

Issue 172

# PS

1967 Series

## THE PREVENTIVE MAINTENANCE MONTHLY

THAT'S  
THE SECOND  
UNAUTHORIZED  
"IMPROVEMENT"  
GEORGE HAS  
MADE  
THIS MONTH!



Will Eisner

WITH FRIENDS LIKE THESE  
WHO NEEDS ENEMIES?  
SEE PAGE 29



# Quick BEFORE IT'S TOO LATE... CLEAN OR REPLACE YOUR ENGINE'S FILTER ELEMENT NOW!

**PS**  
 Published by the Department of the Army  
 for the information of organizational  
 maintenance and supply personnel. Dis-  
 tribution is made through normal pub-  
 lication channels. Within limits of avail-  
 ability, older issues may be obtained  
 direct from U. S. Army Maintenance  
 Board, Attn: PS Magazine, Fort Knox,  
 Kentucky 40121.

THE PREVENTIVE MAINTENANCE MONTHLY  
 Issue No. 172, 1967 Series  
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Use of funds for printing of this publica-  
 tion has been approved by Headquarters,  
 Department of the Army, 19 February 1965.  
**DISTRIBUTION:** in accordance with re-  
 quirements submitted on DA Form 12-4.

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 Send us your comments, questions,  
 names and addresses or help in cor-  
 recting our errors.

Sgt. Andy Mack,  
 PS Magazine,  
 Fort Knox, Ky.  
 40121



YOUR M60  
ROUNDBUP

HOLD ONE ACE, BEFORE YOU FIRE ANOTHER ROUND, LEND AN EYE AND AN EAR.

MIGHT BE I CAN SHARPEN YOU UP A BIT.

HINTS AND TIPS OF HANDY DOPE!!



SOMETIME BACK A DEAL CHANGED 4 PARTS OF THE M60. MAKE SURE YOUR SHOOTIN' IRON HAS 'EM. IF ANY ARE MISSING, GET YOUR ARMORER TO MAKE REPLACEMENTS PRONTO -- HERE'S WHAT TO LOOK FOR:

**BRECH BOLT ASSEMBLY** — A batch of numbers stamped on it, and the slot's chamfered.



**OPERATING ROD** — Six grooves in the part that bears against the inside of the operating rod tube.



**OPERATING ROD SPRING GUIDE SHAFT** — Countersunk in the cup. (The old guide shaft was flush in the cup, letting the buffer hit the shaft and break it loose after a time.)



**BIPOD PIVOT ASSEMBLY** — Stamped 779-3010... meaning your assembly's new even though all the latest assemblies may not look exactly alike. The old one, which had a habit of breaking, was stamped 7260929.



KEEP THAT ROD OPERATING

Eyeball the operating rod yoke real careful-like. If it's burred, get your armorer to stone it off right quick.

But if it's cracked, get yourself a new rod.

Next time you have the rod in your mitts, give the roller pin a look-see. It needs to be stoked.

Also remember to clean the inside of the rod. It gets loaded with carbon and a buildup of this stuff can actually put flat edges on the spring coils.

**TIP** — No trigger squeezing with your M60 — not if you want to save wear and tear on the operating rod's scar notch. Pull back the trigger quick-like . . . and then let it go just as fast. This keeps the notch from crashing into the scar.



You know what happens when you have too much wear and tear on the sear notch. Right . . . the gun keeps on firing with the trigger released — like



a runaway nag. 'Course, you can take care of this situation by opening the cover or twisting the ammo belt. But why pile up trouble?



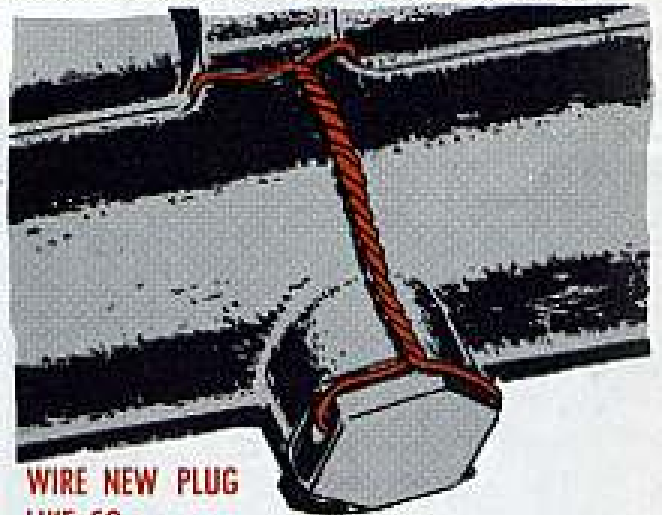
At one time there was a problem with oil leaking into the buffer, but a new design buffer turned out to be the answer.



### A GASSER

Your weapon got the new gas cylinder plug — the one with the hole in the hex head? It should . . . and you use the hole by running a piece of safety wire

through it . . . fastening the ends around the gas cylinder . . . and then twisting the ends. This keeps the plug from loosening and maybe dropping out.



One day you might come on a plug that has no hole, but does have a groove cut in the face of it — like a slot in a screw. This is a homemade deal, and a good one, till you get the latest plug. The idea is to put the safety wire in the groove and then tie it around the gas cylinder the way you do when the plug has a hole.



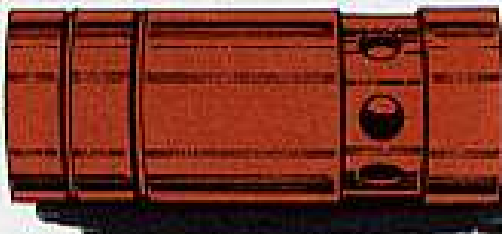
Are you remembering to keep the piston and inside of the gas cylinder dry — not wet with oil? Oil combined with the heat of the piston as it moves can add up to lots of carbon.

As you know . . . you should hear the piston move back and forth as you turn the gun end-for-end (with the bolt to the rear, of course). If the piston doesn't move, there's a good chance that it's been coated with oil.



You don't want to try to scrape color off the piston — either inside or out. The color's harmless. 'Most any piston will turn to brown and later black after firing the gun for a time.

**CLEAN OFF THE OIL . . . DON'T SCRAPE IT.**

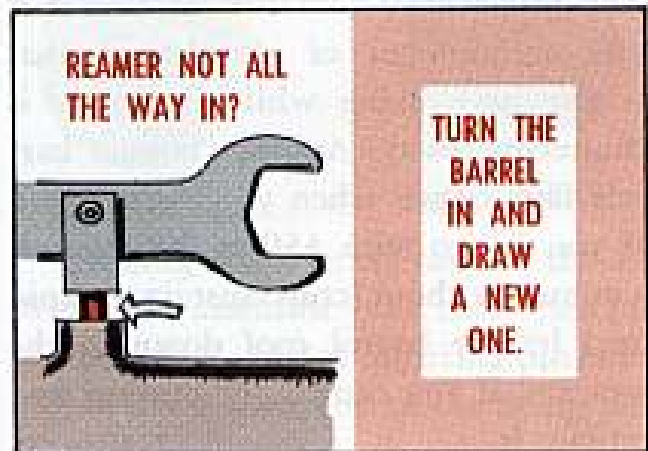


Just use bore cleaner and a rag or swab on the outside of the piston. On the inside use bore cleaner and a cleaning brush. O'course, if the piston's carboned up real bad, get your armorer to clean it with carbon removing compound PC-111A.

#### REAMER TIP

Say you go to clean the gas port for the first time and the entire reamer doesn't disappear inside the gas cylinder and barrel the way it's supposed to.

Steer clear of fighting it . . . the tip might break off. On some weapons, the barrel and gas cylinder ports don't quite line up . . . so the reamer won't pass through 'em.



You know what to do if somehow you bust the reamer on your combination screwdriver and reamer wrench? You don't throw what's left away . . . that's for sure. Your support people can put a new reamer on the wrench.

#### BARRELLING ALONG

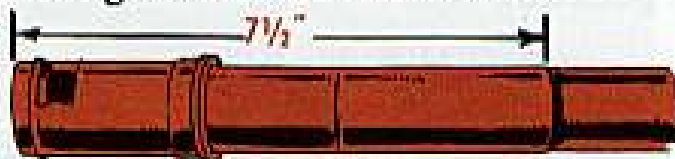


You probably heard it before, but it's worth repeating. If you can turn the flash suppressor up to one sixteenth of an inch it's OK. And if the suppressor moves sideways or up and down as much as the thickness of half-a-horse hair, it wants to be fixed yesterday.

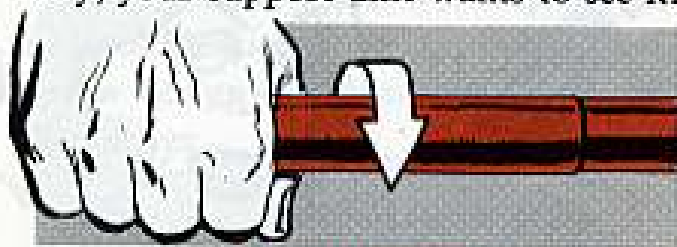
Your M60 has a spare barrel . . .

and it's not just for looks. After firing at a normal rate of 150 to 200 rounds a minute (short bursts) for a total of 1000 rounds — switch barrels. A fresh barrel will help prevent stoppages. And you'll have a chance to clean dirt and carbon out of the barrel that you've been using while the spare is chattering away. Another bonus: barrels last longer when you switch 'em. If you let go with 150 to 200 rounds a minute without letup (sustained rapid fire) let the barrel cool down in the weapon, if you can . . . or remove and replace it.

No telling how many guys have looked inside a barrel of their M60 and gulped as they spotted a "ring" about 7½ inches from the face of the barrel socket. No sweat. That's just an expansion groove in the stellite liner.



Speaking about the barrel socket . . . give it a twist every so often. If it moves any, your support unit wants to see it.



### TRIGGERNOMETRY

At one time the trigger mechanism spring lock was just that — a spring



. . . the leaf kind. It had a bend in the middle so that it would be under tension when it was fastened to the trigger and holding pins. Trouble was . . . many a guy bent the lock to make it straight. That took out the tension and the spring lock would drop off the trigger pin.



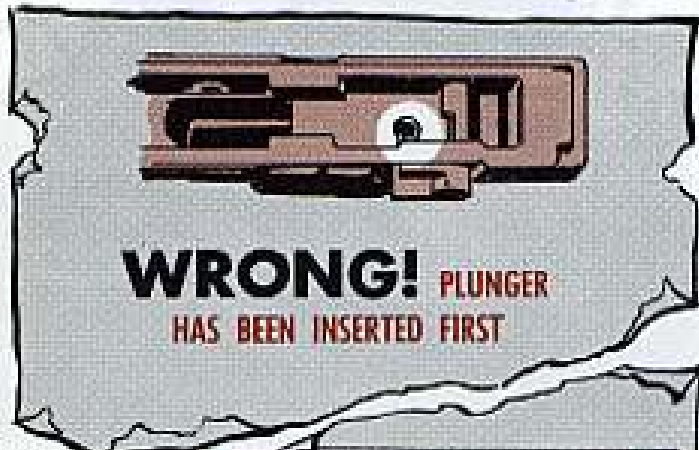
The slide rule people took care of that by grinding away part of one edge of the spring lock so that it could be turned around and snapped over the two pins. Instead of falling off the trigger pin, the spring is really fastened to it. And that's the way you want to install it, even though it's tougher for you to take off.

### WATCH THIS

The trigger mechanism is one place that proves that it's the little things that count. When you go to assemble the components, be sure you put in the spring and then the plunger — with the rounded end of the plunger up. If you



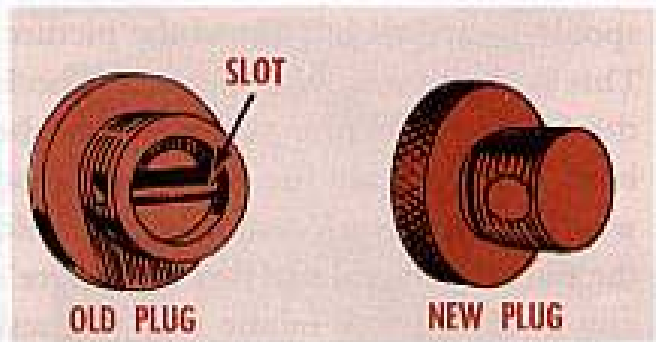
put in the plunger and then the spring, the spring will cant to one side under the sear. Result: a jamup during firing.



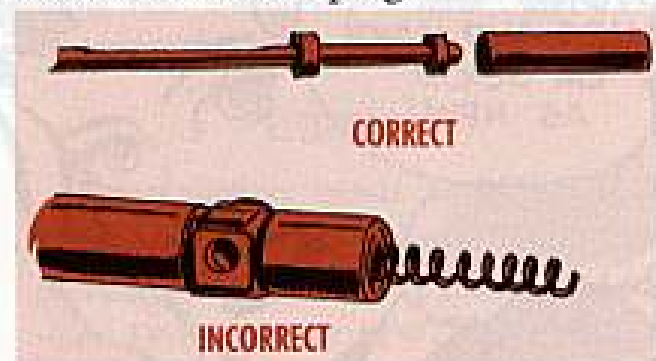
### BREECH BOLT BRIEFS

Gone should be the days of busted breech bolt plugs — now that new ones are in the supply system. You can tell the new plug in a flash. The slot is missing and a plunger is in the pin hole to

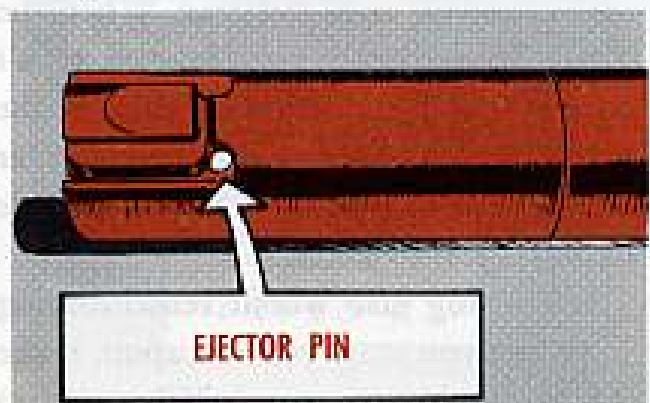
aid in holding the bolt plug pin in place. Also there is a disk and insert hammered into the plug.



Looking for a good case of the fits when you assemble your bolt? Just put the large hole end of the firing pin bearing over the back end of the firing pin. That'll short change you when it comes to room for the bearing. And with left-over spring, you'll have a ball trying to screw in the bolt plug.



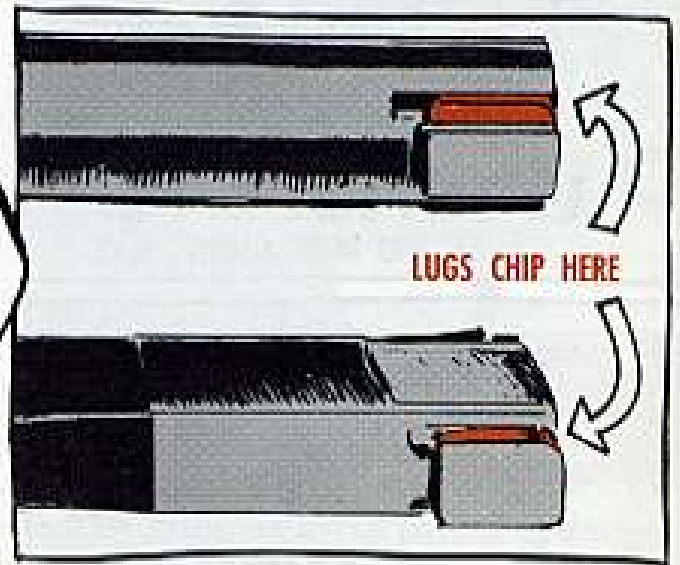
There're some other bolt parts that need special watching when you put them together. Be sure the roller end of the actuator cam is forward. If not, you won't fire nohow. And check the ejector pin. If it's sticking up, the bolt will jam.



You should be in good shape with firing pins now that the old ones — those that would break at the base of the spools — are all but out of the picture. This doesn't mean you shouldn't check the firing pin before you put it in the bolt. Not on your life. And one good way to spot a crack real fast is to hold the pin at each end and flex it. If there's any kind of crack in the pin, this test will find it.



SEE ANY CHIPPING OF THE LOCKING LUGS ON YOUR BOLT?? ... ASK YOUR ARMORER TO STONE THE LUGS AND MAKE 'EM GOOD AS NEW!



the rear, the operating rod spring is under unneeded tension.



It's an old story, but one that needs retelling: Close the gun's cover only when the bolt is to the rear. When the bolt is in any place else, its cam won't go into the feed cam assembly in the cover. And slamming down the cover with a deal like this can sure scramble a component or three.

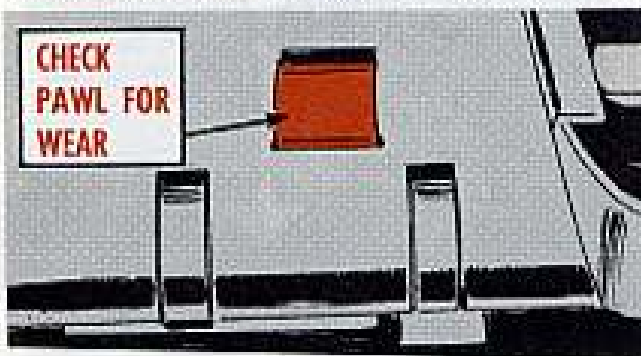
Something else worth remembering . . . when you store your weapon, make sure the bolt is forward. When it's to



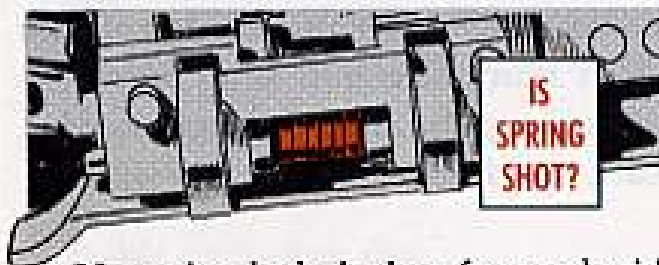
## NO COVERUP



Too pooped to participate . . . that's what can happen to the feed tray holding pawl after a heap of firing. The pawl plumb refuses to hold on to the ammo belt. Could be the tray has had the course. Maybe the pawl is worn. Or the



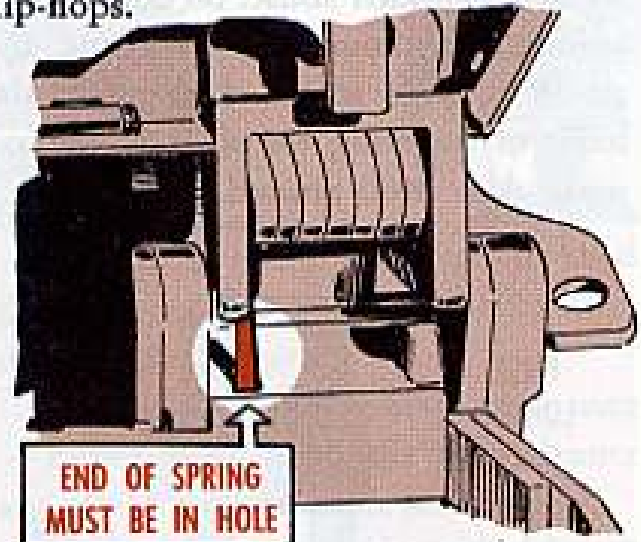
pawl spring is shot. Let your armorer take a gander.



Never let the bolt slam forward with the barrel out of the receiver. It's one sure way to wind up with a battered feed tray assembly.

There's a real easy goof you can make when you assemble the cover to the weapon — forget to put one end of the

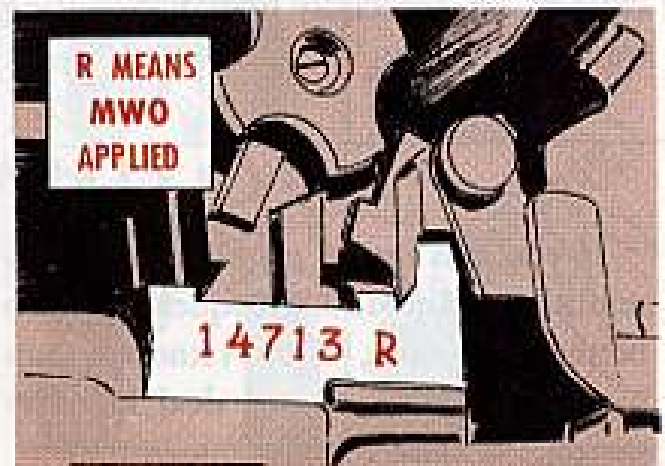
spring in the hole in the receiver. Without the spring in the hole, the cover flip-flops.



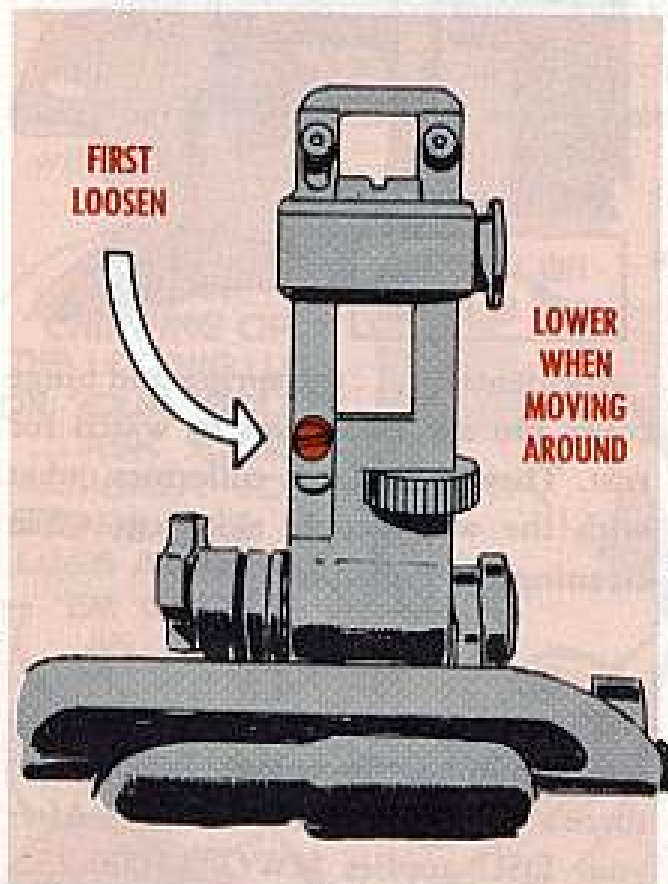
Incidentally . . . the spring and hinge cover pin are two items to watch for rust. They're real rust collectors, what with the way people skip 'em when cleaning the gun.

## RECEIVERSHIP

Your shooter needs an MWO if its serial number is below 77605 and there's no "R" after the number. After your DSU applies MWO 9-1000-232-30/1 (30 Jul 65), the angle of the bullet ramp will be changed by about 5 degrees. This halts the kind of trouble you run into when a round hits the primer of another round that hasn't been fired and is still in the chamber as the one behind it tries to horn in.



The rear sight elevation scale on your weapon is made of aluminum and it won't take much abuse. So don't try to adjust it without first loosening the retaining scale screw. And get in the habit of lowering the scale when you move your M60 around.



There's been a lot of talk about the way the magazine bracket guides (maybe you call 'em prongs) seem to break just about every time you turn your back. They don't really bust this often, but they will bend or snap off on occasions — especially rough handling occasions.

When your weapon's not going to see any action for a spell — like when it's being moved in a vehicle or stored — flip down the bipod legs to keep the shooter from flopping over on its side and battering the guides.



You can also have the guides cut down, making sure that enough of each — at least one eighth of an inch — is left to keep the magazine from moving back and forth.

### A FINAL WORD

If you run into a problem while assembling your M60, ask questions. It's better to say now, "I don't know," than to try to explain a bad deal later by saying, "I didn't know."



**XM16E1 RIFLEMAN:  
TRY OGLING THESE...**



Twenty's fine, but 21's too many when you're loading cartridges in the magazine of your XM16E1 rifle. It won't give you extra fighting power... more likely it'll put you out of the fight — 'cause that extra round will spread the lips and the ammo won't feed right.

When you're unloading, skip flipping the rounds out with another cartridge. You'll spread the lips this way, too.



When you're taking your magazine apart here's as far as you need to go:

1. Stick cartridge point in here to press the floor plate release.
2. Slide out the floor plate.
3. Work the spring back and forth gently as you tug it outward.
4. Stop tugging when the follower reaches the tabs and ears and don't separate the spring from the follower.

Careful... you don't stretch or bend the spring and don't bend the tabs. Easy does it all the way.

For cleaning the disassembled mag — Either dunk it in rifle bore cleaner and shake it good while submerged

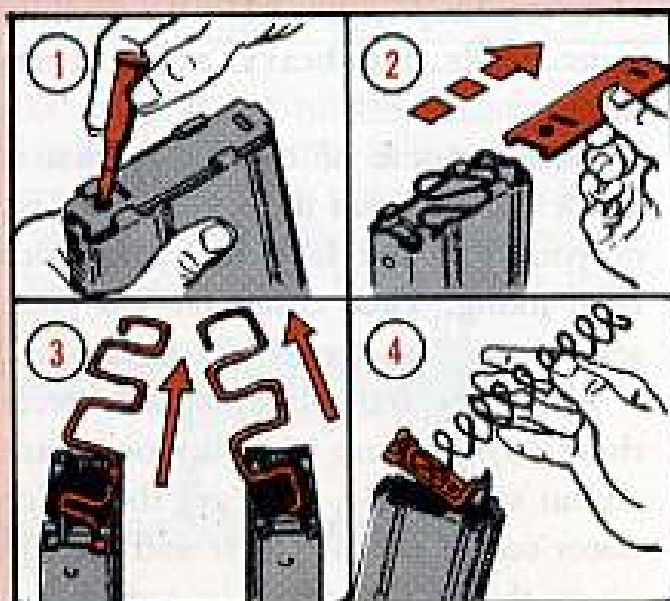
OR — scrub the inside with a brush soaked with cleaner

OR — Use a rag soaked in bore cleaner.

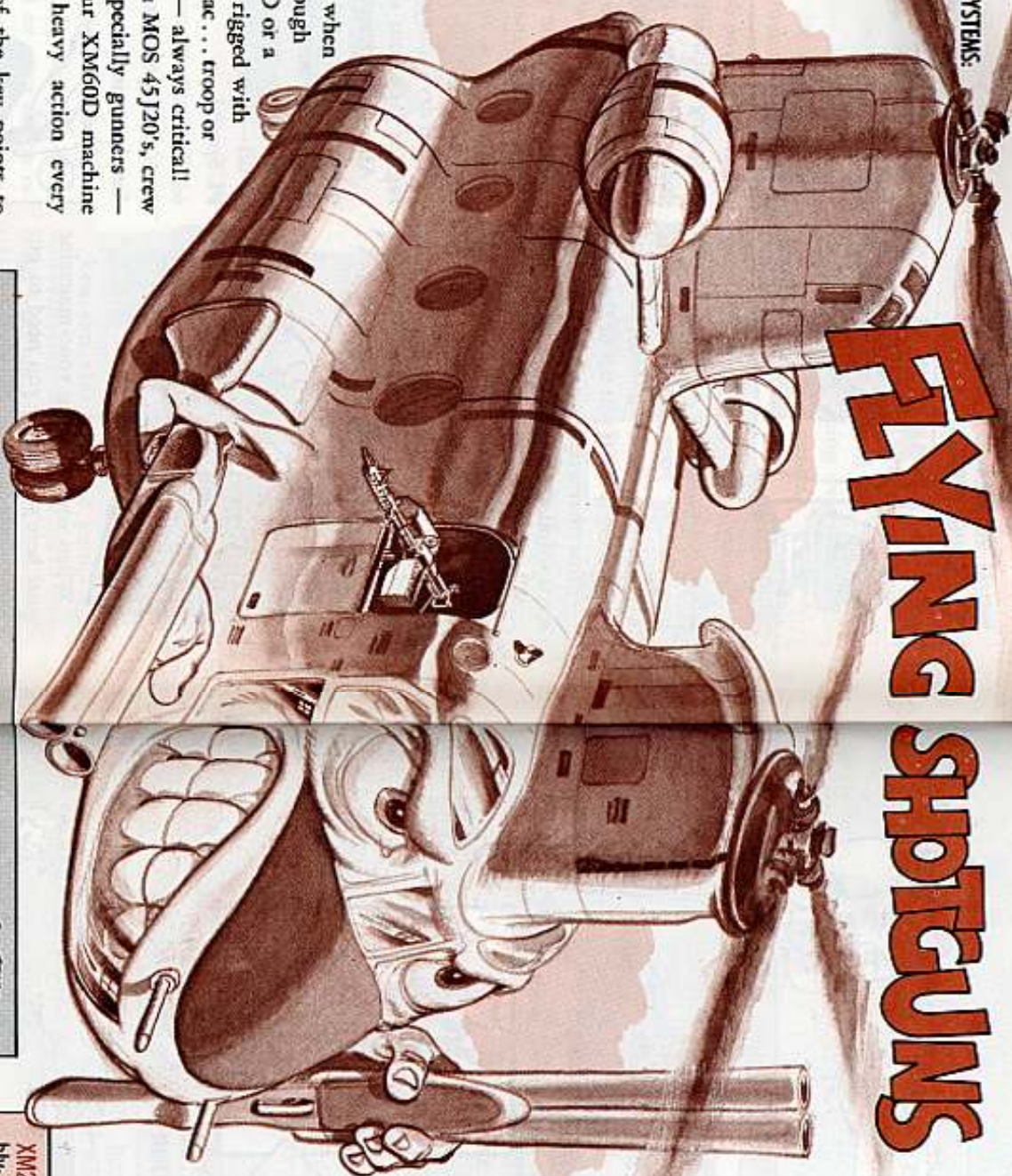
Then dry it out good with a swab or rag (or even your shirttail in a pinch).

After you clean the inside of the magazine, wipe the spring off and see that it's not busted or deformed. If it's OK, apply a very-very-very light coat of oil — using a rag dampened with PL Special.

This mag is coated with dry lubricant. It doesn't need any lubing except for the spring.



# FLYING SHOTGUNS



**AMMO BOX & COVER (XM23)** — Cracks or dents that'd affect the flow of ammo; loose latch mounting.



**AMMO BOX CHUTE ASSEMBLY (XM23)** — Chute kinked or twisted; links and fittings damaged; adapter bent or cracked.



**AMMO CAN ASSEMBLY (XM24)** — Plunger cracked or bent; spring weak or kinked; loose rivets; dents.



It's always a right-now mission when the call comes through for a Huey UH-1D or a Chinook CH-47A rigged with door guns. Med evac... troop or supply transport — always critical! That's why you MOS 45J20's, crew chiefs — and especially gunners — want to keep your XM60D machine guns ready for heavy action every minute.

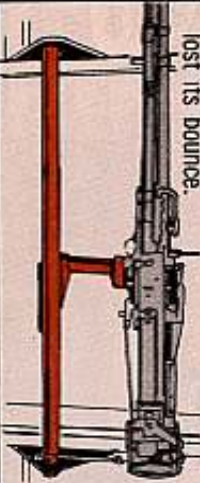
Here're some of the key points to check out between flights. Stay on top of your PM and look for things that need fixing. Then either fix 'em yourself or get 'em fixed... right now!

About the only differences between these 2 systems are in their mounts and ammo set-ups. So, let's get the differences out of the way first and then go on to things they have in common.

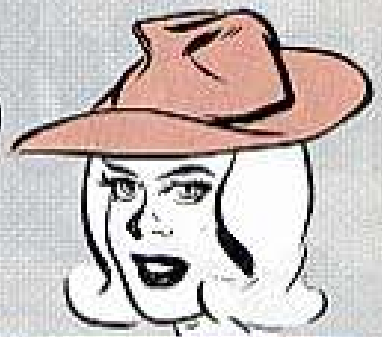
**XM23 MOUNT** — Binding; loose mounting; cracked or twisted base and beam; busted or missing beam lockwires; cracked or twisted pintle; loose pintle mounting nut; missing cotter pin; cracked traversing lock or one that's lost its "spring"; dusty, rusty pivot steel ball bearings; loose retainer or one that's not staked in 2 places; busted hook for the ammo box.



**XM24 MOUNT** — Cracked or twisted welding assembly; cracked or twisted pivot; steel balls with damaged surfaces; loose retainer (not staked in 2 places); cracked or twisted bracket; bent quick release pin; broken or frayed cable; shock cord assembly that's lost its bounce.

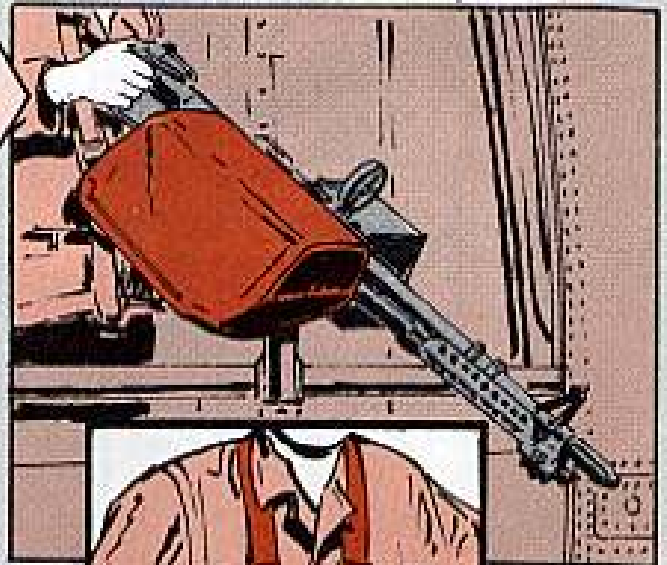


NOW, FOR THE PARTS THAT ARE THE SAME ON BOTH SUBSYSTEMS (EXCEPT FOR THE MACHINE GUN, OF COURSE).



**EJECTION CONTROL BAG** — Canvas bag torn; mildewed; zipper fouled up; frame cracked or bent; latch or latch spring and pins damaged; front and rear dovetails don't line up right.

Be mighty sure the bag's zippered during firing or the spent rounds will cause trouble . . . especially on the Chinook. Here they're likely to get into the air intakes — and everybody may have to walk back from the mission.



**HARNESS ASSEMBLY** — Straps cut or badly frayed; buckles bent; rings and snaps won't hold.

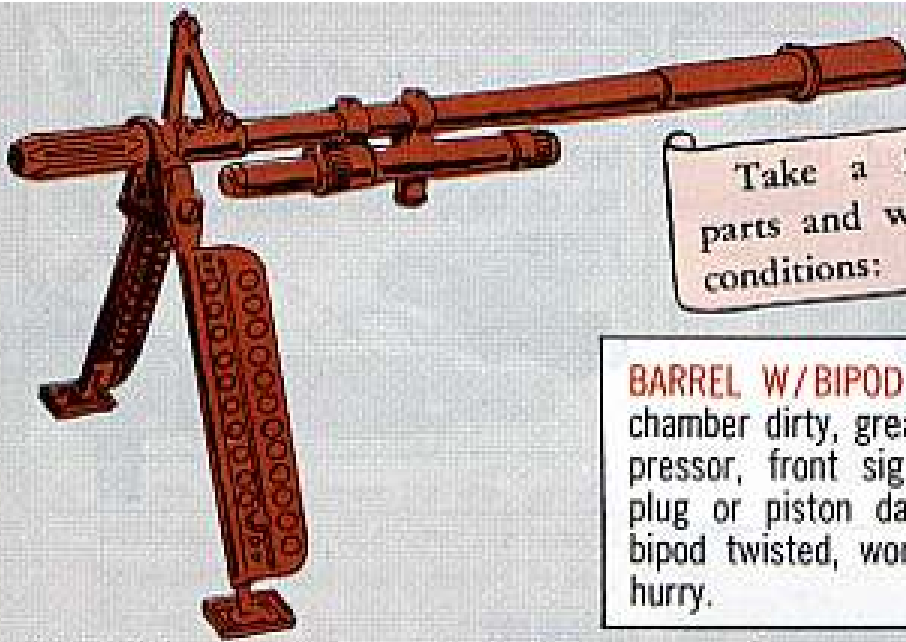
### YOUR XM60D MACHINE GUN



Ye olde ground-type flex M60 equipped with a spade grip trigger, a new rear sight and a quick-release mounting pin.

'TIS THE RED HOT XM60D... THE "FLYING SHOTGUN" OF VIETNAM FAME!





Take a look at some of these parts and watch for these unhealthy conditions:

**BARREL W/BIPOD ASSEMBLY** — Bore and chamber dirty, greasy, carboned; flash suppressor, front sight, barrel, gas cylinder plug or piston damaged; powder fouling; bipod twisted, won't lock or release in a hurry.

(All of these parts are exactly the same as the ones on the ground weapon.)

**KEEP THE BIPOD IN SHAPE!**  
...YOU NEVER KNOW WHEN YOU'LL HAVE TO DISMOUNT AND HIT THE DIRT.

TM 9-1005-224-12 (Sep 65) w/Ch 1 (M60) is your bible on cleaning and servicing. But if you find anything wrong that cleaning and lubing won't fix, send the whole unit to direct support for repair or replacement.



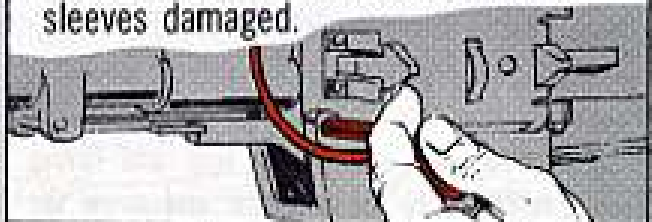
**REAR SIGHT** — Cracks, twists, burrs; ball, spring and retainer damaged; won't hold in the position you want.



**BARREL LOCKING LEVER** — Too loose, binding; won't hold the barrel tight.



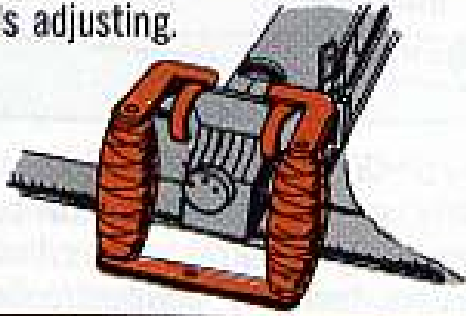
**MOUNTING PIN & CABLE** — Pin bent or won't slide in and out real easy; cable frayed (watch it, could rip your hand!), sleeves damaged.



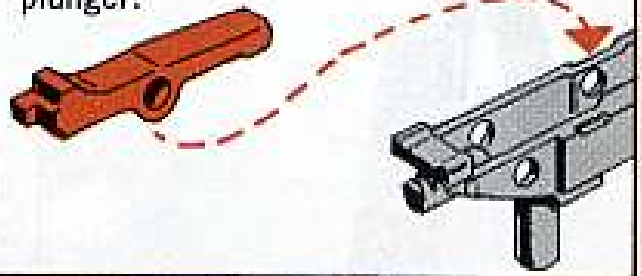
**BOOT** — Dirty, greasy, tears, rips and loose fit.



**GRIP & TRIGGER** — Worn threads and burrs on the retainer assembly; weak, bent or busted springs; nut, link or spring bent, busted or worn threads; needs adjusting.



**SEAR & SAFETY HOUSING** — Springs weak, broken or missing; cracked or bent activator or housing; burred, cracked or badly worn safety, sear and plunger.



## HEAD OFF THAT RUNAWAY!

Real important!

Before every flight give the sear-link assembly the feel and eyeball test to make sure it's in good shape and works right. You could shortcut all kinds of firing troubles on the mission.

Here's what you do: Clear the weapon and set the safety on F (FIRE). Then press the trigger slightly.

If it won't fire or there's no give at all, cyecheck the link (trigger rod, some guys call it).

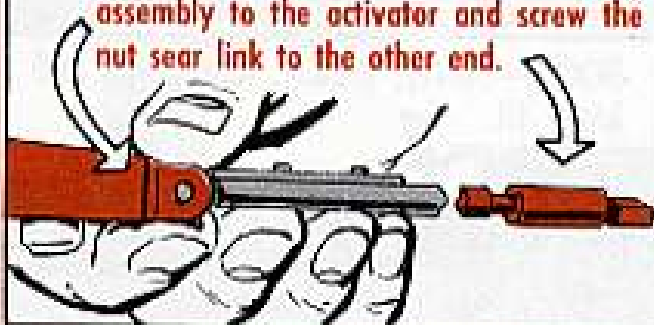
A link that's bent so that the actuator can't touch the sear will cause a no-fire. On the other hand, if the link's bent so that the actuator is flush against the sear, you'll get a quick trigger — a runaway gun.

But, if the link's straight and true and you still have a firing problem, the link assembly needs adjusting to set the activator  $1/64$  inch (that's about the width of a fat horse's hair) from the sear.

Here's how you adjust it:



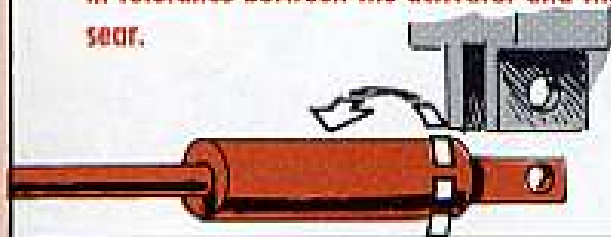
1. Attach one end of the link and spring assembly to the activator and screw the nut sear link to the other end.



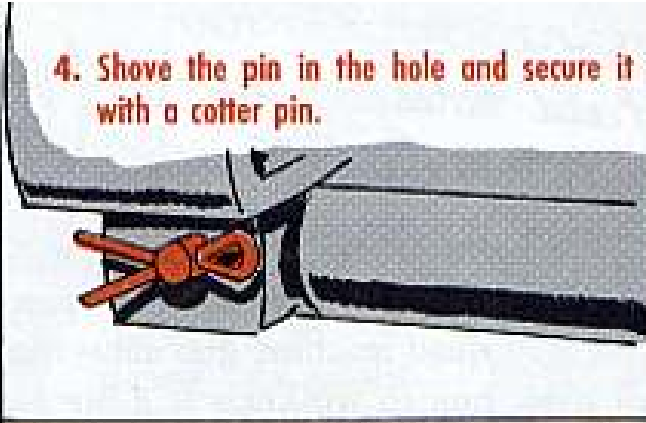
2. Hold the nut sear link and against the spade grip assembly and screw out the nut sear link assembly till you can line up the hole in the nut sear link with the hole in the spade grip.



3. With the holes still lined up, turn the nut sear link 1/2-turn clockwise (to the right). This will provide that all-important 1/64-in tolerance between the activator and the sear.



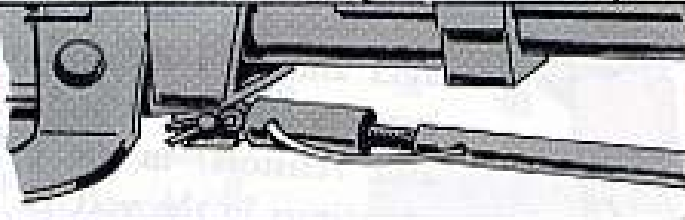
4. Shove the pin in the hole and secure it with a cotter pin.



5. OK, try it out. Charge the gun, put the safety on FIRE and slow down the forward movement of the cocking handle to keep the bolt assembly from banging up the tray as you lightly press the trigger. It should take only a 1/8-in movement of the trigger (a real light feel) for the sear to release the bolt.



6. Dry-fire it this way three or four times to make sure you've got the right adjustment. Then lockwire the link and nut and put the safety back on SAFE.

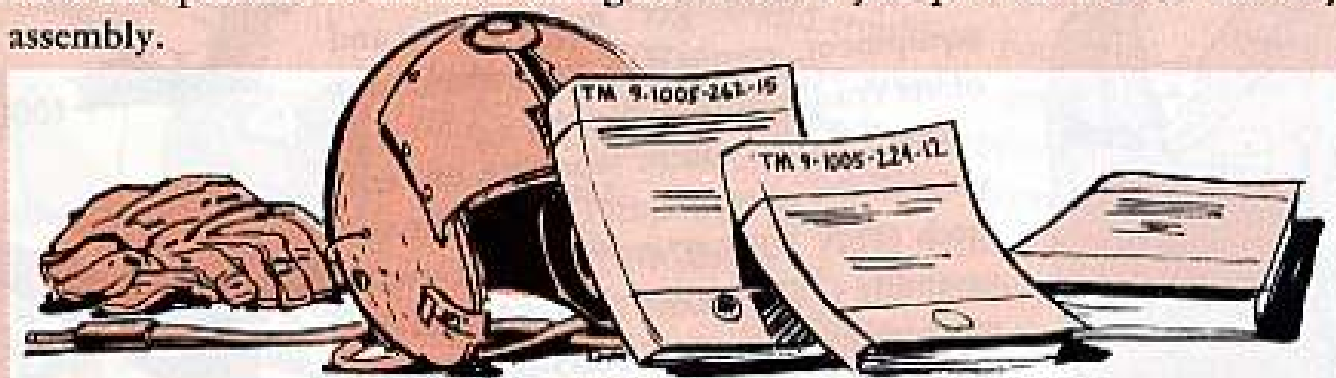


## ODDS AND ENDS

**CLEANING AND LUBING** — You can hardly go wrong if you stick to the poop in the lube chart on page 19 of your -15 TM. It tells you what parts need mostest cleaning and care immediately after firing.

Pay particular attention to that bit about not over-lubing the innards of your gun. More and more, guys are finding that too much lube is a major cause of trouble.

**LOADING** — Do like the TM says on page 17, but make proof positive you have the open side of the links facing down when you put the belt on the tray assembly.



**PUBLICATIONS**—Keep these handy and use 'em: TM 9-1005-262-15 (Aug 65) w/Change 1 and 2 (XM23 & 24); TM 9-1005-224-12 (24 Sep 65), w/Change 1 (M60); and TM 9-1005-262-ESC (23 Aug 65).

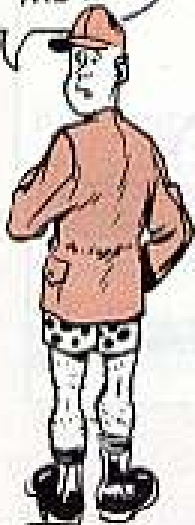


## Field notes on the M6/XM16 Subsystem

# (UN) POPULAR

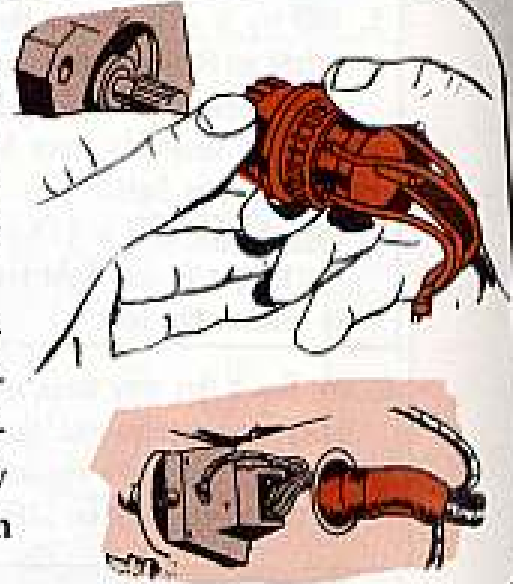
Here're a few of the trouble spots that've been griping guys with the M6/XM16 quad machine gun subsystem—and what you can do about 'em. Most times human weakness is a big part of the hex.

YOU CALL ME?



**FORGETFUL?** OK, then, remind yourself to pull the circuit breaker before connecting or disconnecting any major assembly while trouble-shooting your system with the power on.

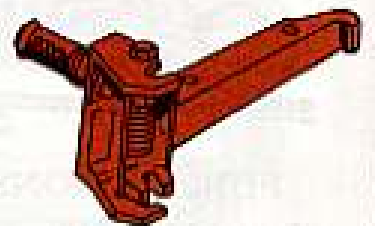
Otherwise, you'll create peak voltages and ruin the follow-up potentiometers (deflection and elevation variable resistors) in the pylon or blow capacitors in the voltage regulators in the control panel.



**CARELESS?** Make sure the gun latches are really locked when you mount M60C's on your Huey. Para 7b of your -12 TM has the scoop. And double check before every takeoff that they're still locked tight.

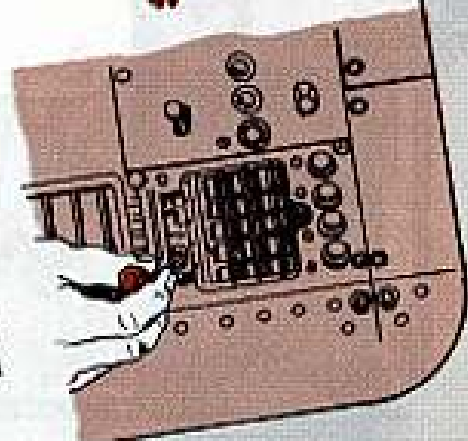
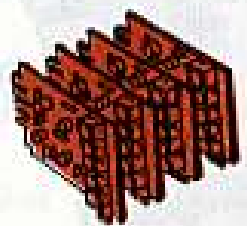
Guys could get hurt bad—and equipment, too—if a gun works out of its cradle during flight.

And, while you're working on 'em, see that the parts are all OK... like the latch (FSN 1005-974-9757), the cradle assembly (FSN 1005-974-9755) and the machine gun pin (FSN 1005-083-0292). If any of these are badly worn or damaged, get support to replace 'em—before the next mission.



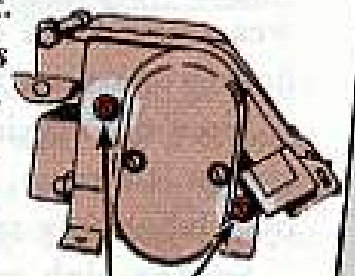


**KNOW-IT-ALL?** Please, huh, if you don't know from nothing about adjusting the amplifier (card) variable resistor in the control panel to get rid of chattering or vibration in your guns, keep your cotton-picking hands off. It takes know-how and a real light touch with the jeweler's screwdriver to make the adjustment called for in para 38b of your -12 TM. These cards are extra-delicate and if they get damaged your mission could be grounded till a replacement comes through support.



**A MITE LAZY?** It might save your outfit a lot of time and trouble if you'd give that cartridge drive another good look before sending it back to support. If it's the old-type drive with 2 screws on each side plate, you can adjust it yourself. Pages 64-65 of TM 9-1005-243-12 (Oct 63) w/Changes has the poop.

O'course, if it doesn't have these adjustable screws, support'll have to take over.



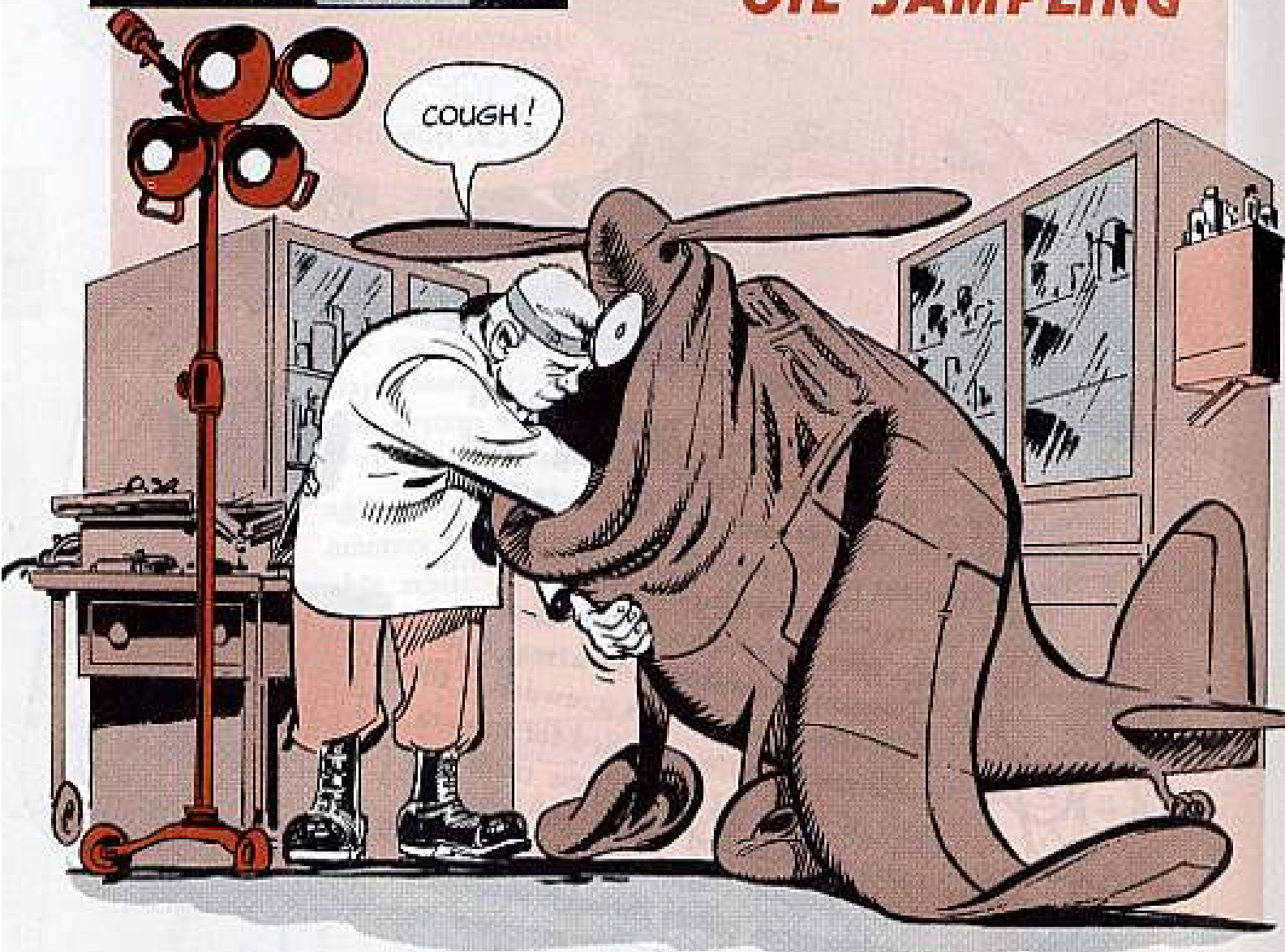
ADJUST SCREWS





YOU'RE THE DOCTOR ...

## AIRCRAFT OIL SAMPLING



The role of the unit aircraft mechanic is becoming more and more a scientific one, with the publication of TB 55-6650-300-15 (9 Jun 66) backed up by AR 750-13 (5 Dec 66) on spectrometric oil analysis.

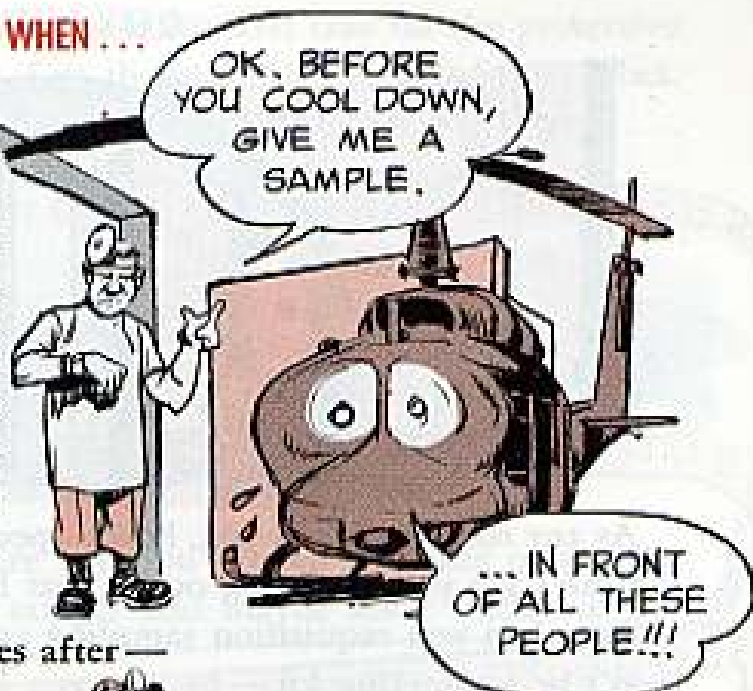
Like a medic, you can now take specimens when your bird is registered in the oil sampling program. 'Course, this sampling is based on the fact that metal wears and kicks off microscopic particles that can't be seen, felt between the fingers or trapped by filters and chip detectors.

Since the maximum amount of normal wear for each metal component in a system is known, this "threshold limit" of metal contamination can be detected by a laboratory spectrograph or spectrophotometer.

So, any high amount of iron, silver, chromium, aluminum, copper, tin, and magnesium will alert you to the fact that an engine, transmission or gear box is about to fold up.

## SAMPLE WHEN ...

The best time to take a routine sample is at each 25-hr Intermediate. You should take the sample within 15 minutes of engine shutdown so you get a true sample of the circulating oil. These regular samples will make it possible for the lab to set up a wear pattern for each component on your bird so that future samples can be read accurately.

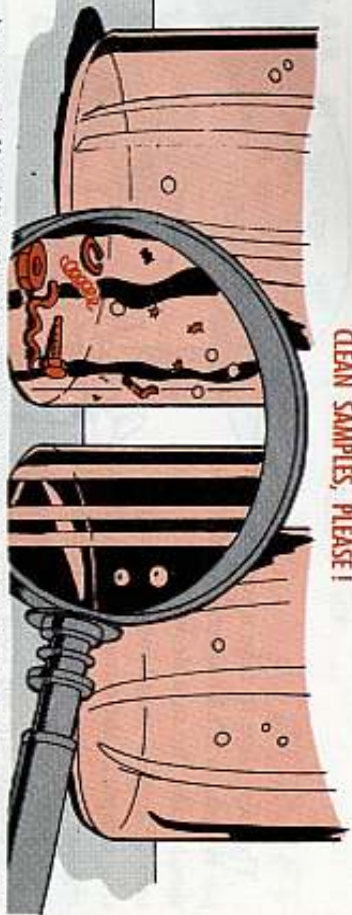


Also, you should take special samples after —



You'll get a report from the lab only when there is high wear on a routine sample or when you send in a special sample. The lab may even ask you for a special sample, taken after the next 5 hours or so of engine operation, to confirm their findings.

CLEAN SAMPLES, PLEASE!



As any medic will tell you, how a specimen is taken is mighty important. The lab can't get you a reading on oil that has dirt and sludge in it.

So, when you requisition sampling equipment thru regular channels — there won't be a sampling kit — be sure you keep all the containers closed.

Here's all the sampling gear you need:

1. Polyethylene sampling tubes:
 

Size	FSN
15" - 3/8" OD	4720-933-4415
20" - 3/8" OD	4720-933-4416
20" - 1/4" OD	4720-933-4417
2. Sampling bottle, FSN 8125-933-4414.
3. Mail bag FSN 8105-290-0340.

SIPHON SAMPLE LIKE SO...

Your sample is either siphoned thru the tube or drained directly into the sample bottle. See the TB for the sampling location and the right size tube to use. Here's the scientific approach — using the tube in an oil tank filler neck.

SAMPLING BIRD DOG ENGINE OIL



Take out dip stick



Insert tube



Siphon your sample

Take the oil tank cap off, open the sample bottle and take off the protective caps on each end of the sampling tube. Cut the ends of the sealed-type tubes. Be sure you don't drop the tube on the ground or get it dirty on the engine... you want a clean sample.



Hold sample by capping with finger



Oil will not drain easily into sample bottle so...



Put the tube into the tank but be sure you don't touch the sides or bottom of the reservoir, or you'll get a dirty sample and maybe some sludge in the bargain.

A little air pressure speeds the drainage



Fill the sample to 1/2" from top of bottle



Put cap on tight so bottle won't leak



Put a finger over the tube and lift out your sample, or make with a little mouth suction and hold the sample in the tube with your finger. Fill the bottle until it's within 1/2 inch of the top. Put the cap on with a little muscle so the bottle won't leak.

Throw away the sampling tube because a contaminated tube can't be used again.

TAKE DRAIN SAMPLE THIS WAY

When you can only get your sample by draining, such as a transmission, chances are there will be some sludge and maybe even water at the drain hole so be sure to take along a quart container to get rid of it.

Open the drain plug and drain enough oil into the quart container to clean the opening and drain lines of sludge. Then drain your sample directly into the sample bottle to within 1/2 inch of the top... no sampling tube needed.

Cap the bottle tight... and you've got your sample.





Next, insert one end of an opened  $\frac{3}{8}$ -in tube into the sample bottle. Displace the check valve with the other end of the tube, drain your sample into the bottle to within  $\frac{1}{2}$  inch of the top and cap your sample.

On hydraulic systems use the tube to sample the reservoir, provided it's part of the circulating system, or drain your sample from the filter housing or from a line that circulates the hydraulic fluid.

When a new oil batch comes into your area the lab also needs an un-used sample to find out if metallic compounds are in the oil additives. These compounds affect the readings on your future samples so be sure you identify the oil batch by number, manufacturer, date and military spec. You can get this info from the can, or your POL section.



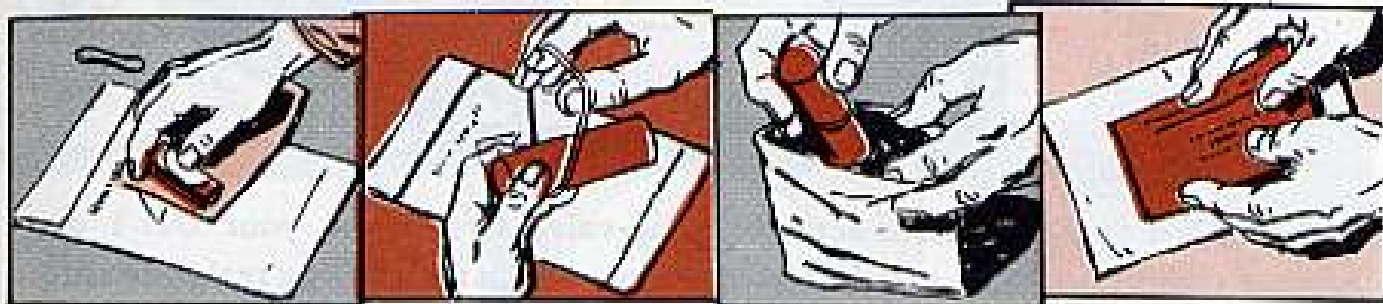
## IDENTIFY SAMPLE

All your hospital-clean sampling will go down the drain unless the samples are identified. So, it's mighty important that you fill out completely the sample info sheet that is supplied by the oil analysis lab where you send the samples.

On a special sample be sure you add any important dope, such as—name, address and phone number of person the lab should contact, at the bottom of the form. You'll find complete sampling instructions right on the back of the info sheet.

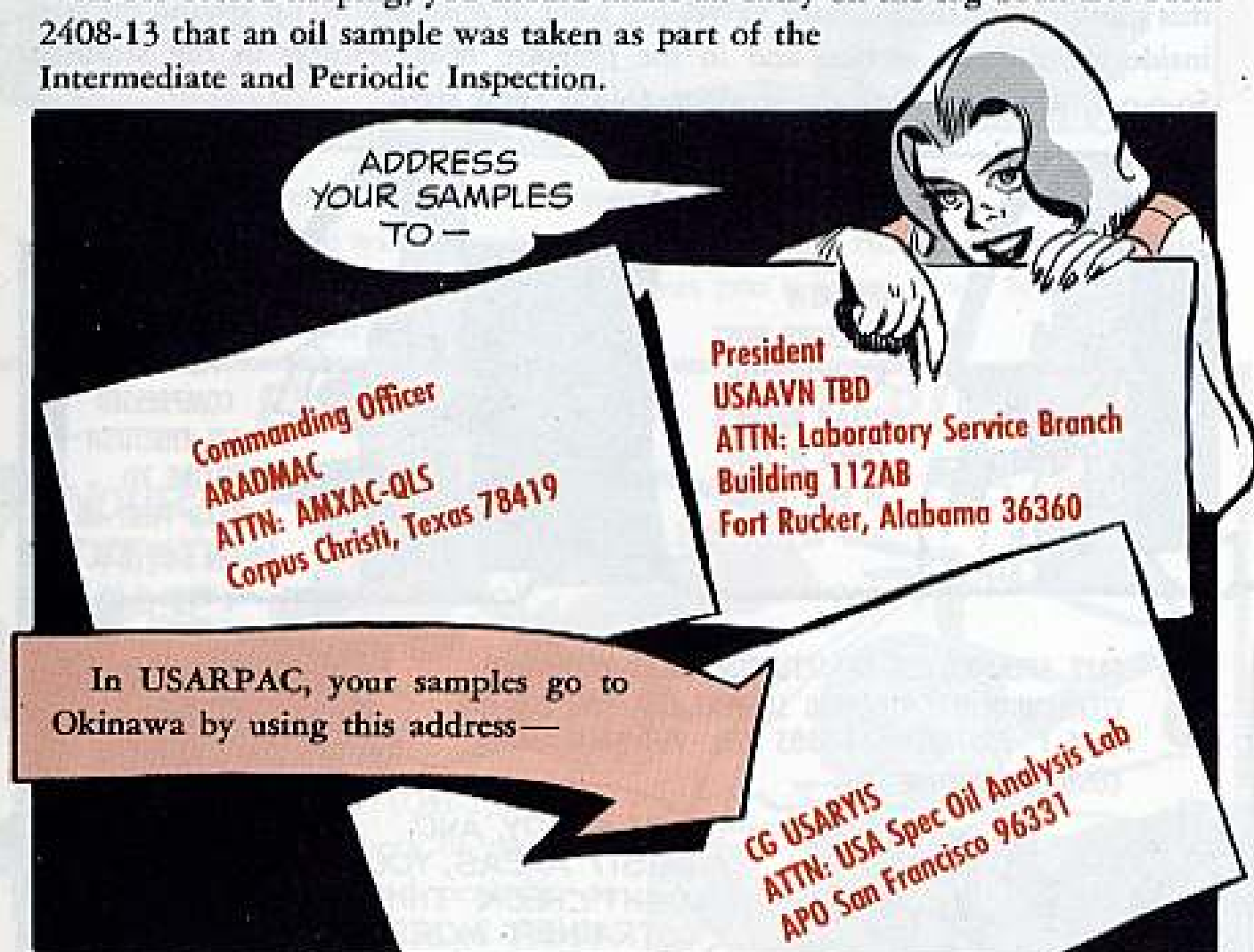


Wrap the poop sheet around the oil sample bottle with a rubber band. Then put the sample in the mailing bag and send it, pronto, to the lab. Pronto means immediately. Never let the sample stand around for a few hours or days. Every minute counts. **MAIL IT THE SAME DAY YOU TAKE THE SAMPLE . . .** airmail under a DA Label 18.



If you're sending a special sample, band the mailing bag with any high visibility tape, preferably RED, FSN 7510-753-4728. Also airmail.

As for record-keeping, you should make an entry on the log book DA Form 2408-13 that an oil sample was taken as part of the Intermediate and Periodic Inspection.



In USARPAC, your samples go to Okinawa by using this address—

CG USARYIS  
ATTN: USA Spec Oil Analysis Lab  
APO San Francisco 96331

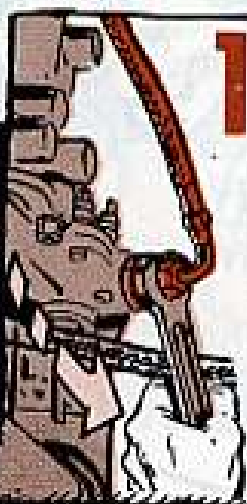
Yessir-e-e-e, the oil test results, along with other poop gained from cylinder compression tests and boroscope inspections, should go a long way toward pinpointing a maintenance problem so you can come up with the solution. It should be a big help for you and your support when deciding to pull an engine, based on AR 750-23 (13 Feb 63).

# CLEAN THE VALVE STRAINER



A clogged engine airbleed-actuator relay-valve strainer on your UH-1 can cause a compressor stall and loss of power—which makes for a real unhealthy bird.

Foreign particles can be drawn into the engine inlet and directed into the port that supplies air for operating the airbleed actuator. The strainer keeps this gunk out of the actuator valve, but some of it may build up around the port inside the diffuser section and in the pressure hose leading to the strainer. So-o-o-o, when checking the strainer, follow these steps.



1

UNSCREW  
PRESSURE HOSE  
AT ACTUATOR  
RELAY VALVE.  
CHECK IF LINE  
IS FREE FROM  
ANY RESTRICTIONS.

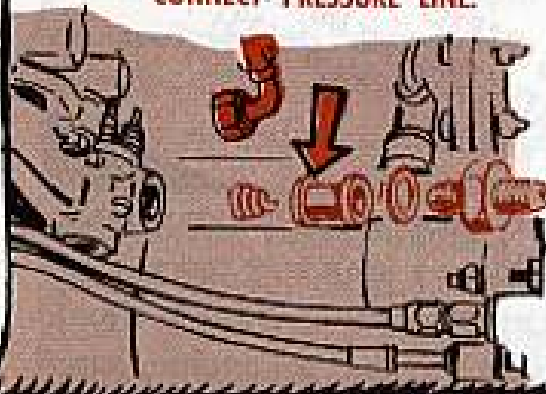


2

BLOW DRY,  
FILTERED  
COMPRESSED  
AIR THROUGH  
LINE TO  
CLEAR PORT IN  
THE DIFFUSER.

3

TAKE STRAINER OUT OF ACTUATOR RELAY VALVE AND CLEAN WITH DRY CLEANING SOLVENT, MIL SPEC P-D-680, TYPE 1, FSN 6850-664-5685 (QT). PUT BACK AND CONNECT PRESSURE LINE.



IN SANDY AND DUSTY AREAS, YOU MIGHT CHECK THIS STRAINER MORE OFTEN THAN EVERY 100 HOURS.





# RUBBER STRIKE-THRU OK

NO SWEAT, SOLDIER,  
THOSE BITS OF RUBBER  
COMING THROUGH THE  
WIRE OF YOUR HIGH  
PRESSURE TEFLON HOSE  
DO NO HARM AT ALL!!

OH  
THANK  
GOODNESS.  
I WAS SO  
WORRIED!



This wire cover is applied with tension which forces some of the rubber bonding up thru the wire strands. You may find more rubber showing as fluids surge thru your bird. This strike-thru gives you a better cover bond and acts as a built-in separator for the wire braid.

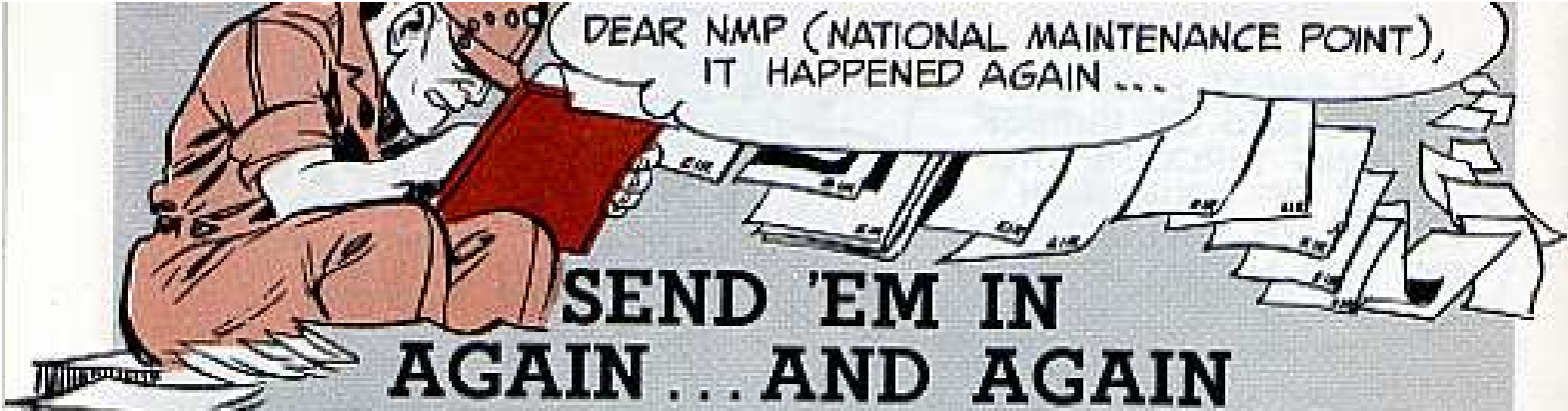
## EYE FORK — NOT PIN

YOUR  
ATTENTION  
PLEASE!



When you Raven (OH-23) types run a dye penetrant check on the main rotor fork every second periodic, as called for in sequence 2.33 of TM-55-1520-206-20 PMP (15 Dec 65), keep this in mind: When you take the retention pin from the outboard T-T bar you check the milled area in and around the fork pin bore — not the pin.





## SEND 'EM IN AGAIN... AND AGAIN

You say you sent an EIR (DA Form 2407) in to the NMP on that problem you have on your equipment?

Fine and dandy!

And now you have more of the same problem. What do you do? You don't rest on your laurels just because you sent in that one EIR.

Send in a new one.

And if it happens again, send in another one. And more . . . as long as the problem keeps repeating. Anytime an equipment failure shows up, tell the design guys with an EIR.

Of course, you keep a sharp lookout for solutions to your problems in the EIR Digests on your equipment.



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 Pam 310-4 and Ch 2 (19 Aug 66) and DA Pam 310-6 and Ch 1 (1 Oct 66).

### TECHNICAL MANUALS

TM 1-10H-23C-4-20P, C4, Nov, OH-23.  
 TM 5-4120-216-25P, Aug, Air Conditioner, Floor Mtd; Air Cooled; 60,000 BTU/HR Carrier Mdl CE-60C-60.  
 TM 5-4120-223-25P, Sep, Sergeant.  
 TM 5-4120-238-15, Aug, Air Conditioner, Floor Mtd; Air Cooled, Elec Motor Drvn, 60,000 BTUH, Ellis & Walls Mdl A-62.  
 TM 5-6115-331-15, Sep, Gen Sel, Gas Eng: 18.9-KW, DC, Hal-Gar Mdl CE-856-PM/WK1.  
 TM 5-6230-200-15, Aug, Searchlight, 30 Inch, DC, 80V, 200 Amp, Carbon ARC, Wheel Mtd Strong Electric Co, Mdl 78001-1.  
 TM 9-1300-203, C15, Oct, Ammo, Tank and Artillery.  
 TM 9-1400-382-12, Sep, Pershing.  
 TM 9-1410-250-15P/1/1, Aug, Nike-Herc.  
 TM 9-1425-300-25P, Oct, Sergeant.  
 TM 9-1430-250-15, Sep, Nike-Herc.  
 TM 9-1430-373-12/1, Oct, Pershing.  
 TM 9-1430-310-12/1, Aug, Hawk.  
 TM 9-1430-512-15P/2, Aug, Hawk.

TM 9-2320-309-10, C2, Oct, 2 1/2 Ton, G742-Series Trucks.  
 TM 9-2320-222-10, C1, Oct, Recovery Veh, Med, M88.  
 TM 9-2320-222-35/2, C1, Aug, Dir/Gen Spl, Recov Veh, Full Trkd, Med M88.  
 TM 9-2320-224-10, C4, Sep, Carrier, Cmd and Recon, Armored M114/M114A1.  
 TM 9-2320-223-14, Jul, Trailer, Rocket, M329A1.  
 TM 9-2320-224-24P, Jul, Chassis, Trailer, M454.  
 TM 9-2320-222-10, C3, Oct, Veh, Combat Engineer, M728 (T118E1).  
 TM 9-4935-253-15P/2/1, Aug, Nike-Herc.  
 TM 9-4935-304-15P/2, Aug, Sergeant.  
 TM 9-4935-309-15P/1, Aug, Hawk.  
 TM 10-3930-243-20P, Oct, Truck, Lift, Fork, Dsl Eng: Rough Terrain, 10,000 Lb Cap, Palfinger-Mulliken Mdl RTL 10, Army Mdl MHE 100.

### LUBRICATION ORDERS

LO 5-3810-222-12-1, & -12-2, Sep, Crane, 20 Ton, American Hoist and Derrick Mdl 2380.  
 LO 5-4310-260-15, Sep, Compressor, Recip, Air, GED, Trailer Mtd, 10 CFM, 175 PSI.  
 LO 5-6115-351-15, Sep, Gen Sel, Gas Eng, Air Cooled, 7.5KW, 28V, DC, 2 Wire, Wheel Mtd; Winterized, (Atlas Polar Co, Ltd, Mdl MC 111 W/Eng Wisconsin Mdl Eng MVH4D).

LO 10-3930-243-12-1, & -12-2, Oct, Truck, Lift, Fork, Dsl Eng, 6,000-cap, Anthony Mdl MLT6.

### MODIFICATION WORK ORDERS

MWO 9-1015-220-20/1, Oct, Dir, Gen Spl, Howitzer, M108.  
 MWO 9-1055-212-10/1, Oct, Little John.  
 MWO 9-1240-258-20/3, Oct, Tanks, Combat, Gun, M48A2, M48A2C, M60, M60A1.  
 MWO 9-1420-262-40/1, Oct, Tanks, Combat, Gun, M48A3, M60, M60A1.  
 MWO 9-2350-217-20/8, Nov, Howitzer, Med, SP, M109.  
 MWO 10-1670-206-20/3, Nov, Parachute, Personnel.  
 MWO 55-1510-203-20/3, Nov, U-6.  
 MWO 55-1510-204-20/4, Nov, OY-1.  
 MWO 55-1510-206-20/3, C2, Nov, CV-2.  
 MWO 55-1510-206-34/62, C2, Nov, CV-2.  
 MWO 55-1520-202-34/31, & -34/33, Nov, CH-34.  
 MWO 55-1520-206-34/14, C2, Nov, CH-23.  
 MWO 55-1520-209-20/32, Nov, CH-47.  
 MWO 55-1520-209-20/31, Nov, CH-47.  
 MWO 55-1520-209-34/107, Nov, CH-47.  
 MWO 55-1520-209-34/109, Dec, CH-47.  
 MWO 55-1520-209-34/118, C1, Nov, CH-47.

# JOE'S DOPE

## DON'T BE A GASS

Oh, I'm wailing  
The Tale of  
HERBIE GASS.  
The boy was  
right... he was  
A GAS!!  
♪ ♪ ♪

OH, LIKE HE WAS A GASSER,  
OL' HERBIE GASS... EVERY  
ONE IN THE OUTFIT LIKED  
TO HAVE HIM AROUND, HEP HAP  
PZAZZ  
DOODEEDAYY

CHA'O  
ONG,  
HERBIE.

CHOUOI  
"GRUNTS"



WHEN THE BOYS WERE TIRED  
WHEN THE BOYS WERE BLUE.  
♪ IT WAS GASS THAT CHEERED  
THE MEN RIGHT THRU...  
HE DUG THE THINGS THAT  
THEY DIG THE MOST ♪ ♪

WHERE ARE YOU HEADIN', HERB?... TO SOME NO 1 CHICK'S HOOTCH??

LATER!  
NOW, OL' SARGE WANTS MY TECHNICAL ADVICE.

OK, HERB! YOU'RE BOO-COO LATE... THAT COMMO GEAR'S GOT TO BE NO. 1 BY 1645... WE DREW A COUNTER-AMBUSH JOB THIS EVENING

COUNT ME OUT!  
I'M BUSY...  
AHAR, HAR, HAR.

HMM... I WONDER WHO THE NUT IS WHO LEFT THESE CAPACITORS LAYING OUT IN THE SUN?

YES  
W  
W  
ZAP

GRRRR...  
GASS! I'LL  
@\*!!@#\*!!

I ALWAYS  
KEEP 'EM  
READY,  
SARGE.

WOW! OL' HERBIE REALLY SNAGGED THE SARGE... WOT A GASS, MAN!  
HE'S NUMBAH ONE!

YEAH, BUT ONE O' THESE DAYS... ZAP!

GASS... WHAT ARE YOU DOING WITH THAT STEAM HOSE?



I'M CLEANING THE VEHICLE GOOD... EVERYBODY KNOWS THE CLEANER IT IS THE BETTER IT WORKS.

YA GONNA DRENCH THE WIRING! YOU'LL BE SORRY!

L  
A  
T  
E  
R



WHOSE THE !! WOT SCREWED UP MY RADIO!  !! !! GASS C'MERE!!



WOT'S WRONG? "GRINDER"! PICKING UP MARS?



HERB ... MESSING WITH THAT COMMO STUFF IS UPPER ECHELON STUFF. Y'COULDA WRECKED IT!

NAW! I JUST FINE TUNED IT...

!!



...THAT AFTERNOON, GASS IS SEEN ACTUALLY DOING PHYSICAL WORK!!

LOOK! IT'S HERBIE POUNDING GROUND STAKES. I DON'T BELIEVE IT!



MAN! YOU REALLY PROVE 'EM IN, HERB... LOOKIT THE LENGTH OF THAT ROD.

HAR, HAR, YEAH! LOOK AT 'EM.



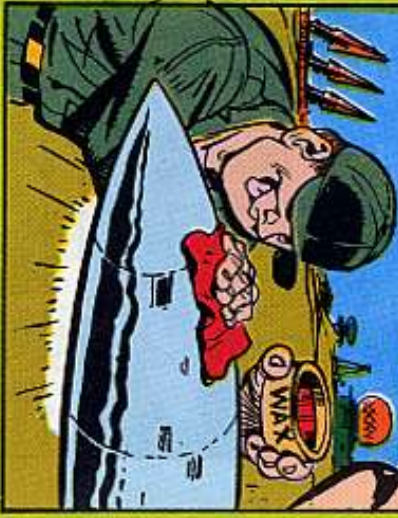
THEY'RE ONLY FOUR INCHES LONG!!

# Joe's Dope Sheet

DO YOU HAVE A BEAVER ON YOUR POST WHO'S ALWAYS TRYING TO EPISON OR BELL OR MARCONI WITH AN ALREADY WORKING ITEM?



... LIKE ADDING EXTRA SWITCHES... OR MAKING YOUR EQUIPMENT REMOTE CONTROLLED?

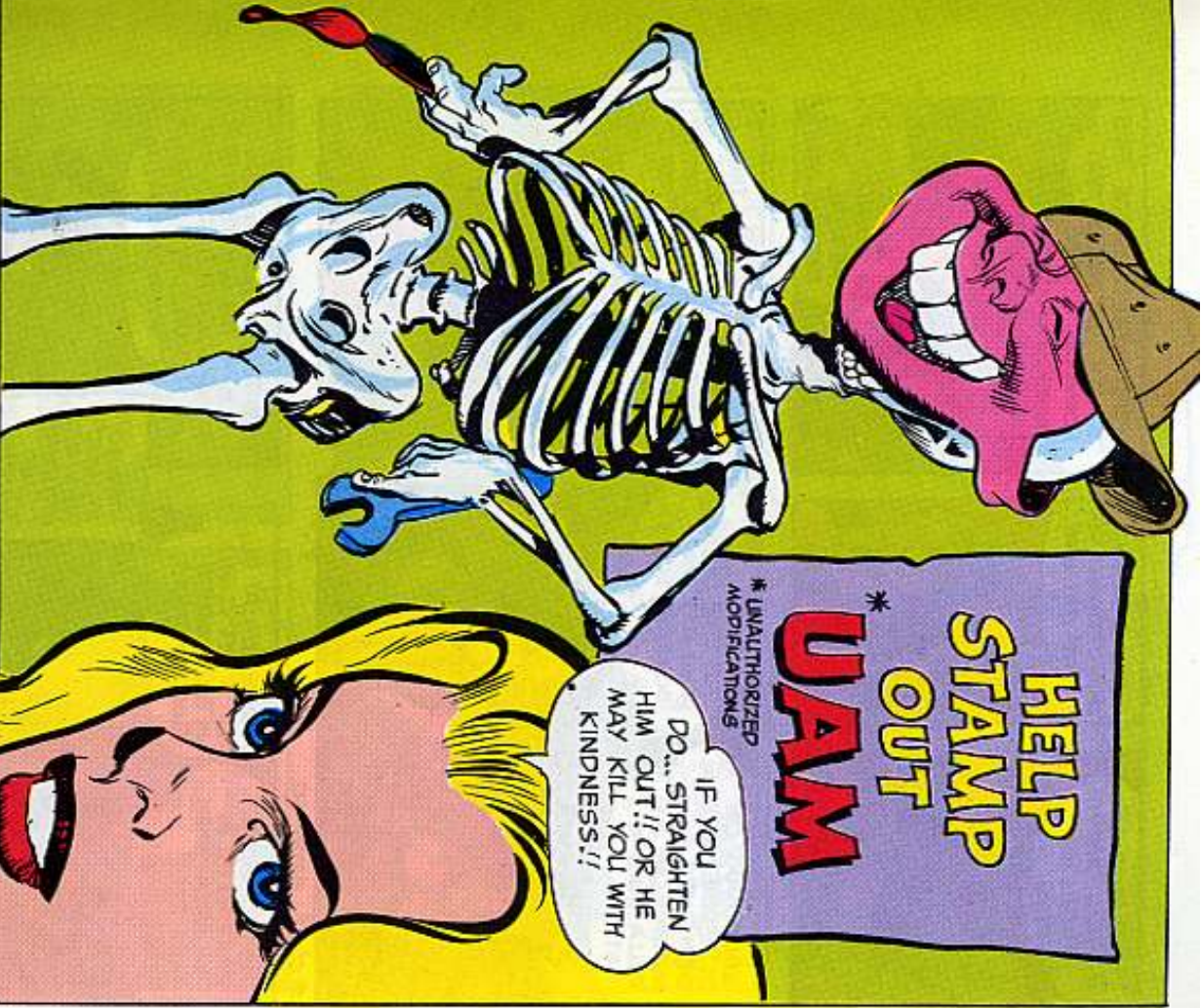


UNNECESSARY PAINTING, POLISHING, OR MODIFYING ROBS YOUR OUTFIT OF PRECIOUS MAINTENANCE TIME AND CAN CAUSE EQUIPMENT TO FAIL WHEN YOU NEED IT MOST!

## WE HAVE THE WORLD'S BEST EQUIPMENT ...

## Take it out of it

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



HELP  
STAMP  
OUT  
**UAM**  
\* UNAUTHORIZED APPLICATIONS

IF YOU DO... STRAIGHTEN HIM OUT!! OR HE MAY KILL YOU WITH KINDNESS!!



NOW, FOR A NUMBAH ONE FIX ON THIS OL' M60.



AND A SLIGHT IMPROVEMENT ON THIS GRENADE...



DON'T SWEAT IT, SARGE. THIS TIMELY FIX BEATS THAT REGULAR STUFF!

IF YOU'D STICK TO REGULAR PM, WE'D ALL BE BETTER OFF!



KINDA HARD ON OL' HERBIE, AINTCHA.. BEING HE'S A NUMBAH ONE JOE, FULLA YAKS 'N' STUFF.

\* CỎ LỄ! BUT ONE O' THEM YAKS MAY ZAP SOMEONE SOME DAY.



HE'S BEEN PULLING THIS FOOLISHNESS BOO-COO LONG... 'N' HE KNOWS BETTER! LIKE I SAID... THEM STUPID FIXES AND PRACTICAL JOKES ARE GONNA BACK-FIRE.

\* CỎ LỄ: MAYBE SO..



...AND I DON'T WANT TO BE IN THE AREA WHEN THEY DO... \*CHÀO ỜNG!

DON'T SWEAT IT... LET'S GET CLUED IN ON TONIGHT'S FUN AND GAMES.

AND SO, AT 1600 THE FORCE IS BRIEFED AND READIED



THAT'S IT, MEN. YOU HAVE THE COUNTERSIGNS. CHECK Y'R FLARES AND LOADS. LET'S LOAD UP 'N' MOVE OUT!

\* CHÀO ỜNG: GOOD BY



Man! They like hoofed it out in that tall tall grass. All them cats and ol' laughin' GASS.. He was a GASSER, Hep Hep! Ol' HERBIE GASS ROODEE DOO-PAH-DAYY

♪ ♪ ♪



THERE IT IS...OL' 'FIFTY PEE' HILL, SMACK IN THE MIDDLE OF THE MO CHI TIN TRAIL.



FLASH TH' WORD WE'RE AT ZEBRA NINER. THEN IT'S SHUT UP AND WAIT... NO SMOKIN', NO TALKIN', NO BREATHIN'...

"ROGE"



SARGE! THE 25 IS NUMBAH TEN. NOTHIN', DEAD!

GASS!! @\*!#!! YOU DID IT NOW!



CANTCHA TAKE A JOKE...?GULPE CAN'T WE? ?GULPE I DIDN'T THINK SO.



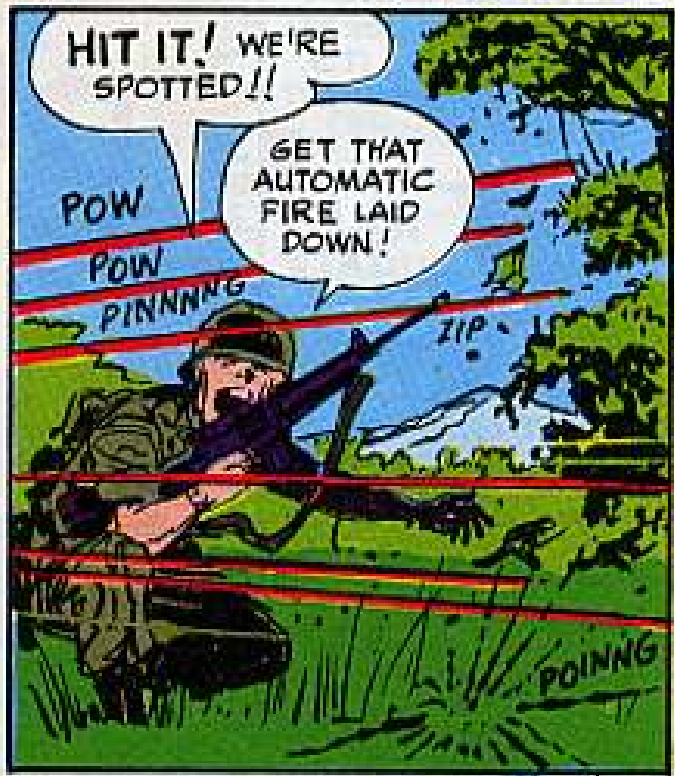
SUDDENLY THIRTY METERS AWAY, THE JUNGLE FLARES WITH SMALL-ARMS FIRE

POW POW RATATATATATAT

WE'RE PINNED.

MISMATCHED @\*!#!!

AND NO RADIO!



HIT IT! WE'RE SPOTTED!!

GET THAT AUTOMATIC FIRE LAID DOWN!



GET THAT JEEP  
CRANKED UP!!  
WE'RE MOVIN'!



SHE WON'T START  
...WIRES SHORTED.  
THERE'S WATER IN  
ALL THE  
CONNECTIONS!



GASS... I  
TOLD YOU  
THAT STEAM  
WOULD FOOL  
YOU...

I WAS JUST  
TRYIN' TO DO  
GOOD!



WHILE SOMEONE DRIES  
IT OUT... WE'LL BUY  
TIME!! WHEN I SAY  
"THROW!" TOSS Y'R  
GRENADES TOWARDS  
THAT GULLY... THEN  
WE CUT OUT SAFE.

OK, OK  
I GETCHA!!  
GULP



THROW!

GASP

GRUNT  
I CAN'T  
GET TH' PIN  
LOOSE!!



I BENT THE PIN BACK  
SO IT WOULDN'T BE SO  
EASY TO PULL... IT'S  
A LITTLE IMPROVEMENT  
I INVENTED, SARGE!

YOU  
WHAT?



OH ♪ WHEN THE BOYS  
WERE TIRED  
AND WHEN THE GUYS  
WERE BLUE,  
'T WAS GASS, THE  
COMPANY COMIC,  
WHO CHEERED THE  
MEN RIGHT THRU!  
♪ BUT THOSE PORE OL'  
CATS WHO DUG HIM MOST  
ARE ALL ALAS ♪ ♪  
A BUNCH OF GHOSTS.



**GROUND  
MOBILE**

**BATTERIES LAST LONGER ON ...**



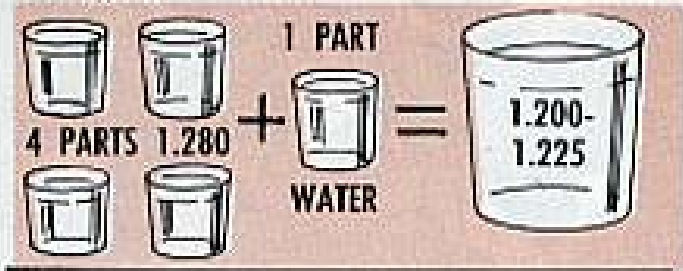
# ELECTROLYTE

Life in the tropics is rough on lead-acid storage batteries. But you can make your battery's life happier and longer by operating it on weaker electrolyte than it needs in cooler places.

TM 9-6140-200-15 (Jul 58), para 37b, says the specific gravity reading (SPGR) of electrolyte for tropical operations must be between 1.200 and 1.225.

Coming from a cool climate, your batteries may now be carrying 1.280 electrolyte. And the electrolyte you get for activating new, dry-charged batteries is 1.280 SPGR.

So what's the formula for diluting 1.280 electrolyte to 1.200-1.225 electrolyte? And what's the best way of doing it?



**SAME AS:**



**REMEMBER — ALWAYS POUR ELECTROLYTE INTO WATER AND NEVER WATER INTO ELECTROLYTE.**



For mixing, use a clean container made of glass, heavy plastic or hard rubber. A handy mixing tub can be made from a discarded 6TN battery — take the top off, remove the guts and knock out the partitions.

CAREFUL...  
THERE MIGHT  
BE SOME ACID  
LEFT IN IT.



### BE CAREFUL!

KEEP FROM SPLASHING THE ACID ELECTROLYTE IN YOUR EYES OR ON YOUR SKIN AND CLOTHES. IF IT DOES GET ON YOU, WASH IT OFF FAST WITH PLENTY OF WATER!

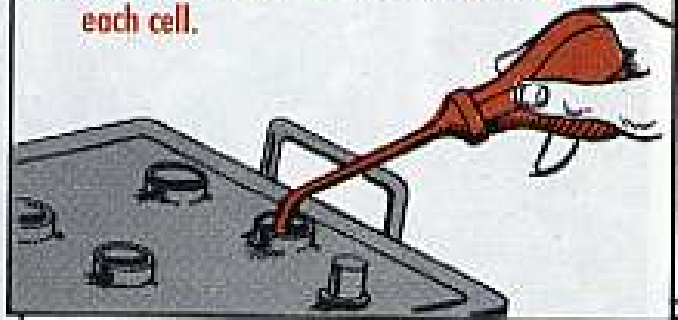


IF IT GETS IN YOUR EYES WASH 'EM WITH PLENTY OF WATER AND GET FIRST AID PRONTO!

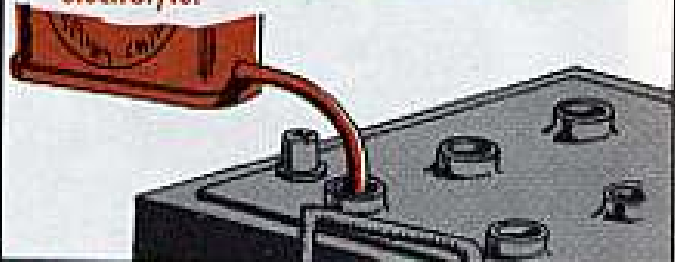
## ACTIVATING NEW BATTERIES

Another method of mixing, when you're activating new, dry-charged 6TN batteries, is:

1. Pour  $\frac{1}{2}$  pint (8 fluid ounces) of water into each cell.



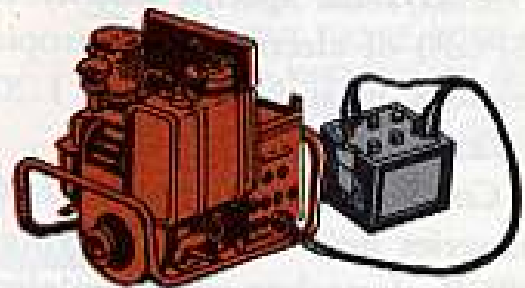
2. Fill all cells to the proper level with 1.280 electrolyte.



3. Let the battery stand for 20 minutes and add more electrolyte if it's needed to come up to the proper level.

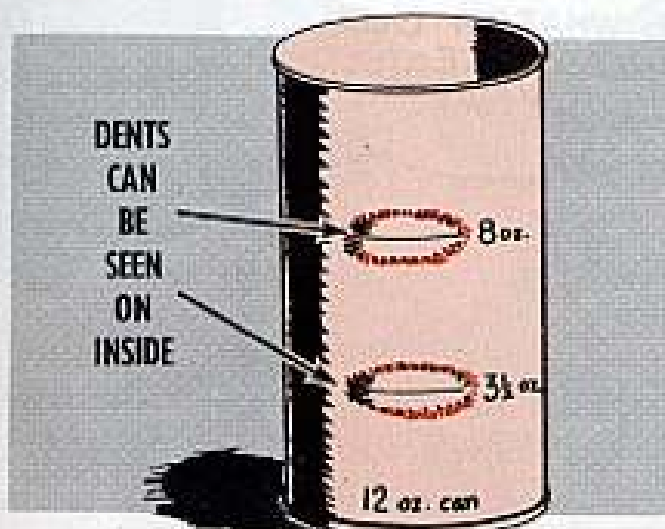


4. Give the battery its initial charge before putting it into service, as explained in Ch 1 (Jan 62) to TM 9-6140-200-15.



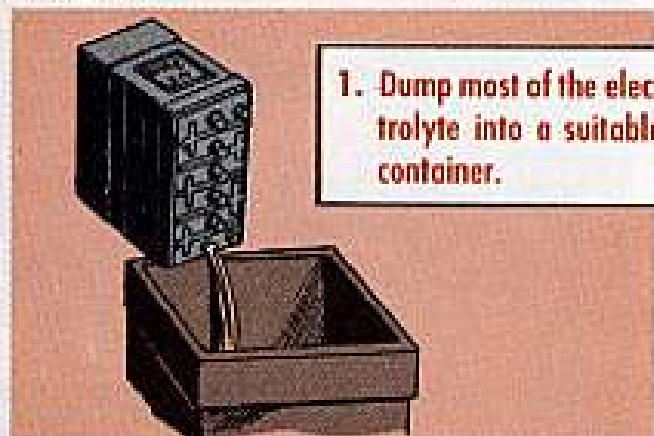
For new, dry-charged 2HN batteries you use the same method except you put only  $3\frac{1}{2}$  fluid ounces (a shade under  $\frac{1}{4}$  pint) of water into each cell before adding 1.280 electrolyte.

A standard 12-oz soft-drink can, makes a good measure for water — but water only, not electrolyte. Mark off a clean can into thirds —  $\frac{2}{3}$  of a can for 8 ounces and a little under  $\frac{1}{3}$  of a can for  $3\frac{1}{2}$  ounces. (With an inside can length of  $4\frac{1}{2}$  inches, 3 inches equals 8 ounces and  $1\frac{5}{16}$  inches equals  $3\frac{1}{2}$  ounces.) A light tap with a tool on these marks will make slight dents that can be seen on the inside of the can for accurate measurement.



### BATTERIES IN SERVICE

Electrolyte already in a battery can be changed from 1.280 SPGR to 1.200-1.225 SPGR by replacing some of the electrolyte with water (8 ounces for 6TN and  $3\frac{1}{2}$  ounces for 2HN). This should be done only with a battery that's in top-notch condition and fully charged.



2. Pour the right amount of water into each cell — rightaway so the plates won't be exposed to air too long.

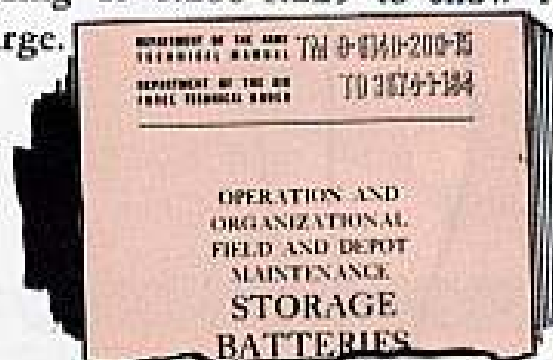
3. Put back enough of the electrolyte to come up to the proper level.



4. Charge the battery until 3 specific gravity readings, taken at 30-minute intervals, show that the battery's fully charged.

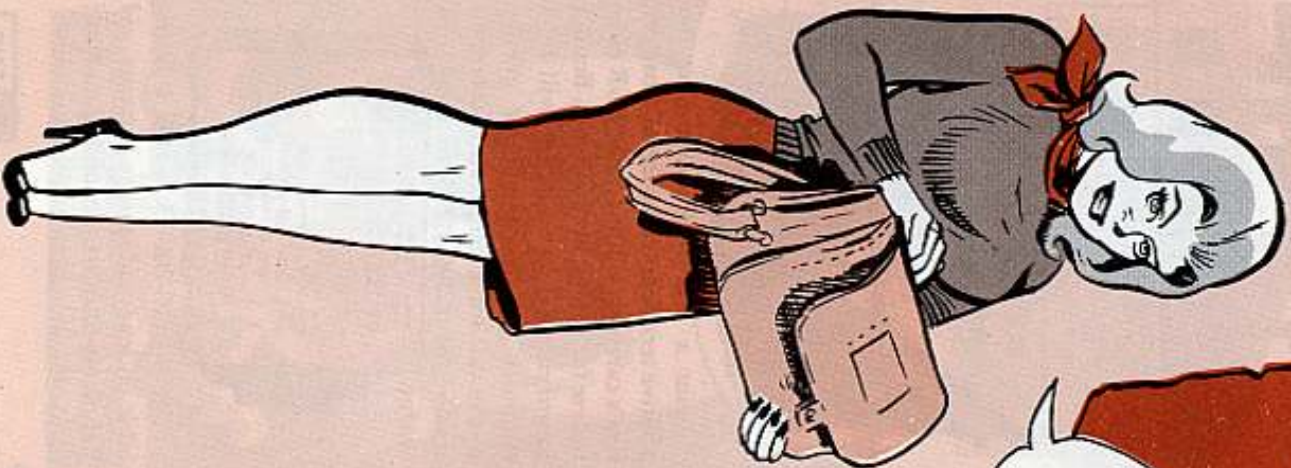


Paint a 1-in white spot near the positive terminal on the top of a battery that's carrying 1.200-1.225 SPGR electrolyte for service in the tropics. Besides identifying the battery, this will be a reminder that future specific gravity checks call for a temperature-corrected reading of 1.200-1.225 to show full charge.



TM 9-6140-200-15 w/Ch 1 is the bible on lead-acid storage batteries and has plenty of info on handling and care of batteries.

THE  
WHAT  
IN  
WHERE  
OF  
YOUR...



# M543 WRECKER

"A TOOL FOR EVERY JOB... A PLACE FOR EVERY TOOL... EVERY TOOL IN ITS PLACE"... IS WHAT MY OLD UNCLE ZEKE USED TO SAY!

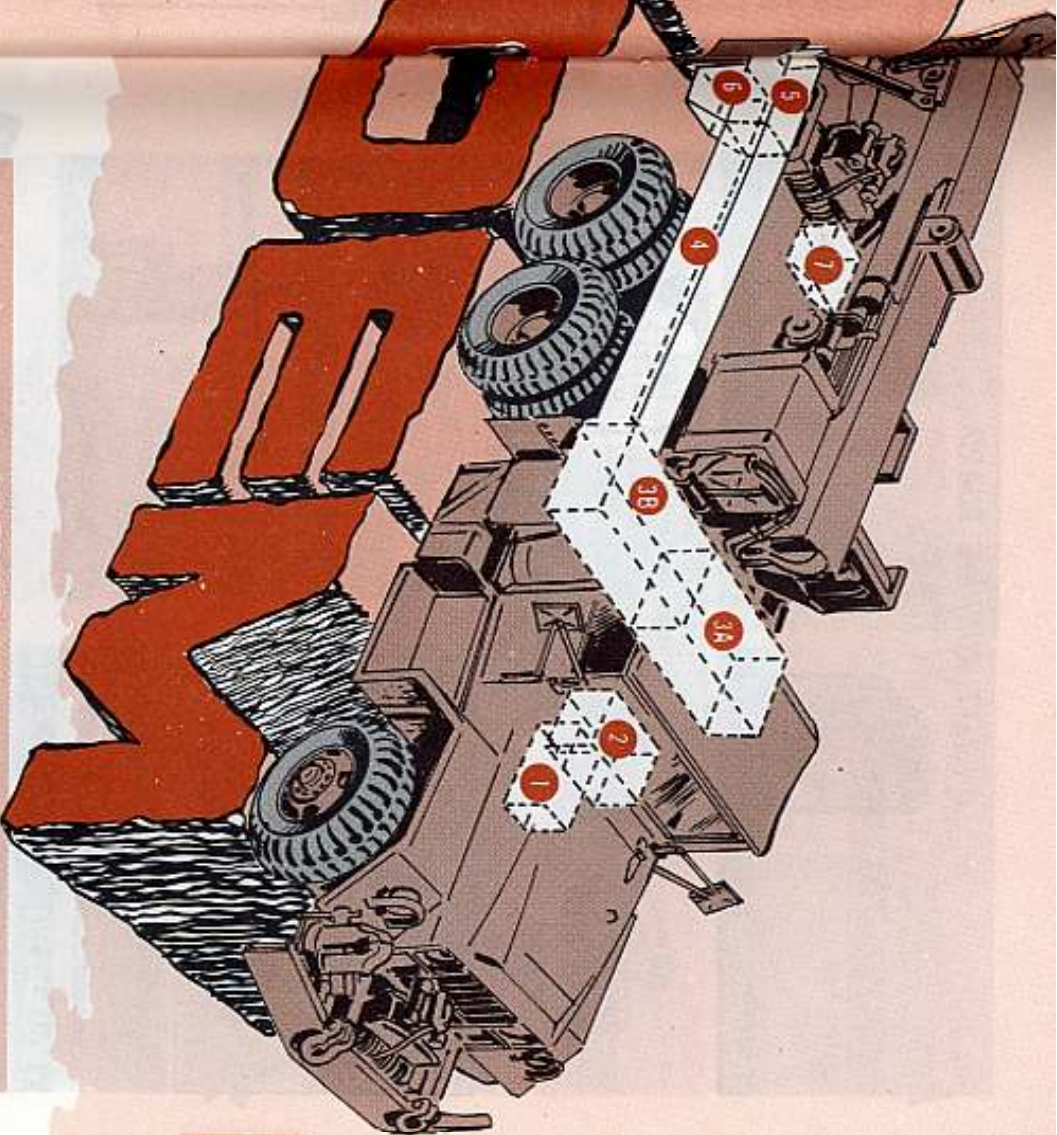
That sure makes sense, especially when you've got an M543 (or M543A2) 5-ton wrecker with more'n 150 pieces of equipment, mostly tools, to keep track of.

You're ready to handle just about any recovery job—if you know what you've got and where it is. So, to make sure, here's all the stuff you should have aboard—remember, tho, that some items may not look exactly like what's in the pictures because of comin' from different manufacturers:

## ON RIGHT FRONT BUMPER

1 — VISE, bench and pipe, sw/b-esse, 5-in jaw width

FSN 5120-243-9072



## ON FRONT WINCH DRUM

1 — CABLE ASSY, winch, w/clevis and chain.



1 — CLEVIS ASSY, wire rope



FSN 4030-262-3154

COMPOSED OF:  
1 — CHAIN ASSY, winch, 5/8-in link, 6 feet long, w/2 cplg links and hook



1 — ROPE WIRE, 5/8-in dia, 280 feet long



FSN 4010-274-6817

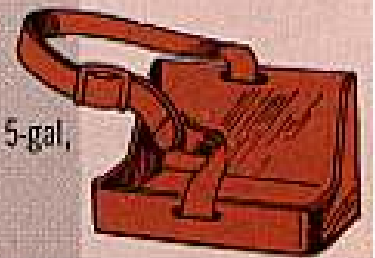
## ON LEFT RUNNING BOARD

1 — CAN, gasoline, military type, 5-gal



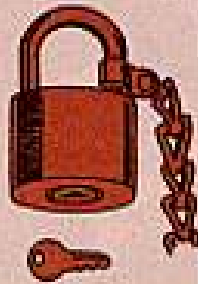
FSN 7240-222-3088

(in BRACKET, can, 5-gal, w/strap



FSN 2590-473-6331

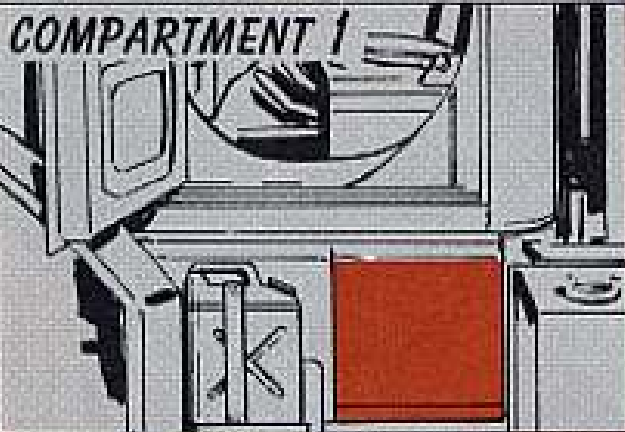
## ON STOWAGE COMPARTMENT DOORS



1 — PADLOCK SET, keyed alike, w/clevis and chain, composed of 5 padlocks and 7 keys, (1 tack-welded to door of compartment 1, 3A, 7, 6, 3B)

FSN 5340-682-1504

TRY A LITTLE GRAPHITE ON FROZEN LOCKS!!



## COMPARTMENT 1

1 — HANDLE, bar, wheel stud nut wrench, 3/4-in dia, 30 inches long



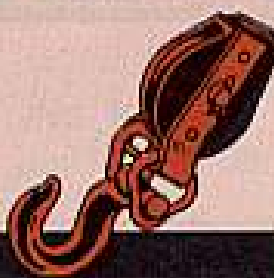
FSN 5120-243-2419

1 — WRENCH, socket, wheel stud nut, dbl-hd, 1 1/2-in hex opng, 13/16-in sq opng, 17-19 inches long



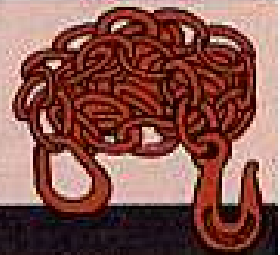
FSN 5120-316-9217

1 — BLOCK, rigging, wire rope, sgl 8-in sheave, w/swv hook, 5/8-in dia rope, 10-ton working load



FSN 3940-630-9931

1 — CHAIN, utility, 5/8-in link, 16 feet long, w/hook, w/2 pear shape cpig end links



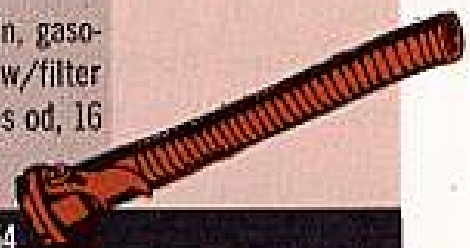
FSN 4010-473-6166

1 — JACK, hydraulic, hand, self-contained, 8-ton, w/operating lever



FSN 5120-061-0728

1 — SPOUT, can, gasoline, flexible, w/filter screen, 2 1/4 inches od, 16 inches long



FSN 7240-177-6154

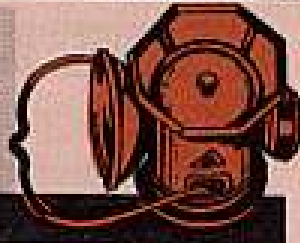
KEEP A THIN FILM OF OIL ON METAL TOOLS THAT ARE APT TO LIE AROUND!



## COMPARTMENT 2



1 — LANTERN, electric, hand, 6-volt, w/2 lamps



FSN 6230-498-9408

2 — BATTERY, dry, 6-volt, (1 in lantern)



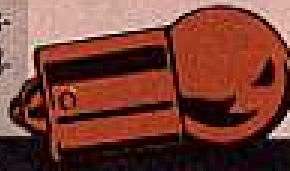
FSN 6135-050-3280

1 — CORD, light, inspection, 25 feet long



FSN 6150-378-2055

1 — LAMP, incandescent, bayonet base, 28-volt, (in inspection light)



FSN 6240-044-6914

1 — CORD, extension light, w/sgl-contact plug and socket, 25 feet long



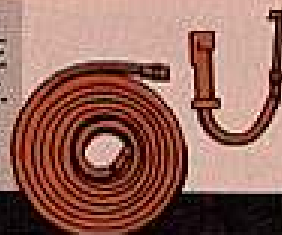
FSN 6230-548-0387

1 — EXTENSION, cable, electric, 24-volt, 20 feet long, w/coupling (slave)



FSN 4910-474-9135

1 — GAGE AND HOSE ASSY, tire inflation, self-contained, 30 feet long



FSN 4910-777-2943

1 — FRAME, hacksaw, hand, adjustable



FSN 5110-223-4971

12 — BLADE, hacksaw, hand, 12 inches long



FSN 5110-237-8106

1 — GREASE GUN, hand, lever operated, w/6-in extension



FSN 4930-268-9614

1 — ADAPTER, grease gun, rigid, 6 inches long



FSN 4930-387-9551

1 — EXTENSION, grease gun, flex hose, 12 inches long



FSN 4930-288-1511

1 — FLARE KIT, reflector type, w/flags, reflectors, instructions and metal box



FSN 9905-449-7161

1 — BAG, tool, canvas, 10 x 20 inches, w/flap



FSN 5140-772-4142

### IN TOOL BAG:

2 — LINK, chain, repair (front winch), 5/8-in



FSN 4010-542-4436

3 — PIN, shear (front winch), 3/8-in dia, 2 5/8 inches long, aluminum



FSN 5315-740-8348

6 — PIN, cotter (for shear pin), split, 3/4-in



FSN 5315-012-1222

(Continued) **COMPARTMENT 2 IN TOOL BAG:**



2 — LINK, chain, repair (rear winch), 3/4-in

**FSN 4010-224-5170**



3 — PIN, shear (rear winch), grooved, hd, 3/8-in dia, 3 1/2 inches long

**FSN 5315-282-2583**



3 — PIN, cotter (for shear pin), split, 1-in

**FSN 5315-013-7185**



1 — PLIERS, slip joint, w/cutter, 10 inches long

**FSN 5120-223-7398**



1 — SCREWDRIVER, cross tip, sight, Phillips, plastic hdl, pt No. 2, 7 1/2 inches long

**FSN 5120-234-8913**



1 — SCREWDRIVER, cross tip, sight, Phillips, plastic hdl, pt No. 3, 10 1/4 inches long

**FSN 5120-234-8912**

1 — SCREWDRIVER, flat tip, common, plastic hdl, 3/4-in wide tip, 7 3/4 inches long

**FSN 5120-222-8852**



1 — SCREWDRIVER, flat tip, hv duty, steel hdl w/wood inserts, 1/2-in wide tip, 9 1/2 inches long

**FSN 5120-221-7338**



1 — WRENCH, open end, adjustable, sq head, sight hdl, 12 inches long

**FSN 5120-264-3796**



1 — WRENCH, plug, sight, bar, sq, 1 1/2-in sq plug, 2 1/2 inches long

**FSN 5120-708-3302**



**BEHIND CAB**



Right side:

1 — CYLINDER, compressed gas, acetylene, w/valve and cap, filled

**FSN 6830-264-6751**



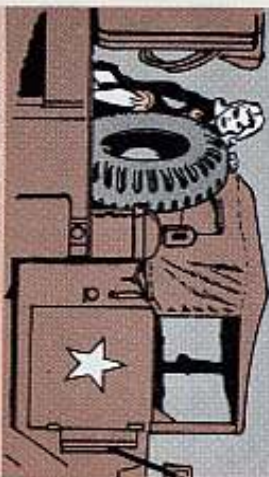
Left side:

1 — CYLINDER, compressed gas, oxygen, w/valve and cap, filled

**FSN 6830-292-0129**



**SPARE WHEEL WELL**



1 — WHEEL ASSY, spare, w/tire and tube.

CONSISTING OF:

1 — INNER TUBE, pneumatic tire, truck and bus, 11.00-20, w/valve

**FSN 2610-051-9450**



1 — TIRE, pneumatic, truck and bus, 12 ply, 11.00-20, w/flap, cross country tread

**FSN 2610-262-8653**



1 — WHEEL ASSY, w/rim

**FSN 2530-738-8820**



1 — FRAME, canopy (front), tubular, steel

**FSN 2540-860-2356**



1 — FRAME, canopy (rear), tubular, steel

**FSN 2540-860-2357**



1 — CAP, tire valve, standard bore

**FSN 2640-052-0944**



1 — VALVE CORE, pneumatic tire, standard bore

**FSN 2640-050-1229**



**A SLOW LEAK COULD BE A LOOSE VALVE CORE!**



2 — CHAIN, utility (1 each side), sq leg, 3/4-in link, 12 feet long, w/grab hook and pear shape coupling link

**FSN 4010-449-6573**



1 — CANOPY, gondola, canvas

**FSN 2540-860-2355**



3 — BRACE, gondola top, steel

**FSN 2540-860-2358**



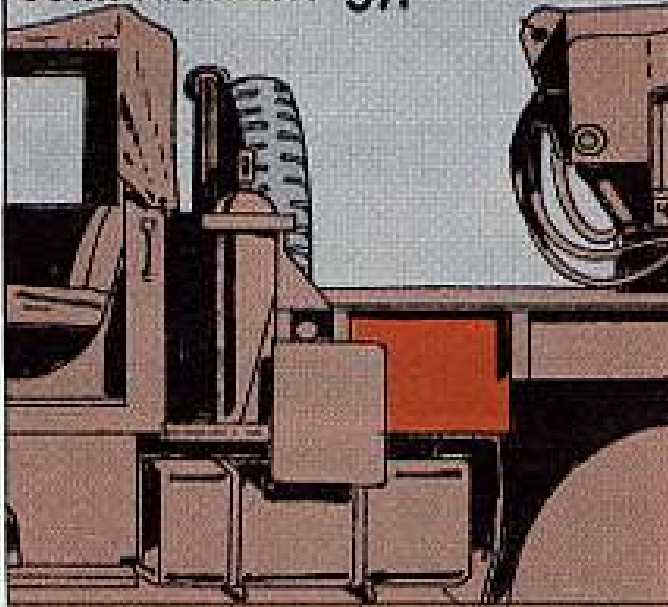
2 — STRAP, webbing, 1 1/2-inches wide, 24 inches long, w/buckle

**FSN 5340-543-3034**

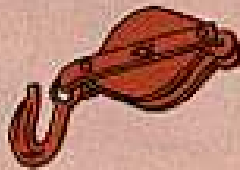




## COMPARTMENT 3A



1 — BLOCK, tackle, manila rope, sgl 4 $\frac{3}{4}$ -in sheave, 1-in dia rope, w/ loose side hook, w/ becket



FSN 3940-239-0732

1 — BLOCK, tackle, manila rope, dbl 4 $\frac{3}{4}$ -in sheave, 1-in dia rope, w/ loose side hook



FSN 3940-223-3821

1 — ROPE, manila,  $\frac{3}{8}$ -in dia, 50 feet long



FSN 4020-238-7734

1 — ROPE, manila,  $\frac{3}{4}$ -in dia, 100 feet long



FSN 4020-234-8399

1 — ROPE, manila, 1-in dia, 300 feet long



FSN 4020-231-2581

1 — BAR, pinch, offset and tapered ends, 36 inches long



FSN 5120-224-1384

1 — BAR, wrecking, gooseneck, pinch point w/ claw, 36 inches long



FSN 5120-242-0762

1 — CASE, crosscut saw, cotton duck, 63 $\frac{3}{4}$  inches long



FSN 2540-860-2354

1 — SAW, crosscut (in case), 1-man, 5 feet long, w/ supplementary hdl



FSN 5110-754-0704

1 — CUTTER, bolt, rigid hd type, clipper cut type, 35 to 39 inches long



FSN 5110-188-2524

1 — WRENCH, open end, fixed, sgl hd, 1 $\frac{5}{8}$ -in opng, 14 $\frac{7}{8}$  inches long



FSN 5120-277-1244

1 — WRENCH, open end, fixed, sgl hd, 1-11/16 inch opng, 14 $\frac{7}{8}$  inches long



FSN 5120-277-1245

1 — WRENCH, open end, fixed, sgl hd, 1-13/16 inch opng, 16 $\frac{3}{8}$  inches long



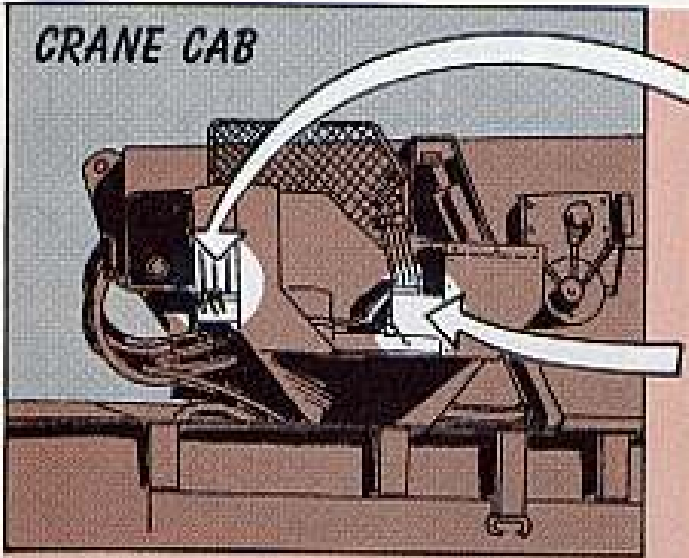
FSN 5120-277-1242

KNUCKLEBUSTERS  
ANONYMOUS  
STOP THE BAD  
TOOL HABIT



YES, I KNOW IT'S HARD TO BREAK THE HABIT. BUT, YOU MUST USE A TOOL PROPERLY OR...

## CRANE CAB



On rear (in brackets):  
3—EXTINGUISHER, fire,  
hand, CF 3 BR (freon),  
23¼-lb cap



FSN 4210-555-8837

### RIGHT SIDE:

1 — OILER, hand, push  
bottom type, ½-pt cap

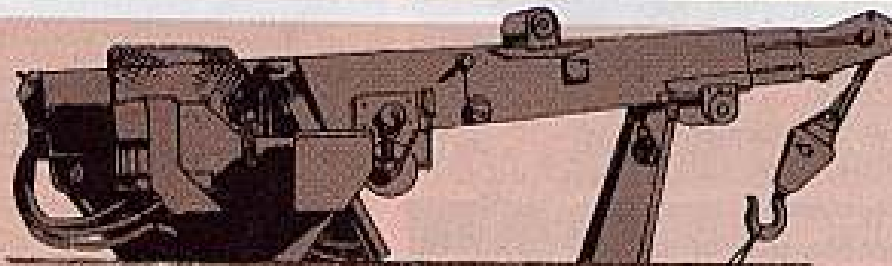
FSN 4930-272-7968



1 — HOLDER, oiler, hand

FSN 2590-899-6721

## CRANE BOOM



### IN BRACKET:

(BRACKET, pioneer  
tools



FSN 4910-347-5494

1 — AX, single bit, 4-lb  
hd, 4¾-in cutting edge,  
35½ to 36½ inches long



FSN 5110-293-2336

1 — HANDLE, mattockpick, railroad or clay  
pick, 36 inches long

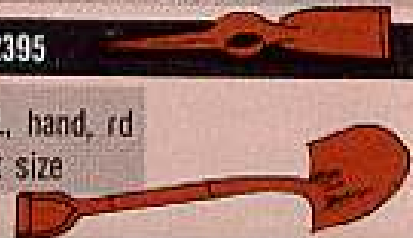


FSN 5120-254-6618

1 — MATTOCK, pick type, 5-lb

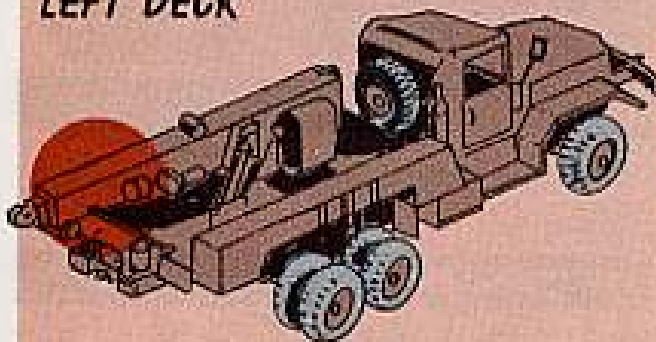
FSN 5120-243-2395

1 — SHOVEL, hand, rd  
pt, D hdl, short size



FSN 5120-293-3336

## LEFT DECK



### IN BRACKETS:

2 — TUBE, boom jack  
(bottom)



FSN 2540-040-2301

HMMM  
I NEVER DID  
LEARN WHAT  
THIS TOOL  
IS USED  
FOR!

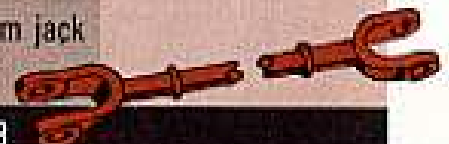


2 — TUBE, boom jack  
(top)



FSN 2540-040-2300

1—BAR, tie boom jack

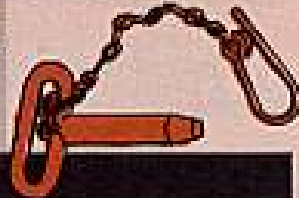


FSN 2540-040-2298

## COMPARTMENT 7



2 — PIN, boom jack, w/lock pin



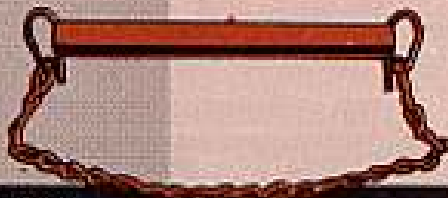
FSN 5315-740-9834

2 — PIN, boom jack, tie bar yoke, w/lock pin



FSN 5315-316-1008

1 — PIN, inner boom jack, w/lock pins



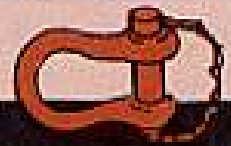
FSN 5315-854-4331

3 — CHAIN, pneumatic tire, truck, sgl, 11.00-20 (for left side of vehicle — when authorized), (3 in comp 6)



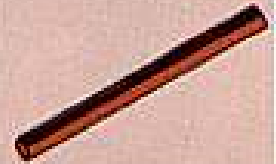
FSN 2540-054-0027

2 — SHACKLE, anchor, rd pin, 7/8-in dia



FSN 2540-318-0326

1 — BAR, cranking, outrigger, 1-in dia, 12 inches long, (duplicate in Compartment 6)



FSN 2540-860-2359

1 — WRENCH, auto, adj, 15 inches long



FSN 5120-264-3793

1 — WRENCH, pipe, hv duty, adj, 18 inches long



FSN 5120-277-1461

1 — CHISEL, blacksmith's, cold, 1 1/2-in cutting edge, 16-in hdl



FSN 5110-221-1075

2 — CHISEL, machinist, cold, 1-in cutting edge, 24 inches long



FSN 5120-238-8292

1 — PUNCH, blacksmith's, rd hdl, 3/4-in dia cutting edge



FSN 5120-197-9473

1 — ROPE, wire, 1/2-in dia, 95 feet 5 inches long



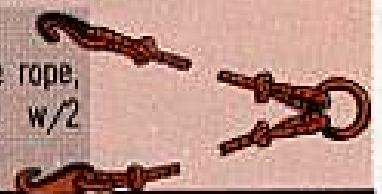
FSN 4010-285-4208

1 — CLEVIS ASSY, wire rope



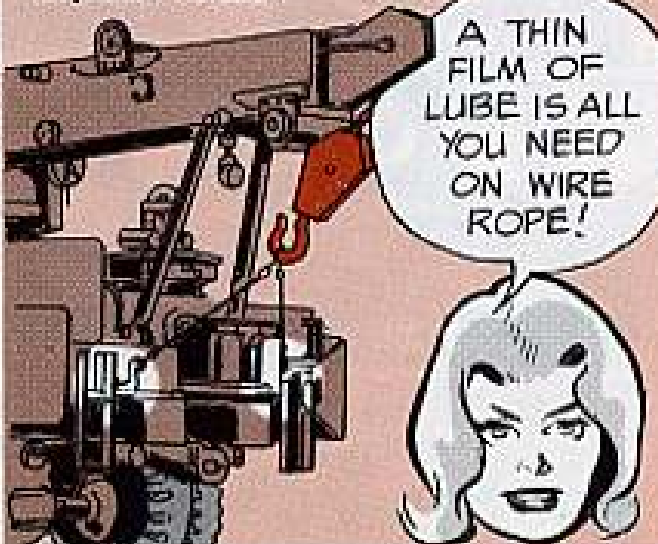
FSN 4030-961-9781

1 — SLING, wire rope, dbl leg, w/ring, w/2 hooks

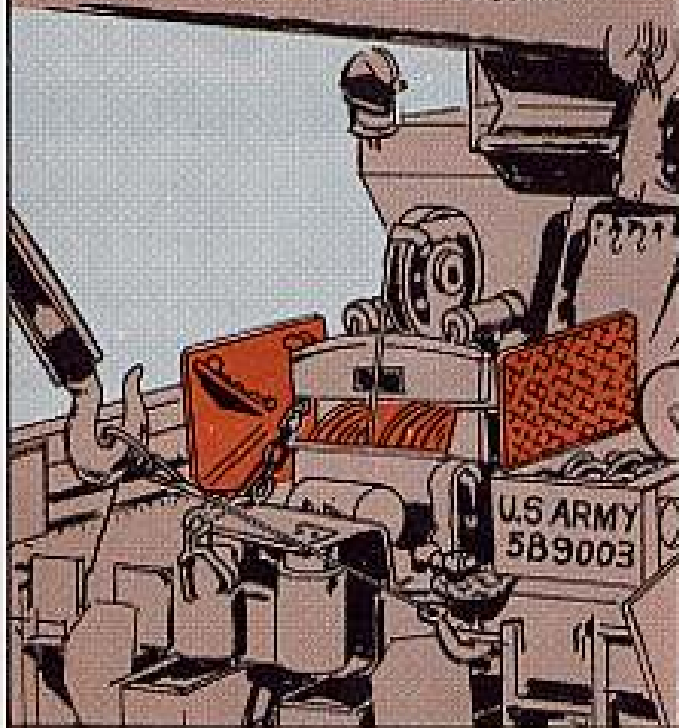


FSN 2520-040-2297

## CRANE HOIST



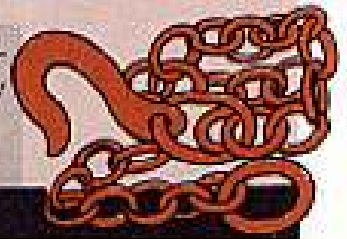
## ON REAR WINCH DRUM



1 — CABLE ASSY, winch, w/clevis and chain

CONSISTING OF:

1 — CHAIN, winch, 3/4-in link, 6 feet long, w/hook



FSN 2540-771-7033

1 — CLEVIS, wire rope, 3/4-in dia



FSN 4030-706-5553

1 — ROPE, wire, 3/4-in dia, 350 feet long, hemp center



FSN 4010-285-4210

## REAR DECK

2 — BASE, boom jack, (1 each side of winch)

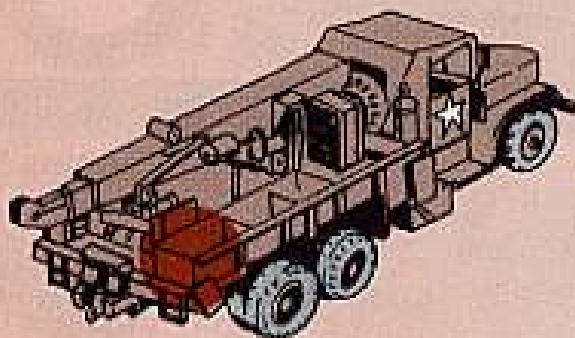


FSN 2540-040-2299

KEEP GEAR NEATLY STOWED... SO YOU CAN FIND 'EM IN A HURRY!



## COMPARTMENT 5



2 — BLOCK, rigging, wire rope, dbl 8-in sheave, w/swv shackle, 7/8-in dia rope, 25-ton cap



FSN 3940-792-9881

2 — BLOCK, rigging, wire rope, sgl 10-in sheave, w/swv eye and shackle, 3/4-in dia rope, 15-ton cap

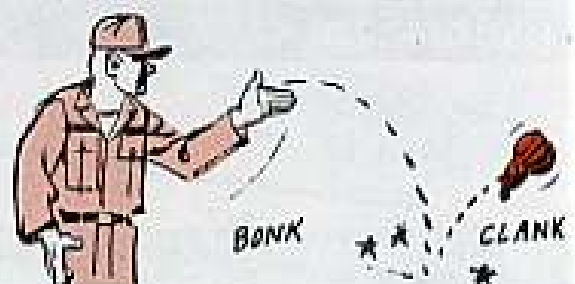


FSN 3940-630-9932



DON'T THROW GEAR AROUND!! KNOCKED-LOOSE BOLTS NEVER SHOW UP UNTIL THEY'RE UNDER STRAIN!!

49



FOR MORE

### COMPARTMENT 6



1 — BAR, cranking, out-rigger (duplicate in Comp 7)



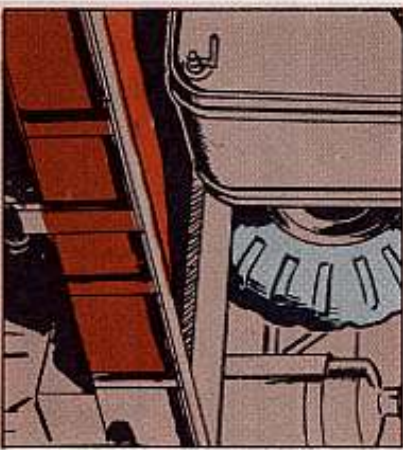
FSN 2540-860-2359

3 — CHAIN, pneumatic tire (for right side of vehicle — when authorized — duplicates in Comp 7)



FSN 2540-054-0027

### COMPARTMENT 4



1 — BAR, hoisting (with: fletree)



FSN 3840-347-9703

1 — BAR, tow, motor vehicle, V type, light duty



FSN 4910-735-6056

2 — CHOCK, field (spade and leg)



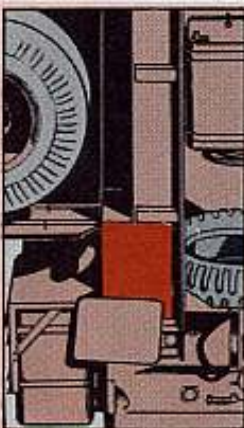
FSN 4820-315-2306

2 — CROWBAR, pinch point, 59 to 62 inches long



FSN 5120-224-1390

### COMPARTMENT 3B



1 — HAMMER, hand, sledge, blacksmith's, dbl face, 20-lb, 35 to 37 inches long



FSN 5120-230-7043

1 — HOSE, tank drain, hyd oil, 1 3/4-in od, 60 inches long



FSN 2590-699-6721

1 — HOSE, rubber, braided, green, 25 feet long, w/ plugs (oxygen)



FSN 3433-356-8572

1 — HOSE, rubber, braided, red, 25 feet long, w/ plugs (acetylene)



FSN 3433-356-8571



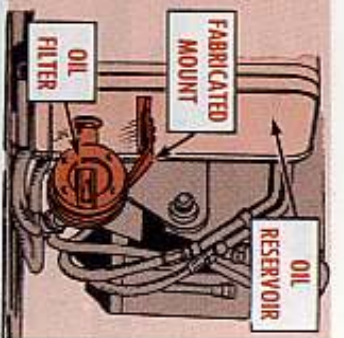
THIS STORAGE SETUP FOR THE WATER CAN GOES ON TOP OF THE RESERVOIR FILTER

1 — CAN, water, military type, 5-gal

FSN 7240-242-6153

in BRACKET, can 5-gal, w/ strap

FSN 2590-473-6331



1 — JACK, hydraulic, hand, 30-ton cap, w/ operating lever

FSN 5120-188-1790



1 — REGULATOR, pressure, compressed gas, acetylene, w/ coupling, adapter and outlet

FSN 6680-285-6067

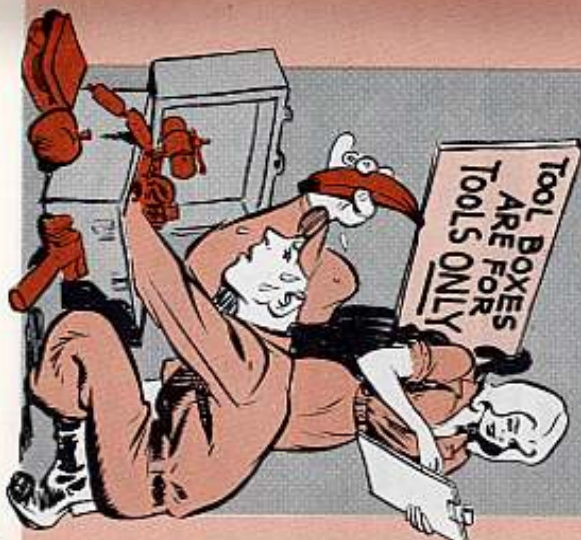


1 — REGULATOR, pressure, compressed gas, oxygen, w/ coupling, adapter and outlet

FSN 6680-641-3519



TOOL BOXES ARE FOR TOOLS ONLY



1 — TOOL SET, welder's

FSN 3431-754-0861

CONSISTING OF:

1 — TOOL BOX, mechanic's general, w/ tote tray



FSN 5140-357-5483

IN TOOL BOX:

1 — BRUSH, wire, scratch



FSN 7920-291-5815

1 — CHISEL, hand, cold, 1/2-in cutting edge, 5 3/4 inches long



FSN 5110-186-7107

1 — CHISEL, hand, cold, 3/4-in cutting edge, 6 1/2 inches long



FSN 5110-236-3272

1 — CLEANER SET, welding and cutting tips, 21 cleaners, designations A to V, w/ carrying case, indexed



FSN 3439-270-6047



(Continued) **COMPARTMENT 3B**  
IN TOOL BOX:

1 — FILE, hand, flat type, 12 inches long heel to point



FSN 5110-234-6539

1 — FILE, hand, mill type, 12 inches long heel to point



FSN 5110-242-5386

1 — FILE, hand, round type, 1/2-in dia, 12 inches long heel to point



FSN 5110-234-6557

1 — BOX, FLINT TIPS, friction igniter, w/holder, 6 per box



FSN 5120-254-9956

1 — GLOVES, welder's, leather, gauntlet, large size



FSN 9415-268-7859

**THERE IS NO  
FSN FOR EYES!  
ALWAYS WEAR  
PROTECTIVE  
GOGGLES  
WHEN WELDING**



1 — GOGGLES, welder's, w/eye cups, w/hardened glass filter lens, w/hardened glass cover lens, headband supported over spectacle type



FSN 4240-203-3804

1 — GOGGLES, chipper's, w/eye cups, w/clear hardened glass lens, non-polarized, headband supported over spectacle type



FSN 4240-269-7912

1 — HAMMER, hand, machinist's, ballpeen, 2-lb, 16 inches long



FSN 5120-224-4047

1 — HAMMER, hand, welder's, 14-oz, straight peen and punch point, sgl bevel, w/coiled spring hdl, 10 inches long



FSN 5120-585-2382

1 — HANDLE, file, wood, 1 1/2-in dia, 5 1/2 inches long, large size



FSN 5110-263-0341

1 — IGNITER, friction, wire frame style, sgl flint, round file, hooded type



FSN 5120-190-5540

1 — PLIERS, slip joint, stight nose, w/cutter, 10 inches long



FSN 5120-223-7398

1 — PUNCH, center, solid, 3/8-in dia tapd pt, 4 inches long



FSN 5120-293-3509

1 — PUNCH, drift, 3/8-in dia pt, 10 inches long



FSN 5120-293-0448



1 — RULE, multiple folding, wood or steel, 3-ft extended length, 6 sections, (steel)



FSN 5210-239-0489

or (wood).

FSN 5210-239-3393

1 — SCREWDRIVER, flat tip, metal, w/wood insert hdl, 3/8-in wide tip, 8-in blade, 14 1/2 inches long



FSN 5120-222-8871

1 — SCRIBER, machinist's, dbl pt, screwed, 1 stight and 1 reg bent, removable, 8 to 9 inches long



FSN 5120-596-1543

1 — SQUARE, combination, 12 inches long, sq and miter head, w/scraper and level



FSN 5210-221-2068

1 — WRENCH, box, dbl offset, dbl hd, 3/8-in and 3/4-in opngs, 4 inches long



FSN 5120-224-3153

1 — WRENCH, box, dbl offset, dbl hd, 1/2-in and 3/4-in opngs, 4 3/4 inches long



FSN 5120-224-3154

1 — WRENCH, box, dbl offset, dbl hd, 3/8-in and 3/4-in opngs, 6 inches long



FSN 5120-224-3138

1 — WRENCH, open end, adj, sgl hd, 8 inches long



FSN 5120-240-5328

1 — WRENCH, open end, adj, sgl hd, 12 inches long



FSN 5120-264-3796

**USE THE  
RIGHT  
SIZE!!**



1 — WRENCH, open end, fixed, dbl hd, 3/8-in and 3/4-in opngs, 4 1/8 inches long



FSN 5120-277-2342

1 — WRENCH, open end, fixed, dbl hd, 1/2-in and 3/4-in opngs, 5 1/2 inches long



FSN 5120-187-7124

1 — WRENCH, open end, fixed, dbl hd, 5/8-in and 3/4-in opngs, 7 inches long



FSN 5120-277-8301

1 — WRENCH, glier, curved jaw style, w/wire cutter, 8 1/2 inches long



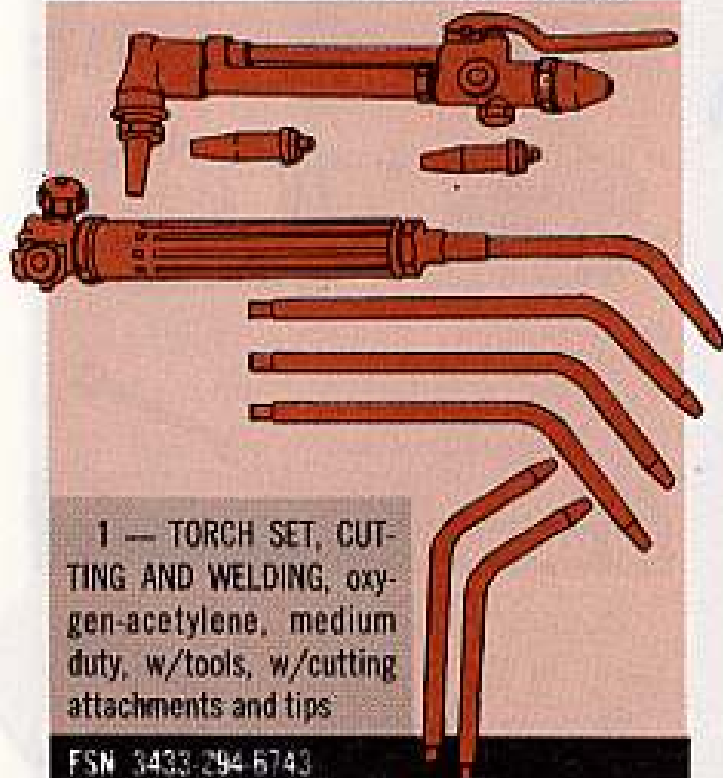
FSN 5120-494-1911





THERE ARE  
OLD WELDERS.  
THERE ARE  
BOLD WELDERS.  
...BUT, THERE  
ARE NO  
OLD-BOLD  
WELDERS.

**WEAR PROTECTIVE  
CLOTHING ALWAYS!**



1 — TORCH SET, CUTTING AND WELDING, oxygen-acetylene, medium duty, w/tools, w/cutting attachments and tips

**FSN 3433-294-6743**

(Your torch set comes from one of 6 different manufacturers — National Cylinder Gas Co., Smith Welding Equipment Co., Victor Equipment Co., Linde Air Products Co., Black Mfg. Co. or Dockson Corp. So yours may not look exactly like the setup shown. All the sets have the same FSN, but when you order replacement items, make sure you get 'em for the particular manufacturer's set you have.)

**MAP COMPARTMENT**



2 — FLASHLIGHT, electric, hand, 2 cell, w/lamp



**FSN 6230-264-8261**

4 — BATTERY, dry, 1.5 volt (in flashlights)



**FSN 6135-120-1020**

1 — BAG, pamphlet, cotton duck



**FSN 2540-796-1712**

**IN BAG:**

1 — LUBRICATION ORDER, LO 9-2320-211-12.

1 — MANUAL, TECHNICAL, TM 9-2320-211-10 w/changes as indicated by DA Pam 310-4.

1 — FORM, Accident Report, SF 91.

1 — FORM, Accident Identification, DD Form 518.

1 — LOG BOOK BINDER

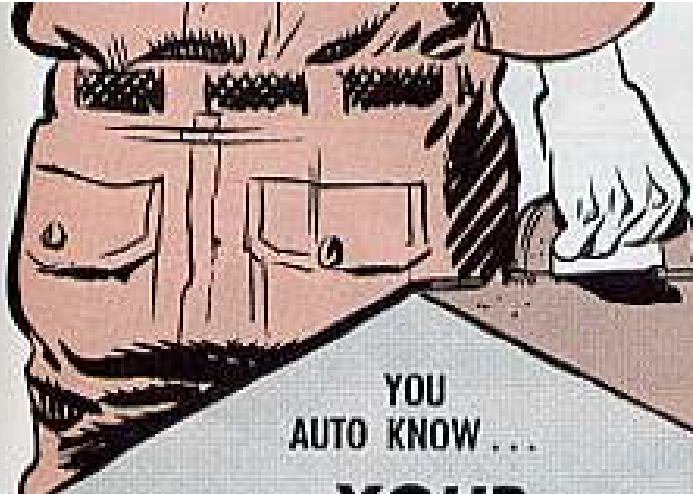
**FSN 7510-889-3494**

**IN LOG BOOK:**

1 — MANUAL, TECHNICAL, TM 9-2320-211-ESC/2 (for M543) or TM 9-2320-211-ESC/11 (for M543A2).

FORMS, as required by TM 38-750.





GREAT!!...  
HERE COMES THE  
WHEELS-DOCTOR WITH  
HIS BAG O' TOOLS!



OK, BUT  
WHAT SHAPE  
ARE THEY  
IN?

YOU  
AUTO KNOW ...

# YOUR MECHANIC'S TOOLS

Automotive or General, the tools in your mechanic's tool kit have to be in good shape and all the tools there if you're to do a good job. In case you don't have Fed Cat C5180-IL-A (Jul 66) on the—  
**AUTOMOTIVE MECHANIC'S TOOL KIT**  
FSN 5180-754-0641

here's a list you can use to check to make sure you have all your tools. This is the latest dope on FSN's and nomenclatures. SM 10-4-5180-A13 has been rescinded by DA Cir 310-17 (10 Aug 66).

Remember, if the tool you have doesn't look exactly like the one listed here, it's due to different manufacturers making the tools. One should do the job as well as the other.

You get only one tool unless noted.

BAR, PRY: 15-in to 16-in  


FSN 5120-224-1389

BIT, SCREWDRIVER:  
1/2-in drive, 3/8-in tip  


FSN 5120-223-6986


BIT, SCREWDRIVER:  
1/2-in drive, 1/2-in tip  


BRUSH, PAINT: oval, 1 1/4-in  



FSN 8020-297-6657

CHISEL, COLD, HAND: 1/2-in cut  



FSN 5110-186-7107

CHISEL, COLD, HAND: 3/4-in cut  


FSN 5110-236-3272

FILE, HAND: American pattern, flat style, 10-in  


FSN 5110-249-2850

FILE, HAND: American pattern, round style, 8-in  


FSN 5110-234-6551





FILE, HAND: Swiss pattern, 6-in



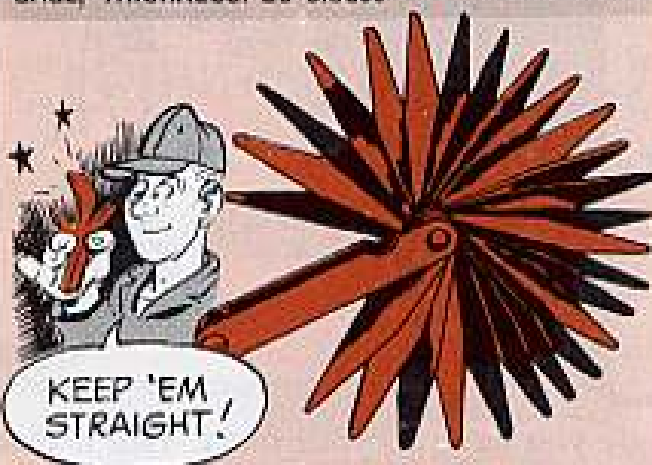
FSN 5110-884-0140 (Formerly 5110-595-8301)

GAGE, GAP SETTING: 8 wire feelers



FSN 5210-273-1935

GAGE, THICKNESS: 26 blades



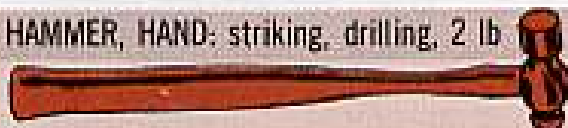
FSN 5210-221-1999

HAMMER, HAND: ball peen, 8-oz



FSN 5120-242-3913

HAMMER, HAND: striking, drilling, 2 lb



FSN 5120-224-4047

HANDLE, FILE, WOOD: 4½-in



FSN 5110-263-0349

HANDLE, FILE, WOOD: 5½-in (2 ea)



FSN 5110-263-0341

KNIFE, PUTTY: flexible, 1¼-in blade



FSN 5120-221-1536

PADLOCK: pin tumbler



FSN 5340-682-1508

PLIERS: round nose, nonsparking, 6-in



FSN 5120-247-5177

PLIERS, DIAGONAL CUTTING: 6-in



FSN 5110-239-8253

PLIERS, SLIP JOINT: 7¼-in



FSN 5120-537-3375

PLIERS, SLIP JOINT: straight nose, 8-in lg



FSN 5120-223-7397



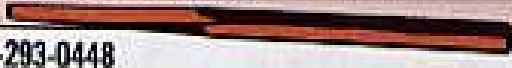
PUNCH, CENTER, SOLID:  $\frac{3}{8}$ -in point

FSN 5120-293-3509



PUNCH, ALIGNING:  $\frac{3}{8}$ -in point

FSN 5120-293-0448



PUNCH, DRIVE PIN: str type,  $\frac{1}{4}$ -in point



FSN 5120-240-6083

PUNCH, DRIVE PIN: str type,  $\frac{3}{8}$ -in point

FSN 5120-273-0001

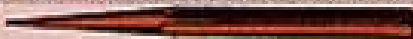


PUNCH, DRIVE PIN: str type,  $\frac{3}{4}$ -in point



FSN 5120-239-0038

PUNCH, DRIVE PIN: tapered type,  $\frac{1}{2}$ -in point



FSN 5120-242-3433

RULE, STEEL, MACHINIST'S: 6-in

FSN 5210-234-5223



Y'CAN'T USE  
SCREWDRIVERS  
AS PRY BARS  
TOO!!



SCREWDRIVER, CROSS TIP: tip sz No. 1, blade 3-in



FSN 5120-240-8716

SCREWDRIVER, CROSS TIP: tip sz No. 2, blade 4-in



FSN 5120-234-8913

SCREWDRIVER, CROSS TIP: tip sz No. 3, blade 6-in



FSN 5120-234-8912

SCREWDRIVER, FLAT TIP:  
flared tip, blade 1 $\frac{1}{2}$ -in



FSN 5120-596-8502

SCREWDRIVER, FLAT TIP: flared tip, blade 4-in



FSN 5120-222-8852

SCREWDRIVER, FLAT TIP: flared tip, blade 8-in



FSN 5120-278-1280 (Replacement for 5120-227-7349)

SCREWDRIVER,  
OFFSET:  
 $\frac{3}{8}$ -in tip



FSN 5120-240-5232

SHEARS, METAL CUTTING,  
HAND: duckbill, 7-in



FSN 5110-221-1085

SOCKET, SOCKET WRENCH:  
 $\frac{1}{2}$ -in sq-drive,  $\frac{1}{2}$ -in  
wrench opening



FSN 5120-243-7345

TOOL BOX, PORTABLE:  
steel, 21-in



FSN 5140-498-8772

WRENCH, BOX: double offset, wrench openings  
 $\frac{1}{2}$ -in and  $\frac{3}{4}$ -in



FSN 5120-224-3153

WRENCH, BOX: double offset, wrench openings  
 $\frac{1}{2}$ -in and  $\frac{3}{4}$ -in



FSN 5120-224-3154

WRENCH, BOX: double offset, wrench openings  
 $\frac{3}{8}$ -in and  $\frac{1}{2}$ -in



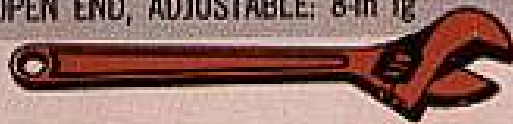
FSN 5120-224-3138

WRENCH, BOX: halfmoon type,  
 $\frac{3}{8}$  and  $\frac{1}{2}$ -in openings



FSN 5120-222-1596 (Replacement for 5120-313-9495)

WRENCH, OPEN END, ADJUSTABLE: 8-in lg



FSN 5120-240-5328

WRENCH, OPEN END, FIXED: 15 degree angle of head, 3/8 and 1/2 inch openings



FSN 5120-277-2342

WRENCH, OPEN END, FIXED: 15 degree angle of head, 1/2 and 3/4-inch openings



FSN 5120-187-7124

WRENCH, OPEN END, FIXED: 15 degree angle of head, 3/8 and 1/2-inch openings



FSN 5120-277-8301

WRENCH, SPANNER: adjustable hook type, 3/4-in to 2-in diameter range



FSN 5120-288-6468

WRENCH SET, COMBINATION BOX AND OPEN END:

FSN 5120-293-0535 (Replaces FSN 5120-357-8411)

CONSISTING OF: (W/ROLL)



Wrench Openings, In.	Box Wrench Opening Shape	Nom O/A Lg, In.	FSN
3/8	Hex or 12 Point	3 1/4	5120-228-9503
3/8	Hex or 12 Point	4 3/8	5120-228-9504
3/8	Hex or 12 Point	5	5120-228-9505
1/2	12 Point	5 1/4	5120-228-9506
3/4	12 Point	5 3/4	5120-228-9507
3/4	12 Point	6 1/4	5120-228-9508

Wrench Openings, In.	Box Wrench Opening Shape	Nom O/A Lg, In.	FSN
1/8	12 Point	7	5120-228-9509
3/8	12 Point	8	5120-228-9510
1/2	12 Point	10 1/4	5120-228-9511
3/4	12 Point	10 1/4	5120-228-9512
1 1/8	12 Point	12	5120-228-9513
1	12 Point	12 1/2	5120-228-9514
1 1/8	12 Point	14	5120-228-9515
1 1/4	12 Point	14 1/2	5120-228-9516
1 1/4	12 Point	16	5120-228-9517

WRENCH SET, SOCKET: square drive, 1/2-in drive size, 12 point sockets, w/case

FSN 5120-081-2307 (Replaces FSN 5120-289-8665).

CONSISTING OF:

Size, In.	FSN	Size, In.	FSN
3/8	5120-237-0982	1 1/2	5120-189-7915
3/8	5120-189-7924	1 3/8	5120-189-7933
1/2	5120-237-0984	3/4	5120-189-7934
3/8	5120-189-7932	1 1/8	5120-189-7935
1 1/2	5120-239-0019	1	5120-189-7927
3/8	5120-189-7946	1 1/4	5120-189-7913
1 1/8	5120-235-5870	1 1/2	5120-189-7914
3/4	5120-189-7985	1 1/4	5120-189-7917



HANDLE AND/OR ATTACHMENT DATA

Item Name	Nom Lg, In.	FSN
Extension, Socket Wrench	2	5120-243-1697
Extension, Socket Wrench	5	5120-243-7326
Extension, Socket Wrench	10	5120-227-8074
Handle, Socket Wrench	9	5120-230-6385
Handle, Socket Wrench	11	5120-241-3142
Handle, Socket Wrench	18	5120-236-7590
Handle, Socket Wrench	18	5120-230-6364



## COMMUNICATIONS

### KEEP YOUR COOL, CAZ!

Carrier Equipment can lose its cool quicker'n a cat seein' a dog, especially when the weather is super-warm . . . like in Charlie country.

But, one good way to keep overheated carrier equipment operating is to pull out the component drawers part way. Let air circulate around them, and operate away!

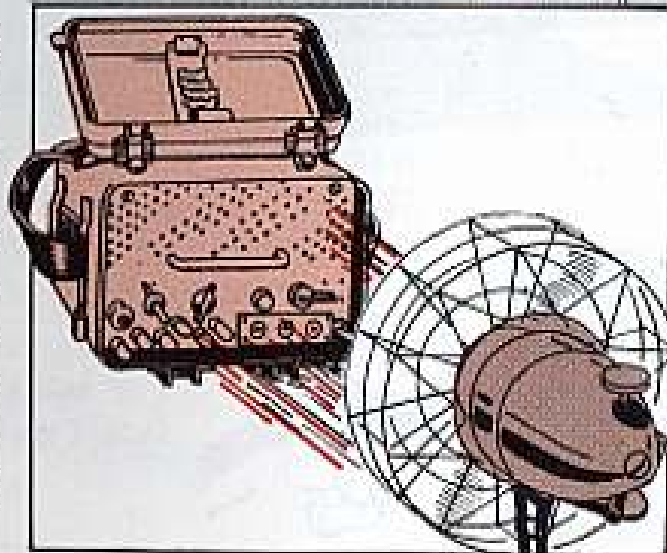
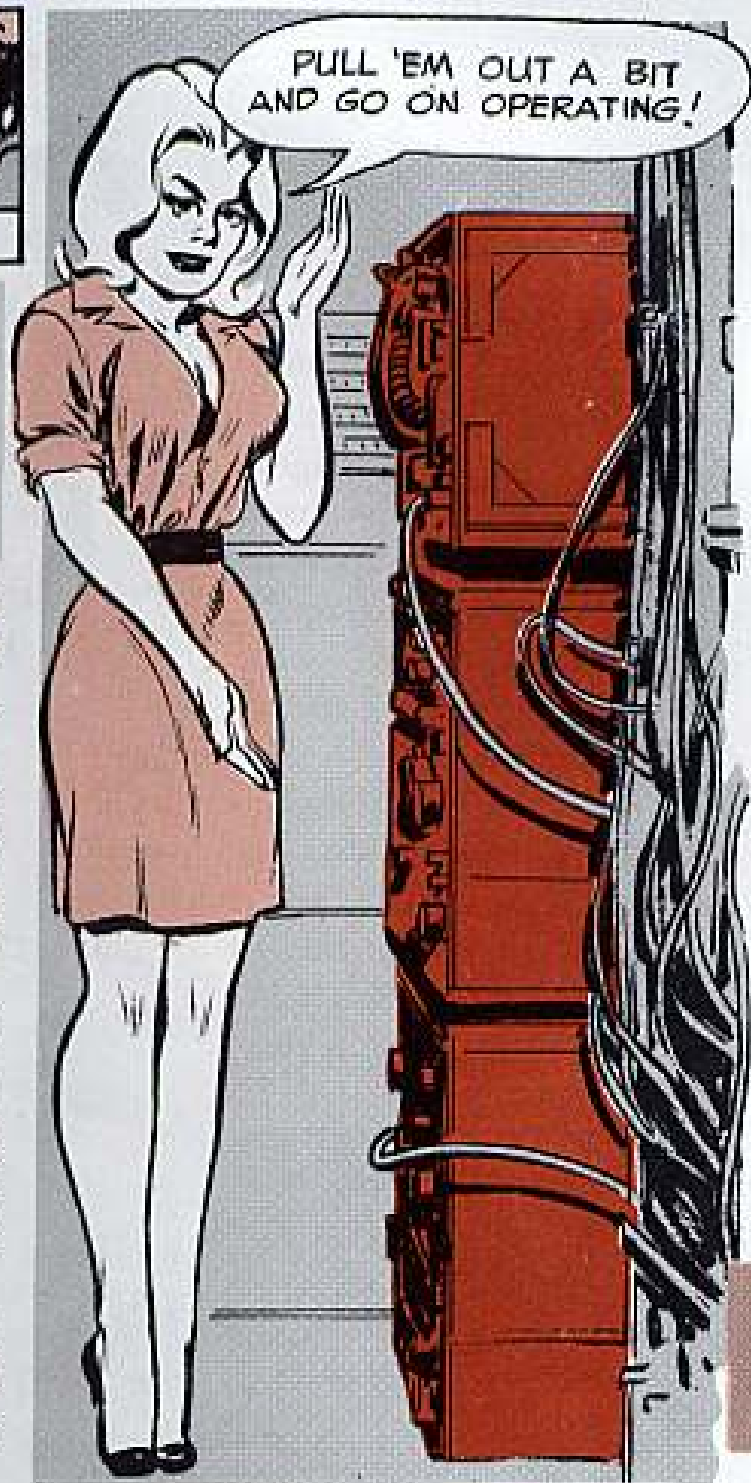
However, one component, the TH-5/TG telegraph terminal, needs special attention. Hot climate, enclosed space and its own generated heat puts that little job out of operation when other components are still clicking away.

Point a fan at it if you can, and make sure the air hits the unit. That's about the handiest way to stay in business longest.

If you don't have a fan, you might try a relay. Like, shut down for a minute, remove the hot TH-5 and replace it with a cool one.

The wheels know about the TH-5's over-heating problem, so they're working on modified circuitry to help out. Also, an MWO is being worked up which will provide forced air cooling.

Like, don't lose your cool, pal. The iceman's coming.



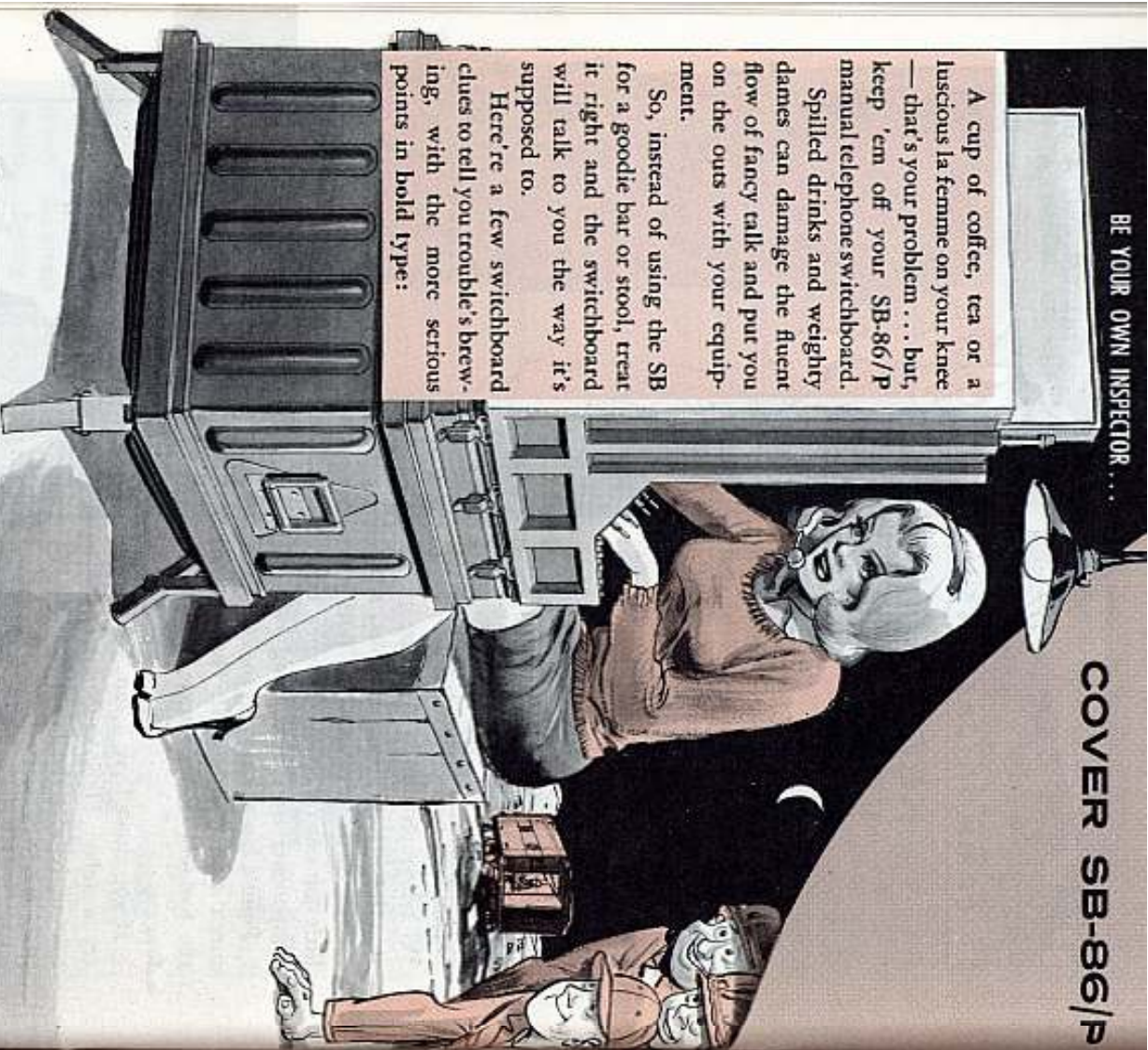
COVER SB-86/P WITH TLC (TENDER LOVING CARE)

TA-207/P SWITCHBOARD SIGNAL ASSEMBLY  
(Field Jack Section)

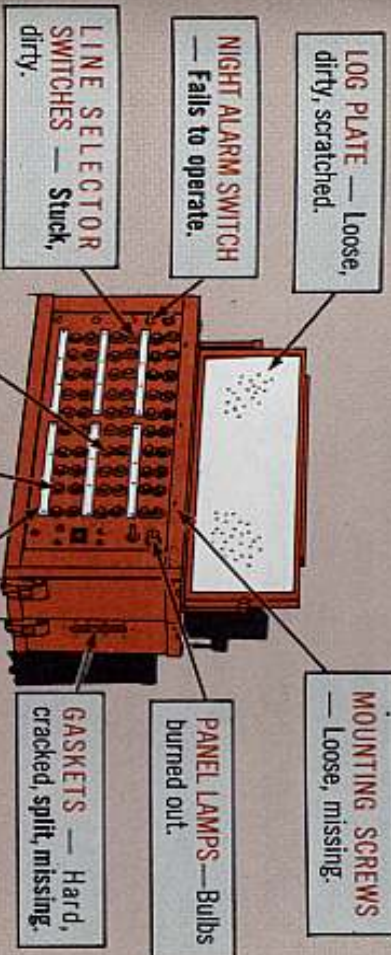
A cup of coffee, tea or a luscious la femme on your knee — that's your problem... but, keep 'em off your SB-86/P manual telephone switchboard. Spilled drinks and weighty dames can damage the fluent flow of fancy talk and put you on the outs with your equipment.

So, instead of using the SB for a goodie bar or stool, treat it right and the switchboard will talk to you the way it's supposed to.

Here're a few switchboard clues to tell you trouble's brewing, with the more serious points in bold type:



Note to Remember: When pulling the cord from a jack, or putting it in, hold it by the plug. Pulling or pushing by the cord will damage the cord, route de suite.



LOG PLATE — Loose, dirty, scratched.

NIGHT ALARM SWITCH — Fails to operate.

LINE SELECTOR SWITCHES — Stuck, dirty.

LINE SIGNALS — Fail to operate, dirty; cover cracked, broken, missing.

JACKS — Dirty, rusty, moist.

MOUNTING SCREWS — Loose, missing.

PANEL LAMPS — Bulbs burned out.

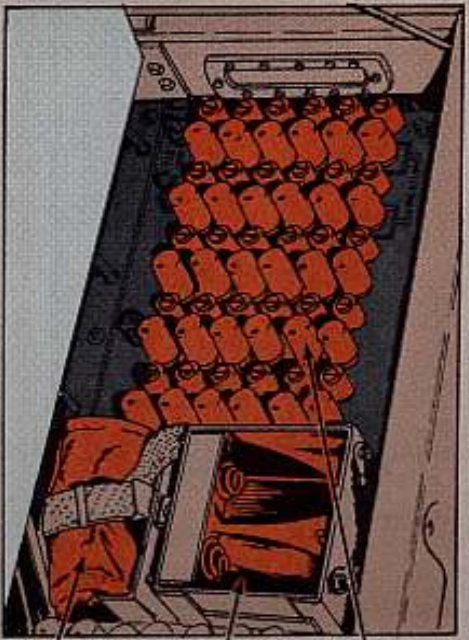
GASKETS — Hard, cracked, split, missing.

DESIGNATION STRIPS — Dirty, mutilated, writing obscure.

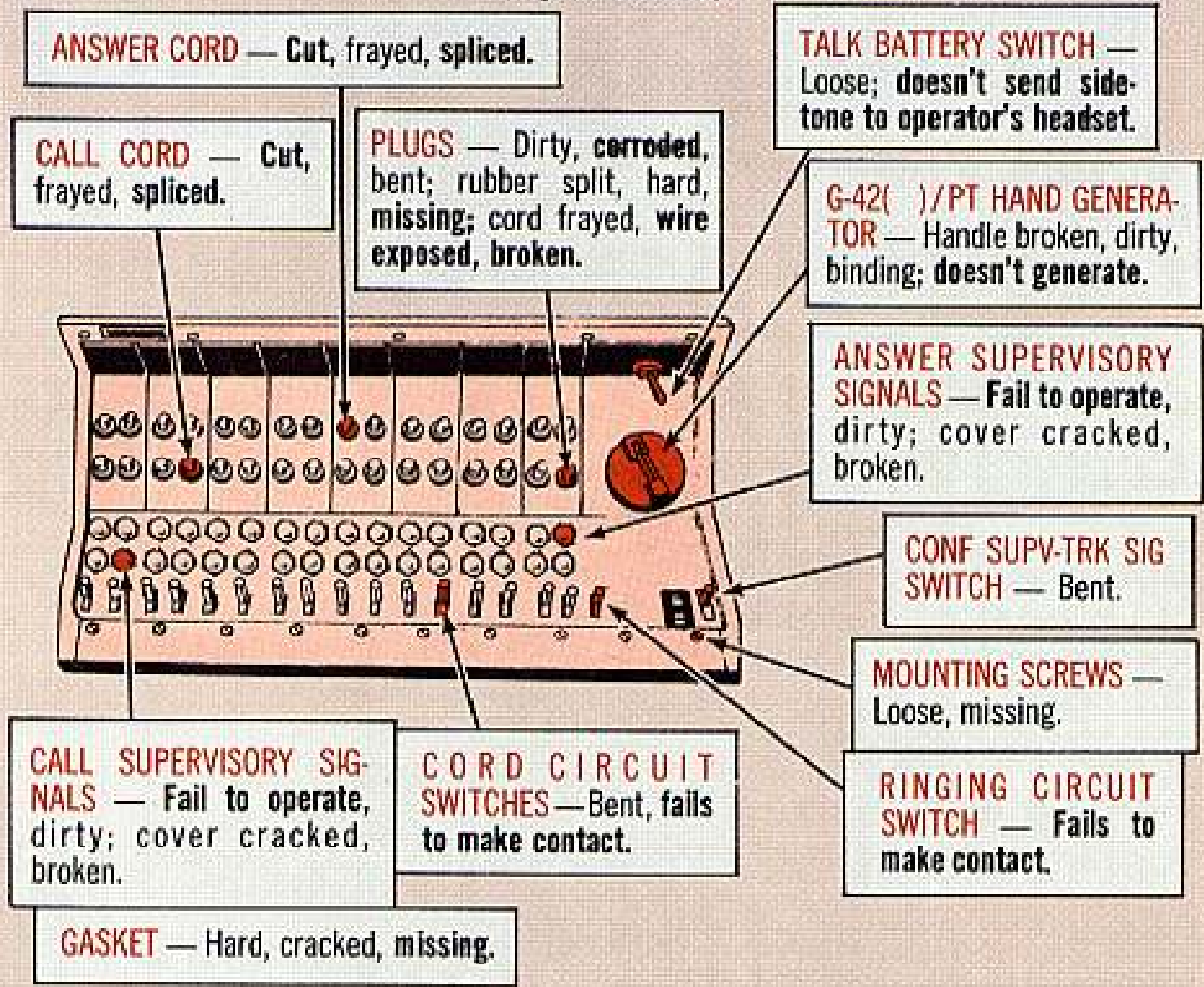
BINDING POSTS — Dirty, stuck, clogged with broken wire.

BATTERY COMPARTMENT — Dirty, corroded.

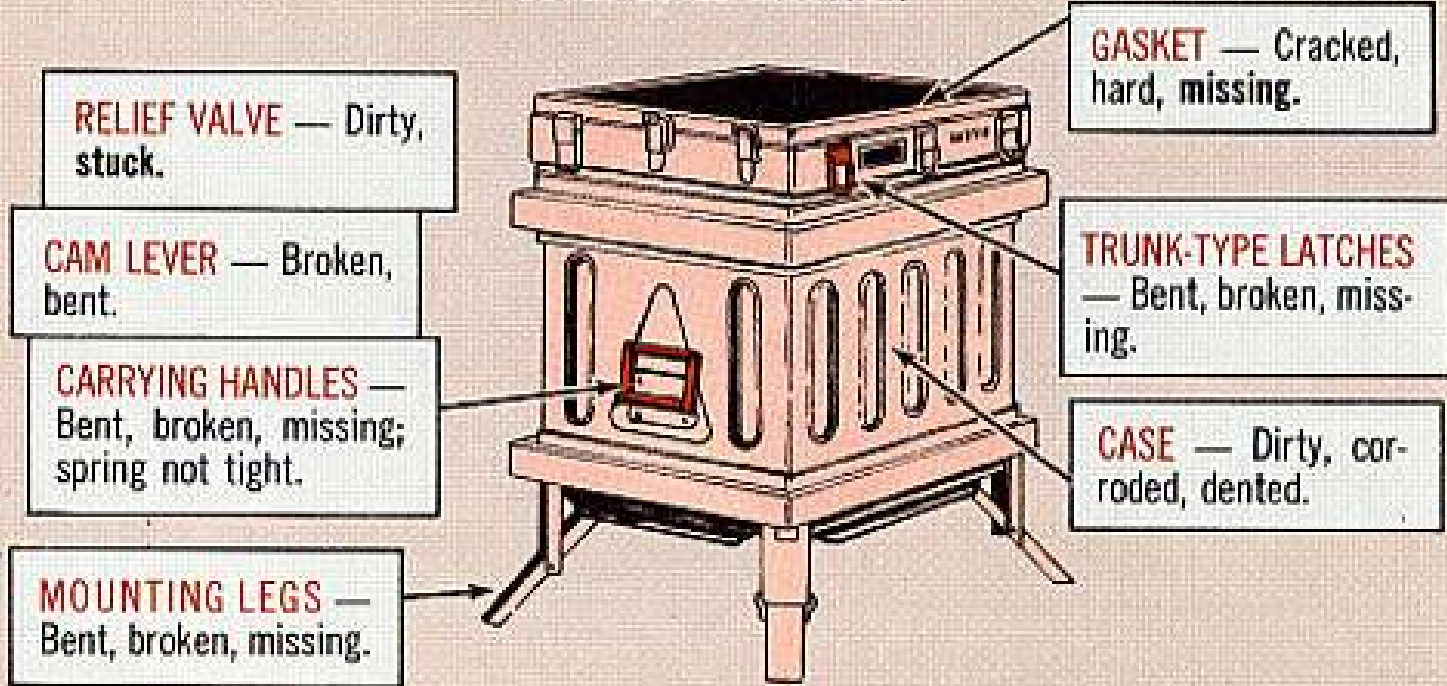
CANVAS BAG — Dirty, mildewed, frayed, missing.



**SB-248/P SWITCHBOARD SECTION  
(Keyshell Section)**



**OUTER COVER ASSEMBLY**



PP-990/G POWER SUPPLY

**PANEL COVER** — Bent; gasket hard, cracked; hinge broken.

**RINGING SUPPLY INDICATOR LAMP** — Doesn't work.

**INT-EXT BATTERY SWITCH** — Doesn't work.

**RINGING SUPPLY FUSE** — Missing, blown, broken.

**BATTERY CHECK SWITCH** — Doesn't operate.

**VOLT BATTERY SUPPLY FUSE** — Missing, blown, broken.

**CARRYING HANDLES** — Missing, bent, broken.

**BATTERY COMPARTMENT** — Dirty, corroded; contacts broken.

**TRUNK-TYPE LATCHES** — Bent, broken, missing.

**VOLTMETER** — Doesn't work; window cracked, broken, dirty.

**INTERNAL SWITCHBOARD BATTERY SWITCH** — Doesn't operate.

**POWER CORDS** — Cut, frayed, spliced.



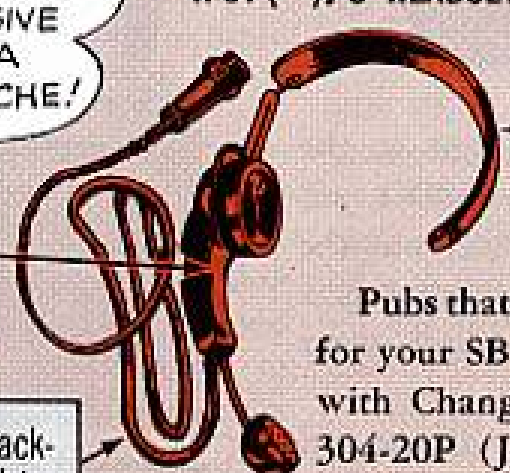
HEADSETS CAN GIVE YOU A HEADACHE!

H-91 ( )/U HEADSET-MICROPHONE

**HEADBAND** — Bent, dirty, cracked, mildewed.

**BOOM** — Dirty, cracked, mildewed.

**CORD** — Frayed, cracked; wire exposed, dirty, mildewed.



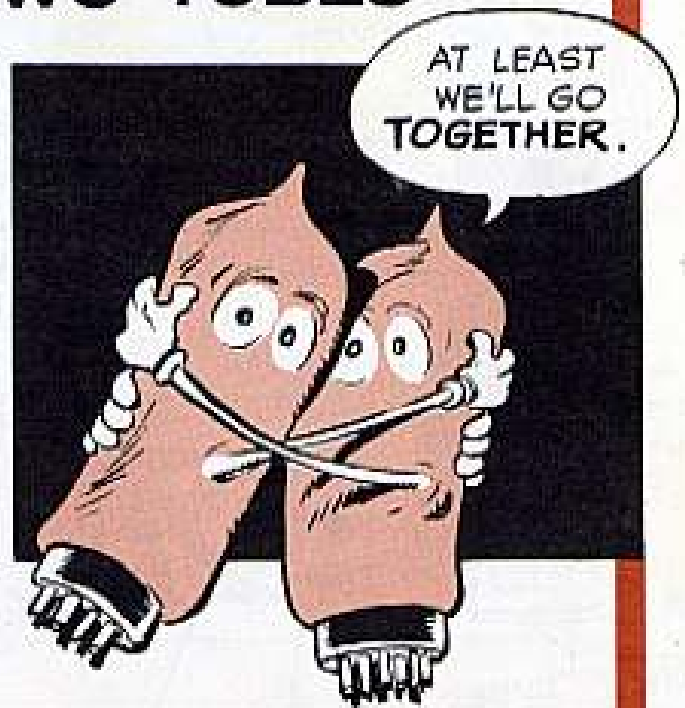
Pubs that'll give you a hand in caring for your SB are: TM 11-2134 (Sep 55) with Changes 1 and 4; TM 11-5805-304-20P (Jul 63); TM 11-5805-257-12P (Oct 61) for G-42 hand generator; TM 11-5965-206-15P (Jan 63) for H-91 headset-microphone.

## TIME FOR TWO TUBES

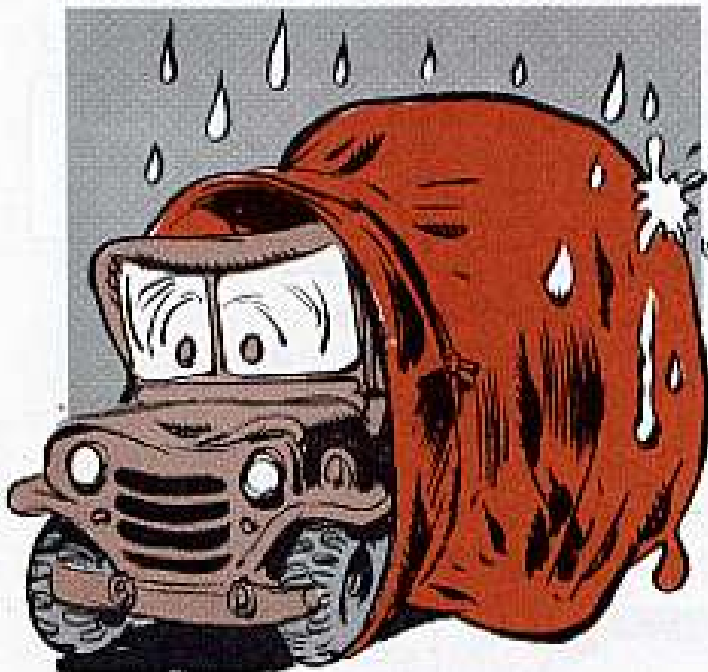
Fixin' to replace a burned out sweep driver tube in your AN/MPQ-4A radar set's IP-375 azimuth and range indicator?

Be generous, George, and change both of 'em while you're at it.

That's right, because if it's the V4503 electron tube that has gone kaput, its V4504 twin will carry the load for a while . . . or vice versa. And, you can bet your azimuth sweep the surviving tube's life will be shortened by this power overload.



## WARD OFF WATER

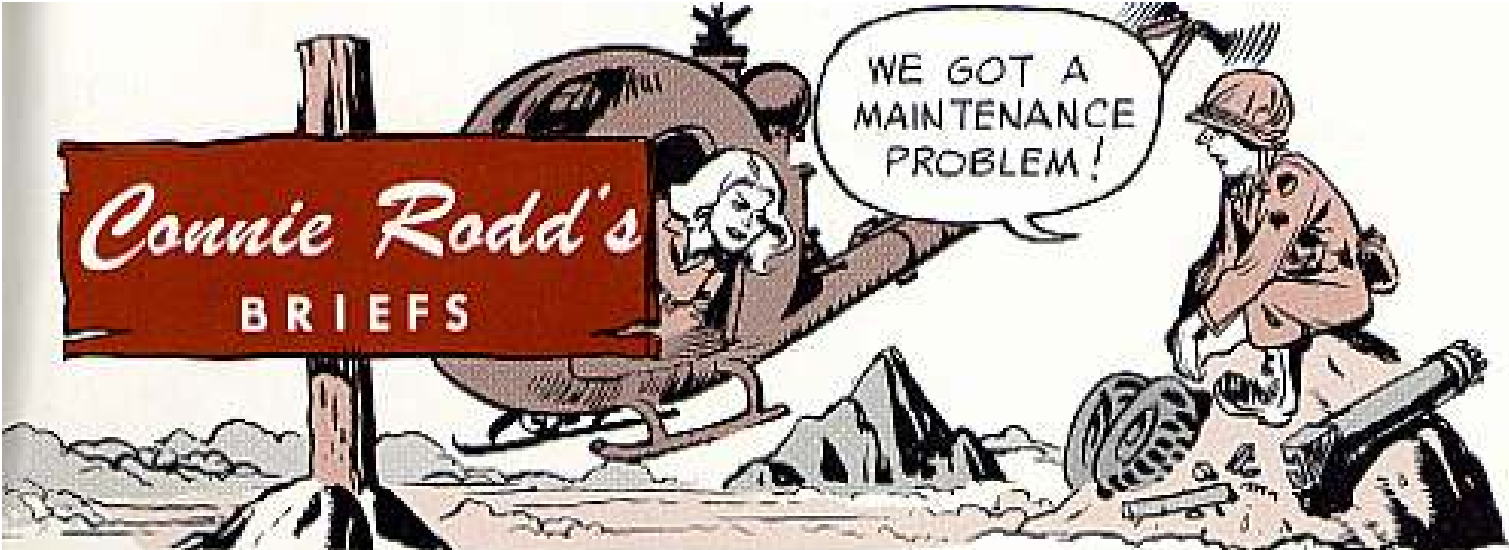


When a moisture leak gets to the AN/MRC-95 radio set's 690D-1 antenna loading coil, it'll short out the antenna. Best invite to moisture is a hard, cracked or broken access cover gasket.

Just ring the rim of the coil case and cover with a piece of 1-in green tape (FSN 8135-269-8088). This'll help keep moisture out.







## *Winterize With Alcohol Easy on "Night-Eyes"*

In freezing temperatures winterize your multifuel, diesel and gasoline fuel systems the same. That is, add ½ pint of Grade III, Spec O-E-760B denatured alcohol (FSN 6810-543-7415 brings a gallon) to every 10 gallons of fuel. It's now OK to use alcohol in tactical vehicle's multifuel and diesel fuel system too. USATAC message 1-11635 (18 Jan 67) to all major Commands and Armies gives the go-ahead . . . plus other precautionary measures.

### *Built-In Arrestor*

With the turbo-supercharger that's used on some of your tactical truck engines, you've got a built-in spark arrestor feature. So if your truck has an LDS-427-2 (2½-ton truck), an ENDT 673, LDS-465-1 or LDS-465-1A engine (5-ton truck) you'll never have a need for a spark arrestor muffler.

### *Covers to Sharpe*

Immediately — like right now — ship back those specially-made plastic-coated fiberglass aircraft shipping covers to Sharpe Army Depot as fast as you take them off. They're in short supply and have to be used over and over again.

You men on M48A3 and M60 tanks and M728 CEV, take heed. Watch your feet as you climb in or out of those tanks. A lot of image tubes in the M32, M32C and M36 infrared periscopes are being busted by big brogans. Also, anytime you've got that periscope out of the tank, handle and lay it down gently. Use the reusable metal container to ship back any scope going for repair.

### *Xenon Searchlight Goof*

Somebody crossed up a couple of wires in a batch of Model M-9910B xenon searchlights (Serial Nos. 3004 thru 4239). This causes light burnout quicker than a flicker. Get your xenon light in to DS for a fast fix.

### *Don't Run on PE!*

Some diesel and multifuel engines run with PE- type oil in the crankcase are suspected of failing early, so here's the word: Before placing equipment in use, replace the PE-1, -2, or -3 preservative oil with the right grade of OE. Don't wait till the first oil change, like your LO's usually say.

This does NOT apply to spark plug equipped engines, which run fine on PE oil for break-in purposes.

**Would You Stake Your Life <sup>right now</sup> on the Condition of Your Equipment?**

2<sup>ND</sup> BAY

NO SMOKING  
IN SHOP AREA

DEADLINED  
FOR PARTS?  
HOW'S YOUR  
REPARABLE  
PARTS  
TURN-IN?

YOU HELP FEED  
THE  
SUPPLY  
SYSTEM



TURN  
IN  
REPARABLES

When an item needs repair, turn it over to your support unit. . . . Don't hang on to it. This will only delay getting a new item back for your use; this applies to all items . . . repair parts, assemblies, major items.

