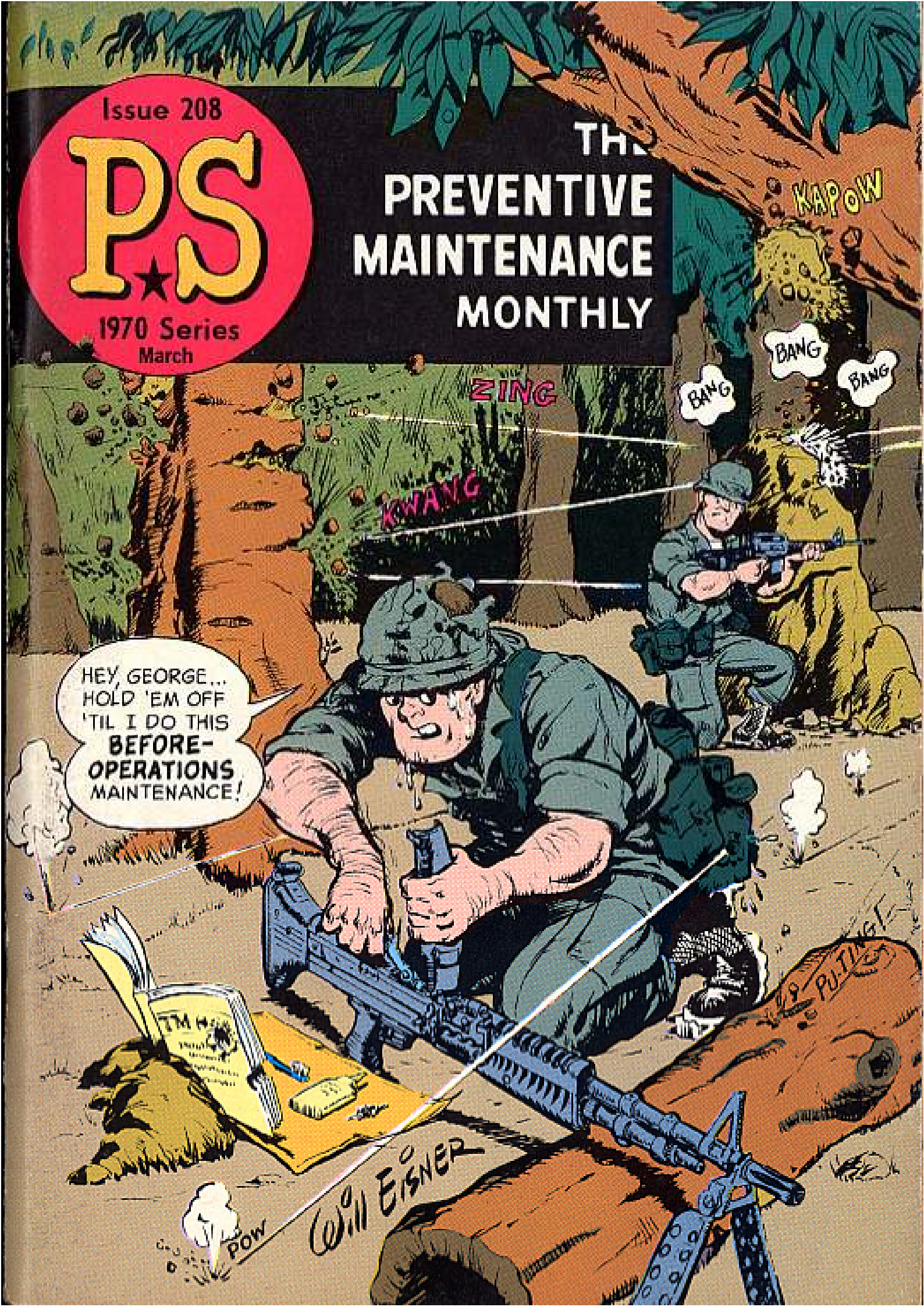


Issue 208

# PS

1970 Series  
March

## THE PREVENTIVE MAINTENANCE MONTHLY



KAPOW

BANG

BANG

ZING

KWANG

HEY, GEORGE...  
HOLD 'EM OFF  
'TIL I DO THIS  
BEFORE-  
OPERATIONS  
MAINTENANCE!

POW

POW

Will Eisner

# WHERE, OH, WHERE DID YOUR PLL MAN GO?

There's been a big squawk in a lotta outfits because so many men who don't know supply get assigned to repair parts supply jobs.

Maybe you've been wondering why you've been having such a rough time getting repair parts to keep your equipment maintained. It could be just what was said: No trained repair parts PLL supply man.

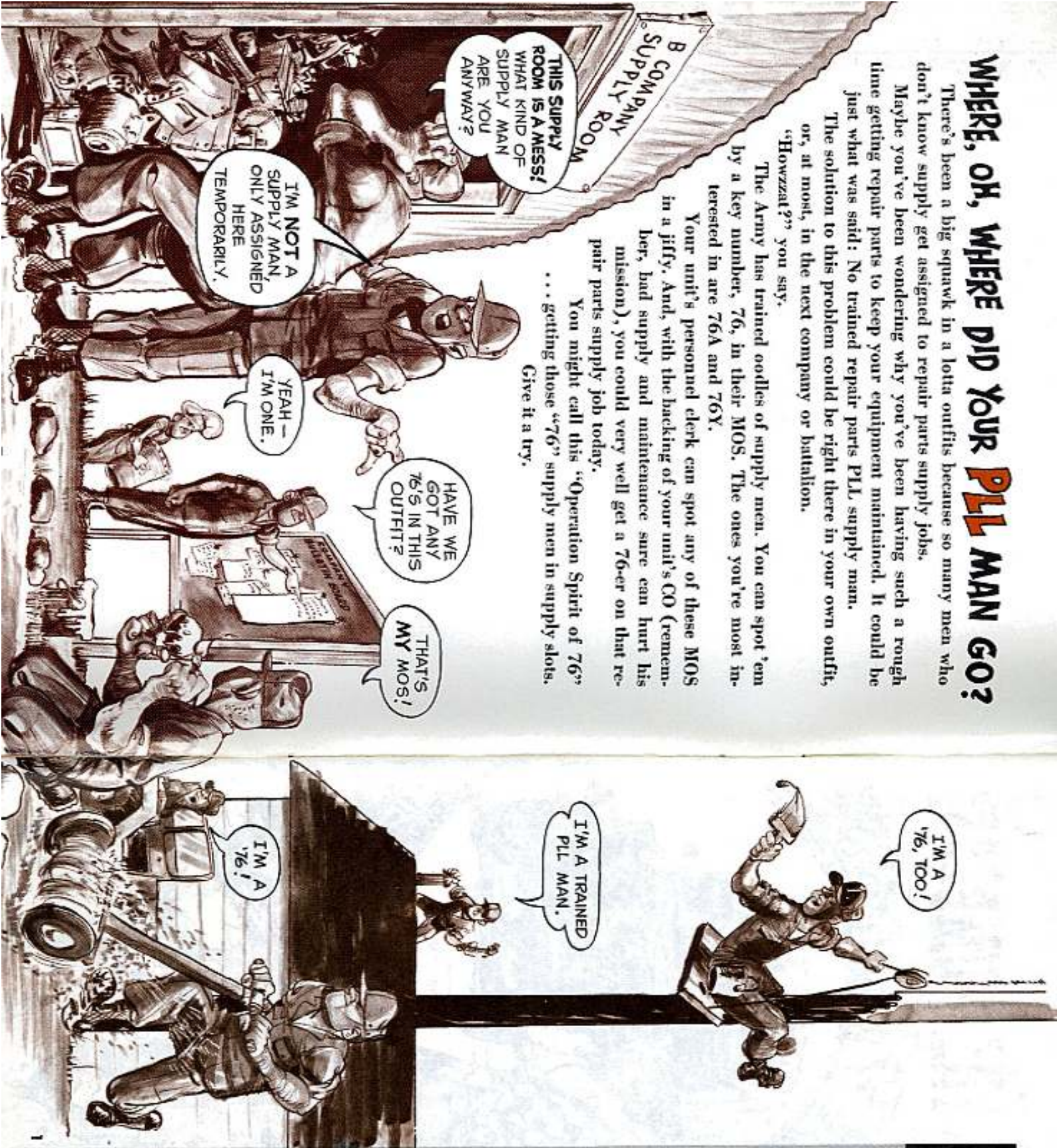
The solution to this problem could be right there in your own outfit, or, at most, in the next company or battalion.

"Howzzat?" you say.

The Army has trained oodles of supply men. You can spot 'em by a key number, 76, in their MOS. The ones you're most interested in are 76A and 76Y.

Your unit's personnel clerk can spot any of these MOS in a jiffy. And, with the backing of your unit's CO (remember, bad supply and maintenance sure can hurt his mission), you could very well get a 76-er on that repair parts supply job today.

You might call this "Operation Spirit of 76" ... getting those "76" supply men in supply slots. Give it a try.



I'M A 76, TOO!

I'M A TRAINED PLL MAN.

I'M A 76!

Published by the Department of the Army for the information of organizational maintenance and supply personnel. The tradition is made through formal publication channels. When units of award ability, other issues may be obtained direct from U. S. Army Maintenance Center, Attn: P3 Magazine, Fort Knox, Kentucky 40121.

# PS

THE PREVENTIVE MAINTENANCE MONTHLY  
Issue No. 208 1970 Series  
March

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**DISTRIBUTION:** In accordance with requirements submitted on DA Form 12-4.

PS wants your ideas and contributions. Write them to: PS, c/o The Editor, PS Magazine, 40121. Here is the address: 40121 in each deck. Mail with PS.

Sgt. Alfy Mack  
PS Magazine  
Fort Knox, Ky  
40121

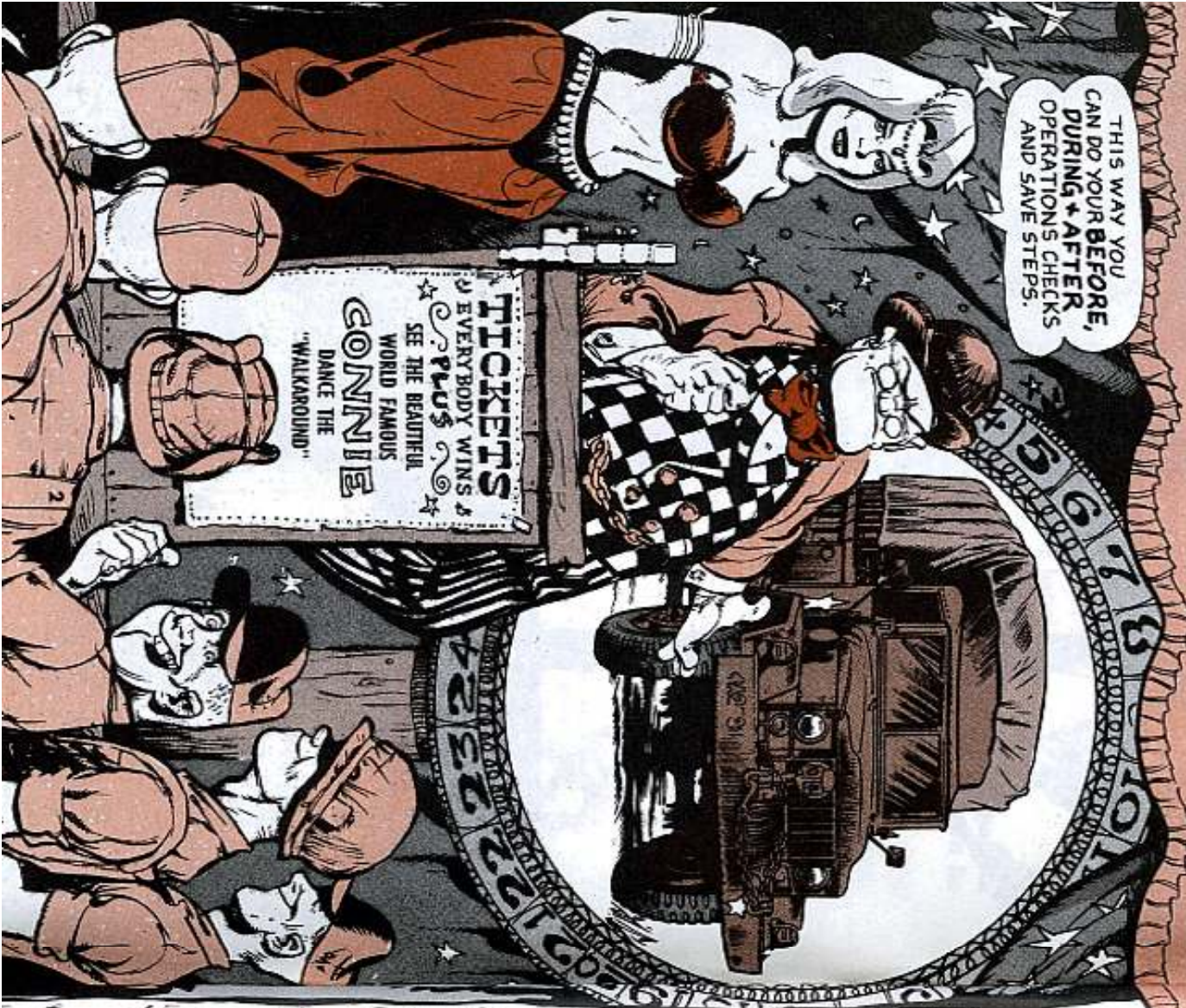




CHECK OUT YOUR TRUCK ...

# BY THE NUMBERS...

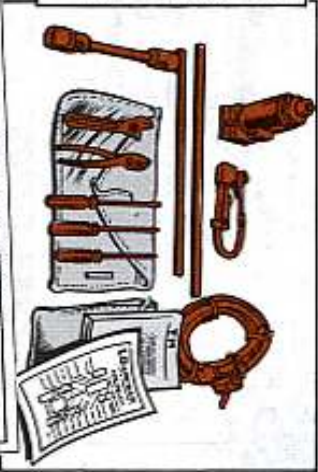
THIS WAY YOU CAN DO YOUR BEFORE, DURING + AFTER OPERATIONS CHECKS AND SAVE STEPS.



## BEFORE OPERATION

Front of Vehicle Checks

**1** **TOOLS AND EQUIPMENT:** Start at the left front of your vehicle. Make sure you have all the tools assigned to the vehicle and the operator's manual. If the vehicle is required to have a fire extinguisher, make sure it's on hand, serviceable, and mounted correctly. Fill out top of DA Form 2404, but leave off the date and signature.



**2** **DAMAGE:** At the front of the vehicle, check these items for damage:

- a. Fenders:** Dents, splits, rust spots, missing or loose nuts and bolts?
- b. Grill:** Breaks, missing or loose nuts and bolts?
- c. Radiator:** Leaks? Bent or punctured tubes? Obstructions in the radiator core?
- d. Lights:** Cracked lenses, loose mounting rims? All lights secure?
- e. Bumper:** Dents, broken welds, loose or missing nuts and bolts? Any spots need painting?
- f. Hood:** Dents, cracks, missing or loose bolts? Any spots require repair or paint?

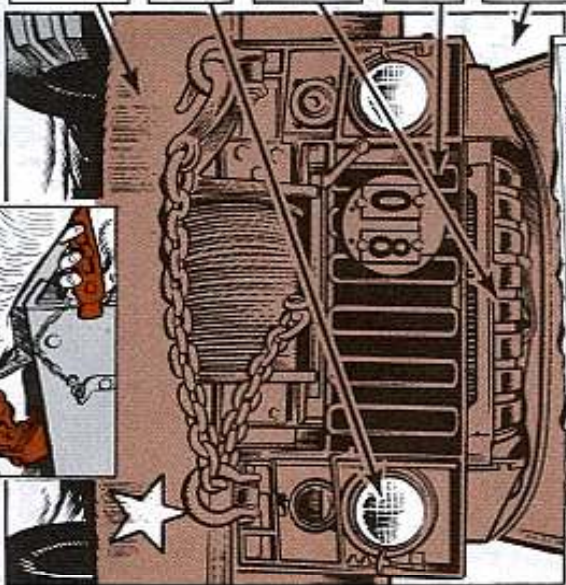
STATEMENT INDICATING THE INSTRUMENTS REQUIRED

36th TRANS. CO. TRUCK, CARGO, NSTAR  
14986 (S) 430 DAILY

TM 9-2320-211-00 MAY 69

2404

DA FORM 2404, 1 FEB 69



**g. Airline connections:** Dummy couplings in place? Connectors damaged?

- 3** **LEAKS:** On the ground or underside of vehicle?



**OIL AND WATER LEVELS:** Oil level at the FULL mark? Not over-

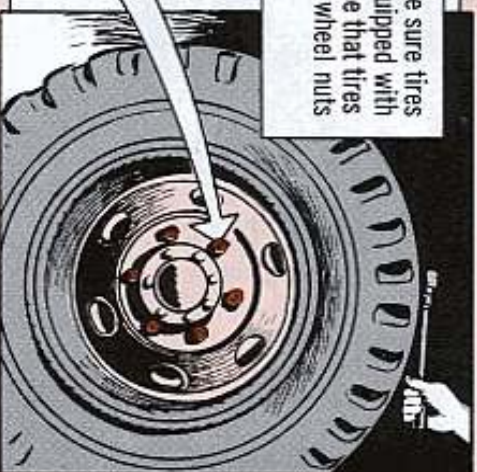
full? Water in radiator cover the end of tubes? Cracked, loose, or broken water hoses? Loose parts? Broken or leaking fuel or oil lines? Antifreeze recorded on monthly DA Form 2408-1? (For multifuel engine oil check procedure, see PS 205, Page 54, or TB 750-981-3 (Jul 69), Article 3-8.)



Right Side

- 1** **DAMAGE:** Inspect the right side of your vehicle for any damage which might have occurred after the vehicle was parked the night before. This should include such items as broken windows, dents, scratches, etc.

- 2** **TIRES AND WHEELS:** Make sure tires are inflated. On vehicles equipped with duals, use a lug wrench to see that tires are inflated. Make sure all wheel nuts are tight and none missing.



- 3**



**GAS CAP:** Check for bad gasket.

- 4** **LEAKS:** Look for leaks on the ground and underside of vehicle. Pay particular attention to inside of wheels, around transmission, transfer cases, crankcase, and differentials.



Rear

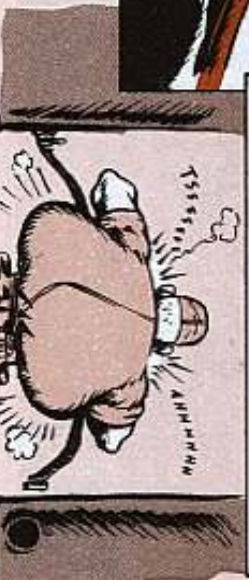
- 1** **DAMAGE:** Look for any damage to tailgate, rear lights, trailer connections, tow hitch connections.



CONNECTOR CORRODED

PINTLE LUBED?

- 2** **AIR HOSE CONNECTIONS:** Check for any damage to connections, and see that dummy couplings are in place. If the vehicle is connected to a trailer, make sure all lines are connected right.



GRANK

BONNIE

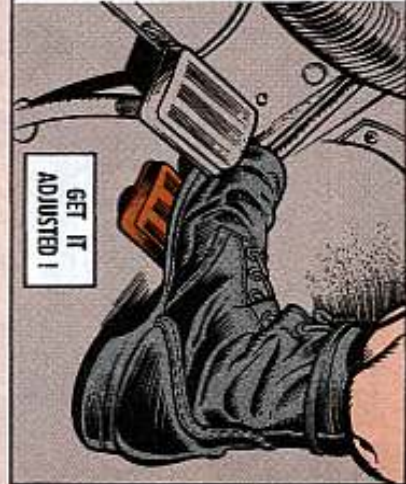
Left Side

(Same as Right Side)



Inside Cab

**1 BRAKE PEDAL:** Depress the brake pedal and hold down. The brake pedal should not creep down. If a loss of foot pressure is noted, there's a leak in the system and it must be corrected soonest. Make sure there's plenty of space between the bottom of the brake pedal and the floorboard when pedal is depressed. If the space is less than 1/2 pedal travel, the brakes should be checked and adjusted.

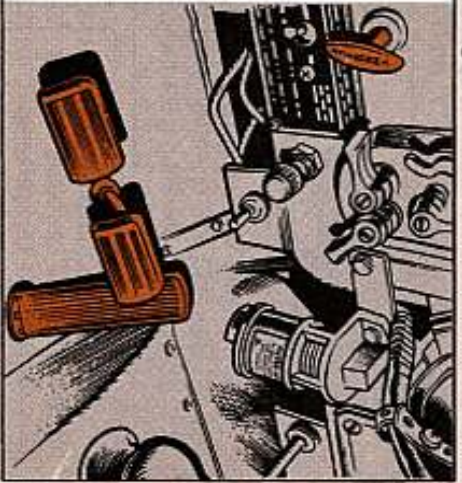


**CLUTCH PEDAL ADJUSTMENT:** See if there is enough free travel. Free pedal travel is the movement of the clutch pedal downward before pressure increases and the clutch starts to disengage. All clutch adjustment checks are extremely sensitive and should be made by depressing the clutch pedal by hand, not with the feet.

Clutch pedal free travel must be no less than	
1/4-ton (M151A1 etc.) — TM 9-2320-218-20 (Aug 68), para 2-44	1 1/8 inches
3/4-ton (M3781 etc.) — TM 9-8030 (May 55), para 187	1 inch
1 1/4-ton (M715 etc.) — TM 9-2320-244-20 (Oct 68), para 02-4c	3/4 inch
2 1/2-ton (M35A2 etc.) — TM 9-2320-209-20 (Apr 65), para 150a	1 1/2 inches
5-ton (M54A2 etc.) — TM 9-2320-211-20 (Mar 63), para 158a	2 inches
10-ton (M125 etc.) — TM 9-2320-206-20 (Apr 66), para 2-67a	1 inch

Start Engine

**3 UNUSUAL NOISES:** Run engine at a fast idle (do not "race" or "gun" engine) and check under the hood of vehicle. If you hear any unusual noises, turn off the engine immediately, and call your supervisor. If oil gage does not indicate pressure within a few seconds, stop the engine, and call your supervisor.



**5 INSTRUMENT CHECK:** After the engine has been warmed up by idling for approximately 3 minutes, the instruments may be checked as follows:



**a. Oil Pressure:** Oil pressure — when engine is idling — should register not less than 15 pounds. Pressure indicates engine oil pump is working. But, remember, oil pressure does not mean the crankcase is full! Pressure readings may go up or down as engine speed is increased or decreased, but a sudden drop or uneven change of pressure indicates trouble. Stop the engine and find out what's causing it.

**b. Battery-Generator Indicator:** With switch ON (engine not running), needle should register 2/3 up in the yellow panel; with engine running at high idle (about 1,500 RPM), needle should register 2/3 up in the green panel (at the nub).

**c. Tachometer:** Tachometer should be registering the RPM of the engine.

**e. Air Brake Pressure (if applicable):** This gage should indicate the pressure at which the brakes will operate effectively. (100 to 105 PSI for 2 1/2 and 5 ton trucks.)

**d. Fuel Gage:** Fuel gage should register full if the previous operator did his last after operation check.

**f. Temperature Gage:** Normal range is from 160 to 180 degrees.

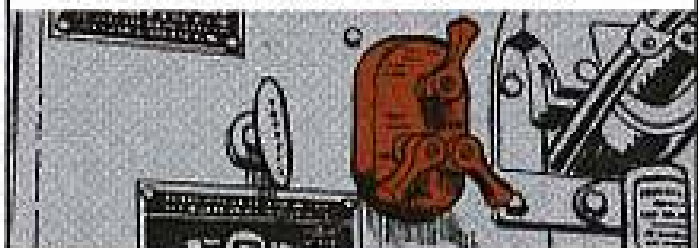


**6 SAFETY DEVICES:**



**a. Air Pressure Warning Buzzer:** This buzzer is a low pressure warning device and will buzz until your operating pressure reaches 65 PSI. Do not move your vehicle until you have operating pressure, and the warning buzzer has stopped.

**b. Lights:** Make sure they're all burning, both high and low beam, and that tail and stop lights are operating.



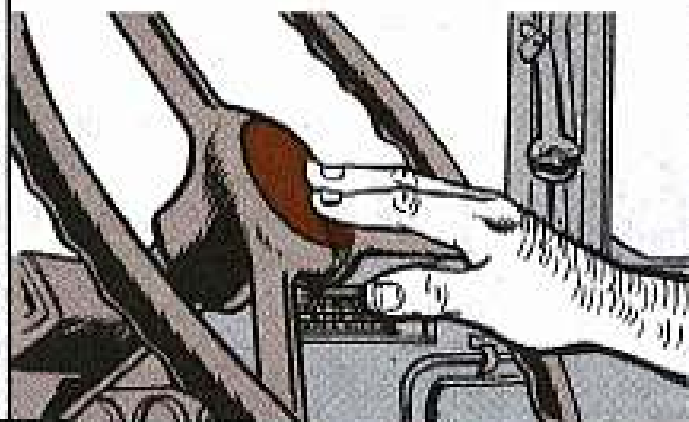
**c. Mirrors:** Make sure the mirrors are not damaged. Adjust for driving.



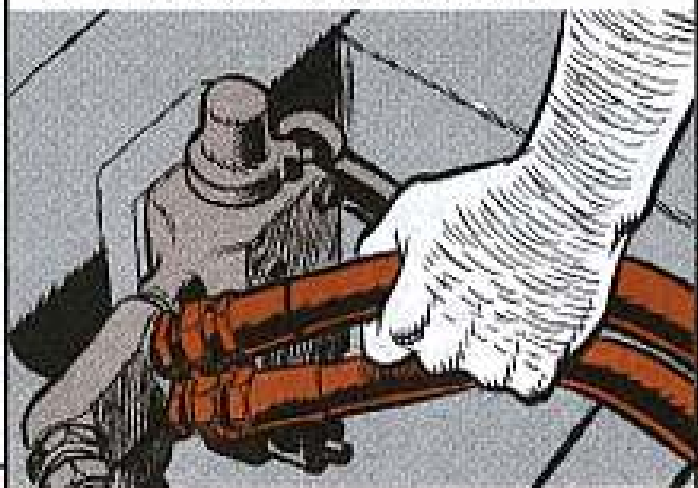
**d. Windshield Wipers:** Make sure blades are in good condition and wipers operate.



**e. Horn:** Make sure it blows.



**7 DUMP HOIST (if applicable):** Raise and lower the dump body to make sure it will operate. Check for leaks.



**8 ACCIDENT REPORT AND IDENTIFICATION FORMS:** Make sure you have Accident Report and Identification Forms in the glove compartment (Std Form 91 and DD Form 518).



# DURING OPERATION

There is no set time for making the during operation checks; however, they should be made periodically during the day, as necessary.

## While Driving



**1 ■ BRAKE ADJUSTMENTS:** Make sure all wheels are braking equally. Notice any loss of pressure in the pedal when you apply the brakes.

**2 ■ UNUSUAL NOISES:** Keep a sharp ear for any unusual noises in the engine, clutch, transmission, transfer case, drive shaft and rear end. An unusual noise is any noise you do not normally hear during operation.

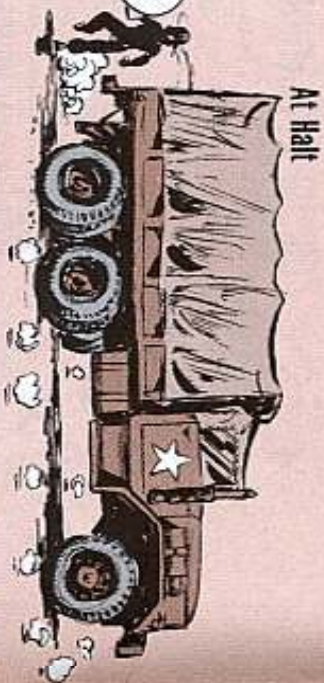
**3 ■ STEERING:** Be sure there's not too much free play in your steering wheel. Notice any hard steering, wheel wobble, or wandering of your vehicle from side to side. If you think something is wrong, stop and check.

**4 ■ CLUTCH ADJUSTMENT:** There should be no slipping or chatter when it starts to engage. Be sure you do not "ride" the clutch. (Keep your foot off that pedal!!)

**5 ■ ENGINE OPERATION:** Be sure your engine operates smoothly at all times. Listen for any knocks (valve knock or gas knock). Make sure your engine is hitting on all cylinders and is getting gas properly. Report any malfunction.

**6 ■ INSTRUMENTS:** Instrument check should be continuous through the day. A casual glance at the dashboard will tell you when your vehicle is operating properly. Instruments to check include oil pressure, bat-gen, tachometer, fuel, air pressure, temperature and speedometer gages.





**1** **LEAKS:** Make a quick turn around with the truck, checking on the ground under the vehicle for any excessive leaks. Take a quick look under the hood for any gas, oil, or water leaks.

**2** **TIRES AND WHEELS:** Check your dual tires by striking with a lug wrench to be sure they are inflated. Check all wheel lug nuts; make sure they're in place and tight. Remove any rocks you find between dual tires.

**3** **LOOSE NUTS AND BOLTS:** Look under carriage and body mountings for loose or missing nuts and bolts.

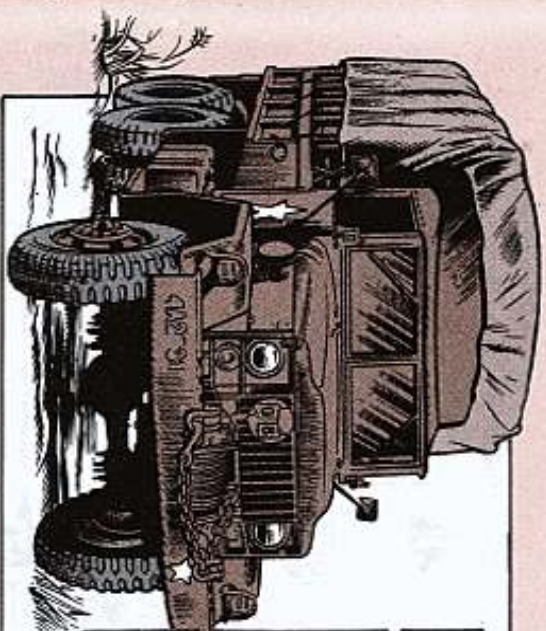


**4** **OIL, WATER AND FUEL:** At your last halt of the day, and before parking your truck for the night, check and refill to proper level: Crankcase with Oil, Radiator with Water, and Fuel Tank with Fuel. Record fuel and oil on the trip ticket. (DA Form 2408-1).

## AFTER OPERATION

**1** **START THE ENGINE:** Listen for any unusual noises you may have noticed during operation. Look at the following safety devices with the engine running:

**a. Air Pressure Warning Buzzer:** Make sure the air pressure warning buzzer is operating and cuts out at correct pressure. Do this by bleeding down the air pressure to below 65 PSI.



## Under Hood

**b. Mirrors:** Not broken or loose. Adjusted for rear-view vision.

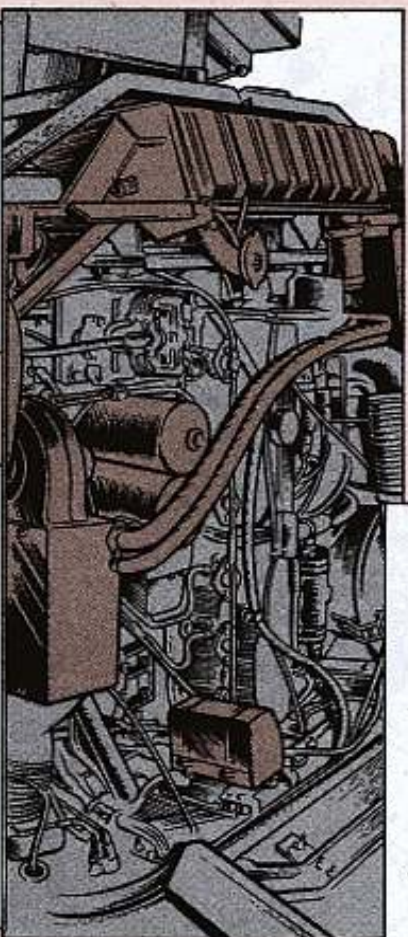
**c. Lights:** Make sure all lights are in operating condition (check high and low beams), including the tail and stop lights, particularly if the vehicle is to be used that night.

**d. Windshield Wipers:** Make sure they operate and rubber on the blades is not damaged.

**e. Horn:** Make sure it blows!

**1** **WITH THE ENGINE IDLING,** lift the hood and eyeball the following items:

**a. Leaks:** Look around the valve cover (on top of the engine for valve-in-head, and side for L-Heads), around the oil filters or lines, and the fuel system.



**b. Loose Items to Look For:** Vibration in the generator, water pump, fan, and air cleaner; any loose wiring or mountings.

Check exhaust and intake manifolds for cracks or escaping gas. Same for the cylinder head gasket, to make sure there is no escaping power. Inspect radiator for leaks in the tank, core or connecting hoses. Watch that fan, and keep your fingers attached to your hands.



HEY, AIN'T YOU A RIGHT SIDE LEAK #11!



Left Side

**1 LEAKS:** Excessive leaks on the ground and underside of vehicle.

**3 FUEL TANK:** Check for bad gasket on cap.



**5 TIRES AND WHEELS:** Make sure tires are correctly inflated by looking at single tires and hitting duals with a lug wrench. Make sure all wheel lug nuts are in place and tight.



**7 DRIVE SHAFT AND UNIVERSALS:** Look for excess play, loose nuts and bolts, and clean lubrication.



**6 SPRINGS, SHOCKS, AND TORQUE RODS:** Inspect springs for broken leaves and secure mountings. Make sure shock absorbers are mounted properly. Look at torque rod ends for wear and make sure they're secure.



I DON'T KNOW? I JUST GOT OUT OF THE TRUCK AND SLAMMED THE DOOR.



**8 STEERING MECHANISM:** Leaks? Steering arms and linkage tight? Loose or missing bolts?

**9 LOOSE OR MISSING BOLTS:** Look over entire vehicle, including body, cables, frame, etc., for any loose or missing bolts and nuts.

Rear

**1 DAMAGE:** Lights, reflectors, tailgate, and body.

**2 LEAKS:** Unusual leaks on the ground, on the rear differentials, and hoist assembly (dump trucks only).

**3 AIR CONNECTIONS:** Make sure they are not damaged and dummy couplings are in place.

**4 LOOSE OR MISSING NUTS OR BOLTS:** Missing nuts or bolts on the tailgate, mud flaps, dump body, and undercarriage.



HOW'S IT LOOK?

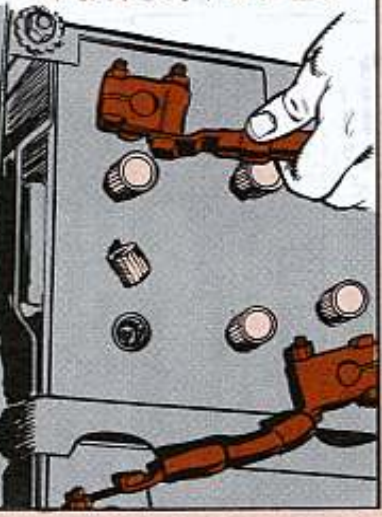
Right Side

OH, BOUT THE SAME.



Right Side Some as left side except for ...

**1 BATTERY:** Hold down connections tight? Look at filler caps for cracks and make sure vent holes aren't plugged up. Be sure electrolyte level is at least 1/8 inch over the plates (do not overfill). Terminal connections loose? Wipe off any dirt or condensation that may be on top of the batteries. Make sure a thin coat of lubricant is applied to the terminals to prevent corrosion, and be sure battery box cover is put back on right.



**1 DAMAGE:** Look over front fenders, grill, hood and bumper for dents, rust spots, broken welds, missing bolts and nuts.

**3 STEERING LINKAGE:** Look for loose the rod ends and excessive drag link play.



**2 LEAKS:** Unusual leaks on the ground and underside of vehicle.



**4 LOOSE NUTS AND BOLTS:** Run your eyes over all mounting bolts, including those on the fender and body, for loose or missing items.

**5 C/V JOINTS:** Look for torn or leaking boots, or rusty and worn ball joints, depending on vehicle.



**6 REPORT VEHICLE CHECKED AND SECURED:** Report to your supervisor that your vehicle has been thoroughly checked, is ready for the following day's operation and has been secured for the night.

## CHECK LIST BEFORE OPERATION

### FRONT OF VEHICLE

1. Tools and Equipment
2. Damage
3. Leaks
4. Oil and Water Level



### LEFT SIDE

1. Damage
2. Tires and Wheels
3. Leaks
4. Tighten Gas Cap



### RIGHT SIDE

1. Damage
2. Tires and Wheels
3. Leaks
4. Tighten Gas Cap



### REAR

1. Damage
2. Air Hose Connections
3. Leaks



### IN SEAT

1. Brake Pedal Adjustment
2. Clutch Pedal Adjustment (START ENGINE)
3. Unusual Noises
4. Engine Controls
5. Instrument Check
  - a. Oil Pressure
  - b. Bat-Gen Indicator
  - c. Tachometer



- d. Fuel Gage
- e. Air Brake Pressure
- f. Temperature Gauge
6. Safety Devices
  - a. Air Pressure Warning Buzzer
  - b. Lights
  - c. Mirrors



- d. Windshield Wipers
- e. Horn
7. Dump Hoist
8. Accident Report and Identification Forms
9. Report Vehicle Checked and Ready for Operation

## DURING OPERATION CHECK

### WHILE DRIVING

1. Brake Adjustment
2. Clutch Adjustment
3. Instruments
  - a. Oil Pressure
  - b. Bat-Gen Indicator
  - c. Tachometer
  - d. Fuel Gage
  - e. Air Brake Pressure
  - f. Temperature Gage
  - g. Speedometer



4. Unusual Noises
5. Steering
6. Engine Operation

### AT HALT

1. Leaks
2. Tires and Wheels
3. Loose Nuts and Bolts
4. Oil, Water, and Fuel (Refill)



## AFTER OPERATION CHECK

### IN SEAT

1. Start Engine
  - a. Air Pressure Warning Buzzer
  - b. Lights
  - c. Mirrors
  - d. Windshield Wipers
  - e. Horn
2. Under Hood
  - a. Leaks
  - b. Look For Loose Items



### REAR

1. Damage
2. Leaks
3. Air Connections
4. Loose or Missing Bolts



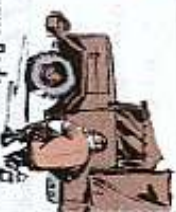
### RIGHT SIDE

1. Damage
2. Tires and Wheels
3. Springs, Shocks, Torque Rods
4. Leaks
5. Loose or Missing Bolts
6. Bat-Gen
7. Loosen Gas Cap



### LEFT SIDE

1. Drain Air Tank
2. Loosen Gas Cap
3. Damage
4. Tires and Wheels
5. Springs, Shocks and Torque Rods
6. Drive Shafts and Universals
7. Leaks
8. Steering Mechanism
9. Loose or Missing Bolts
10. Operating Faults



### FRONT

1. Damage
2. Leaks
3. Steering Linkage
4. Loose Nuts and Bolts
5. C/V Joints
6. Report Vehicle Checked and Secured



# BELOW 50-MPH FOR M151

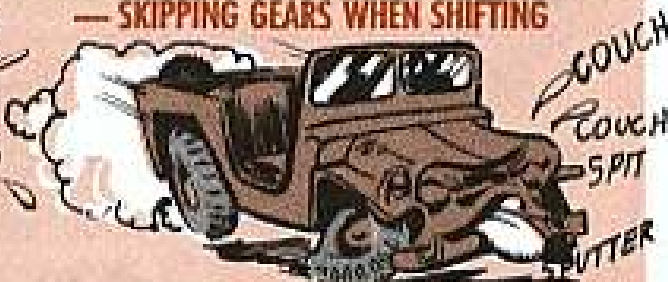
It's recommended that you keep the top speed for your M151-series 1/4-ton truck under 50-MPH for the first 1,000 miles of operation. This's for proper break-in of drive line components and service brakes.

Whether new or already broken in, never torture your quarter-tonner with:

— SPEED TOO HIGH FOR THE GEAR POSITION



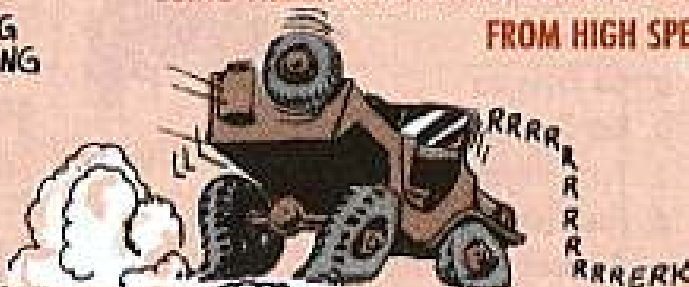
— SKIPPING GEARS WHEN SHIFTING



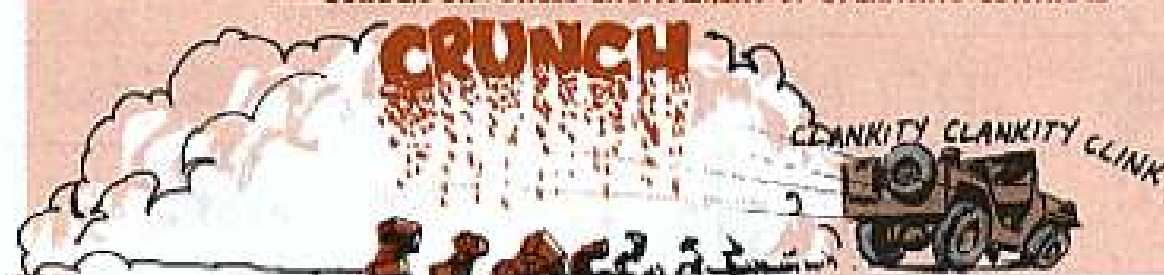
— DRAG STRIP TAKEOFFS



— USING THE ENGINE ALONE TO BRAKE-DOWN FROM HIGH SPEED



— SUDDEN OR FORCED ENGAGEMENT OF OPERATING CONTROLS



## M113/M113A1 WEIGHT CLASS

Confused about the weight classification for M113/M113A1 vehicles, including the M577A1? It's 11...like FM 5-36 (May 65) says in Ch 1 (Apr 66), Table IV-1, page AIV-9. TM 9-2300-257-10 will get this new word.



## SWITCHIN' TIME



There's a new starter switch for G744-series 5-ton diesel and multifuel trucks and for those G742-series 2-1/2-ton multifuel trucks with the LD 465-1 engine (M35A2 etc.). Ask for Switch, starter, FSN 2920-133-9629 the next time you order one. It replaces Switch, FSN 2920-781-1953.

## EXHAUST CLAMP

Have you got the new vertical exhaust stack on your M52A1 truck tractor (or other straight diesel 5-tonner)? The exhaust pipe-to-turbocharger clamp assembly is FSN 2990-972-2605—same as used on the older exhaust system—listed in TM 9-2320-211-20P w/Ch 1 and Ch 2 (Apr 67).

LAY OFF WITH THE WRENCH, BUDDY.



# FILTER HEAD HAZARD



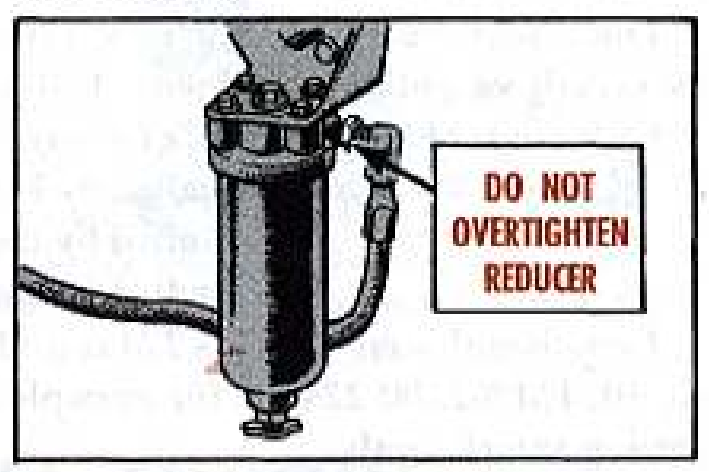
So you got a little leak around the outlet opening on the primary fuel filter head of your M60A1 tank . . . or maybe it's on your M60, M48A3 or M103A2 tank or AVBL or M728 CEV.

The thing not to do is try to stop the leak by tightening up real hard on the tapered pipe reducer FSN 4730-542-3253.

What'll happen, you're sure to crack the filter head. Then you've got real trouble.

The way to stop the leak is with a little thread and gasket sealing com-

pound FSN 8030-656-1426. Put it on the threads of the pipe reducer and fuel line and then carefully tighten the connection to anything between 250-280 lb-in torque.

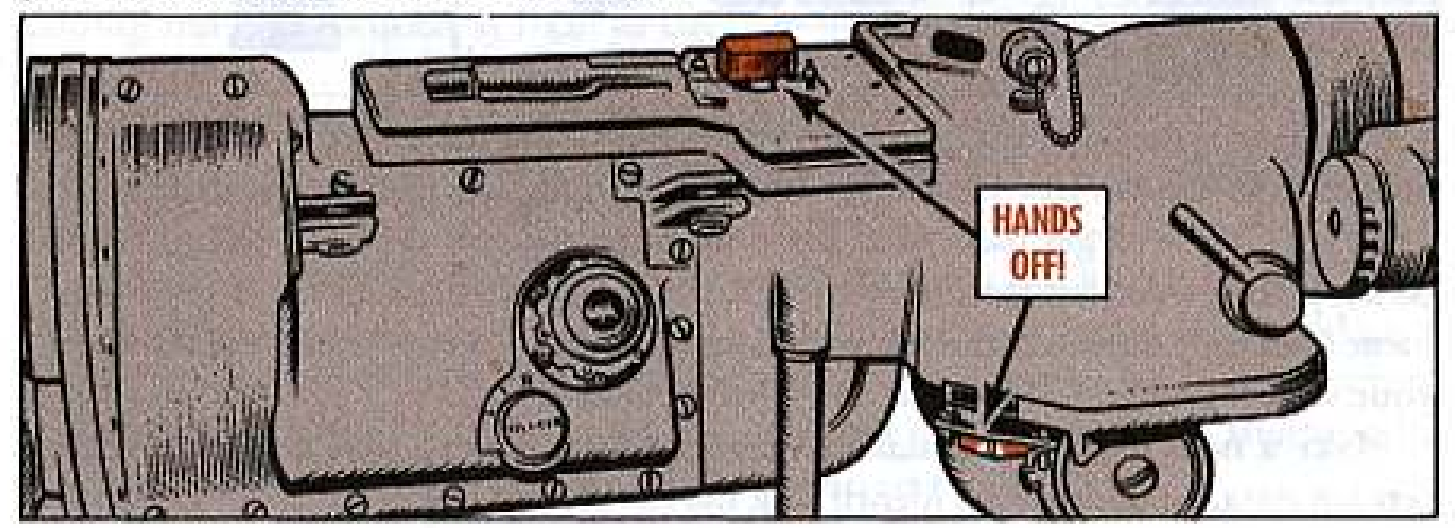


## M17C RANGE FINDER REMINDER

Here's a reminder on that M17C range finder in your M60/M60A1 tank: Keep your cotton-pickin' hands off the ICS and halving knobs unless you know what you're doing.

The dope on using 'em right is on page 2-85 of Ch 8, (Sep 69) of your TM 9-2350-215-10.

For routine range finder operation leave the red covers in place, or you'll get your coincidence reticle out of whack.



# FILTER UNITS FOR CV'S



IS THIS AN AM OR FM MASK?



If your requests for gas particulate filter units for your combat vehicles have been bouncing back, here's why —

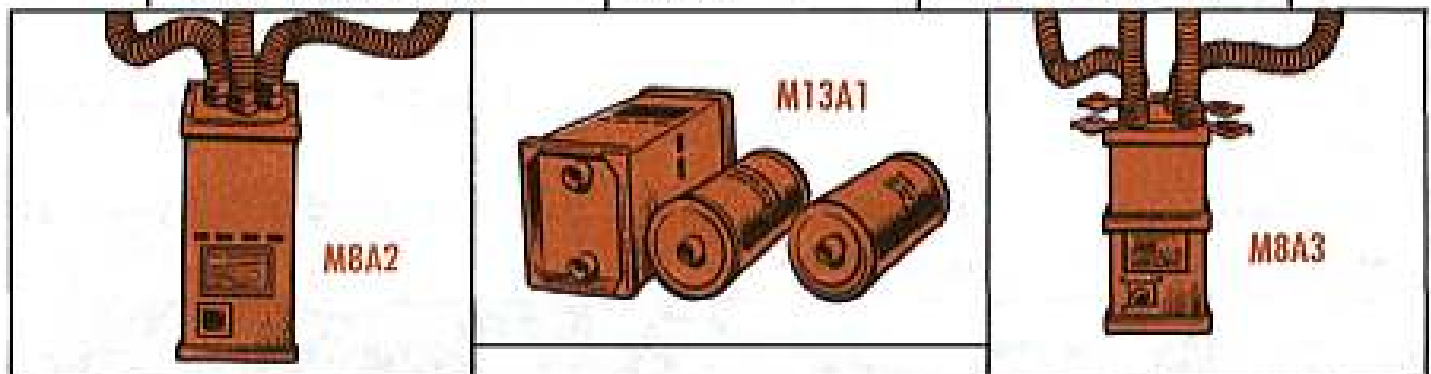
Filter units for CV's are now called installed equipment. The units will eventually be pulled out of your TOE and added to the vehicle's BIIL's.

CV's can get filter units in 1 of 3 ways:

1. Installed by MWO at support level
2. Installed by the manufacturer
3. Installed by depot

Even though your vehicle's TM may already cover PM SOP on a filter unit (like Ch 10, TM 9-2300-224-20, for example), filter units have been OK'd for the following vehicles only.

CV	FILTER UNIT	BY MWO
M48A2 and M48A2C tanks	M8A2 or M8A3	9-2350-208-30 / 4
M48A3 tank	M8A2 or M8A3	9-2350-224-50 / 1
M60A1 tank	M13A1	9-2350-215-30 / 23
M88 recovery vehicle	M8A3	9-2320-222-30 / 7



The M551 Sheridan gets the M8A3 filter unit, and the M728 combat engineer vehicle gets the M13A1 filter unit. Both are installed by the manufacturer.

Other CV's will get their filter units installed as their MWO's are published. So keep an eye out for the filter unit OK for your combat vehicles. If your equipment is already authorized a filter unit, and the MWO hasn't been completed, give your support outfit a DA Form 2407 work request.

Make a note somewhere handy — a request for a filter unit must provide exception data. In addition to identifying the MWO, the DA Form 2765-1 must also

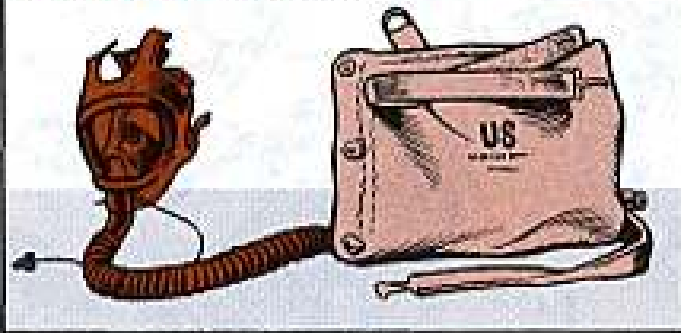
list the nomenclature, model and manufacturer's serial number (not the USA number) for the vehicle concerned.

Remember, once installed the filter unit stays with the vehicle all the way back to rebuild.

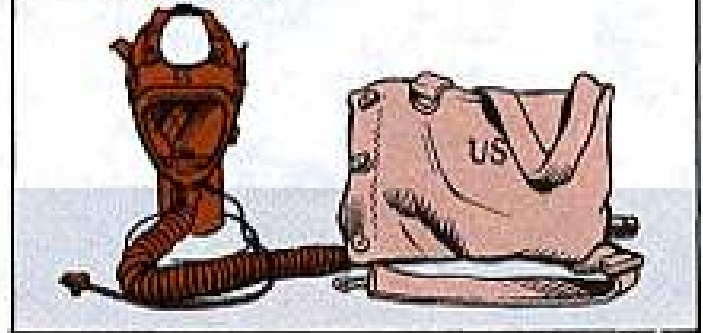
### THE MASKS

On your requests for masks to go with the filter units installed in your CV's, you must provide exception data as to the vehicle's model number and the type of radio it uses (FM or AM).

The M25 and M25A1 tank masks are for use with FM radio sets.



The M14A1 or M14A2 tank masks work with the AM sets.



The M14A2 mask, however, can be used with the FM radios when its mike is changed like it says in Ch 2, TM 3-4240-223-15, para 38.1. After the mike swap it becomes an M25 mask.

## TANK WHEEL TORQUE

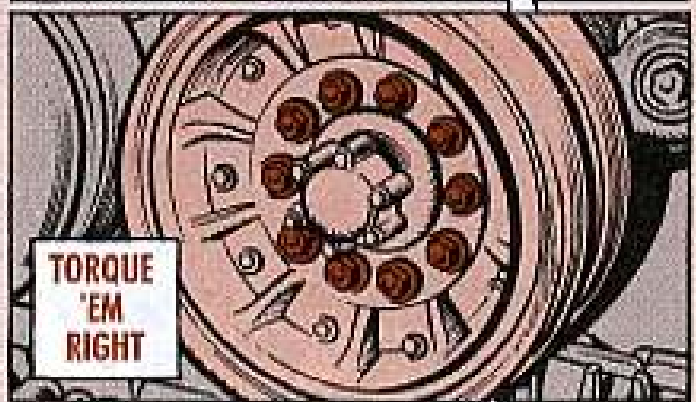
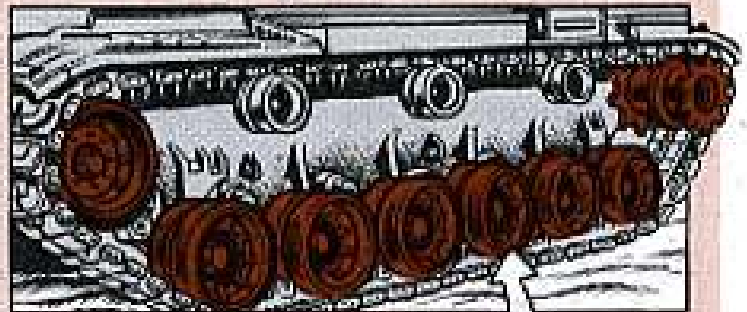
Without wheels your track vehicle won't roll.

So why is that news?

Because roadwheels and compensating idler wheels for some tracks are in real short supply.

So what can you do about it?

You can get the longest possible life out of your roadwheels and compensating idlers by making sure all wheel retaining nuts are torqued as tight as the TM's say.



M48, M48A1 and M48A2 tanks — 380 to 420 pound feet torque on wheel retaining nuts.

M48A3 and M60/M60A1 family — 400-420 pound feet torque.

M113/M113A1 family — 150-170 pound feet.

Besides keeping your wheel retaining nuts tight you can help the supply problem by being a wheeler dealer and turning in to supply all unserviceable-repairable wheels on the shortage list for depot rebuild.



# RAMMERS 105-MM

RAMMERS  
CAN BE  
DANGEROUS!



You can ram yourself into the next world with the wrong rammer-extractor for your 105-MM howitzer.

It's easy enough to do because at least 6 different wrong models (some of them very dangerous) are now in the field.

With the wrong rammer a tip of the ramming plate can set off the primer.

So, check all the rammers in your outfit and if you've got any that don't shape up, ship 'em out. Here's how you check:

Look for the part number (on the extractor).

Howitzer Model	Extractor Part Number
M101 or M101A1	7306159
M102 or M108	11577644

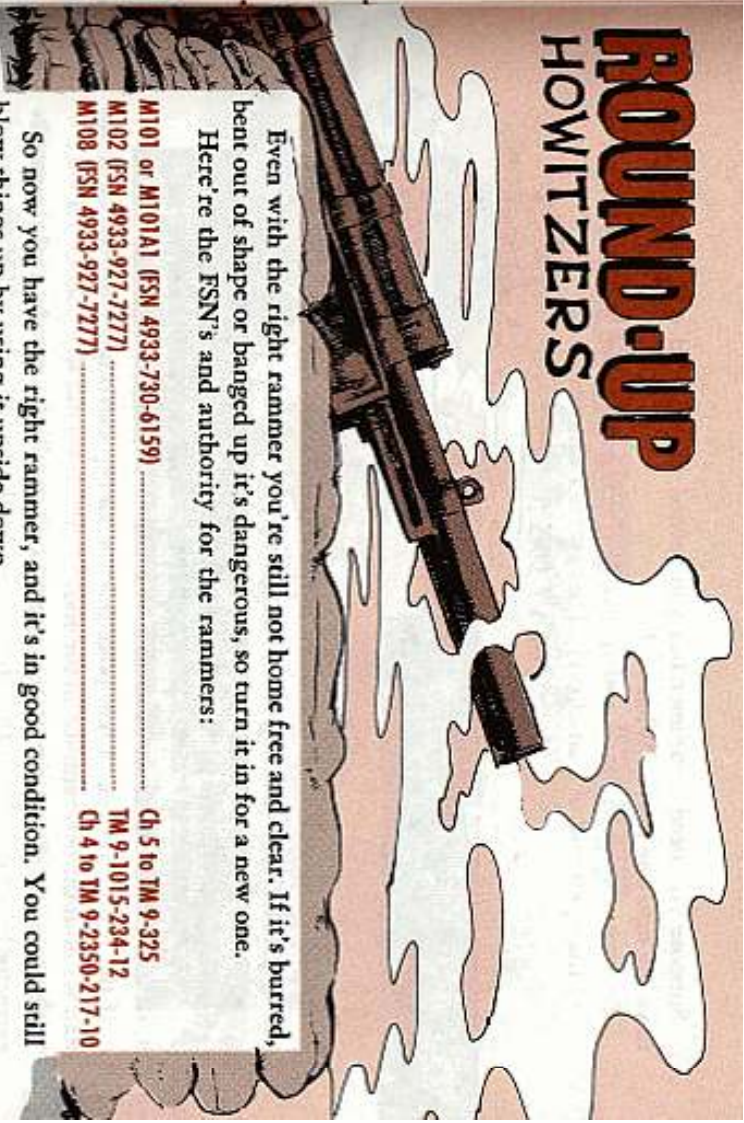


Any rammer that can't pass the part number test should be taken out of service, but even if the part number is right the rammer could still be wrong.

Seems 2 or 3 different models were issued under the same part number. So check both the fulcrum length and the distance between the ramming plates. You have the right rammer only if everything matches up like this . . .

Howitzer Model	Part Number	Fulcrum Length	Minimum distance between ramming plates
M101 or M101A1	7306159	6 1/2 inches	1 1/2 inches
M102 or M108	11577644	6 3/4 inches	1 1/2 inches

# ROUND-UP HOWITZERS



Even with the right rammer you're still not home free and clear. If it's burred, bent out of shape or banged up it's dangerous, so turn it in for a new one.

Here're the FSN's and authority for the rammers:

M101 or M101A1 (FSN 4933-730-6159)	Ch 5 to TM 9-925
M102 (FSN 4933-927-7277)	TM 9-1015-234-12
M108 (FSN 4933-927-7277)	Ch 4 to TM 9-2350-217-10

So now you have the right rammer, and it's in good condition. You could still blow things up by using it upside down.

It's easy to figure out which is upside down and which is right side up. Just put the rammer tool into the breech recess so the rounded edges of the ramming plates will make contact with the cartridge case.

This will happen with the M101 and M101A1 if you put the fulcrum into the breechblock guides in the breech ring with the tips of the extractor pointing to the right.



With the M102 or M108 you position the tool so the extractor tips are pointing straight downwards.



The fulcrum should slide freely in the guides. If you put it in right but it fits so loosely it could tip in the guides it is too worn or damaged to use—so get a new one.

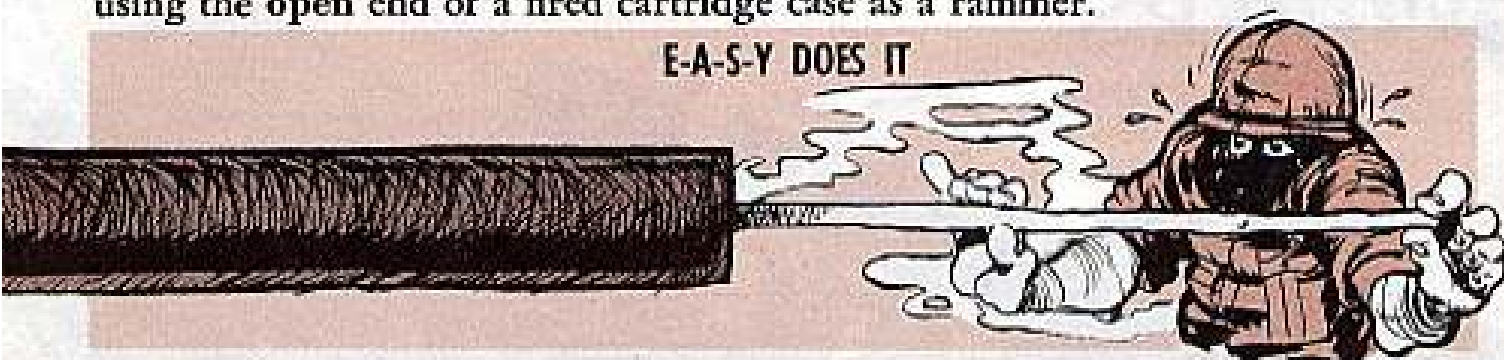
You don't need to use a lot of muscle. If you can't seat the cartridge easily, take it out and put in a new one.



Suppose you need a rammer but you turned in your old one and you don't have the new one yet . . . What to do?

You can sometimes seat a round that won't chamber when you first load it by using the open end of a fired cartridge case as a rammer.

E-A-S-Y DOES IT



To get out an unfired round stuck in the chamber, use the bell rammer on the end of the sectional cleaning staff, and gently poke it out.

**WARNING:** Cartridges, projectiles or fuzes that have been removed from a weapon by ramming are not to be used again. This is because some non-standard condition in the ammunition may have made the ramming necessary and the ramming might have damaged the fuze.

If the round has been fired, poke out the empty cartridge with the cleaning staff without the bell rammer on the end.

These are field expedients to be used only until you get the right rammer-extractor.

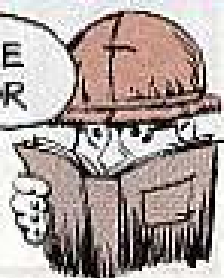
## CARRIAGE, BREECH OR CONTROL?

*Dear Half-Mast,  
Some towed  
howitzers — like  
the M101A1 —*

*have serial numbers on the breechblock and the carriage  
but none that apply to the complete weapon.*



SO WHAT NUMBER DO WE  
USE ON LOG RECORDS OR  
ON DA FORM 2407?



CPT. J. Z. Jr.

Dear Captain J. Z.,

For the M101A1 and other howitzers that don't have serial numbers for the complete weapon, use their carriage serial numbers.

The rule in TM 38-750 on use of DA Form 2408-8 control numbers doesn't apply to these howitzers.

CARRIAGE	
PAR NO	4433500
MFG BY	F I & ROCK ISLAND, ILLINO
CONTROL NO	
DATE	4 19 54
INSPECTED	P. A. W. U.S.
SERIAL NO	4263
WT	
LT	



175-MM GUNNERS...

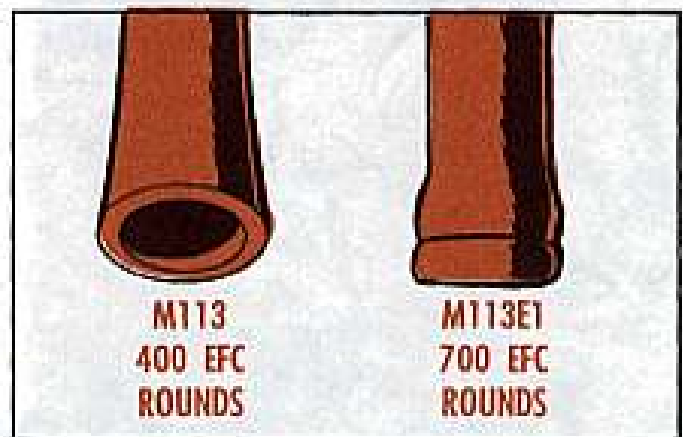
## AUToFRETTAGE TUBES ARE COMING



A new M113E1 autofrettage tube for your M107 175-MM SP gun is the latest round of good news to zero in on gunnery circles these days.

This E1 model will almost double interim tube life by letting you reach 700 effective full-charge rounds between trade-ins . . . compared to 400 EFC rounds on the current M113 tube. So, you don't have to ask for tube changes as often.

You'll only be able to tell the difference by the bell shaped muzzle on the autofrettage tube. But your supply man will know the difference by its FSN: 1025-113-5636 for the complete cannon, including all breech components . . . FSN 1025-113-5637 for the tube only.



## STICK TO M79 CARTRIDGES

The M79 grenade launcher's not designed to fire pyrotechnic cartridges used in the AN-M8 Very pistol or AN-M9 hand projector. Cartridges AN-M37 thru AN-M58 are .055-inch smaller in diameter than the 40-MM ammo and have no rotating band.

Using other than authorized 40-MM cartridges in the M79 could damage both you and the launcher.



# GUNSMITH

## Small Arms Tool Kit FSN

## Repairman 4933-357-7770

THERE'S BEEN SOME CHANGES MADE IN YOUR SMALL ARMS REPAIR KIT.

Now you see it—now you don't. So you're wondering what's happened to that armorer's tool kit. Here's the story:

Armorer's Tool Kit, FSN 5180-754-0640, LIN 453650 W31634, SM 10-4-5180-A19 (Jan 62) was changed by SB 9-196 (Apr 67). The SB added 27 tools, deleted 11 and changed the set to Small Arms Repairman Tool Kit, FSN 4933-357-7770, LIN W51910 (453995), SC 4933-95-CL-A07. The latest pub is dated April 1969.

If you need a complete tool kit, order FSN 4933-357-7770, but if you just need to bring your kit up to date, order the individual items you need. Here's what you should have in your kit. You get one each unless noted.

**BOX, PLASTIC, SMALL PARTS:** 16 compartments 1 in x 1½ in, 1 compartment 4¼ in x 1½ in, 7¾ in lg x 4¼ in w x 1¼ in h, w/hinged cover



FSN 0115-663-0212

2

**CAPS, VISE JAW:** brass face, 2½ in w jaws



FSN 5120-246-4746

**CHISEL, COLD, HAND:** ¾ in w cut, 5½ in lg o/a



FSN 5110-242-3457

**DRIFTPIN:** sgle taper, ¼ in largest dia, 4 in lg o/a



FSN 5120-239-0035

**DRIFTPIN:** sgle taper, ½ in largest dia, 4 in lg o/a



FSN 5120-239-0036

**FILE, HAND:** American patt, fl type, dbl cut sm faces, sgle-cut sm edges, 6 in heel to pt



FSN 5110-234-6532

**FILE, HAND:** American patt, half-rd type, dbl cut sm face, sgle-cut sm face, 6 in heel to pt



FSN 5110-241-9149

**FILE, HAND:** American patt, rd type, ¾ in dia of largest sec, sgle-cut sm cut, 6 in heel to pt



FSN 5110-234-6550

**FILE, HAND:** American patt, slim taper type, sgle-cut handsaw faces and edges, 6 in heel to pt



FSN 5110-234-6528

**FILE SET, HAND:** sw-patt, needle type, No. 0 cut, 5½ in lg o/a, 12 files, w/case, c/o 1 ea barrette

5110-249-2886

**CROSSING** ..... 5110-249-2883

**EQUALING** ..... 5110-166-1207

**FLAT** ..... 5110-249-2882

**HALF-ROUND** ..... 5110-245-4160

**JOINT** ..... 5110-239-3276

**KNIFE** ..... 5110-166-1203

**MARKING** ..... 5110-293-1488

**ROUND** ..... 5110-166-1201

**SITTING** ..... 5110-239-7609

**SQUARE** ..... 5110-239-7597

**THREE SQUARE** ..... 5110-239-7586

FSN 5110-204-2684

**HAMMER, HAND:** 1 in dia screw-in inserted plastic faces, 1 med and 1 tough face, 6 oz. When exhausted use 5120-900-7871

FSN 5120-293-2208

**HAMMER, HAND:** 1 in dia screw-in inserted plastic faces, thr/glass hdl, 11¾ in lg, ¾ lb wt



FSN 5120-900-7871

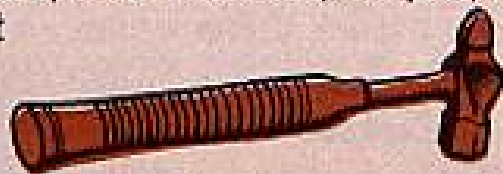
**FACE, HAMMER, INSERTED:** med plastic

FSN 5120-293-3003

**FACE, HAMMER, INSERTED:** tough plastic

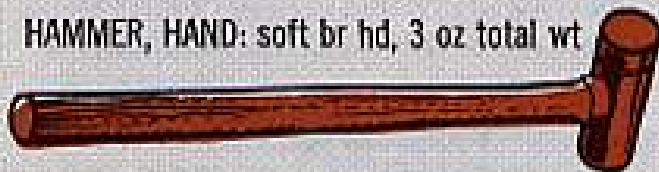
FSN 5120-293-2999

HAMMER, HAND: machinist's, ball peen, 8 oz hd wt



FSN 5120-061-8541

HAMMER, HAND: soft br hd, 3 oz total wt



FSN 5120-242-3908

HANDLE, FILE, WOOD: 1 in dia, 4 in lg o/a small size



FSN 5110-263-0342

4

HANDLE, FILE, WOOD: 1 1/4 in dia, 4 1/2 in lg o/a med size



FSN 5110-263-0349

HANDLE, SOCKET WRENCH: rrvs rtc palm grip type, 3/8 in drive end, 1 1/8 in lg o/a



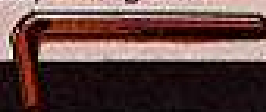
FSN 5120-786-3782

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 1/16 in w across flats, 1 3/4 in lg arm



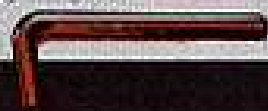
FSN 5120-198-5398

KEY, SOCKET HEAD SCREW: hex type, L-type handle, 3/32 in w across flats, 2 in lg arm



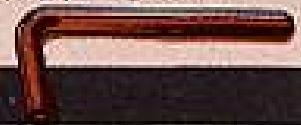
FSN 5120-242-7410

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 3/16 in across flats, 2 3/32 in lg arm



FSN 5120-889-2162

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 1/8 in w across flats, 2 1/4 in lg arm



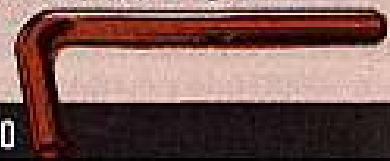
FSN 5120-240-5292

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 5/32 in w across flats, 2 1/2 in lg arm



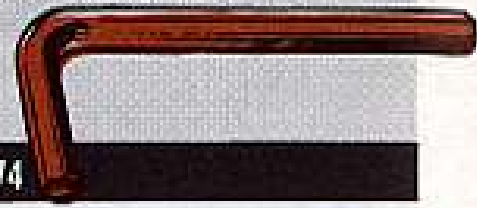
FSN 5120-198-5392

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 3/16 in w across flats, 2 3/4 in lg arm



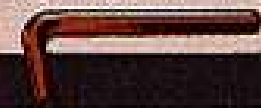
FSN 5120-240-5300

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 5/16 in w across flats, 3 3/4 in lg arm



FSN 5120-240-5274

KEY, SOCKET HEAD SCREW: hex type, L-type hdl, 3/4 in across flats, 1 7/8 in lg arm



FSN 5120-224-2504

OILER, HAND: 6 oz cap, pressure fed by int pump S body, ni-pltd fin, 1 1/8 in bottom dia, 6 in lg spout w/removable tip, w/closure cap attached, w/o holder bracket



FSN 4930-985-2604

PADLOCK: pin tumbler type, individually keyed, 5,000 key changes, 1 1/2 in w x 1 1/4 in h br-bz case, 3/4 in clearance .240 in to .323 in dia br-bz shackle, w/clevis, chain, and 2 keys



USE GRAPHITE  
FSN 9620-233-6712  
IN KEY SLOT TO  
KEEP IT WORKING  
IN COLD WEATHER.

FSN 5340-682-1508

PLIERS: lg rd nose, w/cutter, 6 in size



FSN 5120-247-5177

PLIERS, DIAGONAL CUTTING: 6 in size



FSN 5110-239-8253

PLIERS: parallel action jaws, w/cutter, 6 1/2 in size



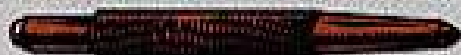
FSN 5120-224-1541

PUNCH, CENTER, SOLID: 5/32 in dia at top of taped pt, 3/8 in stk dia, 4 in lg o/a



FSN 5120-293-3509

PUNCH, CENTER, SOLID: 5/16 in dia at top of tapd pt, 1/4 in dia of stk, 3 1/4 in lg o/a



FSN 5120-293-3510

2

PUNCH, DRIVE PIN: stght type, 0.070 in dia, 1 1/8 in lg pt



FSN 5120-840-7288

PUNCH, DRIVE PIN: stght type, 0.055 in dia, 5/8 in lg pt



FSN 5120-840-7289

PUNCH, DRIVE PIN: stght type, 1/16 in dia, 1 1/2 in lg pt



FSN 5120-752-9030

PUNCH, DRIVE PIN: stght type, 1/8 in dia, 3 1/2 in lg pt



FSN 5120-223-1014

PUNCH, DRIVE PIN: stght type, 5/32 in dia, 2 in lg pt



FSN 5120-752-9031

PUNCH SET, DRIVE PIN: 9 stght punches, w/ case



KEEP THE TIPS FROM BURRING.



pt dia in	pt lg in	
1/16	1/2	5120-240-6082
3/32	1 1/16	5120-242-3435
1/8	3/4	5120-242-5966
5/32	13/16	5120-240-6104
3/16	15/16	5120-293-0791
7/32	1	5120-293-0792
1/4	1	5120-240-6083
5/16	1	5120-293-0793
3/8	1	5120-273-0001

FSN 5120-883-3003

RASP, HAND: 1 3/16 in w x 3/16 in thk at largest sec, sm cut faces, file cut edges, 12 in heel to pt



FSN 5110-233-9722

SCREWDRIVER, CROSS TIP: plastic hdl, Phillips No. 1 tip, 3 in lg blade, 3/8 in female sq-drive in end of hdl



FSN 5120-764-8080

SCREWDRIVER, FLAT TIP: plastic hdl, 1/4 in w flared tip, 1 1/2 in lg blade, 3/8 in female sq-drive in end of hdl



FSN 5120-832-6223

SCREWDRIVER, FLAT TIP: plastic hdl, plain, 1/4 in w flared tip, 4 in lg blade, 3/8 in female sq-drive in end of hdl



FSN 5120-764-8058

SCREWDRIVER, FLAT TIP: plastic hdl, plain,  $\frac{3}{8}$  in w flared tip, 8 in lg blade,  $\frac{3}{8}$  in female sq-drive in end of hdl



**FSN 5120-764-8060**

SCREWDRIVER, FLAT TIP: plastic hdl, stght sided tip,  $\frac{3}{4}$  in w, 5 in lg blade,  $\frac{3}{8}$  in female sq-drive in end of hdl



**FSN 5120-010-7913**

SCREWDRIVER, FLAT TIP: plastic hdl,  $\frac{3}{16}$  in tip w, 5 in lg blade,  $\frac{3}{8}$  in female sq-drive in end of hdl



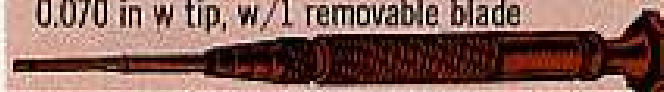
**FSN 5120-042-6837**

SCREWDRIVER, FLAT TIP: plastic hdl, w/pocket clip,  $\frac{1}{8}$  in w flared tip, 2 in lg blade



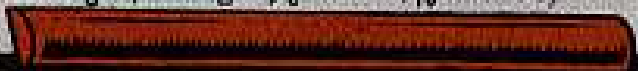
**FSN 5120-236-2140**

SCREWDRIVER, JEWELER'S SWIVEL KNOB: 0.070 in w tip, w/1 removable blade



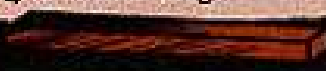
**FSN 5120-180-0728**

STONE, SHARPENING: half-rd, syn, al-oxide, fine grit, 4 in lg x  $\frac{3}{8}$  in w x  $\frac{3}{16}$  in thk o/a



**FSN 5345-224-6595**

STONE, SHARPENING: natural, unmtd, hard grit, sq,  $\frac{1}{4}$  in thk x  $\frac{1}{4}$  in w x 3 in lg



**FSN 5345-243-6087**

STONE, SHARPENING: natural, unmtd, hard grit, rd-edge slip, 4 in lg x  $1\frac{3}{4}$  in w x  $\frac{1}{2}$  in thk edge,  $\frac{1}{8}$  in thin edge



**FSN 5345-243-6086**

STONE, SHARPENING: rd, syn, al-oxide or silicon carbide, fine grit, 4 in lg x  $\frac{3}{8}$  in thk



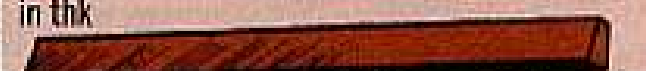
**FSN 5345-584-4554**

STONE, SHARPENING: sq, syn, al-oxide or silicon carbide, fine grit, 6 in lg x  $\frac{3}{8}$  in w x  $\frac{3}{8}$  in thk



**FSN 5345-584-4605**

STONE, SHARPENING: tri, syn, al-oxide or silicon carbide, fine grit, 4 in lg x  $\frac{3}{8}$  in w x  $\frac{3}{8}$  in thk



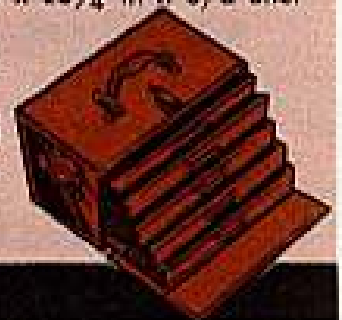
**FSN 5345-584-4615**

TAPE, MEASURING: S, general purpose distance measuring type,  $\frac{1}{2}$  in w x 72 in lg, grad in units of  $\frac{1}{32}$  in,  $\frac{1}{16}$  in, and 1 in,  $\frac{1}{32}$  in increments 1st 6 in upperside,  $\frac{1}{16}$  in increments on bal of ribbon, lh to rh reading, w/case, butt end type, pull-push rewind



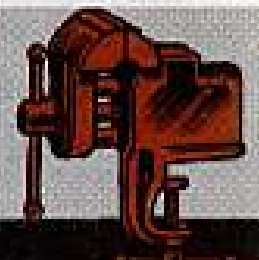
**FSN 5210-287-3335**

TOOL BOX, PORTABLE: S, enmld fin and painted, 16 in lg x  $8\frac{1}{2}$  in w x  $10\frac{3}{4}$  in h o/a excl projections, 5 drawers, w/panel front, lkg facilities incl, nonintegral lock, 2 additional handles located on sides



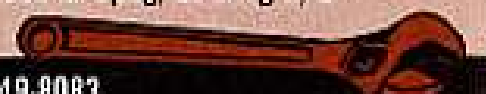
**FSN 5140-449-6856**

VICE, BENCH, CLAMP BASE: stationary base, w/anvil back,  $2\frac{1}{2}$  in w jaw,  $2\frac{1}{4}$  in jaw opng



**FSN 5120-243-1372**

WRENCH, OPEN END, ADJUSTABLE: sgld-hd type, 0 to 1.135 in opng, 10 in lg o/a



**FSN 5120-449-8083**

WRENCH, OPEN END, FIXED: sgld-hd type,  $\frac{3}{4}$  in opng,  $\frac{3}{32}$  in thk hd,  $4\frac{1}{2}$  in lg o/a



**FSN 5120-293-1828**

# JOE'S DOPE

## THE BALLAD OF ORWELL GIGGIT

Man, rock to the tale  
of Orwell Giggit,  
A short-time troop  
who didn't dig it!  
Just sweatin' out  
his thirty days,  
flubbin' the dub  
in fifty ways!  
Hey! hey! hey!  
in fifty ways!  
Ooohh, that swingin'  
Giggit, that  
groovy cat . . .  
It's 'Deros' this and  
'Retro' that . . .  
For "goin' home" is  
his only goal  
As he saddles up for  
his last patrol . . .



MAN,  
I'M SO SHORT  
I AIN'T EVEN  
GOT TIME FOR  
RAPPIN' WITH  
A GUY WHO  
STUTTERS!

WELL,  
GIGGIT,  
YOU'D BETTER  
MAKE THIS  
SCENE...  
**CONNIE** IS  
GIVIN' A  
SMALL ARMS  
LECTURE!




WOT'S THE POINT?  
I AIN'T **DOIN'**  
NO **PM** ANYMORE  
... I CAN HEAR  
THAT FREEDOM  
BIRD REVVIN'  
UP!

COME ON!

...OUT HERE ONE OF THE BEST WAYS TO KEEP YOUR SMALL ARMS READY-AND-ABLE IS **LUBING!**

**IN WET WEATHER**  
  
 OIL KEEPS MOISTURE OUT OF THE WORKS  
 ... PREVENTS RUST!

... DRY WEATHER—  
 A VERY THIN FILM OF OIL PROTECTS, YET PREVENTS PARTICLES FROM STICKING TO THE SURFACE  




LSA (2-oz bottle) FSN 9150-935-6597.  
 PL Special (4-oz can) FSN 9150-273-2389.  
 LAW (4-oz can) FSN 9150-664-0038.



**LSA'S**  
 FOR YOUR SMALL ARMS MOST OF THE TIME, FOR EXTREME CONDITIONS (LIKE COLD), SEE YOUR WEAPON'S TM OR LO FOR DETAILS.

IN THIS PART OF THE WORLD, IT'S EITHER TOO HOT-AND-WET OR TOO HOT-AND-DRY!! BOTH ARE MURDER TO WOOD... LIKE RIFLE **STOCKS!**



**LINSEED OIL (RAW) FSN 8010-221-0611**

PREVENTS SWELLING AND WARPING IN WET SEASONS	PREVENTS CRACKS AND SPLINTERS IN HOT-DRY TIMES
--	--



BE SURE YOU GET OIL UNDER BUTT PLATES

DON'T OVER-DO IT ...

**DISASSEMBLE YOUR WEAPON BEFORE LUBING THE STOCK TO AVOID GUMMING UP THE WORKS.**



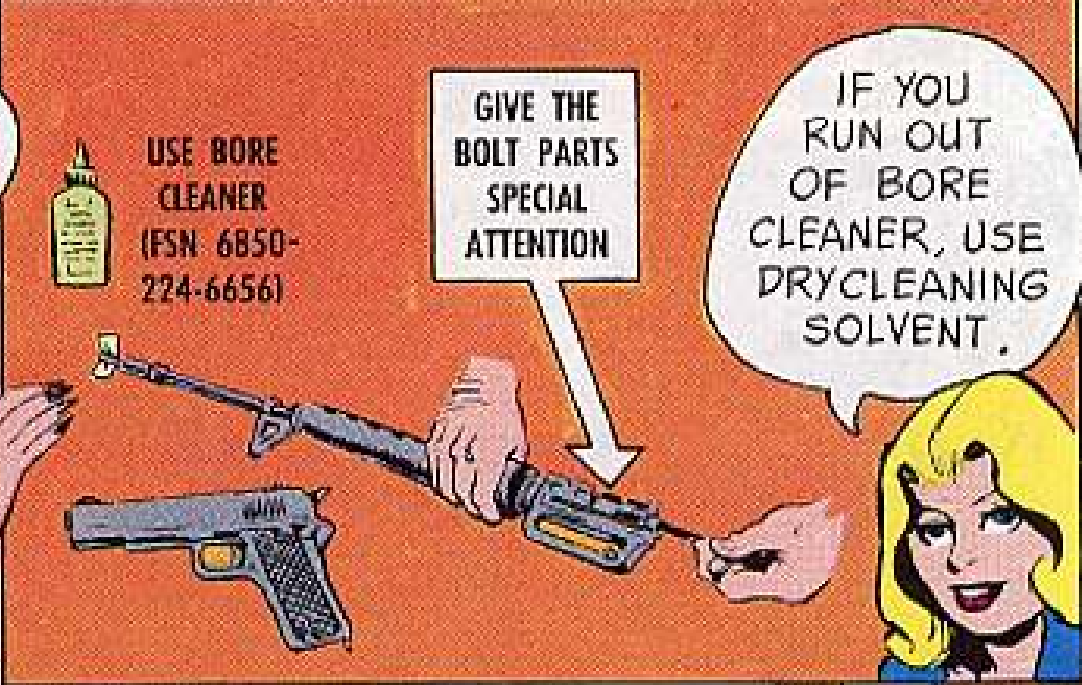
AH, SO I GOT A PLASTIC STOCK

SO THEN YOU LEAVE IT ALONE! NOW SIMMER DOWN. I WANT TO HEAR EVERY WORD OF THIS...

NOW, **CLEANING**... YOUR SMALL ARMS NEED SPECIAL CARE OUT HERE... BETWEEN DUST, MOISTURE, BUGS, CRUD, SWEAT AND WHO-KNOWS-WHAT... YOU HAVE A NEVER-ENDING JOB!



AFTER EACH FIRING MISSION DO THIS...



USE BORE CLEANER (FSN 6850-224-6656)

GIVE THE BOLT PARTS SPECIAL ATTENTION

IF YOU RUN OUT OF BORE CLEANER, USE DRYCLEANING SOLVENT.



YEAH, IT CAN GET DIRTIER THAN SIX FEET UP A SPIDER HOLE!

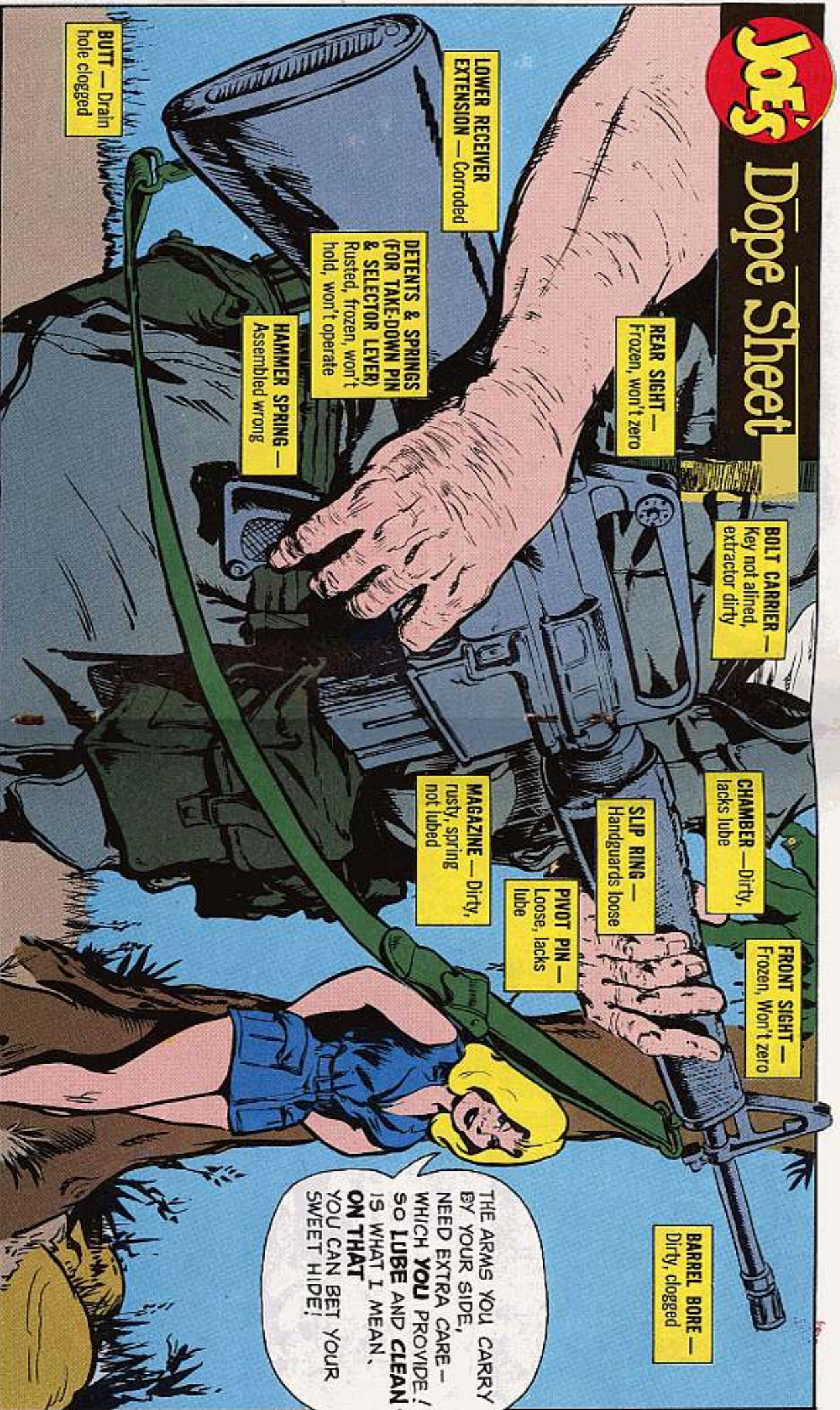
ON THE M14 AND M60 WATCH FOR CARBON BUILD UP IN THE GAS CYLINDER!

AND HUMAN SWEAT CORRODES SO KEEP METAL WIPED DRY.

HERE, STUDY THIS PIN-UP I'M POSTING.



# Joe's Dope Sheet



**BOLT CARRIER —**  
Key not aligned,  
extractor dirty

**CHAMBER —** Dirty,  
lacks lube

**FRONT SIGHT —**  
Frozen, Won't zero

**BARREL BORE —**  
Dirty, clogged

**REAR SIGHT —**  
Frozen, won't zero

**SLIP RING —**  
Handguards loose

**PIVOT PIN —**  
Loose, lacks  
lube

**MAGAZINE —** Dirty,  
rusty, spring  
not lubed

**LOWER RECEIVER  
EXTENSION —** Corroded

**DETTENTS & SPRINGS  
(FOR TAKE-DOWN PIN  
& SELECTOR LEVER)**  
Rusted, frozen, won't  
hold, won't operate

**HAMMER SPRING —**  
Assembled wrong

**BUTT —** Drain  
hole clogged

THE ARMS YOU CARRY  
BY YOUR SIDE,  
NEED EXTRA CARE —  
WHICH YOU PROVIDE!  
SO LUBE AND CLEAN!  
IS WHAT I MEAN,  
**ON THAT**  
YOU CAN BET YOUR  
SWEET HIDE!

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

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

NOW, **CLEANING** IS NOT ENOUGH... **PROTECTING** YOUR WEAPON IS JUST AS IMPORTANT!



**RAIN**  
TOTE WEAPON MUZZLE DOWN, TRIGGER UNDER ARM PIT!



CLEAN IT RIGHT AWAY OR... **MUD**

DROPPED YOUR RIFLE IN THE WATER? ?  
EXTRACT ROUND TO BREAK AIR LOCK... AND DRAIN IT QUICKLY  
DISASSEMBLE AND DRY IT FIRST CHANCE YOU GET... DON'T DELAY



**SALT AIR?**  
KEEP SPRAY WIPE OFF AND LUBE IT LIGHTLY.

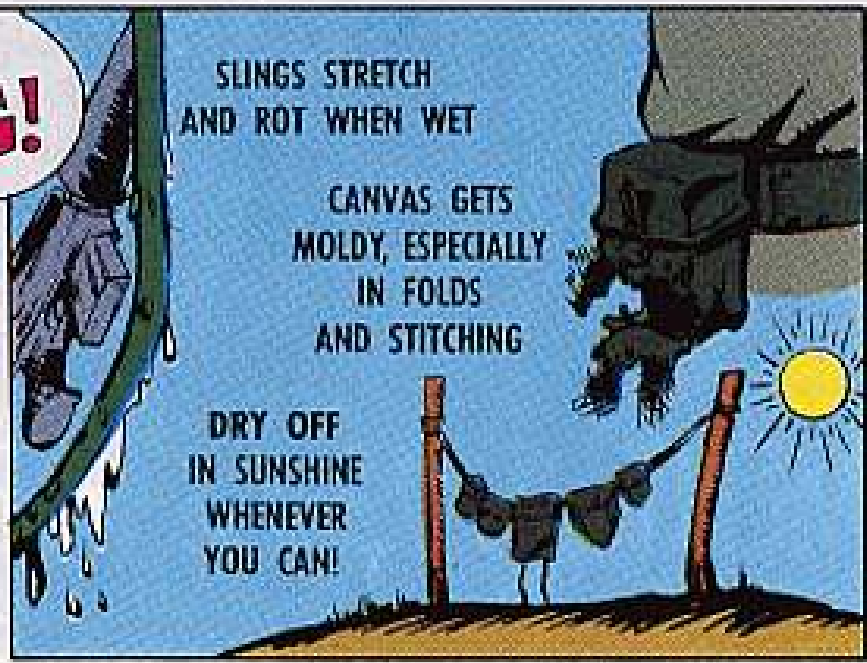


MUZZLE COVERS ARE GOOD — BUT THEY TRAP CONDENSED MOISTURE... SO TAKE 'EM OFF ONCE-IN-A-WHILE... LET BORE DRY OUT!



DON'T OVERLOOK **WEBBING!**

SLINGS STRETCH AND ROT WHEN WET  
CANVAS GETS MOLDY, ESPECIALLY IN FOLDS AND STITCHING  
DRY OFF IN SUNSHINE WHENEVER YOU CAN!



DON'T POLISH AMMO . . .

**AMMO**  
ALSO NEEDS  
SPECIAL HANDLING!

DON'T OPEN  
ANY AIR-TIGHT  
WATER-PROOF  
CONTAINERS  
TILL YOU'RE  
READY TO  
USE 'EM!

I PUT EXTRA  
MAGAZINES IN  
A PLASTIC BAG  
FOR QUICK  
USE.

OPEN BOXES  
OF AMMO??  
KEEP 'EM  
COVERED!

GOOD  
DEAL!  
— KEEPS  
'EM  
CLEAN  
FOR  
SURE

FSN 1005-052-6942

**PROTECT** YOUR  
M16A1 WITH PLASTIC  
COVERALL BAG,  
FSN 1005-809-2190,  
WHENEVER  
POSSIBLE.

FIRST

BE SURE  
YOUR RIFLE'S  
CLEANED AND  
LUBED!

THEN

SLIP IT IN AND CLOSE  
THE END WITH A RUBBER BAND

CAREFUL . . .  
IN HOT WEATHER  
MOISTURE FORMS  
INSIDE A RIFLE BAG  
. . . SO OPEN  
THE BAG ONCE  
A DAY AND  
LET IT DRY  
OUT.

DON'T SWAP PARTS  
WITH BUDDIES... EACH  
PART WEARS DOWN  
DIFFERENTLY... IT  
MAY NOT QUITE  
FIT AND

C'MON, THIS  
BORES ME... I AIN'T  
GONNA BOTHER WITH ANY  
OF THEM **PM** TIPS  
'CAUSE THIS IS MY  
LAST PATROL!

So Orwell Giggitt  
trod the ground  
on that last patrol  
from his compound!  
But, it happened on that  
hot, wet day —  
they hit an ambush  
on their way.



And the shoot-out that  
o'course took place  
found our troop Giggitt  
a sorry case.  
His weapon froze — 'twas  
rust bedecked!  
The firing pin he'd  
never checked!  
The muzzle blocked by  
caked-up mud!  
The whole dang piece plumb  
fouled with crud!  
Just a coupla weeks of  
plain neglect  
was enough to see his  
deros wrecked!



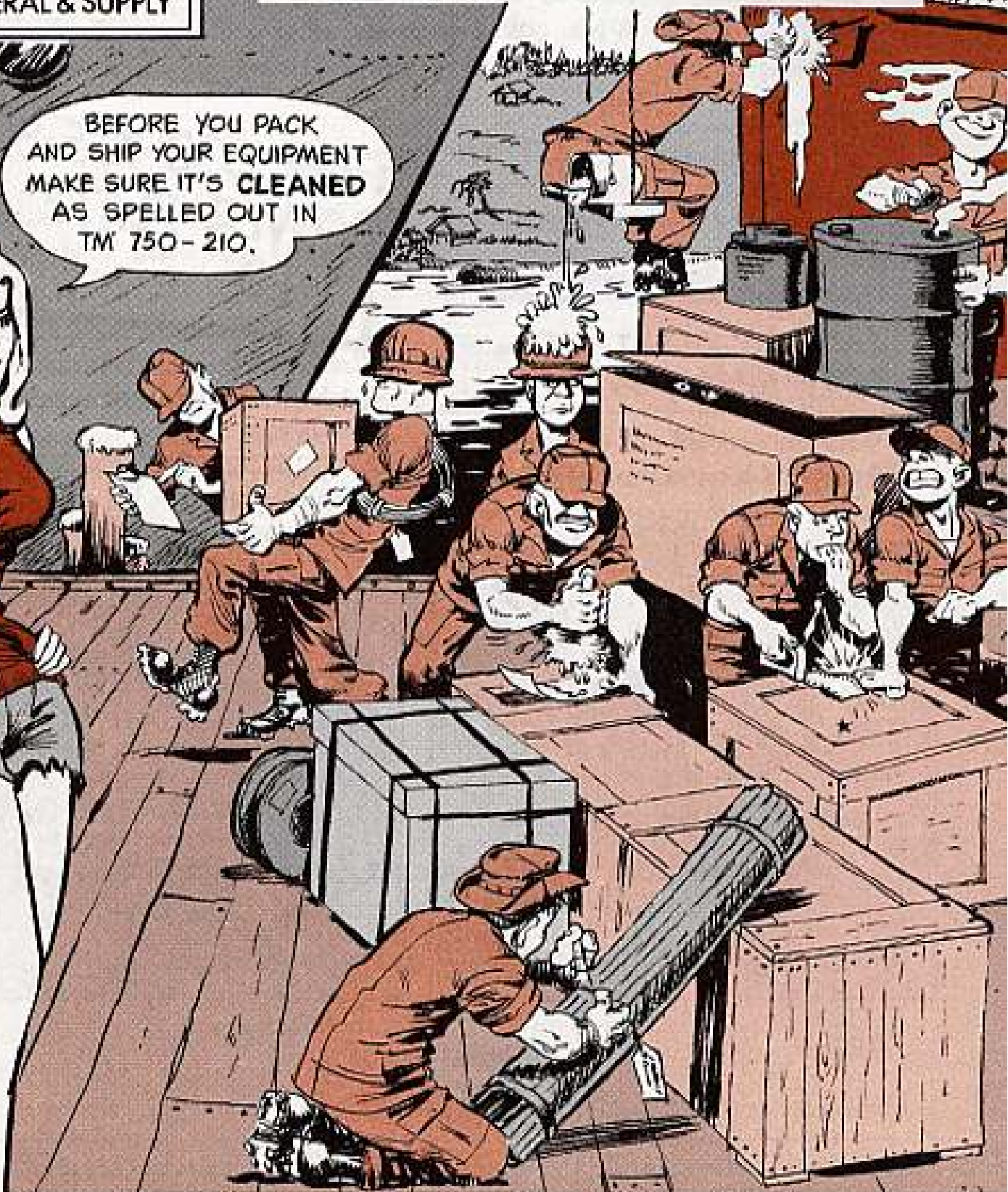
It's six months since  
Giggitt was found —  
he's still short-time  
— but still around!



GENERAL & SUPPLY

# WHAT GOES THERE

BEFORE YOU PACK AND SHIP YOUR EQUIPMENT MAKE SURE IT'S CLEANED AS SPELLED OUT IN TM 750-210.



When equipment, components and parts are on shipping orders and under wraps, each item's got to be identified — no buts about it.

At every check-point in transit somebody needs to know "What goes there?" So . . . mark it before you move it.

If your outfit's involved in a rapid retrograde or deployment/redeployment action — Vietnam or otherwise — you may need a look at the rules in TM's of the 750-series. As issued they're appearing in DA Pam 310-4, and the appendix to TM 750-210 (24 Jul 69) also has a list identifying 'em by types of equipment covered.

Supplies move smoothly—up front and back to repair or storage depots—only if they're easy to identify. Even eyeball-to-lockpin or keyway, some items are hard to recognize. When boxed or inside other containers, they've got to be marked with:

1. FSN.

2. Item name — or description.

3. Quantity in pack (as used for issue: each, pair, dozen, yard and such).

**FSN 2530-705-8039  
COVER PLATE  
1 EA**

Mark this info — in 1-2-3 order — on all shipping-out containers, using either a —

Tag (on bags, bales, bundles or other containers where labels and stencils are hard to apply), or

Stencil (on containers such as metal, wood and cardboard boxes and cartons).



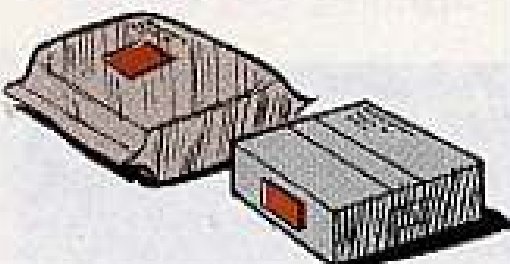
Label (on containers like cartons and fiber or plastic wrappers).



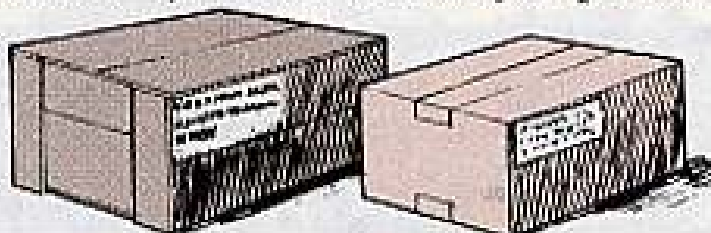
### WHAT TO MARK

Identification markings are needed on:

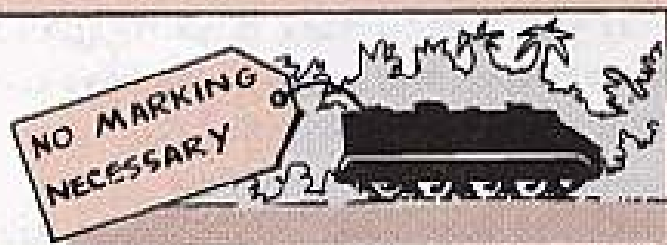
1. All bags, cartons and packing envelopes or sacks that go inside shipping containers.



2. All shipping containers (fiberboard, wood and re-usable metal)—except CONEX, MILVAN and SEAVAN. No outside identification is needed on CONEX, MILVAN and SEAVAN containers—just on the items you put in 'em.

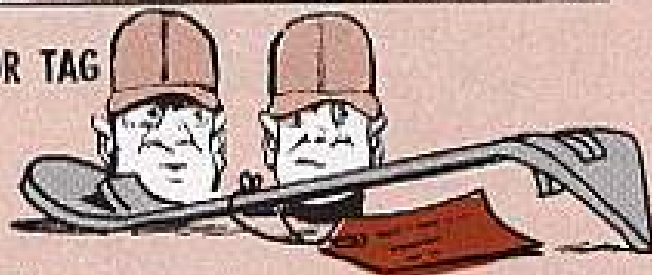


3. All unpacked items — except vehicles and other major items that can be readily identified by data plates.



### STENCIL, LABEL OR TAG

Use the stencil, label or tag that best fits the container, sticks to it and shows the identity of the item as it moves.



**STENCIL** with black ink, applied by spray, roller or brush. For slick surfaces like metal or glass, the ink is FSN 7510-191-6030. For porous or grainy surfaces like wood or fiberboard, use FSN 7510-161-0811.

For items shipped unboxed or uncrated, stencil directly on the item. Use gasoline soluble paint, FSN 8010-597-8235 (black) or FSN 8010-597-8238 (white).

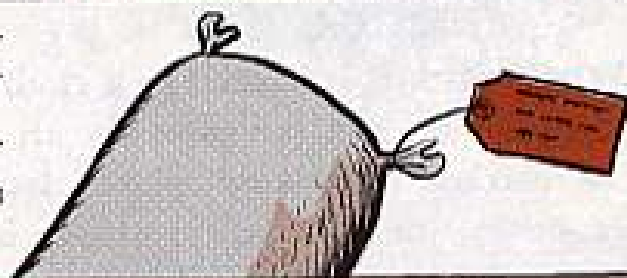
**LABEL** with any type of paper label, using one of these 2 adhesives: FSN 8040-053-8452 or FSN 8040-656-0814. If the label goes on a package placed inside another container, it needs adhesive only on the underside.

On the other hand, if a label's applied to an outside container adhesive must be used to stick the label to the package and coated over the outside of the label to protect it from the weather.

2530-705-8039  
COVER PLATE  
1 EA

2530-705-8039  
COVER PLATE  
1 EA

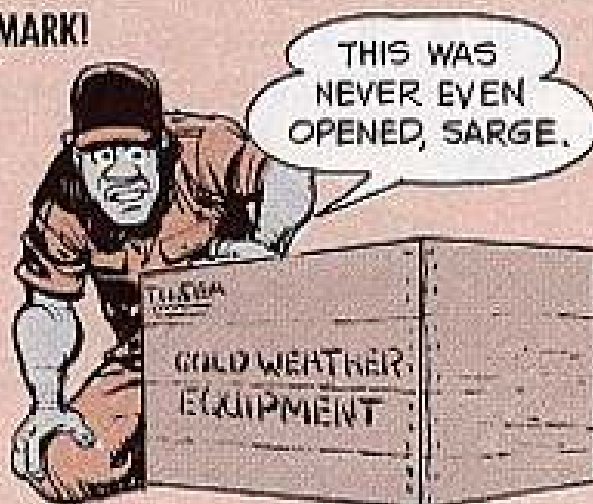
**TAG** the item if neither a stencil nor a label will do the trick. Use tag, FSN 8135-238-6917, and attach it to the container with the wire that comes with the tag.



### READY! AIM! MARK!

Before you make any new marks on a container, make sure it's ready for marking.

First, check the old markings — if any. If an item is still packed in the container it came in, you may not need to re-pack and re-mark. But be sure this is so.



If you're re-packing items in an old container, be wary. They may have the same name but a different FSN:

When the old container has any markings that don't apply, paint 'em out. Use lusterless lacquer, FSN 8010-527-3196 or lusterless enamel, FSN 8010-291-0889.

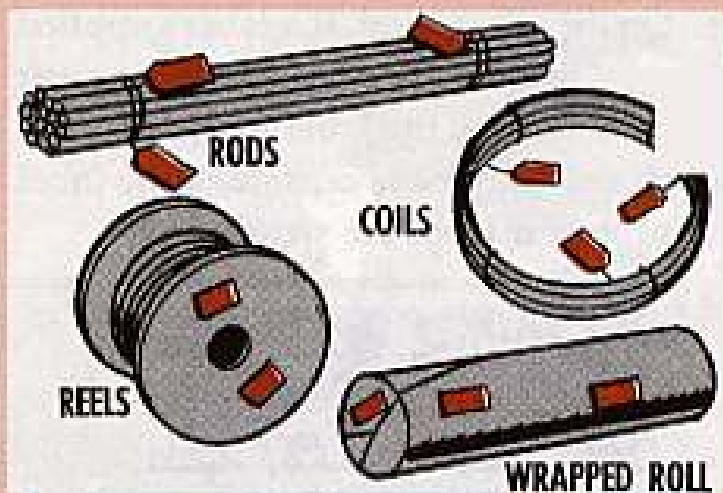
And make sure any surface to be marked has no dirt, oil or grease.

You're ready to mark—but where? There's no fixed rule, but it's best to put the identity on one side, the address on the other.

Markings are better protected on the sides than on bottom or top.



### MISCELLANEOUS MARKING



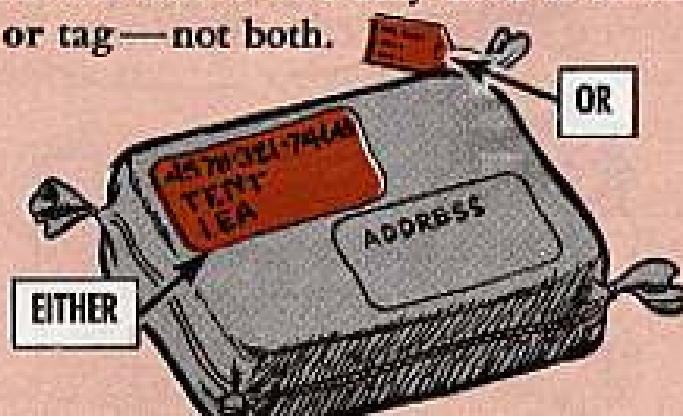
Miscellaneous unpacked items like rods, coils and reels may need a special word. If there's a suitable spot, stencil or label 'em. If not, attach the identification on 2 plain tags. And put the shipping address on a third tag (DD Form 1387-1) or label (DD Form 1387). These 2 items—tag and label—are specially made for military shipments.

### BUNDLED IN CLOTH

When materiel is packed in a cloth-covered bundle, you can cover the area to be marked with sand-colored lacquer, enamel or paint. Then stencil it (after it dries, o'course). Or you can use a plain tag attached to an ear for identification. You only need to stencil or tag—not both.

### UNSHEATHED CRATES

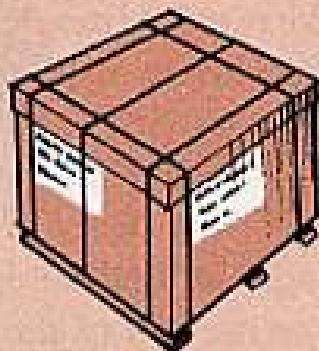
For unsheathed crates, with no available marking space, identity markings can be put on plywood, fiberboard or masonite and nailed to the crate. These boards also can provide space for the shipping address.



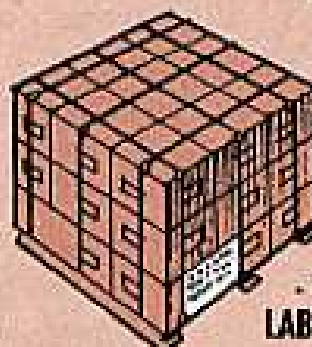


## PALLETIZED LOADS

Palletized loads made up of a number of items get special treatment. Each individual container on the pallet gets its own identification label—plus address labels for the pallet.



INDIVIDUAL LABELS  
ON EACH  
CONTAINER...



... AND OVERALL  
LABEL ON THE PALLET

If it's a box-type pallet, with individual containers not visible, identify the group of items with total number on the outside box.

## MIXING FSN'S IN A BOX

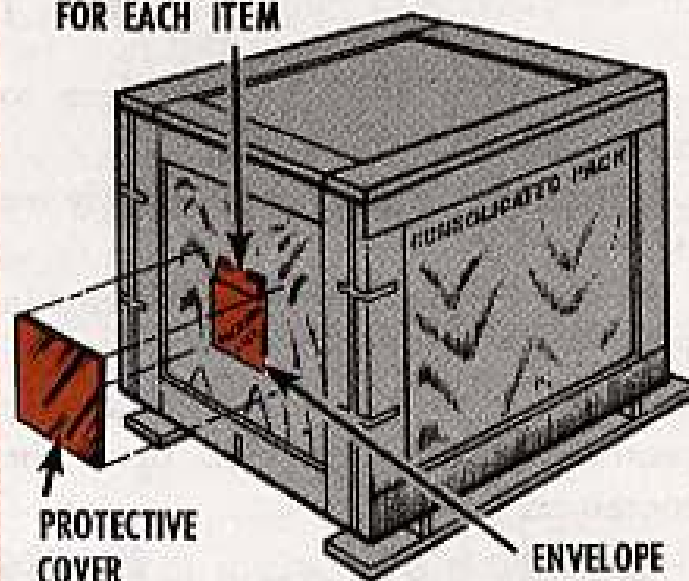
It's OK to mix FSN's in a shipping container—if it's properly packed and marked.

If available, 3 copies of DD Form 1348-1 should be attached to each separate item or container inside the shipping box. Also, each inside item or container should be identified.

Outside, 1 copy of the DD 1348-1 for each item should be placed in a packing list envelope, FSN 8105-290-4365, and attached to the outside container with a protective cover, FSN 8105-926-2260.

Then the outside container gets marked "CONSOLIDATED PACK"—instead of the usual individual item identification.

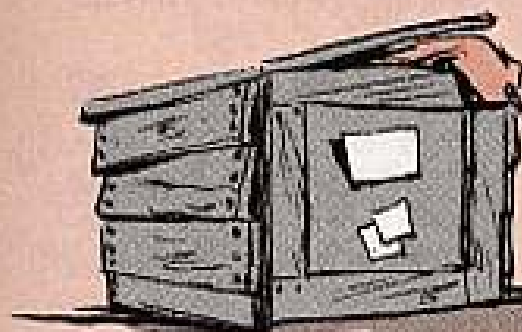
1 COPY OF DD FORM 1348-1  
FOR EACH ITEM



PROTECTIVE  
COVER

ENVELOPE

(If DD 1348-1 is not available, identification of the individual items can be made on plain white paper and included in the packing list envelope.)



WHERE'S  
THE STICK  
YOU USED TO  
STIR THAT  
WITH, CLYDE?

## BARRELS, TOO

Barrels, drums and pails also get marked (or re-marked) as needed to agree with the contents.



## RETROGRADE ADDRESS

Before you attach an address label or tag to cargo going back to "The World," make sure it's completely filled in. All the necessary info should be available—most of it in the message, letter or other directive that told you to move the cargo.

To guard against weather damage—and smudge or rub out of the information—overcoat the filled in label (DD 1387) or tag (DD 1387-1) with adhesive.



## BEFORE YOU SHIP

Check each outgoing container to make sure:

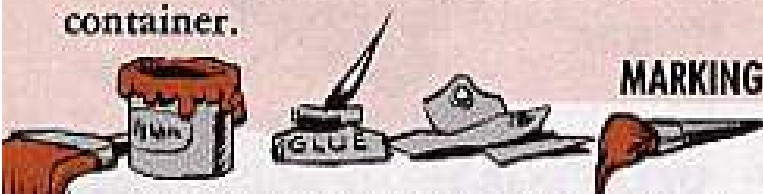
All old markings that don't apply are painted out.

New markings match the contents in FSN, name and quantity.

Markings (or packing lists) identify contents without need to open the container.



Address tells who sent it, who gets it and any necessary intermediate delivery points.



## MARKING MATERIALS

Here's a list of needed marking materials:

Lusterless lacquer (sand-color), FSN 8010-527-3196 (1 Gal).

Lusterless enamel (sand yellow), FSN 8010-291-088 (5 Gal).

Stencil ink, black, FSN 7510-191-6030 (1 Gal).

Stencil ink, black, FSN 7510-161-0811 (1 Gal).

Gasoline soluble paint, black, FSN 8010-597-8235 (1 Gal).

Gasoline soluble paint, white, FSN 8010-597-8238 (1 Gal).

Label adhesive, FSN 8040-053-8452, FSN 8040-656-0814, or FSN 8040-664-7073 (1 Gal).

Tags, shipping and stock, FSN 8135-238-6917 (1000).

Packing list envelope, FSN 8105-290-4365 (100).

Protector, packing list, FSN 8105-926-2260 (100).

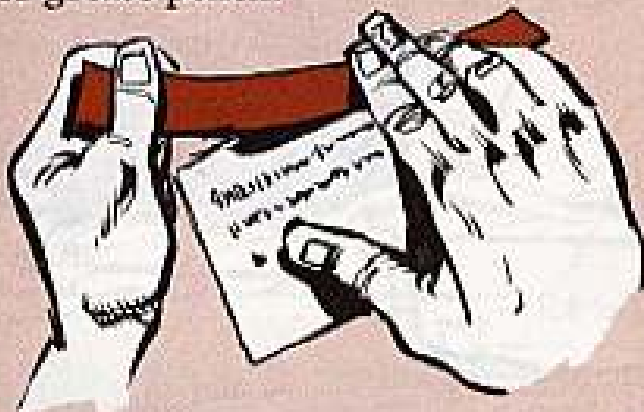
If you're too far in-country to find these items in supply, with a retrograde date coming up too fast to let you requisition 'em, you can use substitutes.

## ACCEPT THESE SUBSTITUTES

Paint (any that contrasts with the container or item) for identification marking. Felt tip pens and grease pencils also may be used.



Clear pressure-sensitive tape (non-plaid, that is) is a substitute for adhesive when attaching labels. White or solid color tapes also can provide a place for identification markings with felt tip pen or grease pencil.



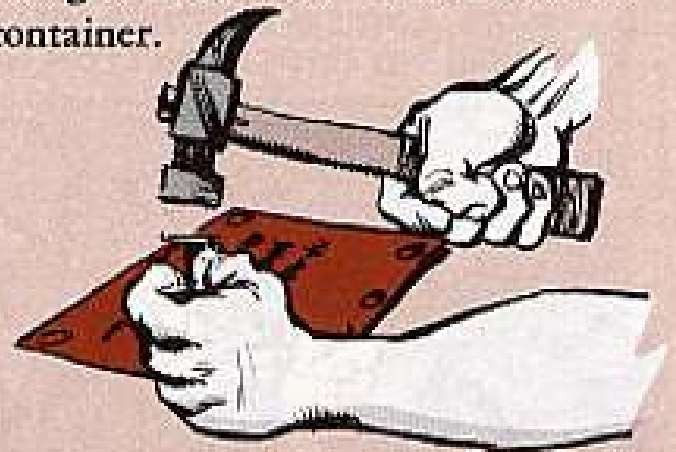
Plain white paper can sub for DD 1348-1 when making packing lists for a "Consolidated Pack." But make sure the identification info is complete.



Pen or pencil can be used to mark labels if protected by clear pressure-sensitive tape when no other adhesive is used. (Liquid adhesive might smear 'em.)



Clear (see-through) envelopes may be used as covers for identification markings and address — when attached to container.



Staples and tacks may be used to attach labels or tags to containers — instead of adhesive.

When no stencil brush or roller can be had, a paint brush or wad of cloth dipped in stencil ink or paint can be used for stenciling.

Keep in mind, though, that these make-do substitutes are subs — not to be used when first-choice items are handy or can be ordered in time.

Keep in mind, too, that the markings covered up to now are **minimum** markings. Some items also may require special-handling marks or precautions, including identification of dangerous materiel (like explosives) or sensitive and security-type equipment.

If you need a full check-out on these, get your mitts on MIL-STD-129, Marking for Shipment and Storage.

The job's better than half done, though, when you can tell at a glance what's inside a carton (by FSN, name and amount) and where it's going.



**DA Form 12-31 (Feb 66) —**

<b>REQUIREMENTS FOR ARMY AVIATION PUBLICATIONS</b> For use of this form, see AR 310-1; the proponent agency is the Adjutant General.	1. TYPE OF REQUIREMENTS <input type="checkbox"/> A. INITIAL <input type="checkbox"/> B. REVISED	
	2. DATE	3. ACCOUNT NUMBER

INSTRUCTIONS: THIS FORM WILL BE COMPLETED IN ACCORDANCE WITH INSTRUCTIONS ON PAGE 3.

If you have the form that's printed in red you'll have an easy job to bring this up to date. The form printed in red includes all write-in items authorized through 13 Jan 69, and only 2 have been added since then. If you still have the black form dated Feb 66, you add these: (it'll be easier to add these write-in's if you follow the numbers in parentheses; and add the items in the blank space before the number):

**Section I**

- (33) UH-1C Rotor Wing.
- (37) AH-1G Rotor Wing.
- (81) OH-6A.
- (85) CH-54A.
- (89) U-21A.



- (109) OH-58 Rotor Wing Aircraft (add it on the red form).
- (127) 7.62-MM MG, XM27E1.
- (131) 40-MM Grenade Launcher, XM8.
- (183) 7.62-MM MG, High Rate, TAT 102A.
- (187) 7.62-MM Automatic Gun, Armament, POD XM18.
- (191) Mount, Multiarmament Helicopter, XM156.
- (195) 7.62-MM Gun, XM41.
- (199) 30-MM Gun, XM30.
- (203) 7.62-MM, MG, 40-MM Grenade Launcher XM28 (add it on the red form).

ALL FIXED WING
ROTOR WING
UH-1C

**DA Form 12-32 (Feb 65) —**

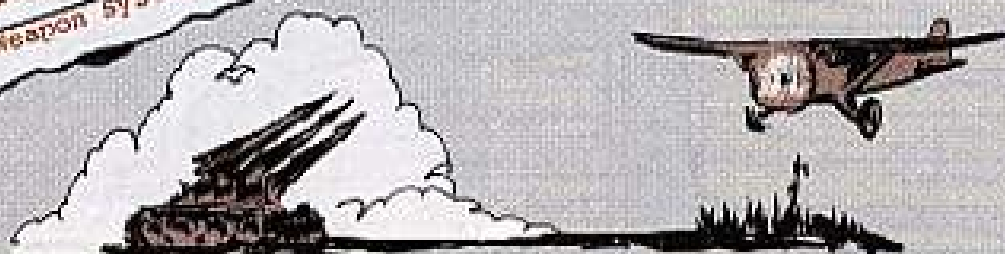
<b>REQUIREMENTS FOR ARMY MISSILE, ROCKET AND AIR DEFENSE                  FIRE DISTRIBUTION SYSTEMS PUBLICATIONS</b> (AR 310-1)	1. TYPE OF REQUIREMENTS <input type="checkbox"/> A. INITIAL <input type="checkbox"/> B. REVISED	
	2. DATE	3. ACCOUNT NUMBER

Section II after "Target Missiles" in the next 5 spaces:

Target Missiles
Shillolagh
Redeye.
Land Combat Support System (LCSS).
Chaparral.
FOW Weapon System.

Section III — In the next space after "AN/TSQ-51" add:

AN/TSQ - 51
AN/GSA - 7T

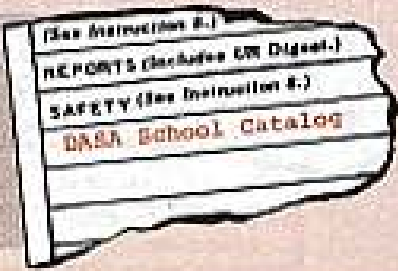


**DA Form 12-35 (Mar 63) —**

<b>REQUIREMENTS FOR NUCLEAR WEAPONS PUBLICATIONS</b> <small>(AR 310-12)</small>	<b>1. TYPE OF REQUIREMENTS</b> <input type="checkbox"/> A. INITIAL <input type="checkbox"/> B. REVISED	<b>2. DATE</b>
	<b>3. ACCOUNT NUMBER</b>	

*INSTRUCTIONS: THIS FORM WILL BE COMPLETED IN ACCORDANCE WITH INSTRUCTIONS ON REVERSE \**

Section I after "Safety (See Instruction 8)." add:



Section III after "Sergeant" in the next spaces add:



**DA Form 12-36 (Aug 64) —**

<b>REQUIREMENTS FOR ARMY AVIONICS PUBLICATIONS</b> <small>(AR 320-12)</small>	<b>1. TYPE OF REQUIREMENTS</b> <input type="checkbox"/> A. INITIAL <input type="checkbox"/> B. REVISED	<b>2. DATE</b>
	<b>3. ACCOUNT NUMBER</b>	

THRU \_\_\_\_\_ TO \_\_\_\_\_ FROM \_\_\_\_\_

Under "Flight Simulators" in the next space after 2B-12:

Skip a space and in the next spaces add:



DA Form 12-37 (Jul 65) —

REQUIREMENTS FOR ARMY TRACKED VEHICLES PUBLICATIONS  
(AR 210-3)

I. TYPE OF REQUIREMENTS

A. INITIAL     B. REVISED  
C. DATE                      D. ACCOUNT NUMBER

THIS PART IS PRINTED ON SOME FORMS—IF NOT ADD IT IN.

ADD THESE TO ALL YOUR FORMS.



CARRIER, CARGO, TRACKED, 6 TON	M548; M548E1	(163)
ARMORED RECONNAISSANCE, ASSAULT VEHICLE	M561	(169)
COMBAT ENGINEER VEHICLE	T118E1	(173)

BULLDOZER, TANK MOUNTING	M5	(177)
COMMAND POST	M577; M577A1	(181)
DRIVER TRAINER	M34	(183)
FLAME THROWER	M133; M133A1	(189)
MORTAR, 81-MM	M128A1	(193)
MORTAR, 107-MM	M108; M108A1	(197)

Gun, Antiaircraft Artillery, GP: 20MM, XM163	(201)
Trainer, Conduct-of-Fire, XM35 (Launcher, XM41 & Target, XM42)	(205)
Trainer, Conduct-of-Fire XM38	(209)
Tank, Combat: 152MM Gun Launcher, M60A1E2	(213)
Tank Bridge Launcher, AVLB	(217)
Chassis 20MM AAA Gun, XM741	(221)
Trainer, Sheridan Weapon System XM40	(225)

DA Form 12-38 (Jul 65) —

REQUIREMENTS FOR ARMY AUTOMOTIVE PUBLICATIONS - TRUCKS  
(AR 210-4)

I. TYPE OF REQUIREMENTS

A. INITIAL     B. REVISED  
C. DATE                      D. ACCOUNT NUMBER

After "TRUCKS, VAN SHOP M220" add:

Under "Wreckers" after "Medium M543" in next 7 spaces:

Van, Shop	M320
Van, Expansible, 5 Ton, 6x6, M291A2/M291A2C/M291A2D	
Wreckers -	
CRANE	M158
LIGHT	M60
LIGHT	M60E2
MEDIUM	M62
MEDIUM	M643
Truck, Cargo: 1 1/2-ton, 4x4, M715	
Truck, Ambulance: 1 1/2-ton, 4x4, M725	
Truck, Cargo: 5-ton, 8x8, M656	
Truck, Tractor: 5-ton, 8x8, M757	
Truck, Van Expansible, 5-ton, 8x8, M791	
Truck, Cargo: 1 1/2-ton, 6x6, M561	
Truck, Ambulance: Frontline, 1 1/2-ton, 6x6, M792	



**DA Form 12-39 (Jul 65) —**

**REQUIREMENTS FOR ARMY AUTOMOTIVE PUBLICATIONS -  
DOLLY, TRAILER AND SEMI-TRAILER  
(AR 310-1)**

1. TYPE OF REQUIREMENTS  
 A. INITIAL       B. REVISED  
 2. DATE      3. ACCOUNT NUMBER

Under "Trailers" and after "Maintenance (Tel Cable Splicing) M367": x-out M367 after "Tank, 400 Gallon" and add M149.

Under "Semi-trailers" after "Van, Supply, 12-Ton M129A1C" in the next two spaces add:

MAINTENANCE (Tel Cable Splicing) M367	
TANK, 400 GALLON	M149



VAN, SUPPLY, 12 TON Van, Electronic, 6 Ton, M148	M129A1C
Chassis, Trailer 3 1/2 Ton M536	
2 1/2 Ton M537	

**DA Form 12-40 (Aug 65) —**

**REQUIREMENTS FOR ARMY ARTILLERY AND SMALL ARMS  
TECHNICAL PUBLICATIONS  
(AR 310-1)**

1. TYPE OF REQUIREMENTS  
 A. INITIAL       B. REVISED  
 2. DATE      3. ACCOUNT NUMBER

Under "Training Devices" after "Trainer, Mortar, Pneumatic, M32A1" in the next 2 spaces add:

Under "Weapons" and after "Small Arms Racks" add:

TRAINER, MORTAR, PNEUMATIC, M32A1	
Gun-20MM, Automatic M139	
Artillery Firing Platform XM6	



SMALL ARMS STORAGE RACKS	
Gun, Antiaircraft Artillery, Towed: 20MM, XM167	

**DA Form 12-41 (Aug 65) —**

**REQUIREMENTS FOR SIGHTING AND FIRE CONTROL  
EQUIPMENT PUBLICATIONS  
(AR 310-1)**

1. TYPE OF REQUIREMENTS  
 A. INITIAL       B. REVISED  
 2. DATE      3. ACCOUNT NUMBER

After "Transmitter, Superelevation" add:

TRANSMITTER, SUPERELEVATION	
Borescope M1, M2	

**SOME HELPFUL HINTS**



It's wise to start at the top of the blank space when you're adding those items because some are 2 lines long.

Once you get your forms up to date it's easier to add those write-in items as they come in or at least keep one master copy of all forms up to date.

Pencil the dates after the DA Form numbers on page 37 of your DA Pamphlet 310-10 (Feb 69). It's easy to erase and add new dates as the old forms are made obsolete.

When you receive your write-in notices from the Publications Center, make sure you send them back within the time limit specified on the form.



GOTTA MATCH? — OR IN A ...

## SERIAL STEW?

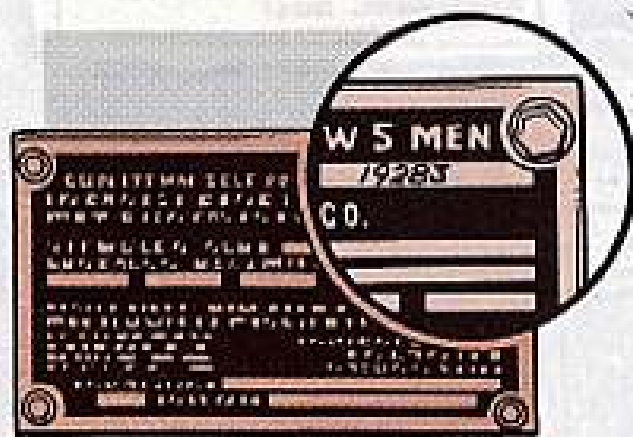
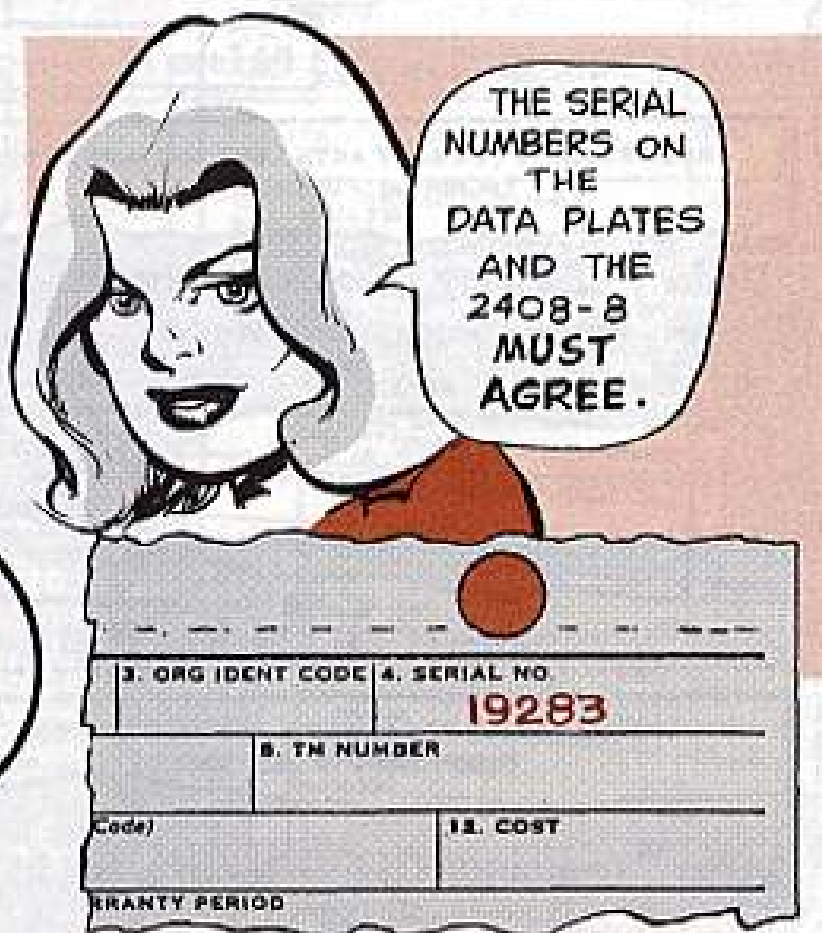


Some outfits are making a sloppy "serial stew" out of their equipment records.

They fail to cross-check serial numbers with equipment data plates and block 4 of DA 2408-8. It makes a mish-mash of all their records.

If the form is one like DA 2408-7 and covers an end item, the serial number needed is the number for the end item — not one of its components.

When the form is one like DA 2410 and covers only a component, use only the component serial number.



3. ORG IDENT CODE		4. SERIAL NO. <b>19283</b>	
5. TM NUMBER			
Code)		12. COST	
WARRANTY PERIOD			

(Some commo end items don't have serial numbers. In these unusual cases, pluck the "control number" from the upper left of DA 2408-8 and put it in the serial number block, too. This becomes the end item serial number from now on — for DA 2408-8 and all other records.)

To make sure you're not in a serial number stew:

1. Check the end item data plate and make sure the serial number there matches the one in block 4 of DA 2408-8 (or block 3 of DA 2409 if you have that instead of a -8).
2. Next time you make out any other form (like DA 2408-7 or DA 2407, for instance) for the end item, make sure the number in the serial number block matches the one in block 4 of DA 2408-8 (or block 3 of DA 2409).

3. Next time you make out a form that covers only a component (like DA 2410, DA 2408-19 and some DA 2408-16's for aircraft), check the serial number against the serial number for the component.

Major blocks that need a checkout are:

Bl 1, DA 2408-4.  
Bl 2, DA 2407, DA 2408-10, DA 2408-15, DA 2408-17.  
Bl 3, DA 2408-5, DA 2408-12, DA 2408-13, DA 2408-14,  
DA 2408-18 and DA 2409.  
Bl 4, DA 2410, DA 2408-7, DA 2408-8,  
DA 2408-16 and DA 2408-19.  
Bl 10, DA 2402.  
Bl 16, DA 2407 for multiple items.

MATCH 'EM BY  
BLOCKS.



Make sure those serial numbers come from the right data plate and match the numbers as shown on DA 2408-8, and no inspector can cook up a stew that'll put you behind the 8-ball.

## SKIN DECON PAD



Yep. The skin wiping pad in your M13 decontaminating and reimpregnating kit, FSN 4230-907-4828, should fit over three fat, gloved fingers — like it shows in fig 6, TB 3-4230-207-10 (Mar 66). But, if the pad in your M13 kit circles only two fingers, don't bust it trying for a 3-finger loop...you've got a short pad. But, it's OK. Just use your pad like it says in the TB. Later kits will provide 3-finger pads.

## PUBS FOR OTHER SERVICES

You can get info for ordering Navy, Air Force, Marine Corps, and Defense Supply Agency pubs and blank forms in Ch 6 (Jun 66) to AR 310-1 (Mar 62). Sect V of the change lists the addresses as well as the form to use for your requests.

## MTOE IS A MUST

Sure you can use AR 725-8 (Oct 68), para 7a(2), to hang on to or request major components that've been pulled from your sets, kits, outfits, etc. But that's just a temporary OK. Your outfit also has to put in an MTOE listing the needed items. Check your local SOP for scoop on MTOE's, and see AR 310-31, Sect IV.



I'M POPPIN' MY BLED BLOOD BANDS!

CLEAN THE ENGINE TO ...

# PEP-UP

# YOUR BABY



When your Huey or HueyCobra is running a high exhaust gas temperature, has a skewed up air flow with bleed band popping and is generally under par she needs prescription R<sub>x</sub> P-D-680, Type I.

Yesir-e-e-e, a dose of dry cleaning solvent followed by a water rinse is the preferred way to clean the innards of your engine to prolong its life.

One or two cleanings are guaranteed to get rid of dirt that coats the stator and



compressor blades and to restore lost engine power.

Before you crewchiefs and mechanics reach for the solvent, tho, be sure you stash pencils, pens, matches, watches — any loose items. You're going to motor over and run the engine, and the suction developed will snatch dropped items. You know what that means . . . FOD for real!

SPRAY WITH THIS



Use one of these cleaners:

Drycleaning Solvent, PD 680, Type I  
FSN 6850-285-8012 55-gal drum



Walnut shells, MIL-G-5634  
FSN 5350-050-1094 50-lb bag



HERE'S WHAT YOU'LL NEED TO DO THE JOB.



Corrosion of the compressor 4th stage aluminum discs in the T-53 engine has reared its ugly head, due to the use of unauthorized cleaning solvents. NEVER use solvents such as Turco 4217, MIL-C-25769 or MIL-C-22543 to clean a T-53 engine.

### GATHER MATERIALS

Here's how to go about cleaning the T53-L-11 engine—

First off, latch on to a quart of dry cleaning solvent.

If you're lucky enough to have air pressure handy pour the solvent into the pneumatic oil gun which is part of the organizational maintenance A, B, or C tool kit.

Out in the dusty boonies get a hand-pumped water fire extinguisher. Make sure it's empty and clean. Pour the solvent into the extinguisher so you'll be able to spray 1 quart. With your trusty general mechanic's tool kit in hand, make for the bird. Take a couple of helpers with you.

The engine should be cold and the bird parked in a maintenance area where you can get water.

### OPEN 'ER UP



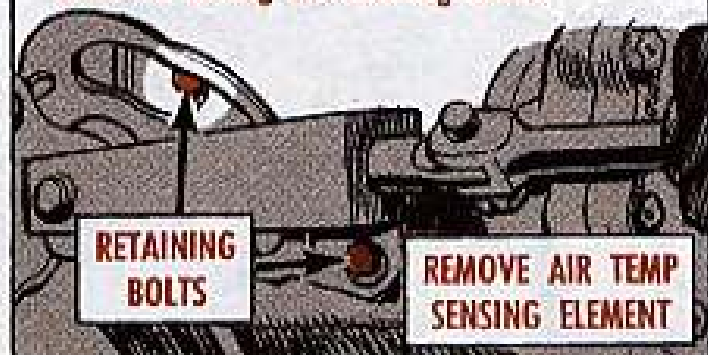
Open up the engine cowl and take off the screen filters.



Take out the sand and dust separator so that the engine inlet is exposed.

No shortcuts here, please! Like — never try to clean the engine by spraying the engine with the separator on. If you do, you'll wash the dirt in the separator right into the engine (ugh!).

Next, take the inlet air temperature sensing element off the inlet housing by removing the four retaining bolts. You do this to keep the element from getting plugged with dirt loosened during the cleaning chore.



Disconnect the pressure line from the air-bleed actuator so the line won't get plugged with loosened dirt. Put an AN929-6 cap on the fitting.



Block off the customer bleed air supply at the customer airbled port in the airbled adapter assembly by using Cover, FSN 2840-980-9423.



### SPRAY WITH SOLVENT

Have your buddy motor over the engine with the starter.

Spray the quart of the dry cleaning solvent evenly thru all sections of the inlet. Be sure both sides of the inlet guide vanes are covered with the solvent.



When the solvent is used up stop motoring the engine and let it set for an hour or so to allow the solvent to soften and loosen the caked-on dirt.

The dirt really builds up on inlet guide vanes, so go over them with a small, round, fiber brush with a long handle when you return from your break.

### SPRAY WITH WATER

Have your favorite throttle jockey start the engine and run it at flight idle.

To get rid of the dirt loosened by the dry cleaning solvent, spray clean, fresh water evenly into all sections of the inlet housing at a rate of 2 gallons per minute for about 2 minutes.

After the water treatment run the engine from 2 to 5 minutes to dry it out. Shut down the engine.

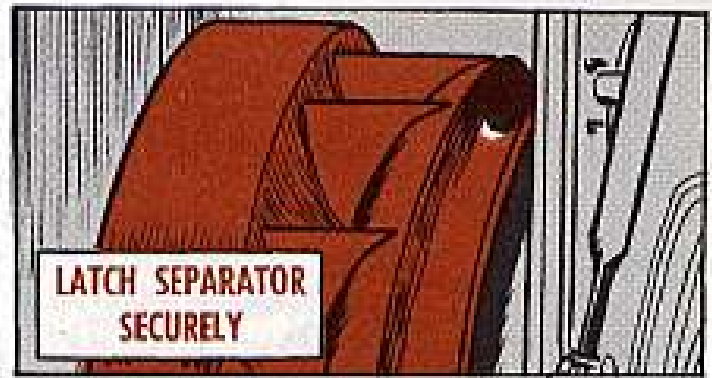
Eye the inlet guide vanes and compressor for cleanliness. If the engine is still dirty, a second cleaning should do the trick.

Clean the air temperature sensing element with dry cleaning solvent and put it back on the inlet housing. Secure the nuts and lockwire the mounting bolts.

Remove the cap from the fitting and connect the pressure line at the air-bleed actuator.

Put the separator and screen filters back.

Close the cowlings, and your bird's ready to take to the wild blue with new pep, vim and vigor.



## IT'S WHAT'S UP FRONT THAT COUNTS!

The view from the front reveals more than the view from the back.

The old tail rotor crosshead bearings in your Huey and HueyCobra are no exception. The front side shows more of the ball bearings than the back side.

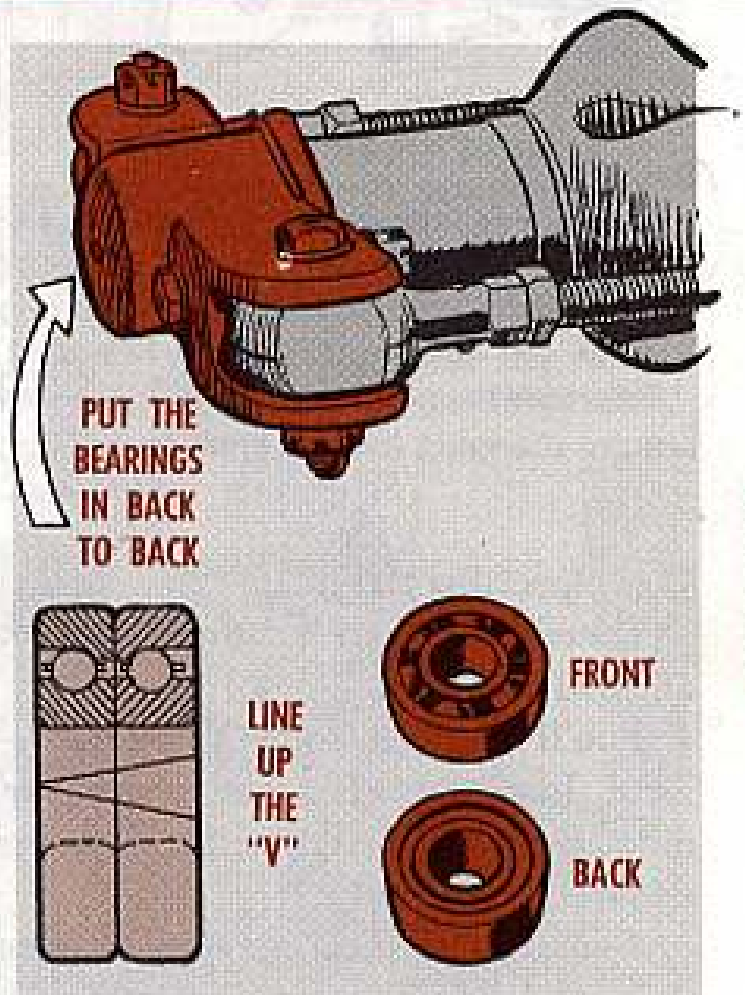
If you don't know which is which the 2 bearings can be put together backwards. Put in that way you have maybe an hour or less flying time before the bearing set fails, followed by the tail rotor.

The bird organizational maintenance pub tells you to put the bearings together back-to-back, see?

As an additional guide the bearings are etched to form a "V" when they're back-to-back. A look at the part numbers will also clue you which bearing set is being used.

If you're lucky enough to have the new crosshead bearing, P/N 204-011-769-1, FSN 3110-135-0563, there's no chance of a mixup.

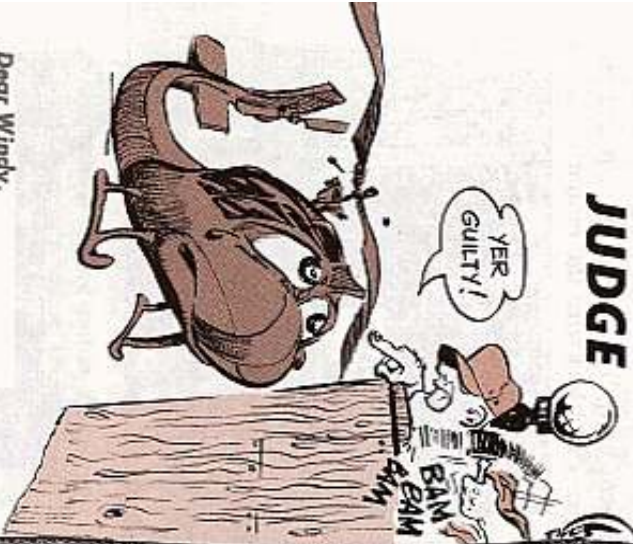
This baby has a double row, inner



race with a single outer race. Both sides are the same so there's no front and back . . . no "V" etch needed.

Just put the 2-piece bearing set together and you're in the tail rotor assembly business.

# YOU BE THE JUDGE



Dear Windy,  
I've looked high and low—without success—for the allowable play in the Huey (UH-1D/H) droop compensator connecting link rod-end bearing, FSN 3110-173-5072. What are the limits, Windy, which would require changing the rod end?

SP6 R. McC.

Dear Specialist R. McC.,

There're no limits because you're not allowed any play.

You'll still get some slight movement, however, when you plant your mits on the link during a looseness check . . . no sweat!

Course, if the bearing is worn from lack of lubrication or contamination you'll have a very loose link on your hands.

Para 25 of TM 55-405-3 (12 Jul 66) lists "excessive looseness" as one of the conditions which call for a bearing change.

*Windy*

56

# BE IN-THE-KNOW



DA Form 12-31

57



# ON A WHIP ANTENNA TIEDOWN ... SAFETY'S THE END ITEM



A tied-down radio antenna can meet the official requirements, pass every test, but still —

Still, it can play a part in some entirely unexpected accidents, like maybe the antenna tip in a Joe's face, or eyeball.

Man doesn't have to be a 'brain-trust' to figure out that accidental sort of antenna-tipping won't be doin' anybody's eyeball or face any good.

So it takes a little somethin' to make that tied-down antenna safer.

Like a rubber ball, or a plastic ball. Or a plastic cushion you can build for yourself, right on the antenna.

If you use a ball, you'll have to scrounge one up yourself.

But you can go after a 30-foot roll of polyethylene electrical insulation tape with FSN 5970-240-0620. It's listed on Pg 3.44 of Fed Cat C5970-IL-A (Nov 69).

Just wrap the tape around the antenna tip, stretching the tape as you go. Keep this up until you get a comfy cushion of the soft stuff.



If you use the rubber-ball method, you could wrap tape around the ball and anchor the ball with the tape a little below its bottom.

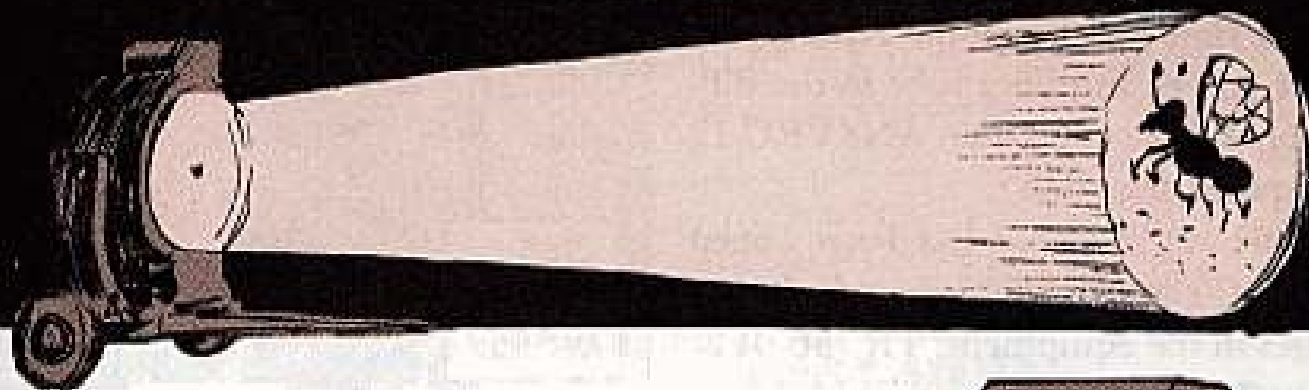
The extra protection should whittle down the chances of some unhappy Joe getting his eyeball skewered by a stray antenna tip — and it won't interfere with the performance of your antenna.

Further along the sunny side, if you're using the MS-118A mast section you're in luck. You can request an antenna tip assembly (FSN 5985-930-7223) for the MS-118A. It's listed on Pg 74, Fed Cat C5985-IL-A (Nov 69).

And for bright times in the future, there's a plan in the mill to authorize protective antenna tip assemblies for the AT-1095/VRC antenna element.

Meanwhile, you can use a ball, insulating tape, fishing corks, bottle stoppers, styrofoam and other non-conductive items, as field expedients.

# SEARCHLIGHT BUGGED BY BUGS?



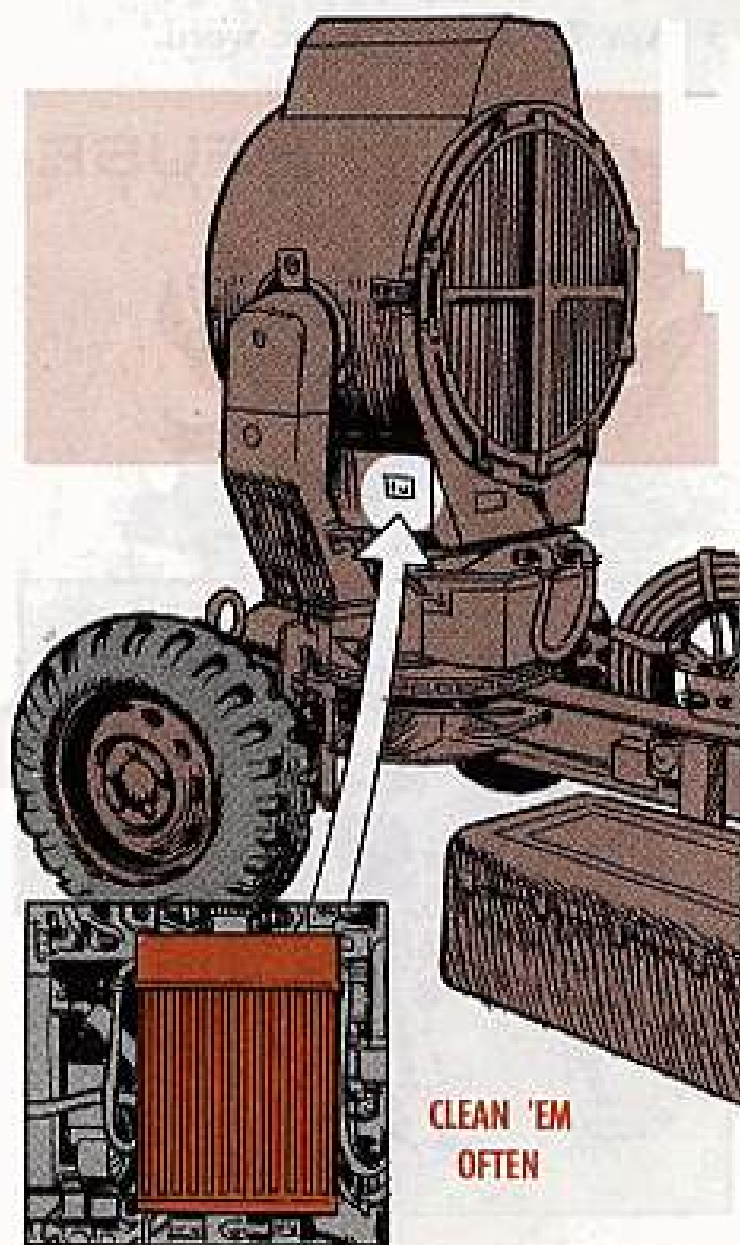
Insects —? They can mean bad times sometimes — especially when they zoom around an AN/TVS-3 searchlight set and end up in the fan motor.

They can clog the exhaust blower filter and the heat exchanger cooling fins. That can knock out your searchlight pronto.

What's the answer —?

TM 11-6230-220-12 (Dec 67) gives you the word on daily cleaning of the exhaust blower filter and heat exchanger cooling fins. Eyeball Para 4-4 for instructions on blower filter PM, Paras 4-4 and 4-6 for info on exchanger cooling fins, and Para 5-3 for servicing the exchanger.

And if you're in an area where flying insects and miscellaneous crud are really buggin' that searchlight, just add extra cleanings and inspections, as many as you need to do the job.



## SAFETY STRAP STORY



Order any waist size LC-23 Lineman's Belt and it includes the Safety Strap. If you just need the strap, though, look up: Strap, Safety Industrial in SC 4230/40-IL (Jul 67). FSN 4240-203-3825 is leather . . . 4240-752-9715 is nylon.



# VRC-12 PA TUBE NEWS

Next time you've gotta replace the V6201 power amplifier tube in the RT-246 or RT-524 of the AN/VRC-12 series radio sets, don't.

V6201 replacement has been upped to direct support because of design changes in the equipment. TB 750-911-3 (Apr 70) will have the word.



## FUSE NEWS



Don't sweat it if the replacement fuse you asked for comes through with a higher voltage rating than what you wanted. Use it.

The thing you gotta be sure of is that the amperage rating is what your TM calls for and the voltage rating is the same or higher. Like, if you need a 5-amp job and you get a 10-amp replacement, send it back. The amp rating can't vary; neither can the blow time. You need a slo-blo for a slo-blo, etc.

Naturally, any replacement you get has gotta be the same shape and size as the one's it's replacing.

But like we said, voltage variance is allowable . . . providing it varies upwards.

### REPLACE WITH SAME

- SIZE
- AMP RATING
- TIME LAG

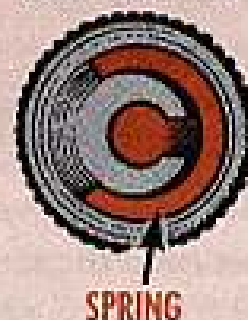


## CAP AND CONTACT

Now receive this well and watchfully, you AN/PRC-10 radio-set types . . . you can get the dial lamp caps with the contact springs inside the caps.

If you're not getting the cap and spring with FSN 5820-248-9139 as you see it on Pg 8, TM 11-5820-292-20P (May 69), take a crack at FSN 5820-717-7498, which should get you the whole cap assembly.

### DIAL LAMP CAP



**WESTERN  
ONION**

QUALITY COMMUNICATIONS  
ELECTRONIC EQUIPMENT  
SINCE 1907

# CABLE COMMENT

**WESTERN ONION  
WHEN YOU CARE  
ENOUGH TO SEND  
THE VERY BEST**

SENDIN' CX-4245/G CABLE ASSEMBLY TO SUPPORT FOR REPAIR? IT'S USED ON THE COMBAT INTER-AREA COMMUNICATIONS SYSTEM. BE SURE TO INCLUDE THE CLAMPS, EVEN IF THEY'VE BEEN KNOCKED OFF. OTHERWISE, THE CABLE ASSEMBLY COULD BE DEADLINED A SPELL, SINCE THERE'S NO STOCK OF CLAMPS IN THE SUPPLY SYSTEM.

## THEY'LL DO YA' DIRT

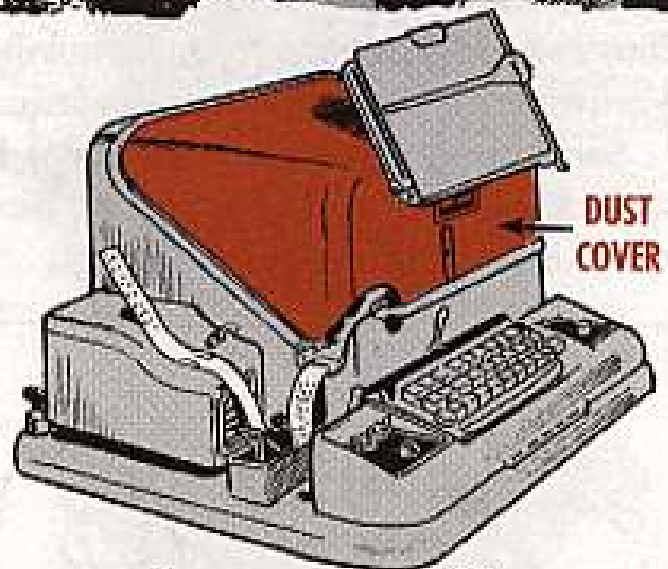


Sand and dust and dirt . . . they're the things that hurt . . .

. . . hurt the TT-98()/FG and TT-76()/GGC teletypewriter units that help make up the AN/VRG-29 radio teletypewriter set in tracked vehicles like the M113 personnel carrier and the M577 command track.

Be sure the dust covers are installed and protecting your teletypewriters when they're not in use. This is 'specially important while the vehicle is moving and the dust clouds are gathering.

Otherwise, dust and dirt and what-have-you will really have a field-day grinding along with the gears and bearings of your TT's.



# EVERY LITTLE PIECE HELPS

A screw taken from a TT-4( )/TG teletypewriter set . . .

Maybe a gasket from the M-80/U dynamic microphone . . .

Possibly some component of the AN/VRC-12 series of radio sets . . .

Thing is, whenever you remove any part — either for repair or exploratory reasons — and end up sending your equipment to support, one rule holds:

Send along any gaskets, screws, nuts, bolts, etc. that were removed from the equipment.

Put 'em in an envelope, tie 'em on, tape 'em on—any way to make sure they make it to the support shop together with the end item.

That way, support won't be in the predicament of repairing the equipment's known miseries, then running into a situation where a piece of missing hardware costs a lot of extra downtime.

Sometimes, there might not even be a stock number available for the piece that's missing from the equipment.

This could mean a few complications and holdups, like higher-level fabrication, for example.



A copyholder, for instance, for your teletypewriter can't be ordered as an assembly because it has no overall stock number. It's gotta be broken down and ordered by its individual parts.

Takes time. So, you'd definitely include any removed copyholder with the teletypewriter you send to support.

Make it a special point to send support all the parts you have—even if they seem bad. In some cases they may be usable.

Course, small parts do sometimes get lost in the field or on maneuvers, and there's not much you can do about that except be careful.

But when it comes to hangin' onto regular removed parts, and sendin' 'em to support along with your end equipment, that's where you can be real careful.

And that's where it counts.



# NO PLIERS, PLEASE



Pliers . . . ? They're strictly taboo on nickel-cadmium batteries. Never use 'em. Tightening those metal plier jaws on the cell filler vent caps could cause the caps to crack. Use the nylon wrench that's issued with the battery; it's FSN 5120-059-4876 on Pg 3.312 of Fed Cat C5120-IL-A (Jan 69), if you need one.

## LANYARD LAMENT

For the want of an eye the chassis was lost.

No poet wrote it. That's a straight PM fact, taken from the pen which wrote the last DA Form 2407 work request on an AN/PRR-9, AN/PRT-4 squad radio lanyard eyelet.

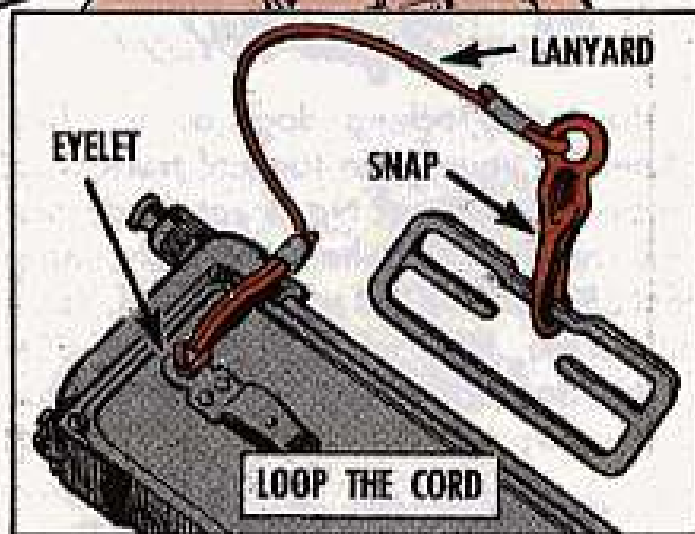


Some Joes force the lanyard snap through the eyelet on the receiver or transmitter cases instead of looping the lanyard cord through the eyelets. Result, regularly, is that the eyelet breaks off.

Follow-up result: the whole chassis, or case, must be salvaged because the eyelet can't be repaired.

'Nother method of breaking the eyelet is swinging the receiver or transmitter by the lanyard.

So-o-o-o, keep the snap end of the lanyard away from the eyelet . . . and swing your partner.





This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Jun 69), and Ch 2 (Oct 69), TM's, TB's, etc.; DA Pam 310-6 (Jul 69), and Ch 1 (Oct 69), SC's and SM's; DA Pam 310-7 (Sep 69), MWO's and DA Pam 310-9 (Apr 68), COMSEC Pubs.

#### TECHNICAL MANUALS

TM 5-2420-206-20P, Oct, Medium Wheeled Tractors.  
 TM 5-3740-208-23P, Oct, 40 GPH Fog Insecticide Sprayer GED Skid Mid.  
 TM 5-3903-210-20P, Sep, Graders.  
 TM 5-3820-230-20P, Oct, 220 Lb 3 Wheel Pneum Drill.  
 TM 5-3830-236-12, Oct, Tractor Mounting Treadster.  
 TM 5-4120-296-13, Sep, 18,000 BTU Air Cond.,  
 TM 5-4320-250-20P, Oct, Centrif Pump; Skid Mid GED POL.  
 TM 5-4520-204-20P, Oct, 50,000 BTU Space Heater.  
 TM 5-6630-200-25P, Oct, Pershing.  
 TM 9-1005-229-12, Oct, M3 M3A1 .45 Cal Submachine Gun.  
 TM 9-1005-286-20 and -20P, Nov, XM167 20-MM Towed AA Gun.  
 TM 9-1005-299-12, Sep, Armament Subsys XM33 for AH-1G.

TM 9-1025-200-12 C5, Nov, M114A1 155-MM Howitzer.  
 TM 9-1300-203/3, Sep, Arty Ammo.  
 TM 9-1425-399-25, Oct, Pershing.  
 TM 9-1430-268-15P/1, Oct, Nike-Herc.  
 TM 9-1430-503-25P, Aug, AN/MPO-34 Radar Set.  
 TM 9-1440-250-215P/3/1, Sep, Launch Set Control-Ind C-2620B/TSW C-7590/TSW and C-7590A/TSW.  
 TM 9-1440-500-25P, Aug, Hawk Launcher.  
 TM 9-2350-230-25P/2, Sep, M551 Sheridan.  
 TM 9-4935-385-20P, Oct, Pershing.  
 TM 9-4935-501-25P, Aug, Hawk.  
 TM 9-6650-212-12, Oct, Observation Telescope.  
 TM 9-6920-378-20P, Nov, Pershing.  
 TM 9-8140-375-20P, Oct, Pershing.  
 TM 10-500-5 C2, Oct, Airdrop from C-7A (Caribou).  
 TM 10-500-21, Aug, Rigging Full Tracked Tractors.  
 TM 10-3920-291-20P, Sep, 4,000 Lb Cap GED forklift.  
 TM 11-621 C9, Nov, AN/GRC-41 Radio.  
 TM 11-5820-202-10 C7, Nov, AN/GRC-26 Radio.  
 TM 11-5820-498-12 C2, Oct, AN/GRC-125 AN/YRC-53 OA-3633/GRC Radio Sets.  
 TM 11-5820-727-12, Sep, AN/TRC-132 Radio Term Set.

TM 11-5895-453-15 C1, Sep, AN/MRC-69 Radio Set.  
 TM 55-1940-219-14, Sep, 17 Ft Fiberglass Air Driven Boat.

#### MODIFICATION WORK ORDERS

9-1190-205-40/1, Nov, Honest John.  
 9-1240-236-30/1, Dec, Panoramic Telescope.  
 9-1430-251-30/43, Nov, AN/MSA-190 AN/MSQ-61A AN/MSQ-91 and AN/MSQ-93 Dir Sta for Nike-Herc.  
 9-2350-217-30/17, Nov, 155-MM SP M109 How.  
 11-5820-469-50/1, Oct, AN/TRC-80 Radio Term.  
 55-1520-211-30/31, Dec, UH-1B, UH-1C.  
 55-1520-214-30/29, Dec, OH-6.  
 55-1520-221-20/10, Dec, AH-1G.  
 55-1520-221-30/20, Nov, AH-1G.  
 55-1520-228-20/2, Jan, OH-58A; URGENT.  
 55-1680-255-30/1, Nov, OV-1.

#### MISCELLANEOUS

AR 385-40, Oct, Safety.  
 SC 3431-97-CL-E03, Aug, Trailer Mid Welding Shop.  
 SC 4935-95-CL-A5B, Sep, Guided Missile Tool Kits Lance.  
 SC 5180-91-CL-R47, Sep, TK-1860/FRC-81 (V) Electronic Tool Kit.

## New Fifth Wheel

Have the locking dogs on the fifth wheels of your 5-ton tactical truck tractor been breaking? No sweat. Order the new sturdier fifth wheel assembly under FSN 2510-809-7791 using RIC B24. You'll still order fifth wheel assembly, FSN 2510-736-7608 for use on your 2½-ton tractors.

## B7A'S Are Here

Change 3 (27 Oct 69) to TM 9-1005-249-12 gives you the scoop on the XM15 blank firing attachment (FSN 1005-921-5481) used with the M16A1 rifle.

## Multifuel Oil Check

Instructions for checking the crankcase oil level in your 2½-ton or 5-ton multifuel engine truck are in TB 750-981-3 (Jul 69), page 43, Article 3-8. The same info appeared in PS 205, page 54, and will be reflected in changes to TM 9-2320-209-10 and TM 9-2320-211-10.

## New Records AR

For the scoop on setting up and getting rid of supply and maintenance records you need AR 340-2 (Sep 69). It supersedes AR 345-215.

## Connie's Mini Mini's



### *Ammo Loading*

As any sharp tanker can tell you . . . ammo with primer installed is unpacked, carried to and loaded into the tank — primer end up. That way, if the round's dropped, its tail's not likely to smack any sharp object that could set it off. See FM 17-12 (Nov 64), para 253. And, scratch the **fuze-end first** info in PS 202, page 17.

### *New Mike Switch*

Huey (UH-1D/H) maintenance types — the floor mike switch needed by door gunners to communicate, when they have their hands full, is here. Step on it? Schedule MWO 55-1520-210-30/27 (16 Dec 69) for your sharpshooters. MWO 55-1520-211-30/31 (22 Dec 69) puts the mike switch in your UH-1B, C models.

### *ECC'S Come to AR 735-35*

All property book page makers should add the new 2-letter equipment category codes in front of each SB 700-20 LIN entry as of right now. This is the word put out in DA message DCSLOG-SPPD 102304Z Dec 69 telling you to add this info to para 3-2c(1)(g) in AR 735-35. DA Cir 750-29 (9 May 69) lists the ECC's you need.

### *Shrinking BILL*

Don't look for a big load of tools in new engineer-type equipment manuals from now on. Basic issue items lists (BILL) are being abbreviated, because 'most any repair means a trip to the shop anyway. Besides, it saves weight and money — including the operator's cash that might go for statements of charges on lost tools.

### *Let George Do It*

There's no need for you mechs to go thru the mumbo jumbo of an acid test on metal particles from a chopper gear box.

You might even get your fingers burned!

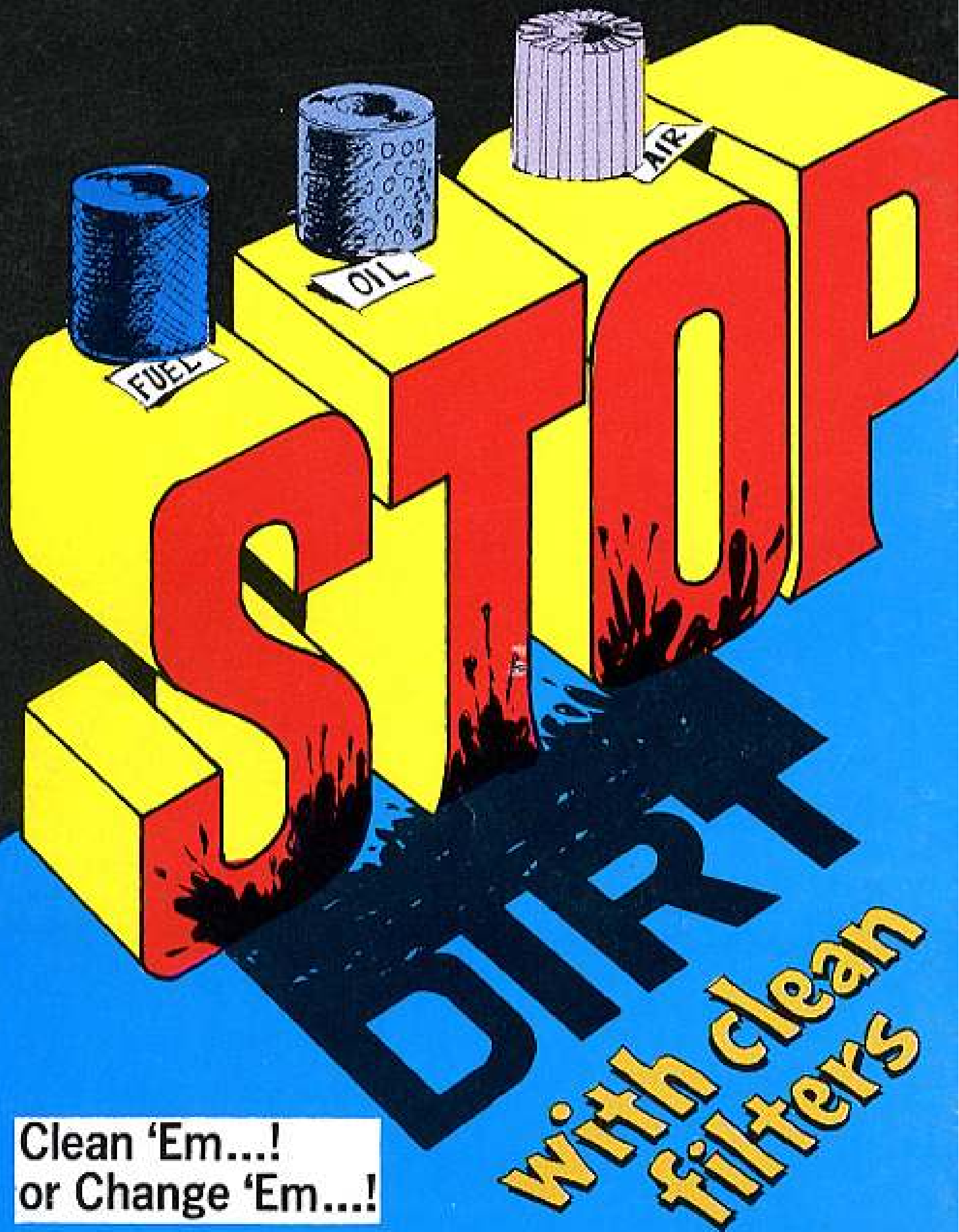
To find out if the part is OK make the "eye" and "feel" test of particles found on the chip detector plug; as called out in the bird organizational maintenance pub.

Oil analysis by the ASOAP labs listed in Ch 4 (Mar 69) to TB 55-6650-300-15, will give you a scientific reading on the gear box.

### *Rifle Bracket Mount*

Now you can get the instructions for mounting the rifle bracket mounting kit, FSN 2590-045-9611, for M14 or M16 rifle on construction equipment. TB 750-246 (Aug 69) has the dope.

Would You Stake Your Life *right now*



Clean 'Em...!  
or Change 'Em...!

*With clean  
filters*

**Protect Your Equipment**