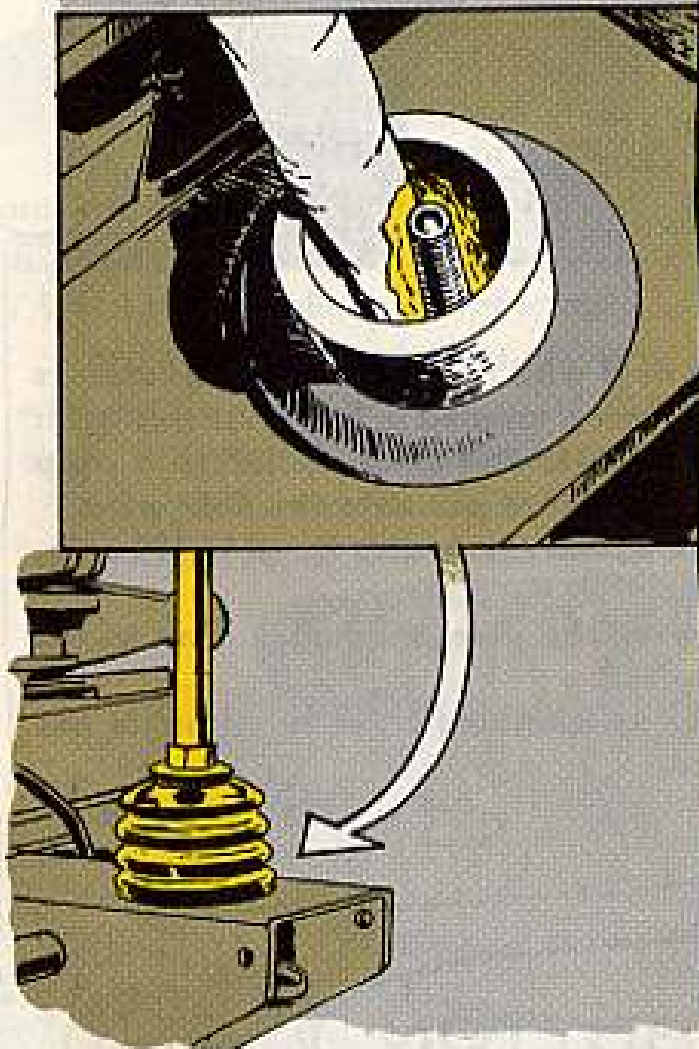
That tube of stuff's good for the gaskets, too. It keeps 'em from drying out, hardening and cracking all to pieces.

We put it on every two weeks during routine operation and twice a week during steady use.

Just a little finger-feeling amount's all that's needed. Gobbing it on will gum up the works.

You can get a 2-oz tube, FSN 5970-224-5277 or 8-oz tube, FSN 5970-224-5276 as described on Page 4.3 in C5970-IL-A (Aug 65) DoD catalog.

Sgt Jack I. Dodd  
Fort Knox, Ky



(Ed Note—Good deal!)

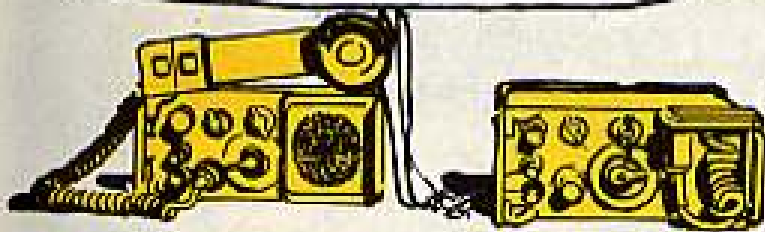
## PITTER, PATTER—SIZZLE, SILENCE

Your vehicle-mounted radio sets are just about waterproof under normal conditions—with the exception of the squawk-box. Water can short it, corrode it, or just plain mess it up.

Best favor you can do for your speaker is to keep it sheltered from water. Never leave it lying around face up—that let's rain funnel in.



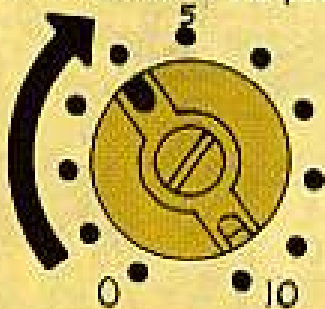
## TRY THIS POSITION



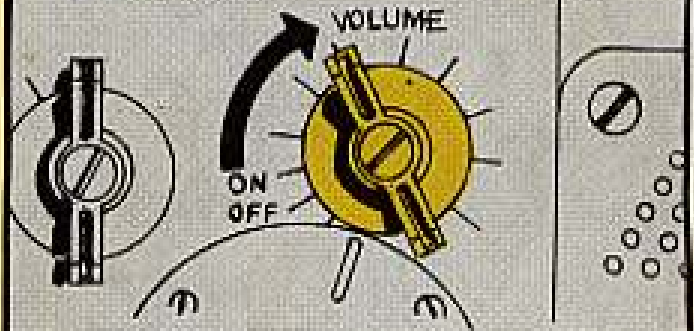
It's the position that counts . . . when you're remoting an AN/PRC-25 series radio set with the AN/GRA-39 radio set control group.

Like so: Sometimes, after you hook up the radio and the control group, you get a butterfly effect as you turn up the volume on the GRA-39. Maybe, too, you'll key the radio transmitter because of the volume—which can be a pain.

Next time it happens, or before it happens, connect the control group and radio set and then turn the VOLUME switch of the PRC-25 to the No. 4 dot position.



After that, turn the volume up on the C-2328 of the GRA-39.



You get big odds that there'll be no butterflies or accidental keying.

## PUT THE GLUE TO IT

Been wonderin' what to do about that loose rubber gasket on the CW-109 panel cover for your AN/VRC-34 radio set?

Stop. Get yourself some adhesive, FSN 8040-221-3807, from GSA. That number gets you a 2-oz tube for 35 cents.

It puts the "moisture-proof" back in your radio's vocabulary.



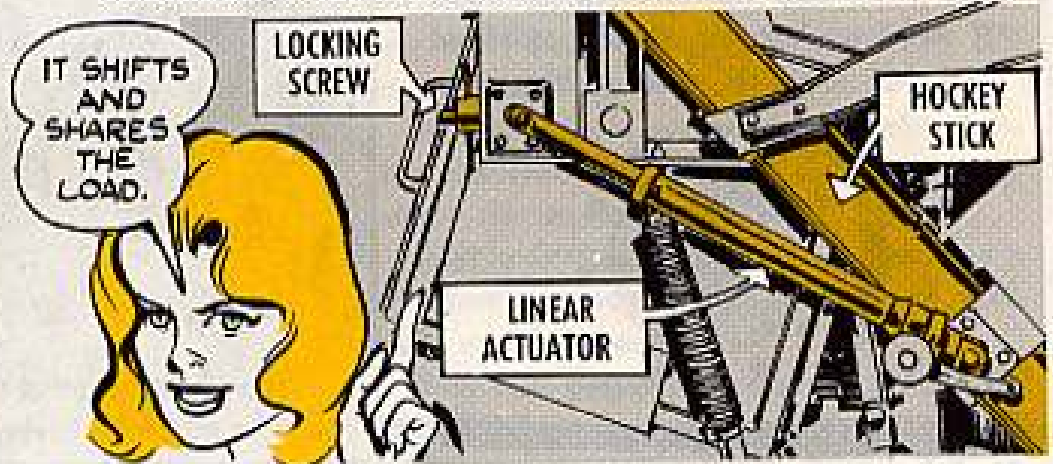
# TREAT YOUR RADAR ROYALLY



Winged out like a monarch butterfly, your AN/MPQ-4A radar set is ready to go to work. Unlike the monarch, the set's beauty is in the job it'll do for you.

Of course, the mortar detector's "wings" need care. When you're putting up the antenna, leaving the holding job to the linear actuator, you can wind up with a broken wing . . . or two.

That's why you want to make sure the locking screw is secured to the reflector base after the reflector is raised.



Otherwise, with only the linear actuator keeping the reflector up, a gust of wind and the poundage on the hockey stick'll break the "stick" near the hand crank.

Remember . . .

Be doubly safe by pairing the locking screw with the linear actuator to hold up the reflector like it says in paragraph 44 D, TM 11-5840-208-10 (Jun 60).

Then there's the problem of wings in motion.

Make sure you bring the OA-1258/MPQ-4A antenna group to a complete stop before heading it in the opposite direction. Failing to do so can wring her neck . . . that is, break the driving shaft for the pulling gear.

Same's true if you jam in the azimuth stowlock while the antenna's still moving.

And, when the azimuth stowlock is engaged, don't turn the azimuth handwheel. A little pressure at the handwheel with the stowlock engaged can cause permanent damage.



## RESET HIGH-LOW ALARM



Are you looking high and low for the cause of a burned-out resistor in that AN/TCC-7 telephone terminal?

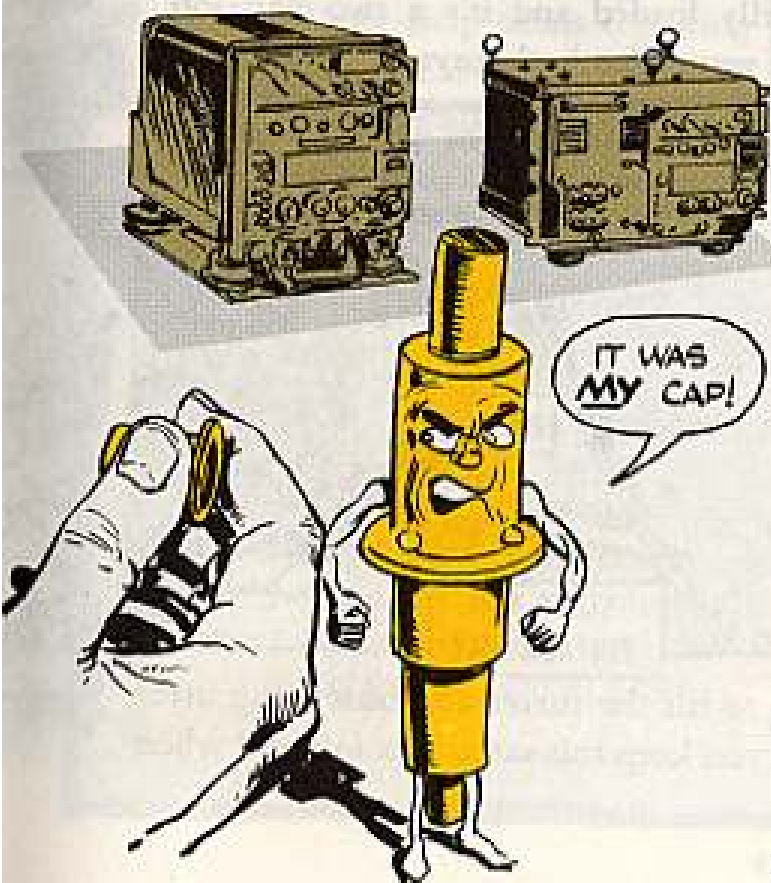
Take a peak at the ADJ HIGH and ADJ LOW alarms in the AM-707/TCC-7 amplifier-pilot regulator.

Sure, you did right by turning both alarm screwdriver controls to the left as far as they'd go. But, did you remember to reset 'em like it says in TM 11-2139-10 (Mar 58)?

Keepin' those controls all tensed up in a counterclockwise position'll build up to a slow burn. And, there goes the R-25 resistor in the alarm circuit.

So, tie a string around your screwdriver as a reminder. After you've turned back the alarms, reset 'em in the group panel, starting with ADJ HIGH.

## HOLD ONTO YOUR CAP



Next time you're gettin' ready to toss a used-up V105 tube (type 6442) from your RT-323, AN/VRC-24 radio set, or RT-441, AN/TRC-68 . . . hold onto your filament cap!

Quite a few Joes don't read the fine print in the note of para 17e, page 33, TM 11-5820-222-20, which tells you to hold onto the filament cap when you replace the V105.

Replacement tubes don't have a cap . . . which means you use the old one or forget about using your radio set until you can scrounge one. That can be rough, all around.



**M5 SUBSYSTEM:  
HUEY WITH  
A SNOOTFUL**

A beetle-nosed bloke, this M5-roving UH-1B Huey, but a real bosom buddy to the troops down below when a dose of heavy suppressive fire's needed in a hurry.

You guys backstage are the life of the grenade-tossing party, though, so keep the launcher and all its parts shipshape for action. Here're some of the key points to doublecheck before Huey lifts off on that next mission:

**TURRET** — Look for dents and bulges in the body; disconnect pins that're not fully engaged; busted, frayed or loose retaining wires.

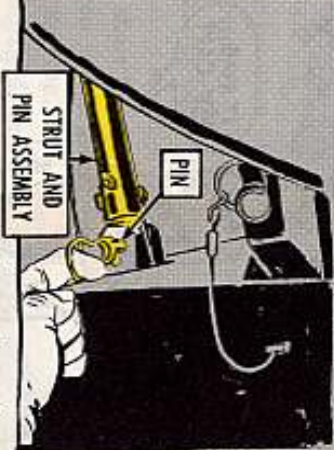


The turret weighs about 100 lbs fully loaded and it's a two-man job getting it on right and safely. The best way is for both guys to . . .

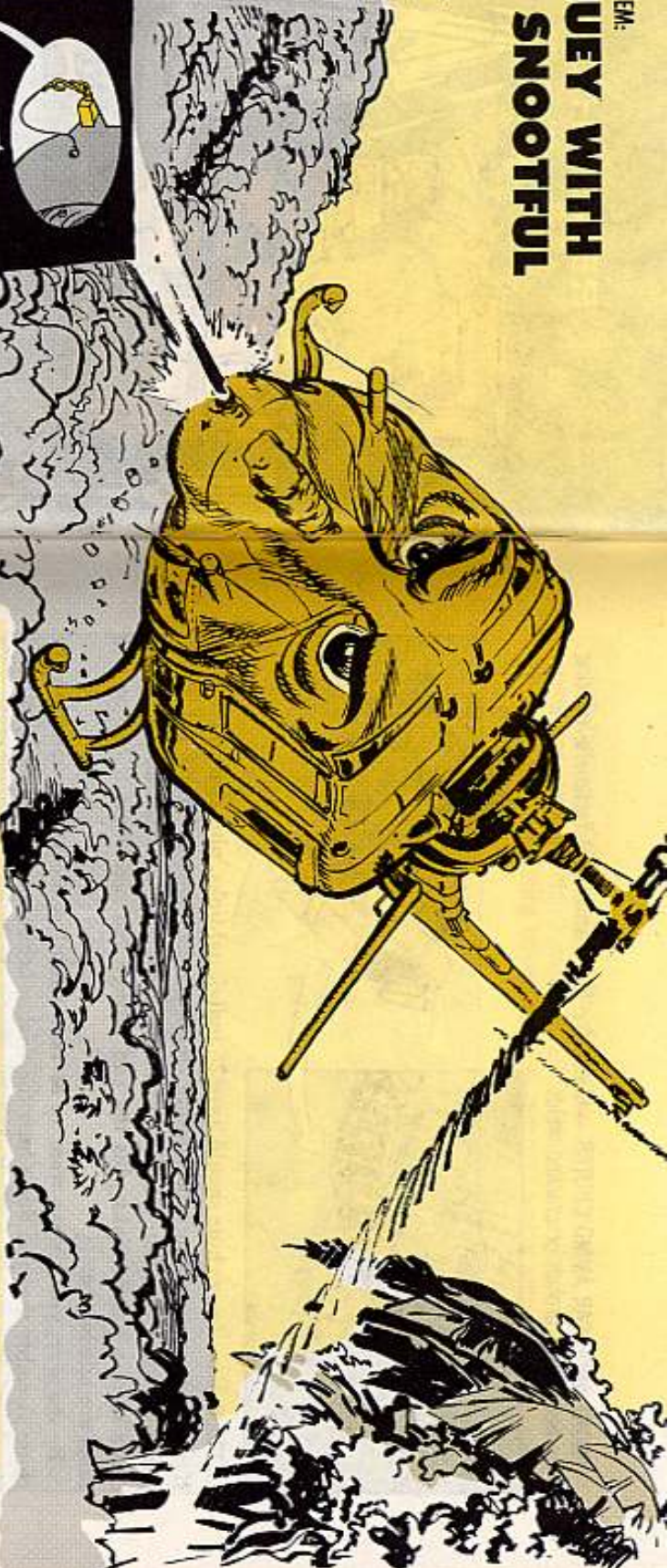


lift it up and push straight forward and then hold it level till both side mounting lugs are pinned to the chopper's hard points.

Next, lower it gently and follow through on attaching the strut and pin assembly.

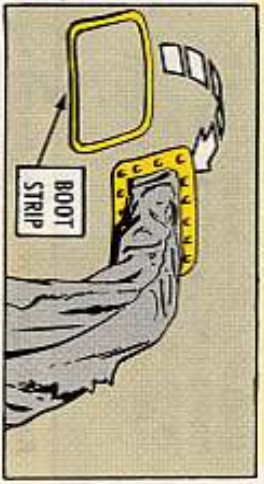


If you don't hold it level you're liable to tilt the turret and bust a lug after one side-mounting pin's inserted. Course, you keep this same idea in mind when you take the turret off.



**BOOT ASSEMBLY** — Look for cuts, rips and tears in the boot; buttons that are open; a loose or ripped rubber gasket (boot strip); adhesive that's "shot".

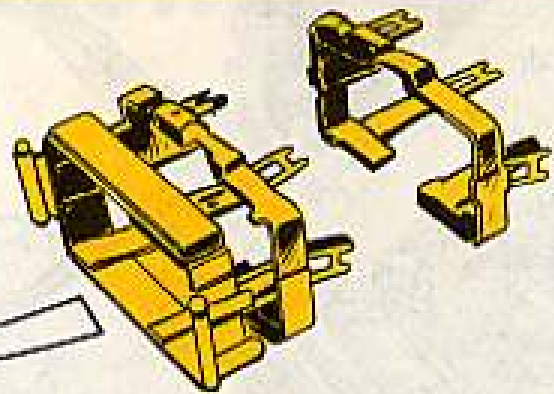
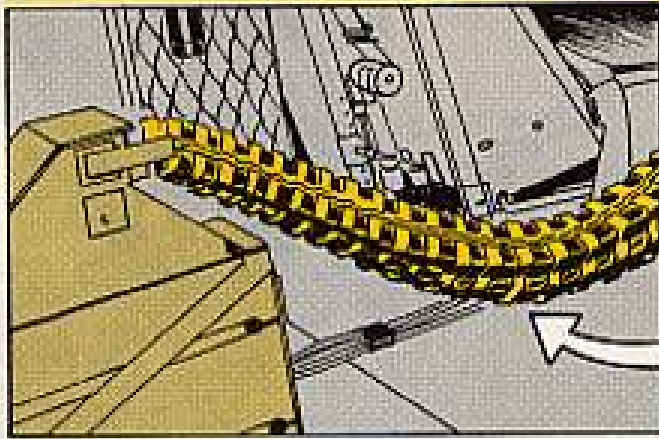
This boot protects the front chuting and the turret power cable and has to be sealed tight, so use your best eyeball on it. If the boot strip needs replacing or cementing, use FSN 1010-756-3640 for the strip or FSN 8040-721-9091 for the cement.



**TURRET CONTROL PANEL** — Look for dents in the panel and see that those Dzus fasteners hold it tight; cracked or broken toggle switch guard, won't hold in closed position; burned out OPERATE bulb (try it by flipping the main power switch); burned out illuminating lamps; wrong total on rounds-remaining counter (it should equal the number of rounds your chopper's carrying).



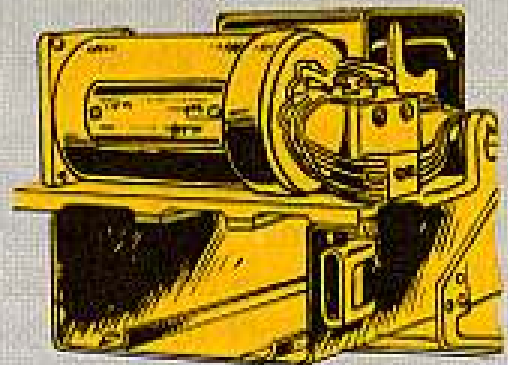
**FRONT AND REAR AMMO CHUTES** — Check for loose disconnect fasteners; missing or bent links; broken or cracked welds.



The flexible front chute should have 26 individual links, plus two end fittings. If any links are missing, the chuting could get damaged or you'd get ammo jamming when the chute flexes. This is real important to check out. The rear chute section has 82 links plus the end fittings. No real sweat if one or two links are missing here.

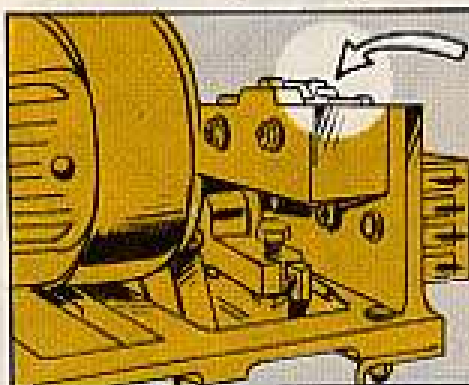
By the way, you always want to be real careful while you're handling the chute assembly that you don't hurt the wiring behind the instrument panel.

**AMMO BOOSTER** — Beware of loose or missing mounting bolts and see that the booster's seated right; check for broken, cracked or worn sprocket teeth.



Keep a sharp eye on the booster's sensor device (the feed control switch) to see that it's adjusted right. Otherwise you might get an ammo jam-up. Para 3-25 of TM 9-1010-207-12 (Jan 65) has the scoop on this.

You should also make sure the electrical connector's plugged into the rear of the booster when the booster's installed. After it's plugged in, you screw the knob hand tight only.



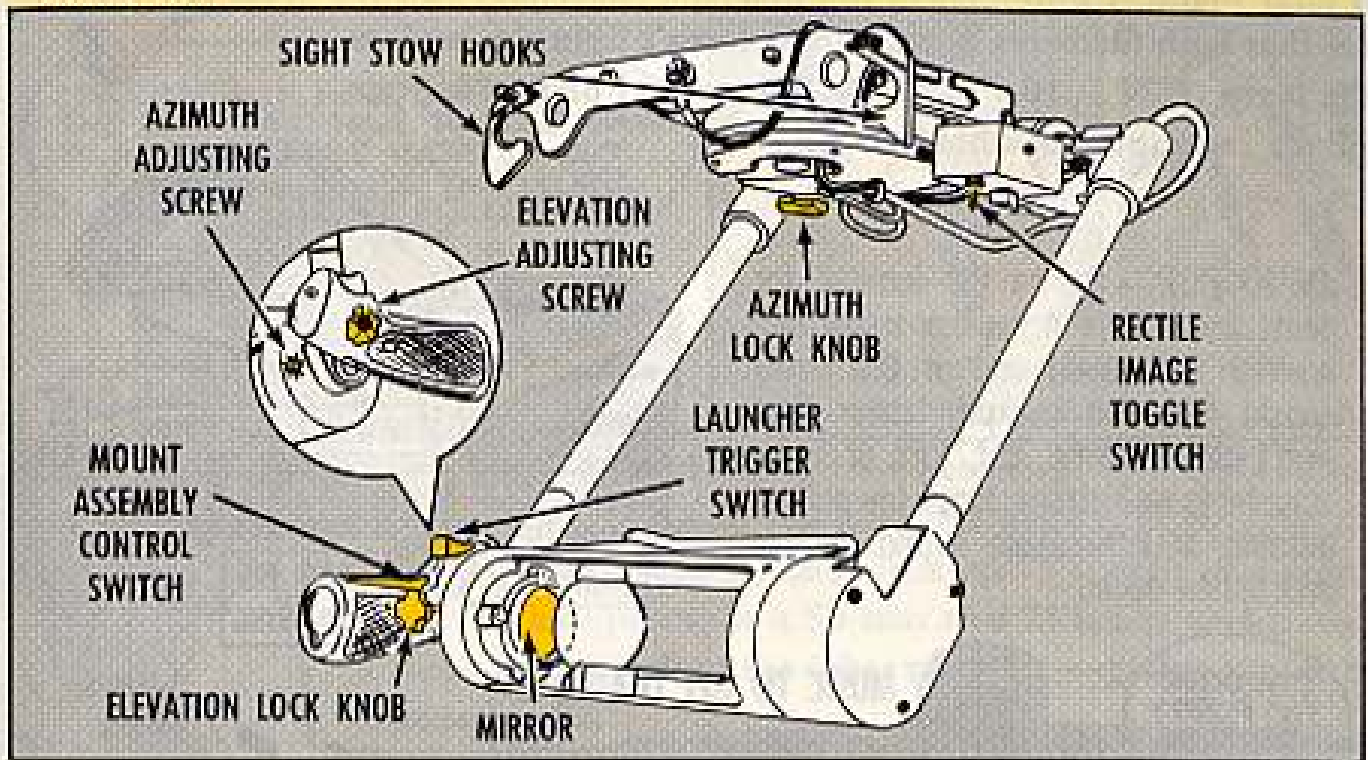
**FEED  
CONTROL  
SWITCH  
MUST BE  
ADJUSTED  
RIGHT**

**NEVER USE  
ANY WRENCHES OR PLIERS  
ON THIS OR ANY  
ELECTRICAL CONNECTORS!**





**HAND CONTROL SIGHT ASSEMBLY** — Check for dirty, scratched, cracked or broken mirror and glass reflector; burned out reticle lamp; bent or loose bracket retaining pin; other loose or missing screws; loose or over-tight control azimuth and elevation lock knobs.



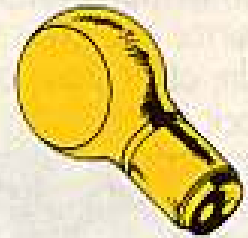
You want to be real careful also how you install the sight assembly in the bracket. The best way's to hold it steady and slide it in straight to the left. If you don't do it this way, odds are you'll get some binding and might even break the ways.

This sight assembly is peculiar to the M5 subsystem—you won't find it on any of the other systems. It's peculiar in another way, too.

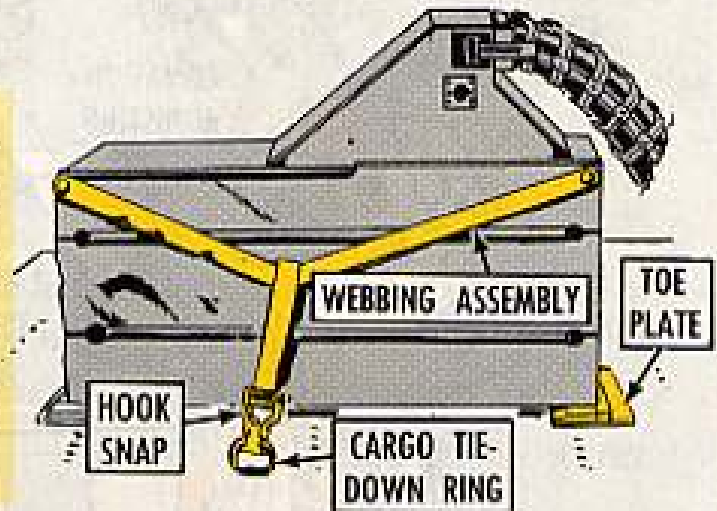


You have to use lens cleaning tissue (FSN 6540-162-2993) and nothing else on the glass . . . not even a clean cloth. To get off the dust, use your artist's brush (FSN 8020-244-0153) before you use the tissue. If you don't, you just might get some grit under the tissue and scratch the glass. And, like on all sights, guard against getting fingerprints on the glass. Like that man keeps saying, fingerprints etch glass.

And don't forget to doublecheck the reticle lamp real close. It should be burning when you turn the switch and you should see it in the viewing plate. This reticle lamp has a dual filament bulb. Move the filament selector switch to see that both filaments burn. If one doesn't light up, replace the lamp (FSN 1010-756-5230). The second filament's your pilot's insurance on a hot mission.



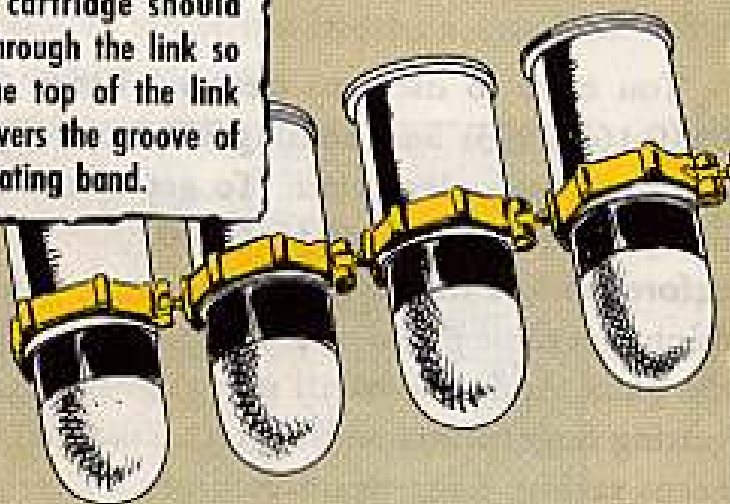
**AMMO BOX** — Be on the lookout for dents and bulges in the box and wrong position (the open end of the cover should face the cockpit); cover that won't close; frayed, cut, torn or loose adjustable web straps; loose toe plates; missing or unreadable ammo loading instruction decal.



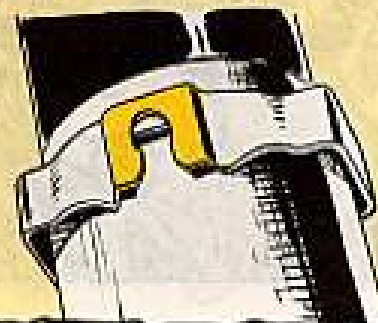
MUSIC TO GET LOADED BY

Few things are more important in your neck of the woods than loading your launcher exactly right. Unless the links are put on the rounds just where they belong and face the right way, for instance, you could set up a jam session come shooting time. Para 2-10 of your TM spells it out loud and clear, but here're a few points worth emphasizing:

The cartridge should pass through the link so that the top of the link just covers the groove of the rotating band.

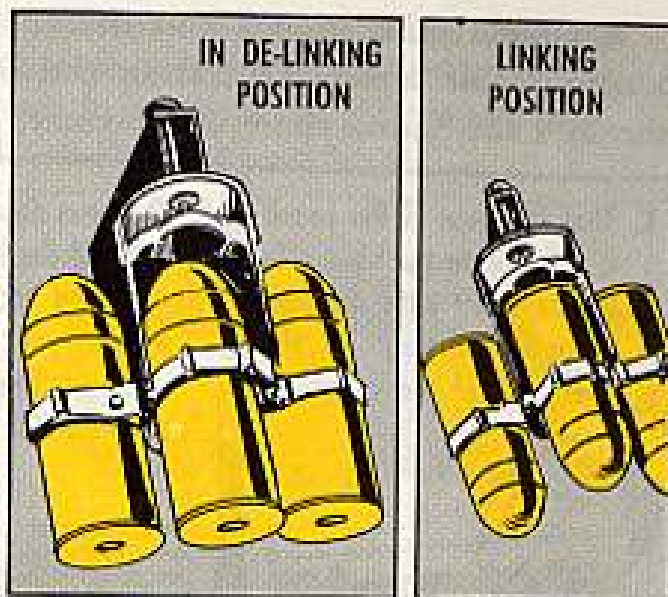


And the open end of the link should always face the rear of the cartridge. Eyecheck each cartridge for these things while you're loading. If you find any that don't shape up, you'll have to de-link it and line it up right.



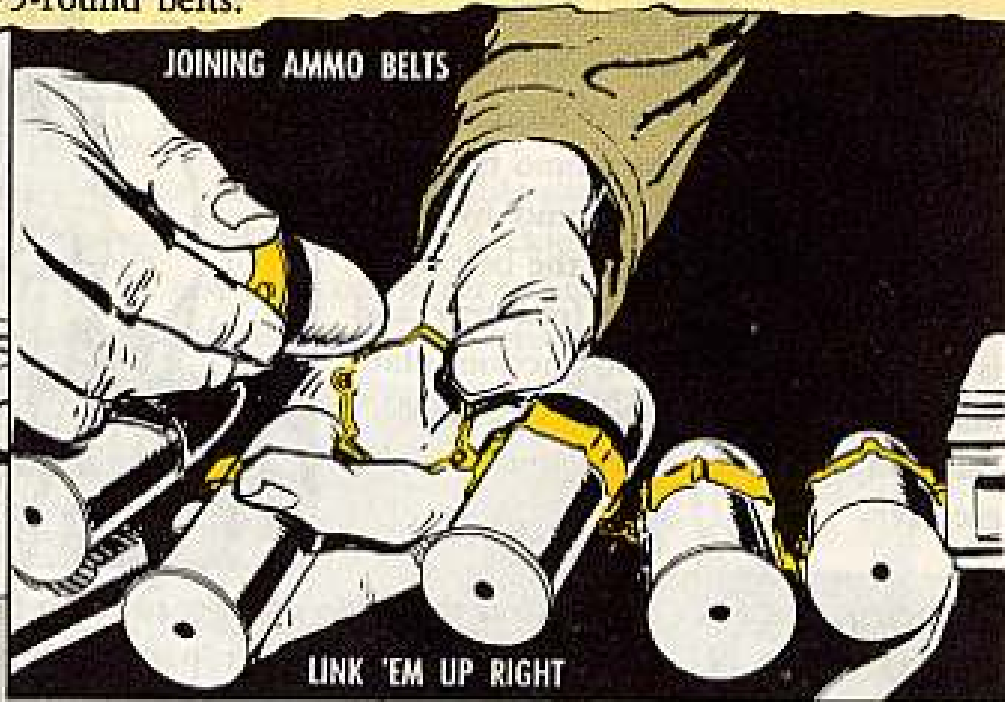
Natch, for de-linking you face the nose end of the round on the tool and for linking the primer end faces the tool — like in Fig 2-19 of your TM.

INCIDENTALLY, HERE'S A TRICK THE GUYS WHO HAVE TO LOAD AMMO IN A HURRY HAVE WORKED OUT. IF YOUR CO GIVES THE WORD, YOU MIGHT FOLLOW SUIT.



Here's how it works: The ammo comes in 50-round linked-units and for a full load you use three units at a time, right? So, OK. To save loading time, link up 75 rounds at a time, ahead of time. Just split a 50 into two 25's, and attach one of these 25's to each of the other two 50's — giving you two 75-round belts.

#### JOINING AMMO BELTS

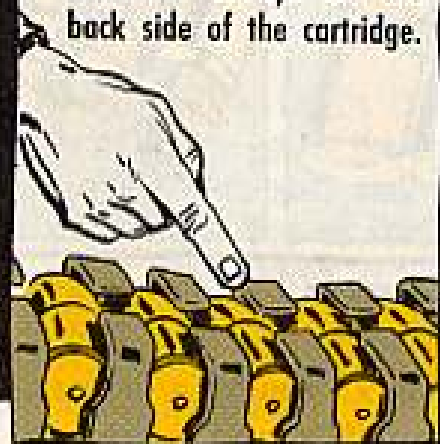


Then, when you install the ammo, the second 75-round unit will more than fill the ammo box and leave the end out in the open where you can get at it easy to attach it to the first 75-round belt which is already in the chute. You want to watch it, though, that you link up the two belts right.

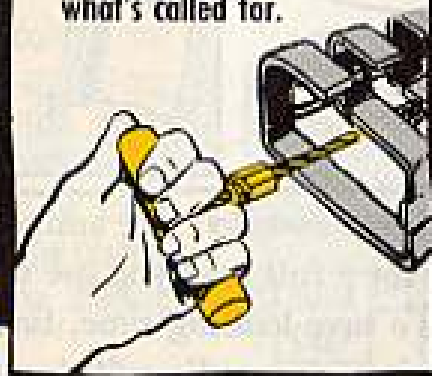
When you're laying the ammo in the ammo box, start with the first round in the forward end of the box so that the nose of the round is pointing to the right side of the chopper. Then carefully lay the belt tightly back and forth till the box is full (about six layers).

A couple other things you should watch real close: When you attach the loading cable hook to the front end of the second belt and pull it forward through the ammo chute and booster, make sure of three things:

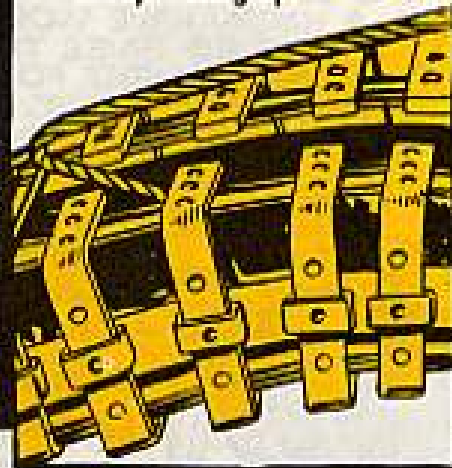
1. That the nose of the round is pointing to the right side of the Huey with the link connector always on the back side of the cartridge.



2. That you don't yank on the cable. If the belt gets stuck, stop and look and adjust before you start pulling again. A firm steady pull is what's called for.



3. That the open part of the forward (flexible) chute is always facing up.



You want to be careful, too, when you use the loading switch. Sometimes the leading round will turn and bind. If this happens, take your finger off the switch and line up the ammo by hand. Keep on pushing the ammo by hand till the first round passes the belt holding pawl on top of the feed tray and is in line with the instruction plate marked "FIRST ROUND POSITION." But don't push the first round into the receiver.



ROUNDS  
REMAINING

150



After that, don't forget to re-set the rounds-remaining counter on the turret panel control to 150—if you haven't already done so.

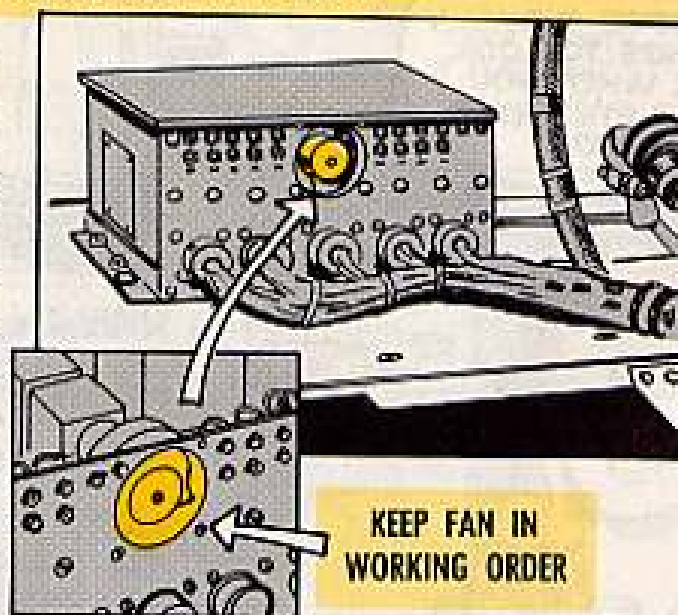


INCIDENTALLY,  
THE M384 (HE)  
AND M385 (PRACTICE)  
ROUNDS ARE THE ONLY  
AMMO MADE FOR THE  
M75 GRENADE LAUNCHER.  
SO, DON'T TRY ANY OTHER  
KIND, HUH?



**SERVO-AMPLIFIER JUNCTION BOX** — Check for dents in the box; loose mounting slide fasteners and top cover stud fasteners; weak springs; dirt and dust inside the box; loose retaining bar (make sure it's in place to hold both amplifiers snug); loose electrical connectors; clogged cooling vent; fan that won't work.

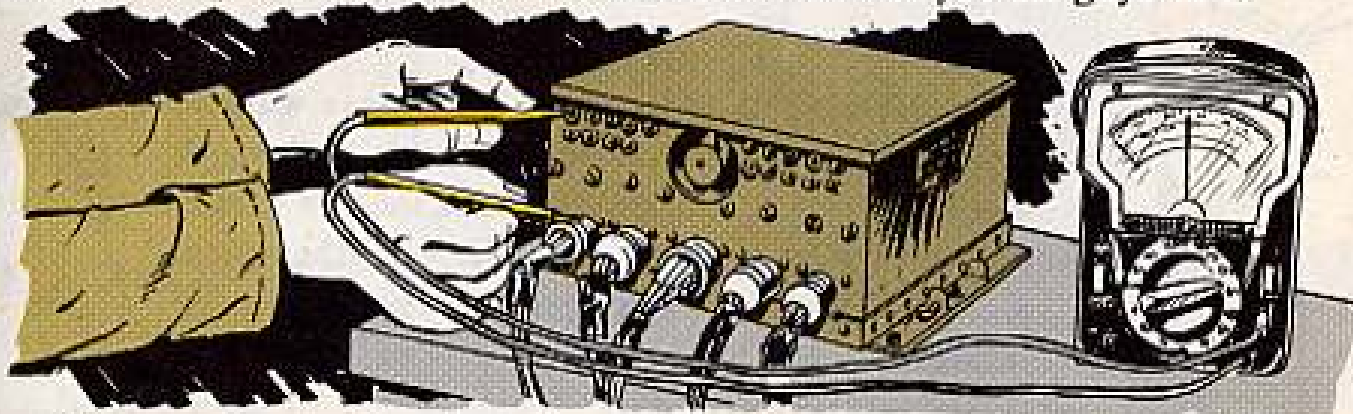
It's real important that this electrical stuff be held snug. Vibration in flight can put it out of business. Check real close for dents in the box. Any dent at all could damage the delicate equipment inside the box. Incidentally, the five electrical connectors need a  $\frac{1}{4}$ -turn to be secure. And the fan has to be in working order to keep the electronic stuff from getting too hot to do a day's work.



## ELECTRICAL TESTING

It takes yards of wiring and lots of delicate electrical parts to make up a push-button weapon like the M5 launcher subsystem. Naturally, this requires pinpoint testing and heads-up handling.

Your TM covers the electrical component trouble-shooting checks pretty thoroughly in Table 3-6. When you and your buddy tackle the job, though, be sure you do all the steps on all 18 test jacks on the servo-amplifier junction box. The one you skip could be fatal to the mission . . . and maybe the guys on it.

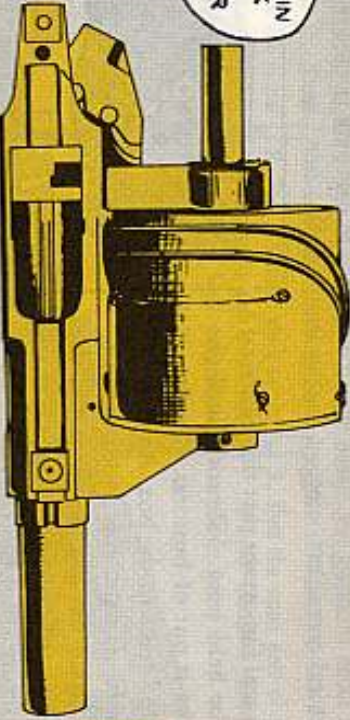


When you're making the voltmeter readings, if the readings are not right on money, don't be in a rush to replace the part. First check the "normal meter reading" column in the table. Chances are it calls for an "approximate" reading or allows a  $\pm$  leeway in the voltage readings.

While you're going through this testing bit, it's a good idea to remind yourself and your buddy once in a while to take it real easy on the connector pins and cables. If you're not careful, you could cause more damage than you'd normally uncover in a month of testings.

# M75 GRENADE LAUNCHER

HERE'RE THE MAIN THINGS TO LOOK FOR WHEN YOU FIELD STRIP YOUR WEAPON.



Guys who use the M5 subsystem in Viet Nam will tell you how important it is to toe the line on maintenance schedules—like after every 150 rounds and after 600 rounds or the end of the day's firing. Huey's rotor really blows up a storm and seems like most of the dirt and stuff manages to get on the launcher.

Don't miss out on that inspection and light lubing and cleaning bit on the launcher and its mounted parts after every payload's been delivered. Especially don't skip lubing the launcher barrel guide ribs. Pappy pilot might run into a gun stoppage if you goof on this.

## HELP FOR THE ASKING

You MOS 427's and crew chiefs always want to keep in mind that if you run into any real tough maintenance or supply problems on the M5 or any other subsystem—no matter where in the world you are—you can always get an expert's help by contacting your headquarters. All of these subsystems rate top priority.

**CAM AND COVER ASSEMBLY**—Cracked cover; missing or unreadable instruction plate; cam tracks worn so much that roller slips off 'em.

**RECEIVER ASSEMBLY**— Broken, cracked, bent or badly worn parts; weak or bent springs; broken or rusty firing pin; chipped or scratched sliding blocks; badly worn cartridge positioner; broken or cracked barrel lock; worn locking lip.

**BARREL**— Worn or cracked bore and guide; deformed lock recess; oversize mounting hole for roller shaft; cracks, burrs, or badly worn parts on roller and shaft.

**FEED ARM ASSEMBLY**— Burred, worn or busted parts; bent or weak plunger spring.

**HAMMER ASSEMBLY**— Cracked or worn hammer; broken bent or weak springs; worn, cracked or broken sear and sear release.

**DRIVE SPINDLE ASSEMBLY**— Broken or cracked spindle; bearing not attached tight to spindle.



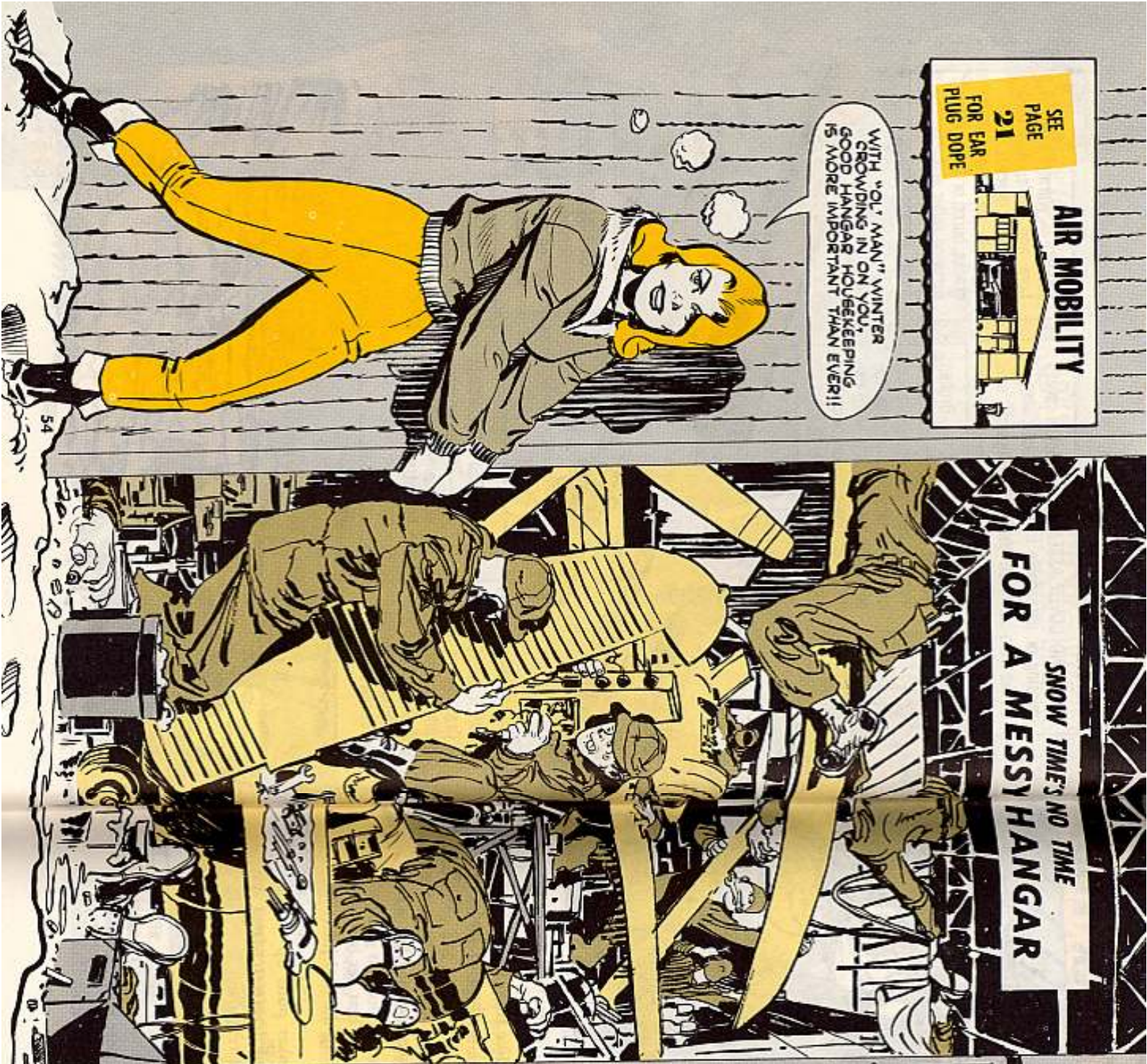
SEE  
PAGE  
21  
FOR EAR  
PLUG DOPE



## AIR MOBILITY

WITH "OL' MAN" WINTER  
CROWDING IN ON YOU,  
GOOD HANGAR HOUSEKEEPING  
IS MORE IMPORTANT THAN EVER!!

## SNOW TIME'S NO TIME FOR A MESSY HANGAR



The chill winds and snow have brought those big sliding doors closed with a boom—and there's real togetherness! With less operatin' space, it's more important than ever to see to it that hangar work areas are clean and safe.

Order breeds order. Cleanliness and safety go hand-in-hand.

Sure it's true that the hangar's a hard place to keep clean. Tired birds naturally shed a few oily tears, and they get dirty, too.

But the alert mechanic knows where to set those drip pans to catch the oil drips, leaks and seepings. He knows too, to wipe up any oil the drip pans miss as soon as he spots it.

Leave oil or grease on the hangar floor and it's a safe bet that either someone will slip and break his neck, or track it all over the place.

It's a good idea to keep floors as clear as possible. Cowlings make natural stumbling blocks. Tools, hoses and other items cluttering up the work area can make a natural launching pad to send a mechanic toward a heck of a bruise or a broken bone.

Always leave plenty of elbow room for your aircraft. You can do this by keeping bulky stands, platforms, portable lights, air hoses and other equipment in a marked-off area out of the line of hangar traffic.

Keep aisles clear of hazards and keep them clearly marked, also.

Only needed items should be hung on the hangar walls. Extra trappings, you'll find, are real trouble sources.

Before those wintry winds get too bad, take a look around and do some house-keeping. Get rid of the unnecessary items and clean up while the weather's still good. It'll be a long time before the spring thaw.

FROST WARNING??

# CHECK YOUR FUEL!

"...AND SO, YOU DRAW A SAMPLE OF FUEL IN ORDER TO DETERMINE THE WATER CONTENT."

"DIDN'T YOU GUYS EVER SEE A FUEL SAMPLING?"



These days you can expect big temperature changes—like from low to lower—changes that can lead to a lot of condensation (water) in the fuel tanks of your bird.

There's no doubt 'bout it—water is just about the sneakiest menace you're likely to come across. Screens and filters in a carburetor keep out dirt but water can sail right thru and down a bird in short order.

To help prevent the villain from getting a foothold your best bet is to keep the fuel tanks full and, of course, look for him by sampling the bird juice.

## FUEL COMES CLEAN

When an M49C, M217C or GMC Model HC 453 tanker pulls up to your bird you can bet your boots that only clean (no dirt) and dry (water-free) Av Gas or JP-4 gets pumped into your bird, for a couple of reasons.

First, since water is heavier than fuel, it settles to the bottom of the tanker. The fuel is tapped at a point above this bottom layer so settled water can't be pumped into your bird.

Second, if there should be some water in the bird juice that hasn't had time to settle in the tanker, there's a filter/separator that not only takes out the dirt—but the water as well.

Still . . . it's possible to wind up with contaminated fuel, especially if you're out in the boonies fueling from 55-gal drums or jerry cans.

## SAMPLE THE JUICE

The right way to tell if your bird has water in the fuel is by taking a sample when the beast is refueled and on a Daily. That's the poop in Change 3 (8 Jan 63) to TM 10-1107 on petroleum handling of aviation fuel.

It makes sense to take this PA (preventive accident) sample to head off trouble, rather than have someone else take it after a bird has augered-in.

Eying the sample for dirt, cloud, haze, emulsion, water droplets or free water on the bottom of the sample jar had its problems. You could always get different opinions from other mechanics as to whether or not the fuel was contaminated!!!

WATER SPELLS TROUBLE





## USE NEW CAPSULES

Now, however, the guess work has been taken out of reading the sample by use of a new capsule. The capsule's in: Detector Kit, water, automotive and aviation fuels, FSN 6640-892-2264. You'll find it listed in Federal Supply Catalog C3-11, Volume 2 (1 Jul 63) . . . on page 108. The kit includes a one-pint sampling jar and a bottle of capsules with directions on the bottle label.

Here's the way you use the kit.

Make sure the sample jar is clean and dry and then tap the fuel tank draincock. A half-pint or pint should do the trick.

Eye the sample for dirt solids and stuff before you add the powder.

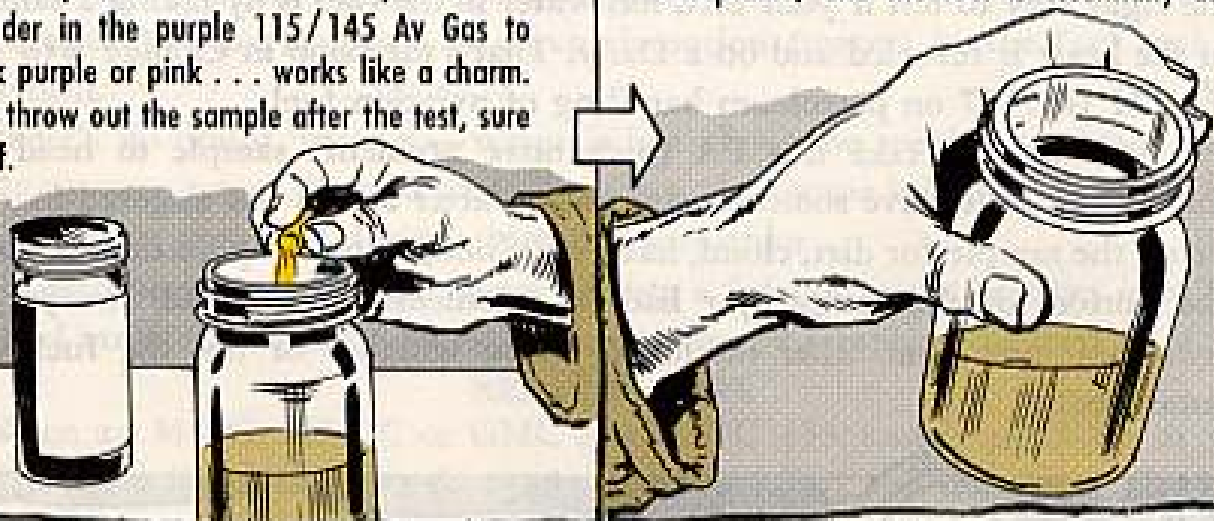


Next, take out one of the capsules and eye the powder in it. It should be gray-white in color. If it's pink or purple don't use it because this means that moisture got into the capsule bottle. To prevent this, it's a capital idea to put back the wad of cotton covering the capsules in the bottle.



Open the capsule and pour the gray-white powder into the fuel sample. Shake or swish the fuel around in the sample jar, and if there's more than 30 PPM of free water in the sample, it will immediately turn the powder in the purple 115/145 Av Gas to dark purple or pink . . . works like a charm. You throw out the sample after the test, sure 'nuff.

If there's no color change the sample has less than 30 PPM of free water (which is acceptable) and the fuel is essentially dry.

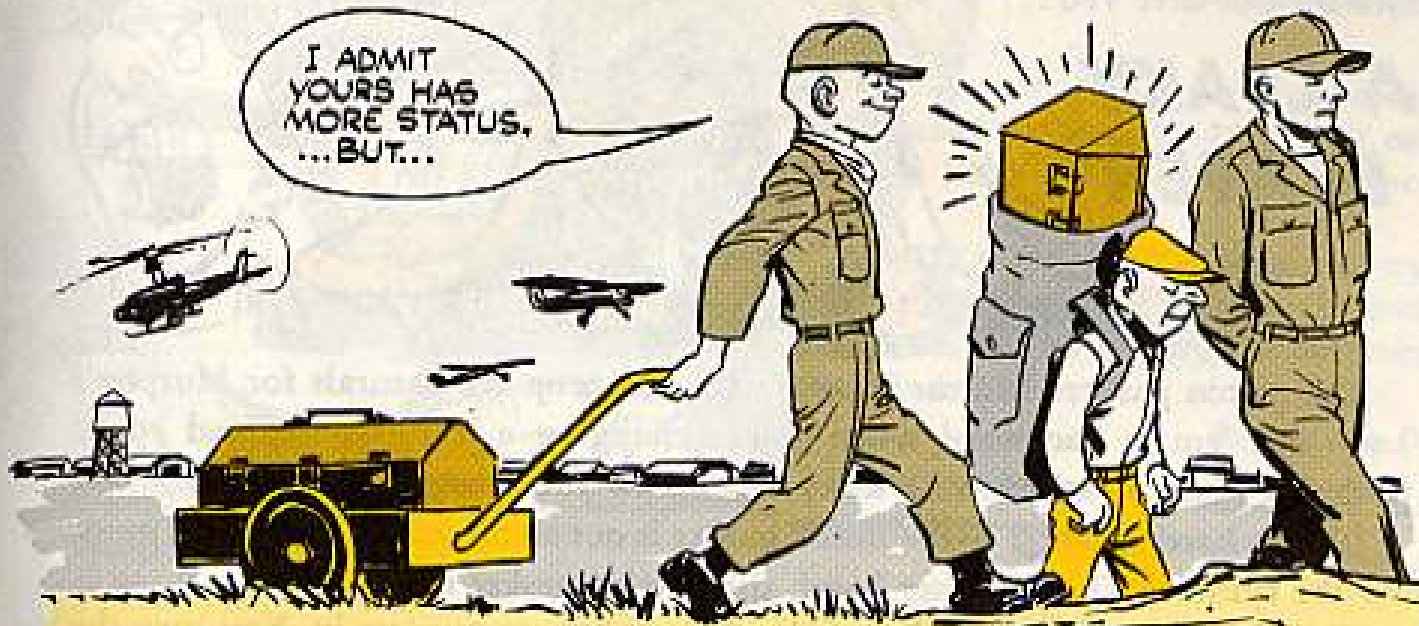


When you get a water reading from a tank, drain off a quart or more and test it again. If you still get contaminated bird juice, tell the pilot and maintenance officer—the beast might have to be defueled.

So-o-o . . . be on the lookout for that sneaky water villain these days. Keep him in check with a PA sampling of the fuel.

# "HELLO, DOLLY..."

I ADMIT YOURS HAS MORE STATUS, ... BUT...



Dear Editor,

It takes a lot of extra time and elbow grease for a mechanic to tote his heavy general mechanic's tool box out to a bird. And it never fails — the bird that needs maintenance is always at the end of the line!

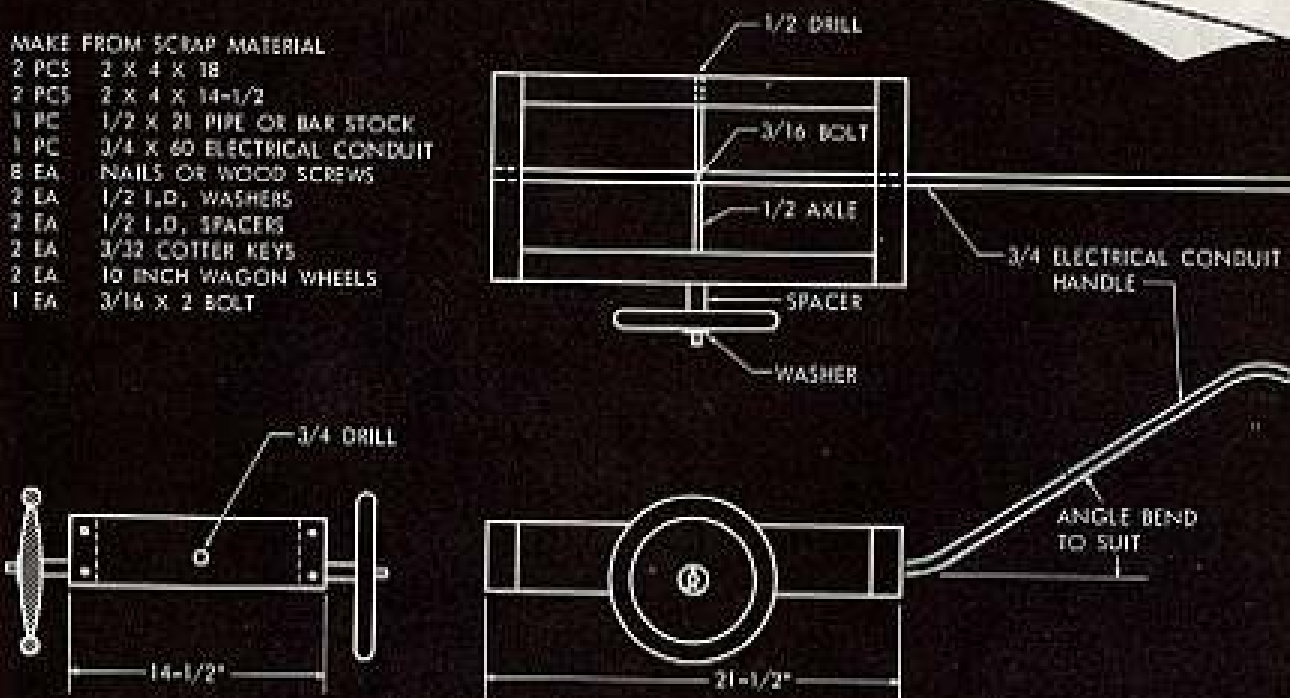
Well, here's a dolly that I put together (using scrap material) for use by all our mechanics.

Transporting the tool box on this little gem makes the long haul a breeze and lets the mechanic concentrate on the maintenance to be done.

Mr. L. A. B.

## MAKE FROM SCRAP MATERIAL

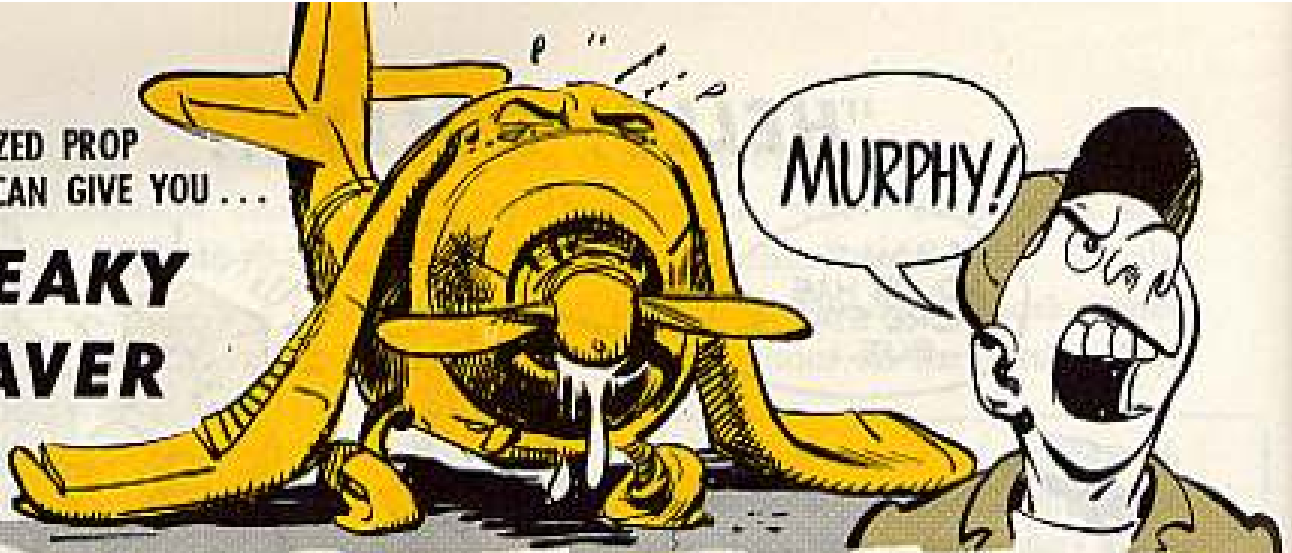
- 2 PCS 2 X 4 X 18
- 2 PCS 2 X 4 X 14-1/2
- 1 PC 1/2 X 21 PIPE OR BAR STOCK
- 1 PC 3/4 X 60 ELECTRICAL CONDUIT
- 8 EA NAILS OR WOOD SCREWS
- 2 EA 1/2 I.D. WASHERS
- 2 EA 1/2 I.D. SPACERS
- 2 EA 3/32 COTTER KEYS
- 2 EA 10 INCH WAGON WHEELS
- 1 EA 3/16 X 2 BOLT



(Ed Note—Looks like a real boon to line maintenance. Of course, a CO has to flash the green light on this type of project.)

MURPHY-IZED PROP  
GASKETS CAN GIVE YOU ...

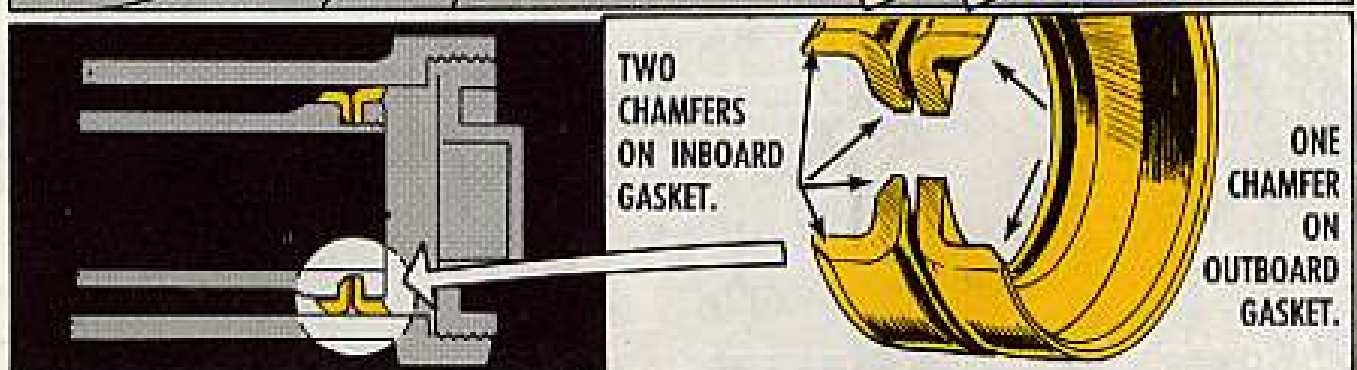
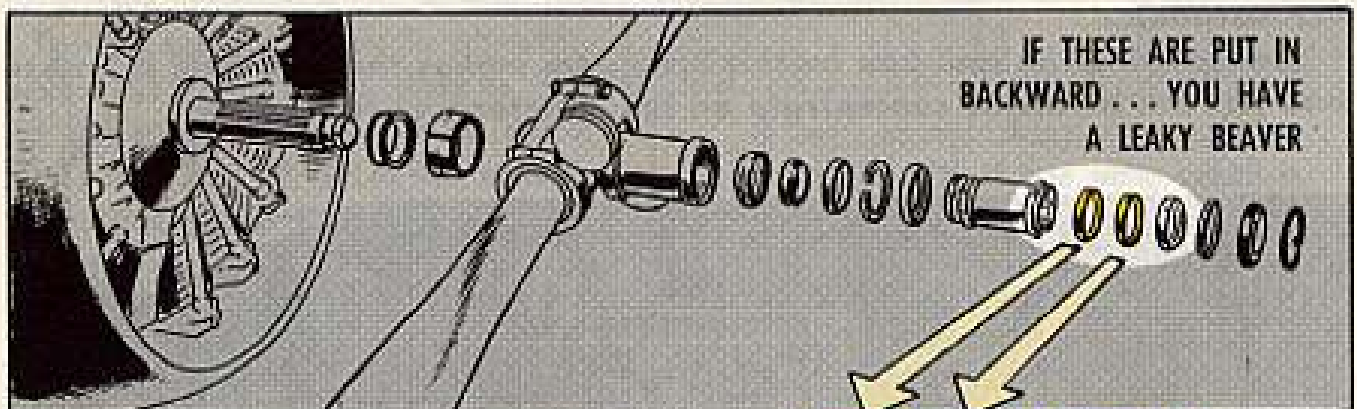
## A LEAKY BEAVER



The piston gaskets in your Beaver's (U-6A) prop are naturals for Murphy's Law. Put 'em in backward when you're changing a leaky gasket and you'll probably find you still have a leaky Beaver on your hands.

It's not hard to figure — the inside gasket is not an oil seal. It's simply a guide for the cylinder. On the other hand, the outside gasket is an oil seal.

TM 55-1510-203-20 (29 Aug 63) tells you how to put 'em in. You turn the blades to full high pitch position and put in the inboard gasket on the piston with the chamfered end facing the spider. It should be seated on the piston shoulder. Then, place the outboard piston gasket on the piston and against the inboard gasket with the sealing lips facing away from the spider.



Remember, tho, the inboard gasket (P/N 50285) is chamfered on the small inside diameter and on the outside diameter, but the outboard gasket (P/N S8464) is chamfered only on its outside diameter.

While you're at it, you'll get a better seal if you soak the extreme end of the outboard piston gasket in oil and let it dry 24 hours before you install it. Guard against stretching the gaskets from over-torquing, also.

# DYE KIT MATERIALS



Dear Windy,

I ran out of developer for the dye penetrant kit, FSN 6635-737-6912, and haven't been able to find a replacement.

Before I develop a case of eye strain, is there any way to requisition parts of the kit without ordering the whole kit?

SP5 V. R. H.

Dear Specialist V. R. H.,

Rest your eyeballs . . . there've been some changes made.

The dye penetrant kit, model SK-3, is the responsibility of the Defense General Supply Center and now carries FSN 6850-737-6912.

Run your peepers over Federal Supply Catalog C6800-ML (1 Oct 65) and you'll find these stock numbers.

Developer	Type SKD-NF	FSN 6850-845-4265
Penetrant	Type SKL-HF	FSN 6850-062-8320
Cleaner	Type SKC-NF	FSN 6850-062-8315

TRY

GSA

REGIONAL

You'll also notice, on page vii, that inspection penetrant materials are purchased locally in CONUS.

Overseas it's 'bout the same deal—local purchase. But if you're out in the boonies and can't locate a manufacturer, make with a requisition to your General Services Administration (GSA) regional office.

5+10 SNOBUCKS

Windy

GENERAL SUPPORT



# PARTS MINUS FSN



Dear Half-Mast,

What's the best way to file title inserts (DA Form 1543) and the Record-of-Demand cards (DA Form 2527), for parts that have no FSN?

Filing the records by manufacturer's number doesn't work too well since that number doesn't always provide easy identification for most parts.

SP5 J. H. C.

Dear Specialist J. H. C.,

If you keep your visible file record by FSN, your best bet is to set up a separate section in your file for the parts without FSN's. If you have only a small number of non-FSN parts, you can file the forms alphabetically by item nomenclature. But, if you have a slew of such parts you can keep the section alphabetically by manufacturer's name and then file the forms alphabetically by item nomenclature under the manufacturers' names.

Another way to solve your filing problem is to keep your complete visible file record alphabetically. That way you don't need two separate sections in the file. AR 735-35, OK's keeping the file either way, alphabetically or by FSN.

STOCK NUMBER	ITEM NAME	APPROPRIATE STOCK LEVEL, INCLUDING LOCATION
765-4770	ABBY, BLONDE NEVER ON SUNDAY	36-26-36 HAMBURG
674-1283	BETH, BRUNETTE CALL AFTER 7PM	36-24-36 PARIS
213-6178	HARRIET, REDHEAD NEVER	38-38-38 NEW YORK

AR 735-35  
SAYS IT'S OKAY  
TO KEEP THE FILE  
EITHER WAY...  
ALPHABETICALLY  
OR BY FSN.



# H<sub>2</sub>O-CO<sub>2</sub>- DRY CHEMICAL

Whether it's water (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), or dry chemical, they all have something in common — they're all used to fight fires.

The type of fire extinguisher you use depends upon the class of fire you have.

The first thing you want to do is to learn the A, B, C's of your fires. You have to know the class of fire so you'll know what can be used to put the fire out.

It would be simple if you could use one type of extinguisher for all types of fires, but it just doesn't work that way. If you tried to use water on a Class C fire, you might get electrocuted. So before you grab an extinguisher, make sure it's the right kind.

Here are the classes of fires and what's used to fight them:

Class	Fire Fighting Material
A — Burning brush, trash, paper, cloth, wood	Water or soda acid.
B — Flammable liquid fires	Carbon dioxide (CO <sub>2</sub> ), dry chemical, or foam.
C — Electrical equipment fires	Non-conducting agent such as carbon dioxide, dry chemical, or vaporizing liquid.



The source and supply of fire extinguishers is given in TB 5-4200-200-10 (May 65), "Hand Portable Fire Extinguishers Approved for Army Users."

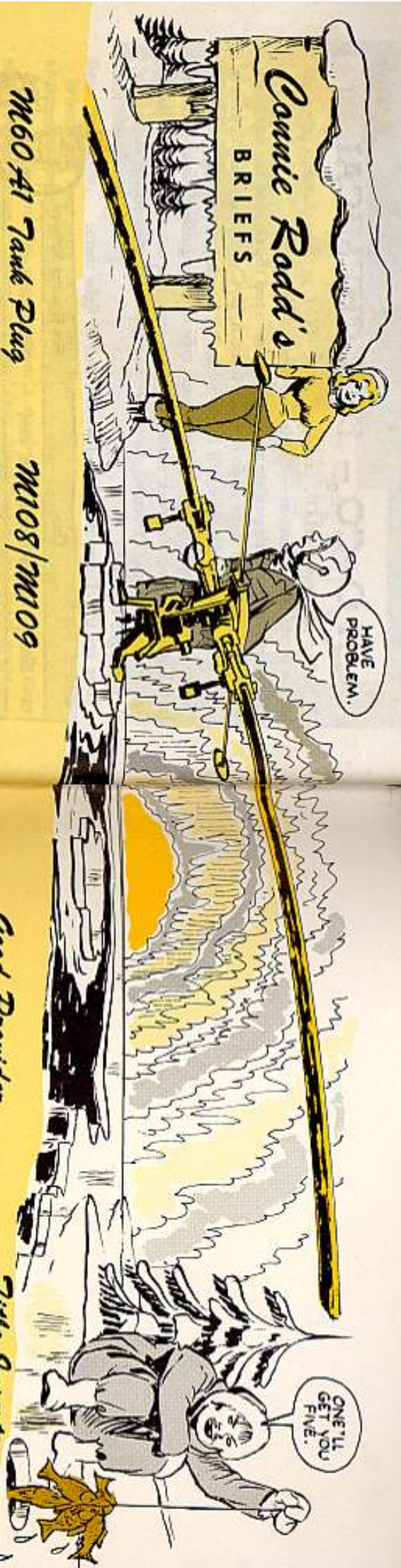
No need to ruin your peepers trying to find the 2½-lb CO<sub>2</sub> fire extinguisher in the TB, 'cause it isn't there. Standardization action MSS 4210-6 (11 Feb 63), by Defense Construction Supply Center did away with the 2½-lb and sets up the 5-lb CO<sub>2</sub> extinguisher as the minimum size DoD standard.

However, there's a USA Tank-Automotive Center message SMOTA-M(NMP) 8-11802 (10 Aug 65), sent to all Army headquarters authorizing the use of the 2½-lb dry chemical fire extinguisher (FSN 4210-893-1092) on all army vehicles. Don't ask for more of these 2½-lb extinguishers than you need because they are likely to be replaced by another type.

When you ask for the 5-lb CO<sub>2</sub> extinguisher, you have to order the mounting bracket because it's not issued with the extinguisher. Ask for Bracket, Mounting, FSN 4210-268-9729 (cost \$5.10).

Be sure to check your local SOP's because your CO may have decided that extinguishers are no longer needed with some equipment. In such cases the bracket should be removed.

Be real careful with those vaporizing liquid extinguishers, like carbon tetrachloride, in poorly ventilated areas. The fumes could give you a permanent knockout.



### M60 A1 Tank Plug

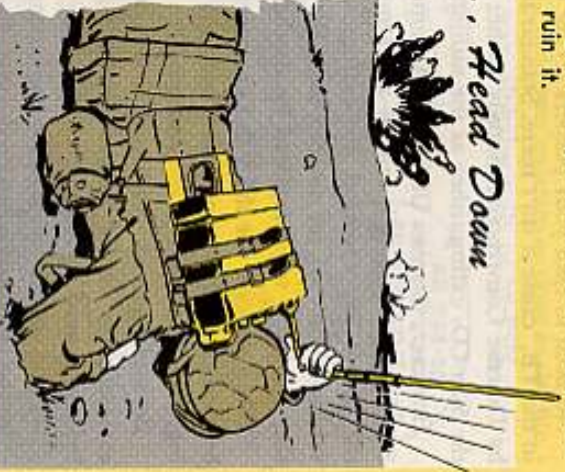
If your M60A1 tank is vehicle serial 3460 or after you got nothing to worry about. If it's the earlier type it'll have fuel tank drain plugs FSN 4730-879-1668 which could corrode and make it hard to drain the tanks. When or if these plugs need to be replaced, you mechanics can use cadmium or zinc coated plugs, FSN 4730-639-9923, which hold up better. They're in Federal Supply Catalog C4730-1L-A (Jun 64), Vol. 2.

### M108/M109 Flapper Plug

You in a flap because there's no flapper valve on the exhaust of your M108 or M109 SP howitzer? It means you've gotta be extra careful washing off your 'r! monster. Goof off with that hose for a second and enough water can shoot through the exhaust to give your engine a hydrostatic lock that could ruin it.

### Antenna Up... Head Down

If you're packin' a portable radio set — like the PRC 8-10 or 25 — you don't have to kneel, stand up or expose yourself to keep the short antenna in a vertical position. Standing up at the wrong time can get you hurt right quick. When you have to hit the dirt or take cover, you can remain prone and still reach back and bend the spring-loaded base of the antenna until the antenna is again vertical and ready for maximum output and reception.



### Good Provider

Supply men, here's a handy pub. SB 38-100 (10 Jun 65) "Preservation, Packaging and Packing Materials, Supplies and Equipment Used by the Army."

It provides FSN, name, use, etc., on things like alcohol, coatings, compounds, enamels, greases, lacquers, oils, paints, seals, stencils, steel wool, tapes, twine, turpentine, wood, wire and loads of other stuff used for protecting supplies and equipment. It also lists tools used in preservation and packaging.

### Title Inserts

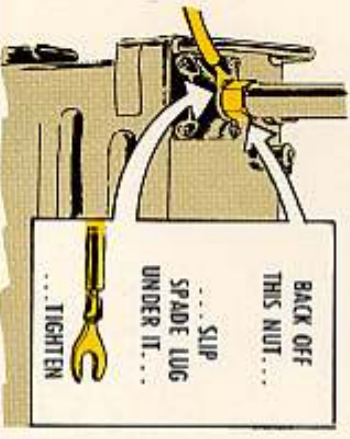
Remember — You get five DA Form 1543's on one sheet. So when you order this repair parts form ask for the number of sheets that'll add up to the quantity of 1543's you're after.

If you need 500 forms, for example, you'd ask for 100 sheets. Asking for 500 each, will get you 500 sheets of five each for a big fat bundle of 2500 title inserts. And, you can add the note "five forms per sheet" on your DA Form 17.

### Oops! On That A7-984...

Hey, Joe! Remember the words and forget the picture on that AT-984/G antenna story on page 39 of PS 153.

Let the screws of the antenna base alone. Recently procured antennas have the spade lug attached. Just back off the antenna support (AB-591) of your RT-505 (AN/PRC-25 series radio sets). Slip the spade lug between the antenna support and antenna base, and retighten the antenna support.



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

the Condition of Your Equipment?

YOU  
MEAN  
SOMEONE'S  
BEEN CHEWIN'  
UP YOUR  
PARKING  
BRAKES ??



USE THIS  
TO

**STOP**

USE THIS  
TO

**PARK**

AND

Use Parking Brake  
To Stop Only In An  
**EMERGENCY**

**DON'T  
FORGET**

Release It Before  
Moving Out Again