

Issue 383

PS

October  
1984

# THE PREVENTIVE MAINTENANCE MONTHLY

WE'VE GOT TO GET OUR  
READINESS RATE UP  
FAST! COVER THE CRACKS  
IN THAT AMMO!

THESE ROCKS  
WILL LOOK GREAT,  
BUT THEY'LL  
STILL BE NMC!

O.R.  
REPORT

Command Emphasis —  
More Light, Less Heat  
(See page 29)

**PS** THE PREVENTIVE MAINTENANCE MONTHLY

Published by the Department of the Army for the information of all soldiers assigned to combat and combat support units, and all soldiers with organizational maintenance and supply duties.

Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Materiel Readiness Support Activity, Lexington, KY 40511-5101.

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MSG Half-Mast  
PS Magazine  
Lexington, KY  
40511-5101

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

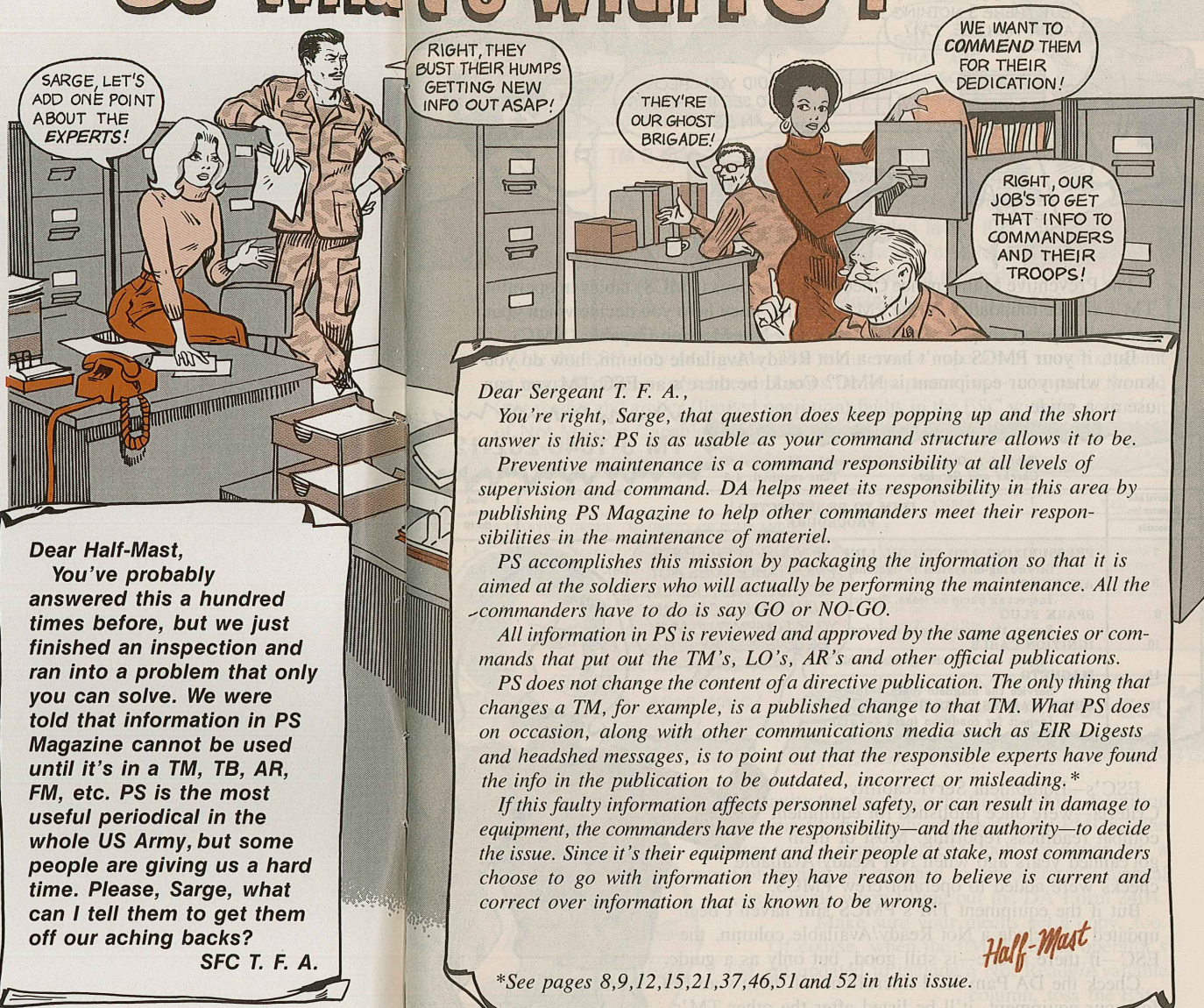
Use of funds for printing of this publication was approved by the Secretary of the Army on 1 December 1983 in accordance with the provisions of AR 310-1.

**DISTRIBUTION:** In accordance with requirements submitted on DA Form 12-5. Private subscriptions: Order from US Govt Printing Office, Supt of Documents, Washington, DC 20402.

PS Magazine ISSN 0475-2953 is published monthly by the Department of the Army, Washington, DC. Second Class Postage is paid at the Lexington, KY post office and at additional mailing offices.

Postmaster: Send address changes to Cdr. US Army Pubs Ctr. 2800 Eastern Blvd, Baltimore, MD 21220-2896.

# So What's With PS?



SARGE, LET'S ADD ONE POINT ABOUT THE EXPERTS!

RIGHT, THEY BUST THEIR HUMPS GETTING NEW INFO OUT ASAP!

THEY'RE OUR GHOST BRIGADE!

WE WANT TO COMMEND THEM FOR THEIR DEDICATION!

RIGHT, OUR JOB'S TO GET THAT INFO TO COMMANDERS AND THEIR TROOPS!

**Dear Half-Mast,**  
You've probably answered this a hundred times before, but we just finished an inspection and ran into a problem that only you can solve. We were told that information in PS Magazine cannot be used until it's in a TM, TB, AR, FM, etc. PS is the most useful periodical in the whole US Army, but some people are giving us a hard time. Please, Sarge, what can I tell them to get them off our aching backs?

SFC T. F. A.

Dear Sergeant T. F. A.,  
You're right, Sarge, that question does keep popping up and the short answer is this: PS is as usable as your command structure allows it to be. Preventive maintenance is a command responsibility at all levels of supervision and command. DA helps meet its responsibility in this area by publishing PS Magazine to help other commanders meet their responsibilities in the maintenance of materiel.

PS accomplishes this mission by packaging the information so that it is aimed at the soldiers who will actually be performing the maintenance. All the commanders have to do is say GO or NO-GO.

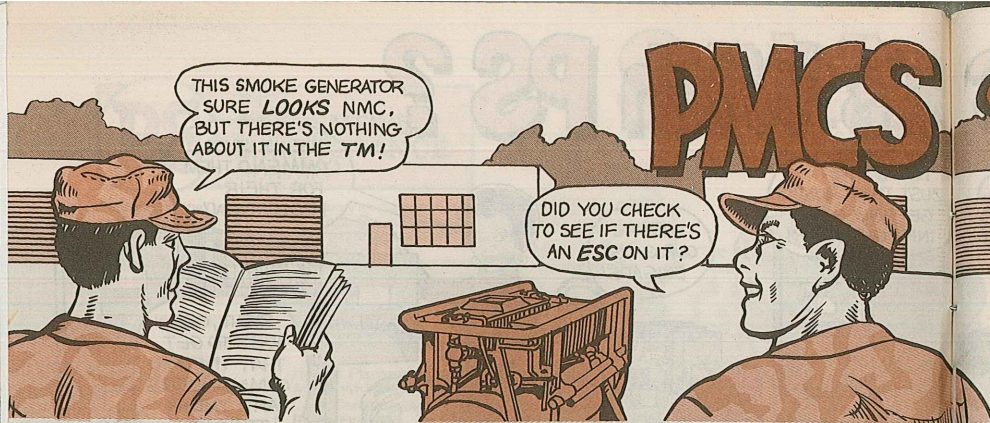
All information in PS is reviewed and approved by the same agencies or commands that put out the TM's, LO's, AR's and other official publications.

PS does not change the content of a directive publication. The only thing that changes a TM, for example, is a published change to that TM. What PS does on occasion, along with other communications media such as EIR Digests and headshed messages, is to point out that the responsible experts have found the info in the publication to be outdated, incorrect or misleading.\*

If this faulty information affects personnel safety, or can result in damage to equipment, the commanders have the responsibility—and the authority—to decide the issue. Since it's their equipment and their people at stake, most commanders choose to go with information they have reason to believe is current and correct over information that is known to be wrong.

*Half-Mast*

\*See pages 8,9,12,15,21,37,46,51 and 52 in this issue.



# PMCS and ESC's



- TM 3-1040-202-ESC, Generator, Smoke, Mechanical, Pulse Jet M3A3 (Oct 73)
- TM 3-1040-219-ESC, Service Unit, Flamethrower, Truck-Mounted M4A2 (Oct 73)
- TM 3-1040-257-ESC, Flamethrower, Portable: M9A1-7 (Dec 74)
- TM 3-4230-209-ESC, Decontaminating Apparatus, Power Driven Skid Mounted: ABC-M12A1 (Oct 73)

The Preventive Maintenance Checks and Services (PMCS) tables in operator TM's are the foundation of the PM program. They help you decide when your gear's in tip-top shape—and also when it's Not Mission Capable (NMC). But, if your PMCS don't have a Not Ready/Available column, how do you know when your equipment is NMC? Could be there's an ESC TM you can use as a guide.

## TM 3-1040-202-12

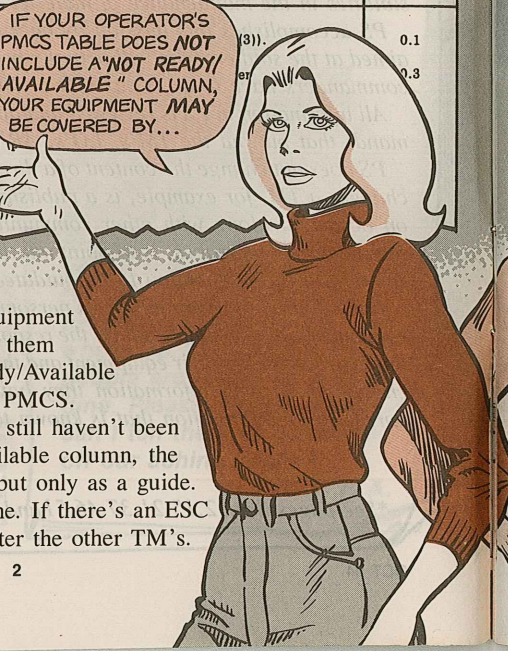
Table 4-1. Organizational Preventive Maintenance Checks and Services Time required: 4.3

Interval and Sequence No.	ITEM TO BE INSPECTED	PROCEDURE	Work time (M/H)
7	<b>PRESSURIZING AND FOG-OIL LINE</b>	Service fog-oil system by tightening	0.1
8	<b>AIR PUMP</b>	Inspect air pump for leaks. Service	0.3
9	<b>SPARK PLUG</b>	Service the spark plug by cleaning	
10	<b>IGNITION CABLE</b>	Inspect and test the ignition cable	
11	<b>MAGNETO</b>	Service the magneto (para 4-15)	
12	<b>LINES, VALVES, AND FITTINGS</b>	Inspect for condition (para 4-8a (b))	

IF YOUR OPERATOR'S PMCS TABLE DOES NOT INCLUDE A "NOT READY/AVAILABLE" COLUMN, YOUR EQUIPMENT MAY BE COVERED BY...

ESC's—Equipment Serviceability Criteria—were once published for equipment combat readiness reporting. Most of them got canned years ago when Not Ready/Available checks were added to operator/crew PMCS.

But if the equipment TM's PMCS still haven't been updated to include a Not Ready/Available column, the ESC—if there is one—is still good, but only as a guide. Check the DA Pam 310-1 microfiche. If there's an ESC for your equipment, it'll be listed after the other TM's.



Use the ESC only as a guide. The maintenance supervisor, motor sergeant or warrant officer—or whoever knows the equipment best—compares the red (not ready) and amber (limited operation) faults in the ESC with the definition of Not Mission Capable (NMC) in the glossary of DA Pam 738-750.

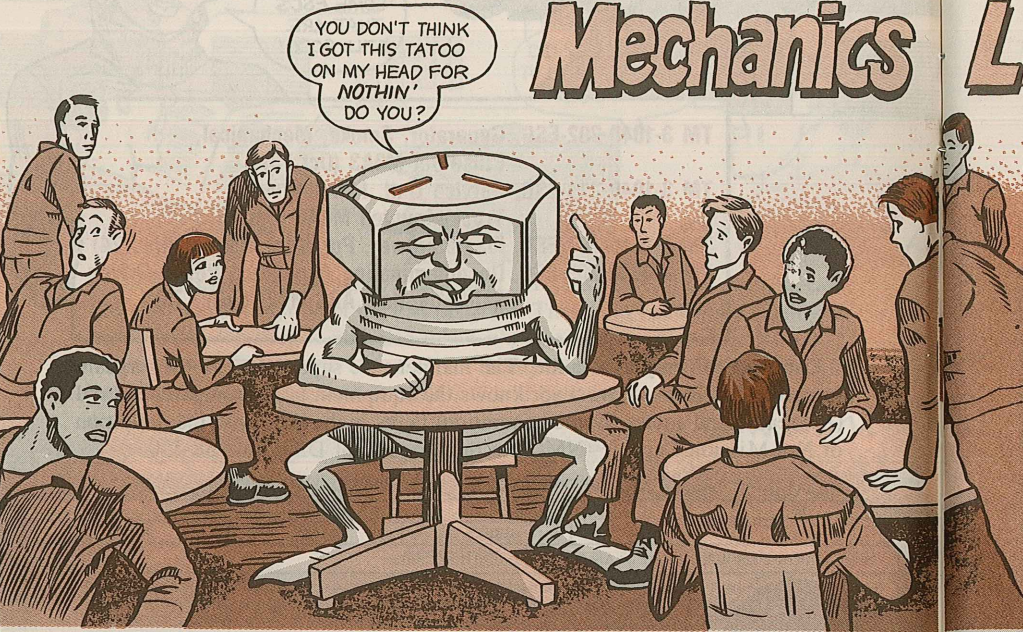
PROCEDURE	RATINGS		
	GREEN	AMBER	RED
Item 6. STARTING GROUP: MAGNETO-AIR PUMP AND IGNITION CABLE			
Check magneto to cable ignition...	No breaks, damaged, or...	No breaks: missing hardware; does not operate smoothly; loose connections or damage to cable; weak ignition spark or air flow; bent rack or worn teeth.	Breaks: cable badly damaged; no ignition spark; mag neto air pump does not operate.
Check air pump...	Operates smoothly; strong and air...		
Check spark plug...			
Check ignition cable...			
Check magneto...			
Check lines, valves, and fittings...			

## TM 3-1040-202-ESC

The faults that most nearly fit the NMC definition become the not-ready checks for the PMCS. The operator uses a marked-up ESC pub—or better yet, a typed or printed list attached to the operator's manual—as a guide when filling out the DA Form 2404.

Make sure your mechs get a copy, too. Of course, when the PMCS in the operator's TM get updated to include a Not Ready/Available column, toss the ESC.

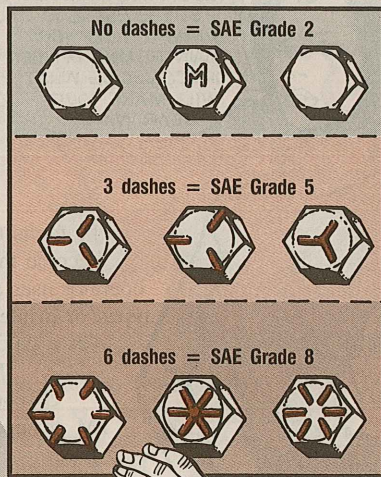
# When Capscrews Speak... Mechanics Listen



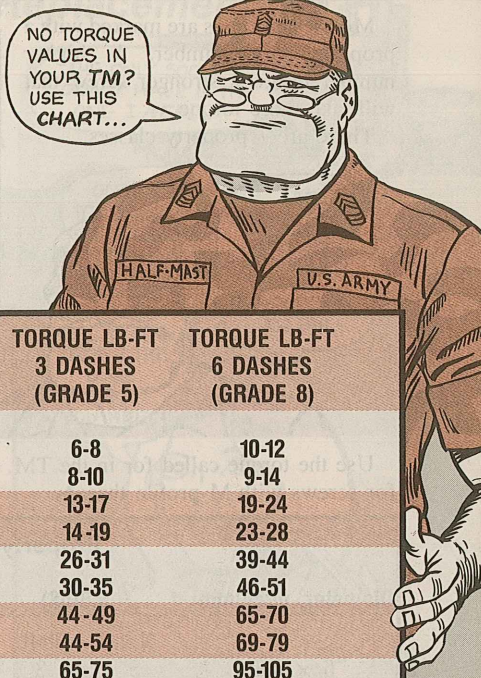
Every hex head steel capscrew has a tale to tell—and every mechanic needs to listen.

That tale is how strong the capscrew is. With that information, you can tell the grade of the capscrew and how much torque it can handle.

Capscrews that are measured in inches speak in dashes. The dashes on the head tell you the Society of Automotive Engineers (SAE) grade. There are 3 grades that are commonly used.



HERE'S THE WAY SAE CAPSCREWS ARE MARKED...



DIAMETER/ THREADS PER INCH	TORQUE LB-FT NO DASHES (GRADE 2)	TORQUE LB-FT 3 DASHES (GRADE 5)	TORQUE LB-FT 6 DASHES (GRADE 8)
1/4-20	3-5	6-8	10-12
1/4-28	4-6	8-10	9-14
5/16-18	7-11	13-17	19-24
5/16-24	7-11	14-19	23-28
3/8-16	14-18	26-31	39-44
3/8-24	15-19	30-35	46-51
7/16-14	23-28	44-49	65-70
7/16-20	23-28	44-54	69-79
1/2-13	32-37	65-75	95-105
1/2-20	34-41	73-83	113-123
9/16-12	46-56	100-110	145-155
9/16-18	47-57	107-117	165-175
5/8-11	62-72	140-150	200-210
5/8-18	67-77	153-163	235-24
3/4-10	106-116	260-270	365-375
3/4-16	115-125	268-278	417-427
7/8-9	165-175	385-395	595-605
7/8-14	178-188	424-434	663-673
1-8	251-261	580-590	900-910
1-14	255-265	585-634	943-993
1 1/4-7	451-461	1070-1120	1767-1817
1 1/4-12	488-498	1211-1261	1963-2013
1 1/2-6	727-737	1899-1949	3111-3161
1 1/2-12	816-826	2144-2194	3506-3556

The first screw of each diameter is Unified Coarse threads, and the second is Unified Fine threads.

## Metric

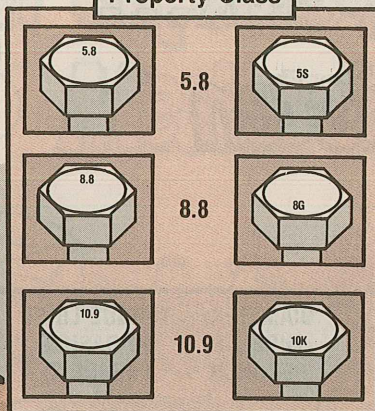
Metric capscrews are marked with a property class number. A higher number means a stronger screw that will take more torque.

There are 7 property classes.

THE SCREW HEADS OF THE 3 COMMON CLASSES ARE MARKED LIKE SO...



### Property Class



Use the torque called for in the TM. If nothing is specified, use this chart for screws with M-profile threads.

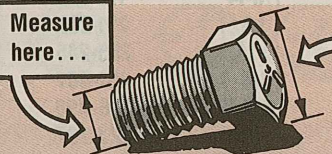
Diameter, pitch(mm)	Property Class					
	5.8(5S)		8.8(8G)		10.9(10K)	
	N.m	lb-ft	N.m	lb-ft	N.m	lb-ft
5 × 0.8	5	3	6	4	8	6
6 × 1	8	6	10	7	14	10
8 × 1.25	19	14	25	20	35	25
10 × 1.5	37	28	55	40	75	55
12 × 1.75	65	48	90	65	125	90
14 × 2	104	77	145	105	205	150
16 × 2	162	120	220	160	300	225
20 × 2.5	317	233	450	325	650	475
24 × 3	547	403	800	600	1025	750

These charts are based on using clean, dry threads. Reduce the torque by 20% when oil is used as a lubricant.

If you thread a steel capscrew into aluminum and steel inserts are not used, reduce torque values by one half.

Get the size of the capscrew by measuring the shank, not the head. Some mechanics have done this, and have overtightened the capscrews. If you have steel hex nuts of different thicknesses, always use the thickest with Grade 8 capscrews. You need it because of the higher torque these capscrews take.

Measure here...



...not here!

## Wheel Bearing Locknut Wrenches . . .

# Lock Up a Replacement

Instead of replacing the complete wheel bearing locknut socket set, NSN 5120-00-169-4586, when you lose or break a socket, just order the socket you need.

The socket set is part of the No. 1 Common shop set, but SC 4910-95-CL-A74 only lists a couple of individual sockets. Here's a complete rundown:

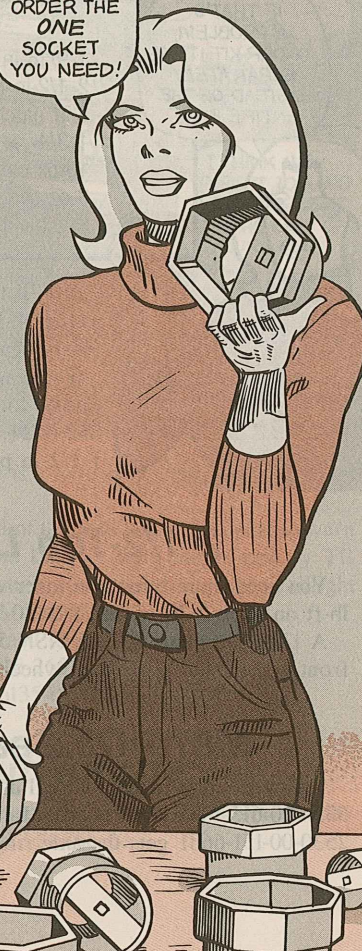
PN	Size (inches)	Points	NSN 5120
1901	2 3/32	6	-01-144-5328
1902	2 3/8	6	-01-106-0085
1903	2 3/8	8	-01-144-5329
1904	2 9/16	6	-01-144-5327
1905	2 9/16	8	-01-144-5330
1906	3	6	-01-173-1425
1907	3	8	-00-104-4076
1908	3 1/4	6	-01-144-5331
1909	3 1/4	8	-01-144-5321
1910	3 1/2	6	-01-144-5322
1911	3 1/2	8	-01-144-5323
1912	3 7/8	6	-00-009-8602
1913	3 7/8	8	-01-144-5324
1914	4	6	-01-090-9319
1915	4 1/8	6	-01-145-5793
1916	4 3/8	6	-01-144-5325
1917	4 3/8	8	-01-144-5326
1918	4 7/8	6	-01-089-9067
1919	4 7/8	8	-01-145-7459

The SC describes the 3 7/8-in, 6-pt socket, NSN 5120-00-009-8602, as a 3/8-in square drive. That's wrong. It's a 3/4-in square drive like the rest of the sockets.

THE ONLY SOCKET I DON'T HAVE IS THE ONE I NEED!

GUESS I'LL HAVE TO ORDER A WHOLE NEW SET...

NO YOU DON'T! NOW YOU CAN ORDER THE ONE SOCKET YOU NEED!



Tires . . .

## Tube Patch Kit Patch-Up

Coming unglued over the short shelf life of the chemical vulcanizing fluid in inner tube repair kits? The fluid lasts about a year after it's made. Then it gets all gummy and tacky and it can't be used.

Table 4-9 of TM 9-2610-200-20 lists chemical cure patch kits for inner tube repair. But you might not use up the patches before the vulcanizing fluid goes bad.

IF THAT'S  
A PROBLEM,  
ORDER KIT ITEMS  
SEPARATELY  
INSTEAD OF THE  
ENTIRE KIT!

ITEM	NSN
1 9/16-in patches (box of 100)	2640-00-138-8328
2 1/2-in patches (44)	2640-00-138-8330
3-in patches (32)	2640-00-138-8331
1 3/4- × 4 1/6-in patches (35)	2640-00-138-8335
16-oz can liquid rubber buffer	2640-00-138-8324
8-oz can vulcanizing fluid	2640-00-242-3467
Stitcher tool (master kit item)	5120-00-293-0392

You'll find more inner tube repair items listed in Tables 4-1 and 4-2 of the TM and on the C2600-IL (Identification List) microfiche.

You can still order patch kits. But the NSN for the master kit in the TM is wrong. Use NSN 264-00-052-6724. And, NSN 2640-00-092-4004 for the 1 1/2-in patch kit has been discontinued.

## 2 1/2-Ton Lug Nut Torque

You need more torque on inner wheel lug nuts (cap nuts) than the 325-350 lb-ft on Page 2-30 of TM 9-2320-209-10-4. Make it 400-425 lb-ft.

A 13/16-in square socket, NSN 5120-00-430-1687, is needed. Hex nuts—on front wheels and outer dual wheels—get 325-355 lb-ft torque.

## M870 Oil Seal and Axle Ring

The wheel hub rubber oil seal used on the M870 40-ton semitrailer is NSN 5330-00-615-1855. It's PN 2109, Item 4 on Page 33 of TM 5-2330-360-14. NSN 2530-00-151-6681 gets the axle ring, PN 1013, Item 5 on the same page.

Highway Safety . . .

## Tail-Tale Light



A load sticking out behind your vehicle is a hazard . . . especially on high speed roads . . . and especially at night.

So a portable flashing light out at the end of the load is just the ticket to warn traffic coming up behind you. That's the kind of light authorized by TB 9-2300-260-10, Warning Light for Over-Hanging Loads and Auxiliary Taillight for Use on High Speed Roads on Military Vehicles.

The light has other uses, too, as explained in the TB.

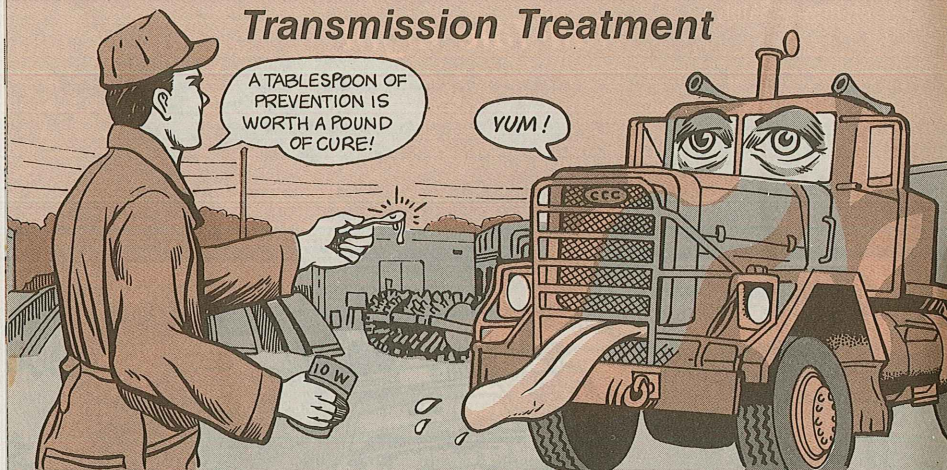
The light comes under NSN 6220-00-796-2657.

It uses two BA-200/U batteries, NSN 6135-00-050-3280.

## M880 Lug Nut Torque

Torque for the M880-series truck's wheel mounting nuts (lug nuts) is 105 lb-ft, not 225 lb-ft as in Table 1-2 of TM 9-2320-266-20.

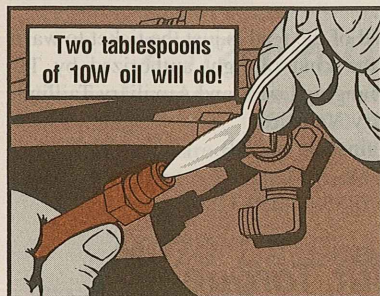
## Transmission Treatment



Seals in your transmission control group assembly don't get along well with alcohol carried into the system from the alcohol evaporator. Seals can go to pot, leading to shifting problems.

So your mech should pull this quarterly service to head off shifting trouble:

- Drain air pressure in the system.
- Disconnect the transmission air supply line from the double check valve under the cab near the right rear corner.
- Then, put two tablespoons of 10W oil in the line and hold the line up so the oil will run toward the transmission. Also, disconnect the air control



line at the ratio selector and pour one tablespoon of 10W oil in each of the



two large holes in the flange connection.

- Reconnect the lines and start your engine to build up air pressure.
- Shift the transmission through all gear ranges at least twice.

Page 2-121 of TB 43-0001-39-6 (Jul 83), gives you the word.

## Transporting Hazardous Materials?



Military vehicles transporting hazardous materials over public highways have to display placards or other warning markers to identify the cargo.

In CONUS, go by AR 55-355. If you're stationed OCONUS, or if you need more info, contact your local safety office.

If the local office doesn't have all the details, call the US Army Safety Center

at Ft Rucker, AV 558-2947/6510 (commercial) (205) 255-2947/6510).

...OR WRITE TO...

**Commander**  
**US Army Safety Center**  
**ATTN: PESC-PR**  
**Ft Rucker, AL**  
**36362-5363**



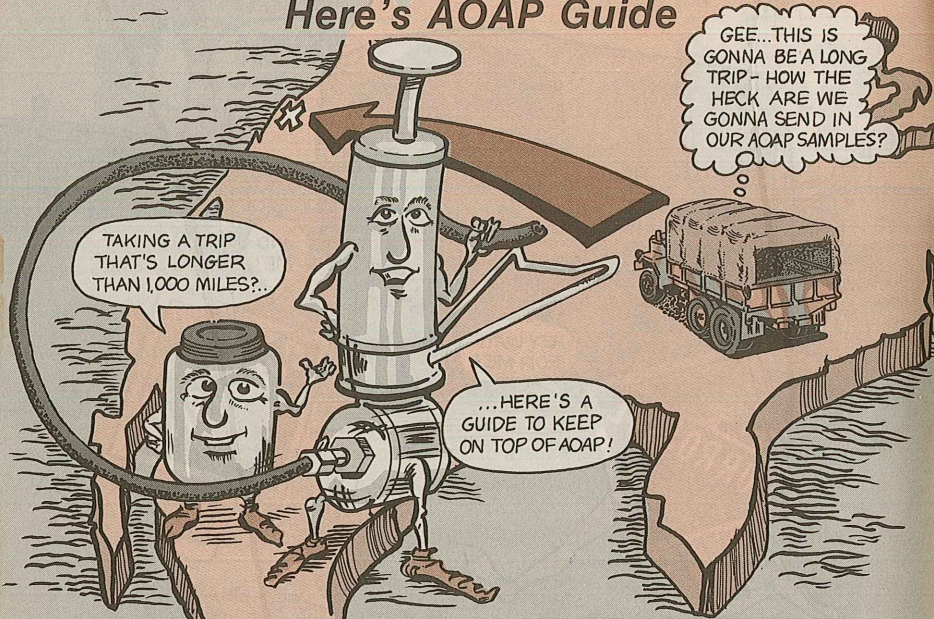
## M915-Series NSN Update

Use NSN 2990-00-089-2079 to get the exhaust stack cap and NSN 2920-01-075-5666 for the engine starter on your M915-series truck.

Can't find the tire valve cap for your vehicle in TM 9-2320-273-20P? It's not there, but no sweat—the valve cap's the same as used on 2 1/2-ton and 5-ton trucks. NSN 2640-00-060-3550 gets it.

Taking a Long Trip . . .

## Here's AOAP Guide



Appendix B of TB 43-0210 says to sample engine and automatic transmission oil every 100 hrs/1,000 miles or 60 days, whichever occurs first. But if you're going on a trip that's going to take your vehicle past that limit, sample before you go. SMART Msg #38, HQDA DALO-PLF 221504Z Mar 84 has the word.

Send the sample to your assigned lab. In the Remarks block on the DD Form 2026, request a priority analysis. Tell the lab you're going on a trip.

You'll get a copy of the oil analysis results. Take it with you.

You may have to sample again while you're away. So before you leave, let the lab nearest your destination know you're coming. Schedule the next sample from when you take the sample before departure.

If you're on the road when it's time for your next sample, wait until you arrive at your destination. Send a sample and a copy of the oil analysis record to the lab you notified. This time, in the Remarks block on the DD Form 2026 tell the lab the vehicle is on a mission away from its home station. Again ask for a priority analysis. You'll get a copy of the results.

Follow the regular interval while you're at your mission site. When you're getting ready to move out, be sure to send in a sample if you're going to reach another interval before you get back to your base. Turn in all the AOAP records to the home lab when you return.

Lube Contamination . . .

## Lose Battle, But Win War!



You've got a lube job ahead of you if you drive your truck into hub-deep water—especially if the axle housing's hot from operation. Sudden cooling of the axle housing creates a vacuum inside the housing. Water is sucked in past the axle seals and joins the gear oil.

This is bad news for differential lube. Water-contaminated oil is a mighty poor lubricant for gears—and that adds up to gear failure!

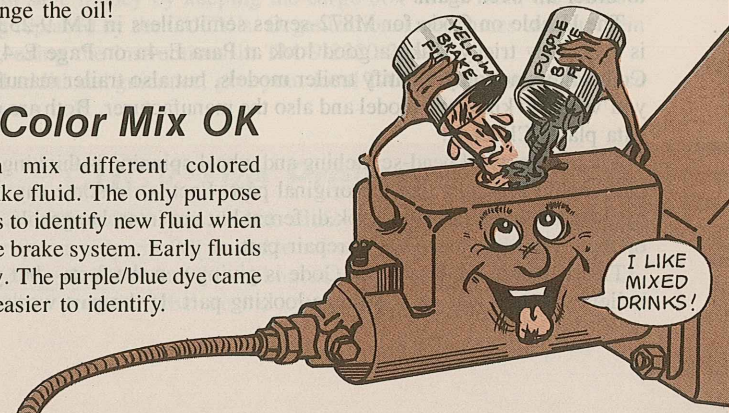
There's not much you can do to keep the water out, so you've got to get it out. You drain the differential and put in new oil. This fits in with lube order requirements to relube after fording.

Water contamination of lube can happen whether you plow across a river or just drive into hub-deep water—like backing your M812A1 ribbon bridge transporter into a stream.

So how do you know for sure that water has been sucked into the axle housing? You don't—but there's no sense in taking chances on ruining differential gears. Change the oil!

## Fluid Color Mix OK

You can mix different colored silicone brake fluid. The only purpose of the dye is to identify new fluid when bleeding the brake system. Early fluids were yellow. The purple/blue dye came later—it's easier to identify.





## Decoding Parts Puzzle



DON'T KNOW ABOUT YOU, BUT GETTING THE **WRONG PARTS** ALL THE TIME MAKES ME **SICK!**

!!ULP!!

WHAT YOU NEED IS **USABLE-ON-CODE...** IT ABSORBS TWICE ITS WEIGHT IN EXCESS ORDERING TIME!

How do you spell relief? If you're getting heartburn over ordering repair parts, it may be spelled U-S-A-B-L-E O-N C-O-D-E.

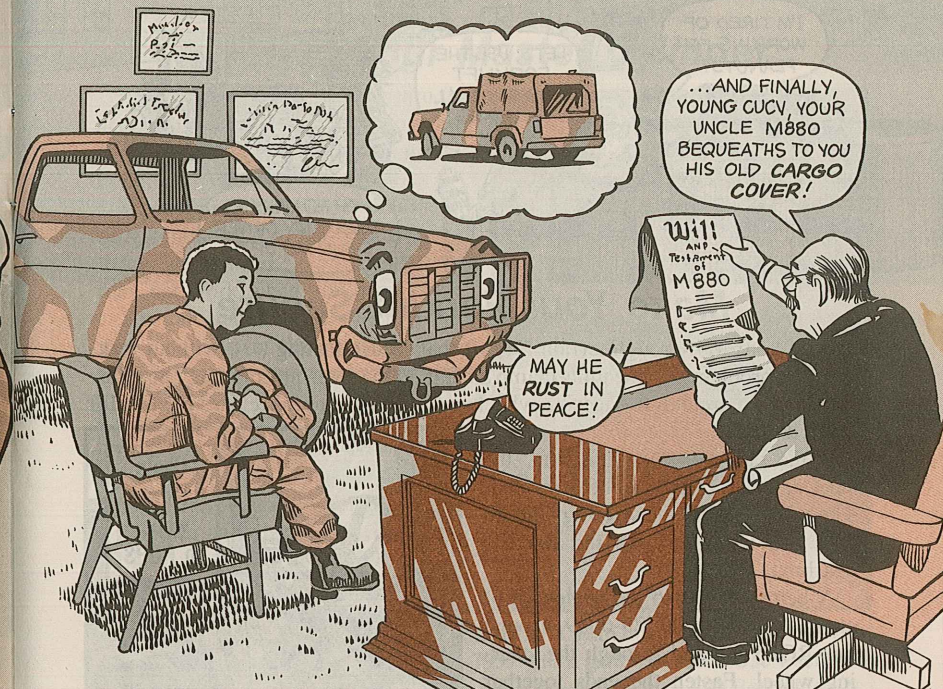
Failure to pay attention to the Usable on Code in the TM's is one reason for getting wrong parts. While you're waiting for the part, the equipment may be down. Time is wasted when you wind up with the wrong part and then have to order all over again.

The Usable on Code for M872-series semitrailers in TM 9-2330-359-14&P is especially tricky. Take a good look at Para E-4a on Page E-4 of the TM. Code letters not only identify trailer models, but also trailer manufacturers. So you've got to know the model and also the manufacturer. Both are on the trailer data plate. Check it!

Another cause of head-scratching and wheel-spinning is thinking that the new part should look just like the original part. Fact is, in some cases parts made by different manufacturers look different but are interchangeable. So only one of them may be stocked as a repair part.

This is where the Usable on Code is giving you the facts—but you may not believe it when you get a strange-looking part. If the part works, believe it!

## Cover Your CUCV Cargo



...AND FINALLY, YOUNG CUCV, YOUR UNCLE M880 BEQUEATHS TO YOU HIS OLD **CARGO COVER!**

MAY HE **RUST IN PEACE!**

The Commercial Utility Cargo Vehicle comes without a cargo box cover—so don't think you're being short-changed when your CUCV arrives without it.

You can get the cargo box cover kit for \$492 with NSN 2510-01-147-9917. Installation instructions come with the kit. Instructions will also be added to TM 9-2320-289-20.

Or, you can save money by keeping the cargo box cover from the M880's that are being replaced by the CUCV's. Organizational mechanics can put them on CUCV's, using the instructions in TM 9-2320-266-20.

If you need additional guidance, give your local TACOM Logistic Assistance Representative a call.

## CUCV Tire Pressure

It's 45 PSI for M1009 3/4-ton truck tires. TACOM Msg DRSTA-MTA 021800Z Apr 84 says the 35 PSI in Table 1-1 of TM 9-2320-289-10 is wrong and will be changed. Then the TM will agree with what's on the vehicle certification and tire pressure label on the left door edge.

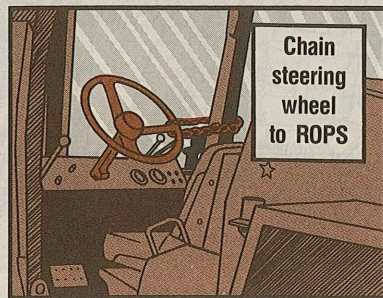


## Make Your Forklift Secure

Give your M4K rough terrain forklift that secure feeling . . . without making new problems. Some units clamp a chain to the steering column. Then they loop a chain around the steering wheel and padlock it to make sure the forklift stays home.

If the clamp is too tight, tho, the steering column tube can be deformed. Then, the seals in the steering column leak and let water into the steering gearbox.

A better way is to loop a length of chain, NSN 4010-00-129-6049, around one ROPS leg and through the steering wheel. Fasten the ends together with padlock, NSN 5340-00-158-3805.



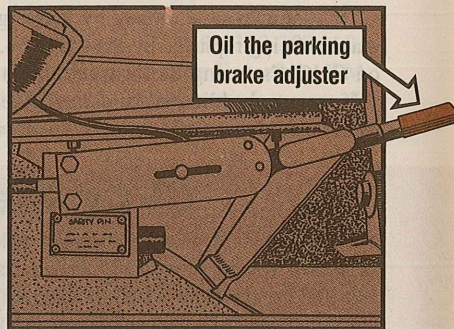
## Put a Brake on Rust

Rust will freeze up the parking brake adjuster on your M4K 4,000-lb rough terrain forklift unless you head it off.

The adjuster is the knob on the end of the parking brake handle. It's exposed to the weather so it rusts.

If the adjuster freezes up, you can't adjust the parking brake. If the brake is not tight enough, it may not hold when you need it.

So, lube the adjuster with a few drops of OE/HDO-10 oil once a month.

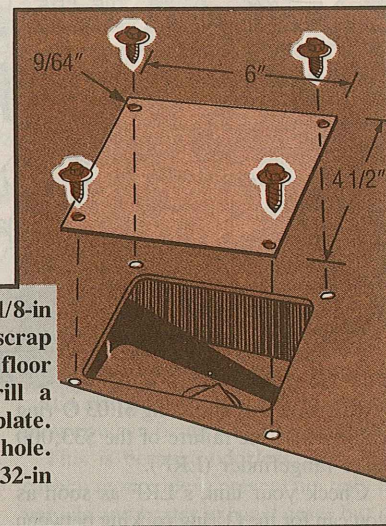


## Protect Your Master Cylinder

Rain or wash water running thru the access hole in the cab floor of your M4K can ruin the brake master cylinder.

Water gets in the cylinder thru the fill plug vent hole. And that means rust in the master cylinder . . . and brakes that may not work when you need them.

You can sidetrack the water by putting a cover over the access hole.



The No. 1 Common shop set has these drills. Clean the plate and paint it with forest green enamel. NSN 8010-00-111-7937 gets a gallon of paint. Use 4 screws, FSCM 59433 PN 420158, to fasten the plate down. Order on DD Form 1348-6, SOS is S9C and the cost is 30 cents.

GED Tank & Pump Units . . .

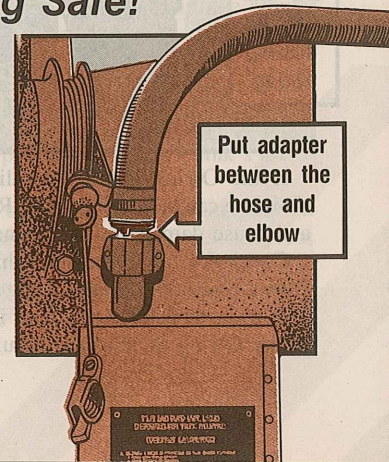
## Make Sampling Safe!

A water detection kit mounted too close to the engine on your tank and pump unit can be a fire hazard.

If the adapter is damaged, or leaks, fuel can spill on the engine and ignite.

Reaching across a running engine to take a fuel sample is dangerous, too. So you need to mount the adapter as far from the engine as you can. Put it between the hose from the filter separator and the elbow on the left hose reel.

Take a sample only when fuel is flowing through the left hose reel.

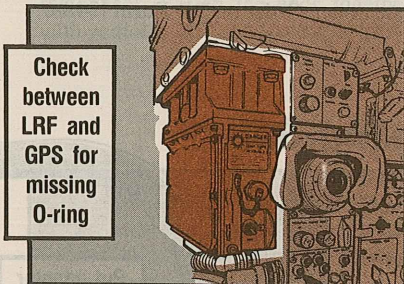


## LRF O-Ring a Must!



Turret mechs, a missing \$1.03 O-ring could cause the failure of the \$33,000 laser rangefinder (LRF).

Check your tank's LRF as soon as you can for the O-ring packing between the LRF objective lens and the gunner's primary sight (GPS) assembly window.



If the O-ring is missing, dirt and moisture can build up on the LRF lens and cause damage during firing.

Check for the O-ring like this:

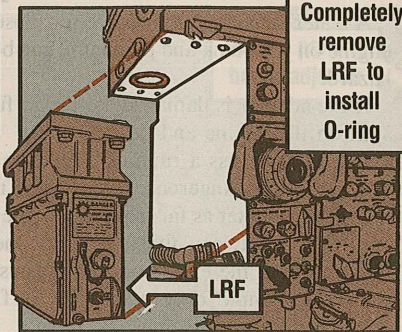
Loosen the LRF mounting screws and lower the LRF a couple of inches. If the O-ring is in place around the

objective lens, replace the LRF and tighten the screws.

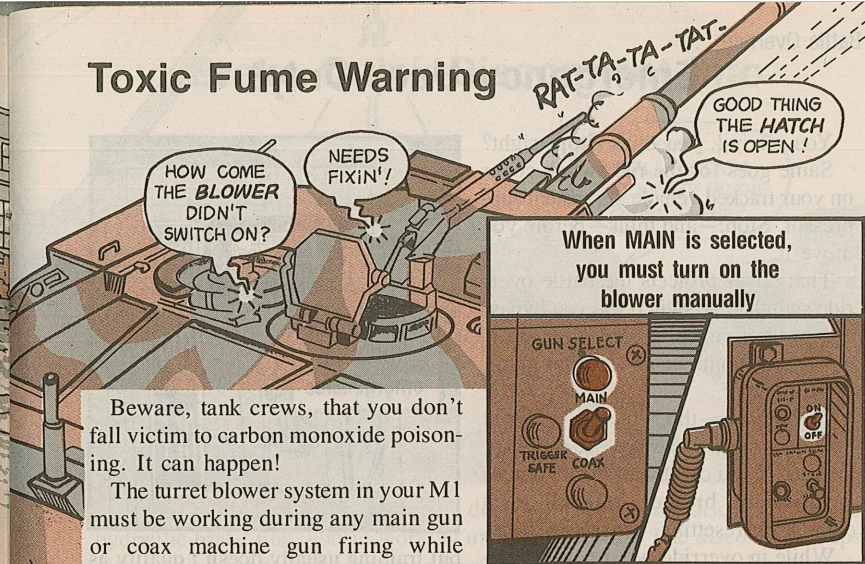
If the O-ring is missing, order NSN 5330-01-080-7973. It's Item 25 of Fig 86 in TM 9-2350-255-20P-2.

When you get the O-ring, take the LRF completely off its mount. Clean the objective lens and the GPS assembly window. Use the brush, cleaner and lens paper that's part of the tank's BII.

Install the O-ring around the objective lens. Then reinstall the LRF.



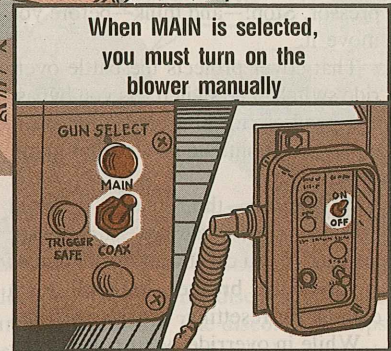
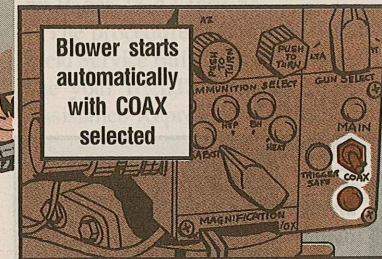
## Toxic Fume Warning



Beware, tank crews, that you don't fall victim to carbon monoxide poisoning. It can happen!

The turret blower system in your M1 must be working during any main gun or coax machine gun firing while you're buttoned up.

The turret blower is designed to come on automatically when the weapon selector switch is turned to COAX. If it doesn't, have your mech fix it now.



It's also a very good idea to run the blower when firing with hatches open.

This is because odorless, colorless carbon monoxide is present not only in vehicle and heater exhaust gases but in spent ammo gases, too.

Don't try to use your protective gas mask as a substitute for turret blower ventilation. You could end up dead. The mask will filter out gases that smell, but it lets deadly carbon monoxide come on through.

Take the safe road. Run the blower any time you're firing your weapons.

## Wrong Screws Can Kill You!

Using the wrong capscrews on the blow-off panels on your M1 tank's turret could be deadly.

The screws are made to shear so the panels can blow off if the ammunition in the turret bustle explodes. If the wrong screws are used, the panels may not blow. The blast goes into the turret instead.

Use only Grade 5 screws, NSN 5305-00-269-3215, shown as Item 3 of Fig 25 in TM 9-2350-255-20P-2.

See Pages 4 thru 6 for screw identification.

## Emergency Use, Only!

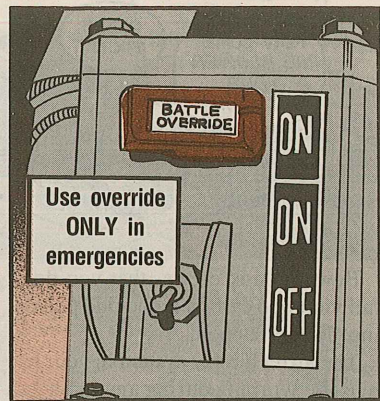
You see red, you think **Stop**, right? Same goes for the red switch cover on your tracked vehicle's transient suppressor. Stop!—and think—before you move it.

That cover protects the battle override switch. The switch lets you bypass a tripped circuit breaker, in an emergency, and continue needed communication.

Remember, tho, that a tripped breaker means current surges are around. If you can't wait the 2 minutes it takes the breaker to cool down enough for resetting, use the override.

While in override, your commo circuits are unprotected from surges. Get a surge, and you can damage your gear.

Got a real, life-or-death emergency? Use the switch. That's what it's for—



but training usually doesn't qualify as an emergency.

Just want to see what it does or how it works? Forget it. You might forget to turn it OFF again.

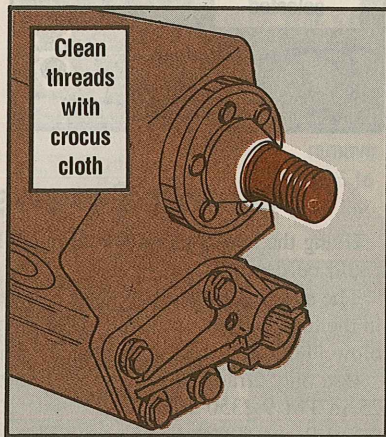
## Dressing Right

The last thing you need is an M60A3 turret flooded with ball bearings.

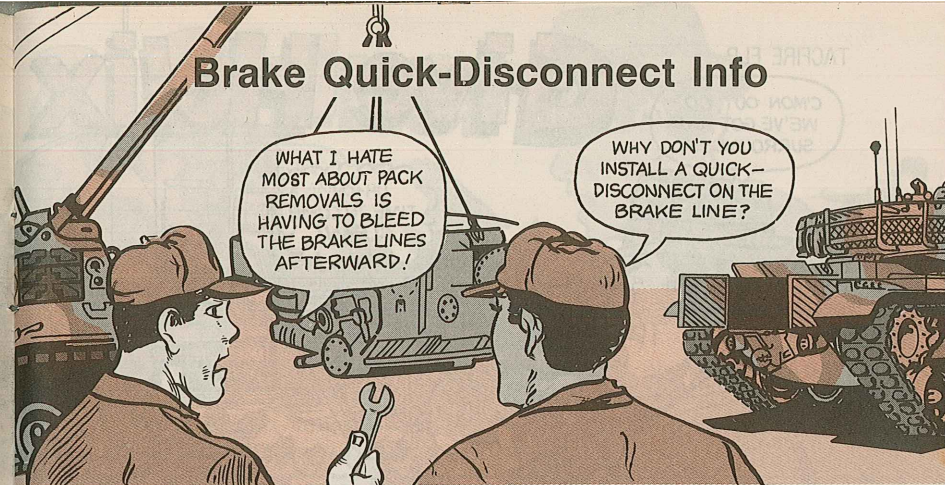
That's what you can get if you try to force the AN/VVG-2's center bearing over the support shaft's locknut threads. Before the bearing comes off, it'll come apart.

It's a tight fit even if the threads are clean. Add dirt or grit, and it's too tight.

If your bearing hangs up, back off. Grab a sheet of crocus cloth, NSN 5350-00-221-0872, and clean the threads. The cloth is on the expendables list in Appendix C, TM 9-2350-253-20-2.



## Brake Quick-Disconnect Info



If your M48A5 or M60-series tank does not have a quick disconnect on the hydraulic brake line, you're working under a handicap. The disconnect keeps dirt and air from entering the brake lines during pack removal and also prevents brake fluid loss.

If your tank's TM doesn't tell you how to put one on, use the installation procedures in TM 9-2350-257-20-1-3 on Pages 13-47 thru 53.

The procedures are also in TACOM Field Service Bulletin No. 47 (June 82). See your friendly TACOM Logistic Assistance Representative for a copy.



## M88A1 Operation Hazard

Drivers, a transmission problem on your recovery vehicle can cause loss of steering and propulsion when operating in reverse gear.

From now on, when operating in reverse gear, follow these procedures:

- Keep your ground guide in view at all times.
- Make all steering corrections from straight back by using neutral pivot steer from a complete stop.
- Limit operations in reverse gear to very slow speeds.
- Do not allow anyone near the vehicle when it is being backed up.
- If you lose steering and propulsion when in reverse, apply the brakes, shift to neutral and increase engine idle to 1,400-1,600 RPM for 30 to 40 seconds before attempting to operate in reverse again.

When the problem has been solved and a solution is available, you'll be notified. Until then, follow these instructions carefully.

TACFIRE ELP...

C'MON OUT, CD-WE'VE GOT YOU SURROUNDED!

# Give Helix a Shiner

UH-OH... TIME TO COME CLEAN!

RELEASE THE ELP HELIX AND YOU WON'T GET HURT!

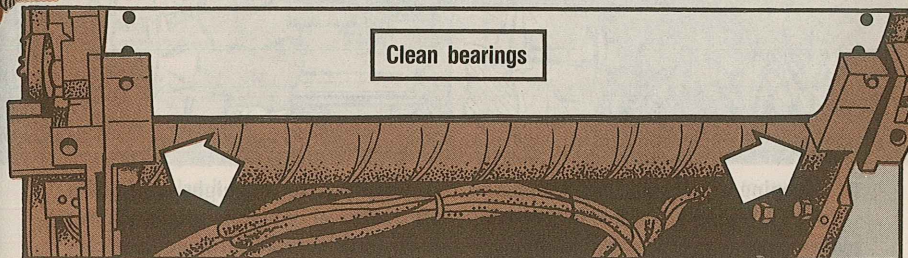


and drops can run off into the circuit cards.

Do a thorough job. If you leave just one dirty area on the roller, you'll get a strip on your paper with no type.

Keep the helix turning by running a small diameter cable lacing cord or dental floss over and around the bearing.

Clean bearings



Once you've cleaned off the loose carbon dust, spray the bearings with CLP. Leave it overnight (or as long as you can) and run floss over the area again to remove the loosened grime.

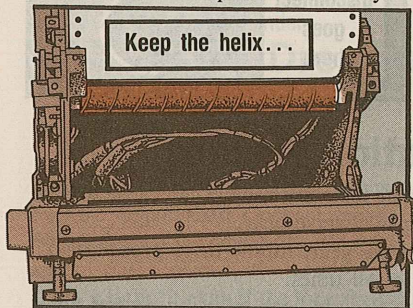
Carbon dust is an electronic line printer's Public Enemy No. 1. That printing residue can coat the helix so heavily it won't print. It will even freeze up the helix bearing.

It's up to you to arrest this offender.

Do it by keeping the helix a shiny silver color. Clean it at least every 8 hours. Do it any time you see buildup on the roller.

Be sure to dump the ELP's tray every 8 hours, too.

Keep the helix...



...and tray clean!



Shine the helix with a swab, NSN 6515-00-890-1475, and isopropyl alcohol, NSN 6810-00-753-4993.

For a heavy-duty cleaning job, use Cleaner, Lubricant, Preservative (CLP), NSN 9150-01-054-6453. Not only does that clean the helix, but it leaves a coating that makes cleanup easier next time.

This 1-pt can of CLP is being added to the org-level TK-225 tool kit. In the meantime, order and use it as needed.

Always use just enough cleaner or alcohol for the job. Put it on too thick,

## TACFIRE Eating Tapes?

A dirty head on your magnetic tape transport has a big appetite.

It'll chow down on a TACFIRE program tape right now if you don't keep it clean. Even if the head doesn't jam or snag the tape, it can mark it up. That'll give your system a bad "read" and wrong data.

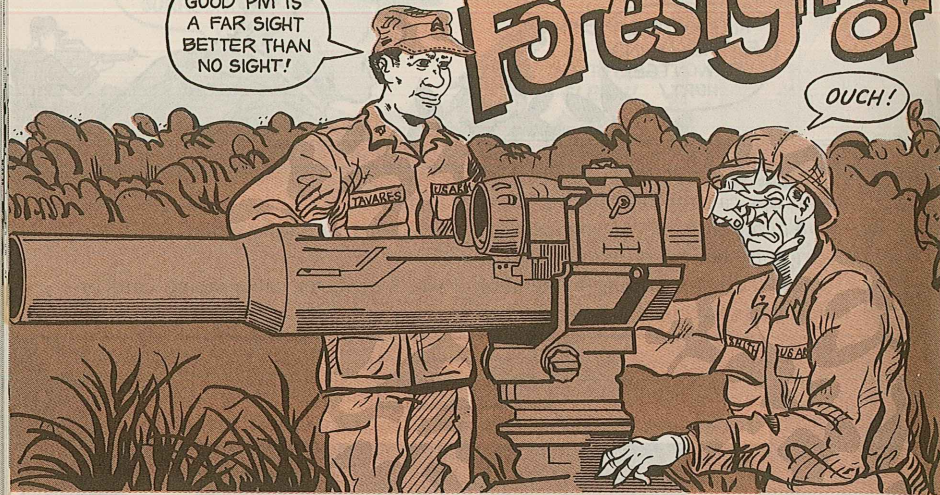
Clean the head just as you do your cassette player at home. Use the swab, NSN 6515-00-890-1475, listed in your operator pub, and cleaning compound, NSN 6850-00-105-3084 gets a 16-oz aerosol can.

Dirty heads eat tape



# It's Either Foresight or

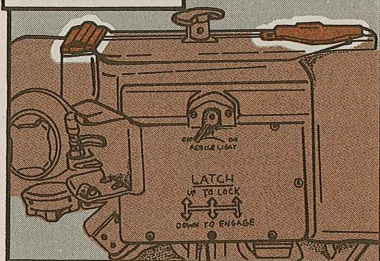
GOOD PM IS A FAR SIGHT BETTER THAN NO SIGHT!



Keeping the day and night sights of your TOW missile system functional is all in the way you handle them.

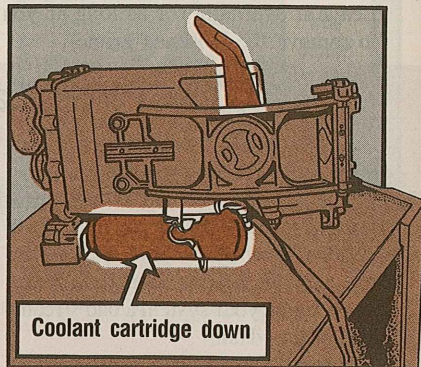
For instance, if your day sight has rails for mounting the night sight on top of it, don't stack things on the rails

Keep rails clear



when the night sight is not mounted. The rails can be burred, nicked and damaged to the point where they won't accept the night sight. That means downtime for maintenance.

When you set the night sight down after removal or before installation, set it on the side where the coolant cartridge is. That way you can prevent



parts damage, such as to the mount latch handle. If you're removing the sight, stacking it on its side can prevent damage till you get it in the field handling case.

# No Sight!

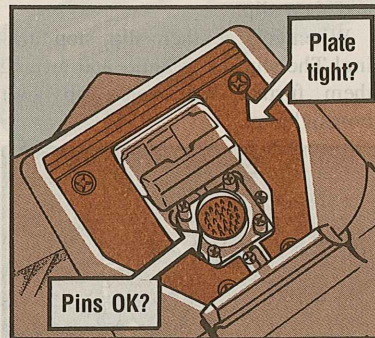
## Day Sight

After you remove the day sight from the traversing unit (TU), grab it through the holes on each side of the sight mount.



It may seem easier and quicker to lift and carry the sight by the locking handle, but a lot of handles have been damaged over the years by that method. The lock latch breaks from the weight of the sight.

Before you install your day sight on the TU, do 2 things: be sure the pins of the interface (index plate) connector are straight . . . and wiggle the

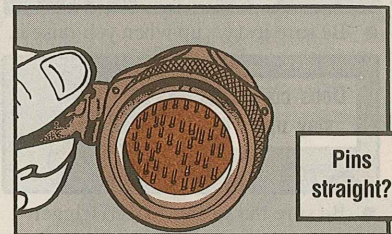


index plates on both sight and TU to be sure they're tight. If you've got either bent pins or a loose plate, contact your unit repairman.

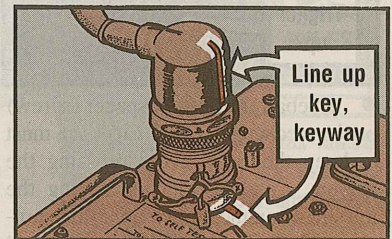
Bent pins screw up the power supply to your system, and loose plates can bend pins. You can help prevent pin damage by lining up keys and keyways before locking the sight in place.

## MGS Connector

Bent pins on the J1 cable connector (missile guidance set) can cut off power to your system, too. Eyeball them before operation. Line up key and



keyway before you put the torque to the connector sleeve.



## Boresight Jack

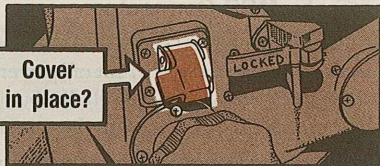
When you connect your boresight collimator cable to the jack on your sight, hesitate. Give it a slight shove. If it slides easy, push it home.

If you get resistance, remove it, eyeball it for bent pins, and check the jack for dirt. If everything's clean and straight, the connector should seat with just a slight push. If it doesn't, call your repairman.

### TU Trigger Cover

Before-operations checks on your TU's trigger cover can prevent an accidental firing. Do this:

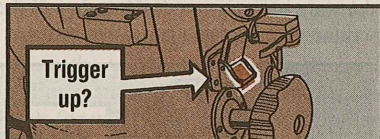
- Be sure the cover's there.



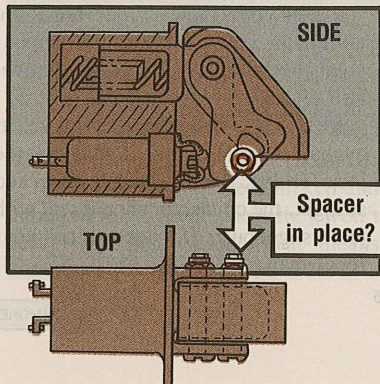
- Be sure it stays up when you raise it.



- Be sure the spring-loaded trigger is up (you have to push it down to fire).



- Eyeball the bottom spacer (screw) on the mechanism. The spacer is a must to keep the cover from pressing the trigger...and accidentally firing the missile when the gunner arms the launcher. If it's not there, get it replaced quick-like.



- Everything OK? Lower the cover. If the trigger or cover malfunctions after loading, you can accidentally fire a missile as soon as you raise the arming lever.

### Tracker Locking Latch

The locking latch on your day sight tracker should lock easily.

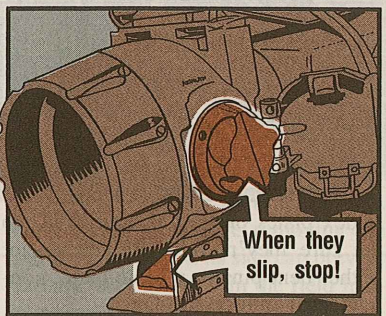


If it's hard to lock, don't force it. You can break the handle. Instead of using muscle, let your support check it out.

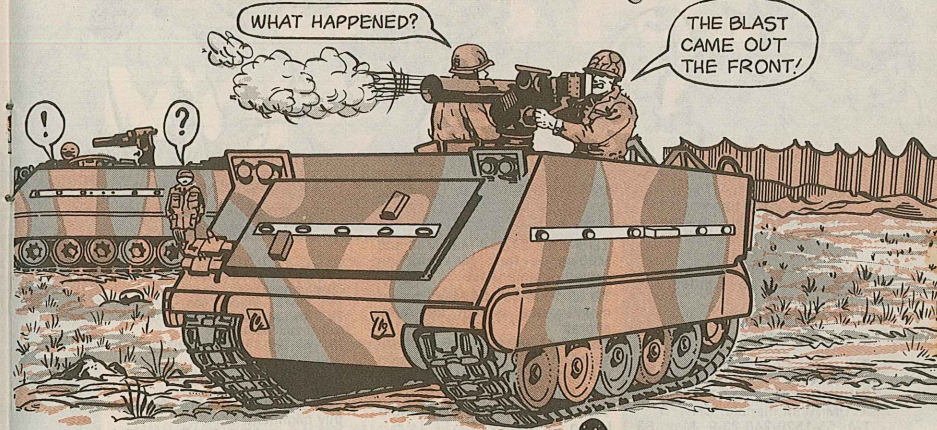
### Boresight Knobs

AZIMUTH and ELEVATION boresight knobs on your tracker rotate freely... with very slight resistance... and then slip.

When you feel them slip, stop turning! The slip is the limit, and turning them further will botch up your boresighting.

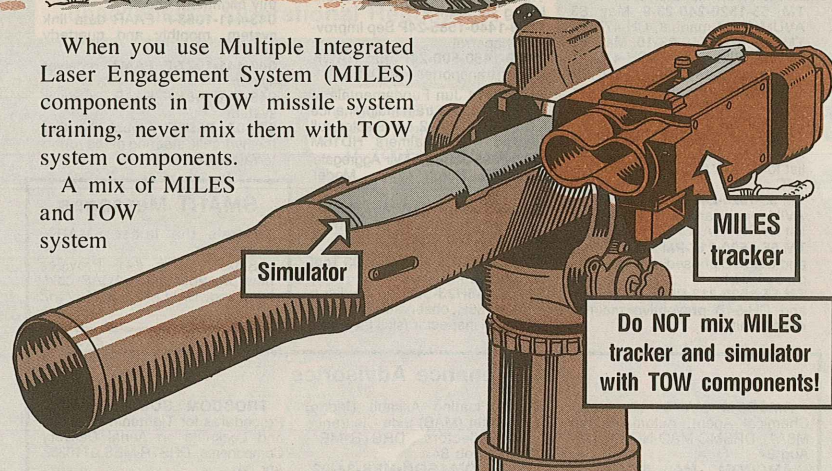


## MILES/TOW Mix Won't Go!



When you use Multiple Integrated Laser Engagement System (MILES) components in TOW missile system training, never mix them with TOW system components.

A mix of MILES and TOW



trackers and missile guidance sets (MGS) can do expensive damage to the MILES tracker head.

Here's the way to go:

Use the MILES tracker head **only** with the MILES MGS simulator.

Do not connect the MILES tracker to the TOW system MGS. Same goes for the MILES MGS simulator. Do not hook it to the TOW system tracker.

In short, the TOW system tracker and MGS should be disconnected when you install the MILES tracker head and MGS simulator.

The procedure applies to all TOW configurations...but especially to vehicle-mounted systems.



This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer printout provided by The Adjutant General.

#### Miscellaneous

TM 55-1520-240-23-5 May 83 AVUM/AVIM manual, CH-47D  
 TM 55-1520-240-23-7 May 83 AVUM/AVIM manual, CH-47D  
 TM 55-1520-240-23-9 May 83 AVUM/AVIM manual, CH-47D  
 TM 55-1520-240-23-10 May 83 AVUM/AVIM manual, CH-47D  
 TM 55-1520-241-23P Jul AVUM/AVIM repair parts and special tools list for CH-47A, CH-47B, and CH-47C  
 TM 55-1520-241-23P-3 Jul AVUM/AVIM repair parts and special tools list for CH-47A, CH-47B and CH-47C  
 TM 55-1520-241-23P-2 Jul AVUM/AVIM repair parts and special tools list for CH-47A, CH-47B, CH-47C  
 TM 55-1520-217-PM Aug CH-54A and CH-54B phased maintenance checklist  
 TM 55-1520-217-PMD Jul CH-54A and CH-54B preventive maintenance daily

TM 55-1520-209-CL May Operator's and crewmember's checklist CH-47A

TB 9-2300-378-14 May M48 and M60-series tank air induction system maintenance

TB 55-1500-337-24 May Phased maintenance system for Army aircraft  
 TB 55-1520-241-20-26 Jun Inspection of engine transmission warning system for CH-47A/B/C/D and YCH-47D

TM 9-1430-489-12 Jul Azimuth laying set, Lance  
 TM 9-1440-1585-24P Sep Improved Chaparral  
 TM 9-1450-500-24P Jun HAWK loader transporter XM501E3

FM 55-414 Jun Fundamentals of rotor and power train maintenance  
 LO 5-2410-209-12 Apr Tractor, full tracked; Allis-Chalmers HD16M  
 TM 5-3895-330-24P Mar Aggregate spreader, Burch Corp., Model FF-8

TM 5-4310-345-24P May Rotary air compressor, CFM, Davey Model 14M250RPV

SC 5180-92-CL A03 Sept 83 Tool kit, guided missile

STP 55-66H23-SM Jun Soldier's manual: 66H, observation airplane technical inspector (skill level 2/3)

#### AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

#### TV Tapes

TVT 5-97 Wheeled Tractor-Scraper: Check gages  
 TVT 55-128 Introduction - LACV 30  
 TVT 55-130 Load and unload 5,000 gallon tank semitrailer  
 TVT 55-132 UH-60A - Service main rotor blades

#### TEC Lessons

043-441-1056-F FAAR TWT monthly alignment checks  
 043-441-1063-F FAAR data link system, monthly and quarterly checks  
 043-441-1077-F FAAR receiver system  
 043-441-1081-F FAAR receiver system  
 612-051-9682-E Troubleshooting the hydraulic steering of the rough terrain crane

#### SMART Messages

Here's the latest SMART message:  
 SMART Msg #41—Provides new procedures for AOAP cold sampling, DALO-PLZ-B 191715Z Jul 84.

#### Maintenance Advisories

AMCCOM MA 84-18—Alarm, Chemical Agent, Automatic (M8/M8A1), DRSMC-MAO-NC 031645Z Aug 84.

AMCCOM MA 84-19—TM 3-1040-251-15, Test Set, Flame-thrower-Riot Control Agent (RCA) Disperser, Hydrostatic Volumetric, 6000 PSI, M5 DRSMC-MAO-NC 061715Z Aug 84.

MICOM SIL (Supply Information Letter) 2-84—Missile Materiel, DRSMI-SS Jun 84.

MICOM METL (Maintenance Engineering Technical Letter)—Missile Materiel, DRSMI-SN Apr 84.

TROSCOM SOU-ME-84-01—Gasoline Lantern, NSN 6260-00-170-0430, DRSTR-MET 101600Z Apr 84.

TROSCOM SOU-MES-84-02—

Mobile Floating Assault Bridge, Transporter (MAB) Side Clearance Lights/Reflectors, DRSTR-ME 092130Z Feb 84.

TROSCOM SOU-MES-84-03, LACV-30, Propeller Blade Thrust Washers, DRSTR-MES 222030Z Feb 84.

TROSCOM SOU-MES-84-04, LACV-30, Propeller Blade Thrust Washers, DRSTR-MES 021600Z Apr 84.

TROSCOM SOU-MES-84-05, Generator Set, 60 KW, 400 Hz, MEP-006A, LIN J38301, NSN 6115-00-118-1243, DRSTR-MES 061430Z Apr 84.

TROSCOM SOU-MES-84-06, Type A Diving Equipment Set, NSN 4220-01-023-0246, Gauge Failure, DRSTR-MES 132230Z Apr 84.

TROSCOM SOU-MES-84-07, Procedures for Tightening of Bolts and Locknuts on Aerial Delivery Components, DRSTR-MES 011836Z Apr 84.

TROSCOM SOU-MES-84-08, One-Time Inspection of LACV-30 for fuel system corrosion, DRSTR-MES 261930Z Apr 84.

TROSCOM SOU-MES-84-09, Generator Set, 60KW, 400Hz, MEP-404B Gas Turbine Engine Driven, NSN 6115-01-078-3044 DRSTR-MES 301930Z Apr 84.

TROSCOM SOU-MES-84-10, LARC LX, LCM-8, LCU Ramp Repair, DRSTR-MES 222300Z May 84.

If you need a maintenance advisory, contact your direct support unit or your local Logistic Assistance Office(LAO).

Operational  
Readiness...

# Less Push, More Pull!

Fifty thousand years ago, early man had learned the use of the wheel, fire, and the O.R. Report. As with any of man's inventions, effectiveness can be lost by misuse or neglect. Our story opens with the Big Chief lambasting a little chief for unacceptable Operational Readiness...







UNACCEPTABLE O.R., EH? IT'S TIME FOR SOME **COMMAND EMPHASIS ON MAINTENANCE!**



SO THAT'S THE WAY IT'S GONNA BE... I WANT A **95% O.R. RATE** BY THIS TIME NEXT MONTH—NO EXCEPTIONS!



MINUTES LATER...

..AND THAT'S WHAT COULD HAPPEN, SIR!

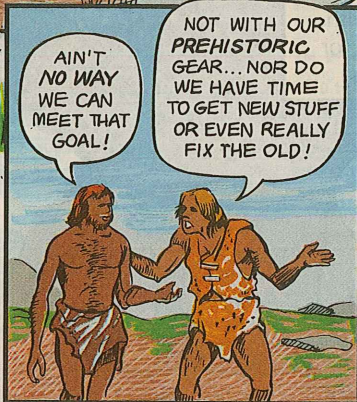
CONNIE, THAT'S TERRIBLE! MY MEN KNOW BETTER!



YOU SHOULD KNOW BETTER THAN TO GIVE 'EM GOALS THEY CAN'T MEET ANY OTHER WAY!

COMMAND EMPHASIS IS VITAL TO GOOD MAINTENANCE...

...YOU SAY SO YOURSELF!



AIN'T NO WAY WE CAN MEET THAT GOAL!

NOT WITH OUR PREHISTORIC GEAR... NOR DO WE HAVE TIME TO GET NEW STUFF OR EVEN REALLY FIX THE OLD!

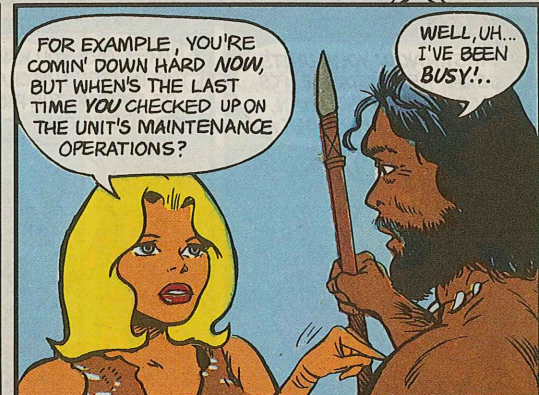


THERE'S **ONE WAY**... WE'LL TELL HIM WHAT HE WANTS TO HEAR!

AND SHOW HIM WHAT HE WANTS TO SEE!



THERE'RE **RIGHT AND WRONG** WAYS TO STRESS MAINTENANCE!



FOR EXAMPLE, YOU'RE COMIN' DOWN HARD NOW, BUT WHEN'S THE LAST TIME YOU CHECKED UP ON THE UNIT'S MAINTENANCE OPERATIONS?

WELL, UH... I'VE BEEN BUSY!..



I'LL MAKE A FEW **MIDNIGHT REQUISITIONS**... YOU FIX UP THE REPORTS REAL PRETTY-LIKE...



WONDER IF THE CHIEF KNOWS WHAT HIS STYLE OF "COMMAND EMPHASIS" IS ABOUT TO CAUSE?

GUESS I'D BETTER PAY HIM A VISIT!



A GOOD LEADER KEEPS A CLOSE EYE ON WHAT'S HAPPENING. HE MAKES SURE MAINTENANCE GETS CONSTANT ATTENTION AND GOOD COMMAND SUPPORT!

LET'S TAKE A WALK...



OUR STUFF WAS A-OK FOR OUR LAST EXERCISE, BUT SINCE THEN WE'VE HAD OTHER THINGS TO DO!

THE CHIEF DIDN'T SEEM TO MIND, EITHER!



HE'S RIGHT, CONNIE! GOT ANY TIPS ON HOW I CAN GET THINGS BACK ON THE RIGHT TRACK!

SURE...



MAKE SURE EVERYONE — OPERATORS AND MECHANICS — UNDERSTANDS THE LINK BETWEEN MISSION AND MAINTENANCE...



...IT CAN MEAN THE DIFFERENCE BETWEEN WINNIN' OR LOSIN' THE BIG ONE!



FIRST, KNOW YOUR UNIT'S GEAR — F'INSTANCE, ITS AGE, LIFE EXPECTANCY, CONDITION AND COST!



THE MORE YOU KNOW, THE BETTER THE CHANCE OF MAKING THE RIGHT DECISION!

HANG ON, I'LL BE RIGHT BACK?



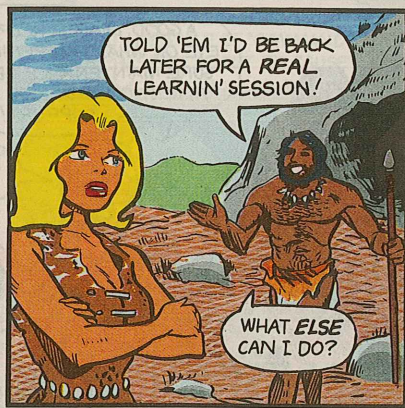
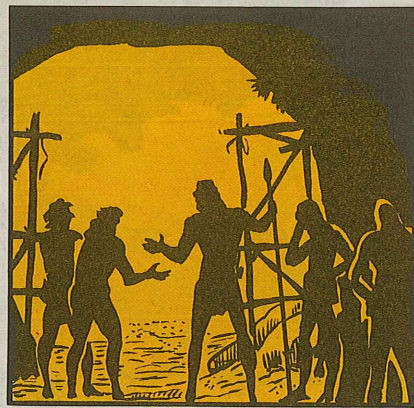
HERE'S AN IDEA... I'LL SET UP A BRIEFING FOR ALL TROOPS! WILL YOU DO THE HONORS!

I'D BE GLAD TO!



LATER...

...SO DON'T LOOK AT MAINTENANCE AS A RIVAL TO THE MISSION — IT'S A NECESSARY PART OF THE MISSION SUPPORT PLAN!



TOLD 'EM I'D BE BACK LATER FOR A REAL LEARNIN' SESSION!

WHAT ELSE CAN I DO?

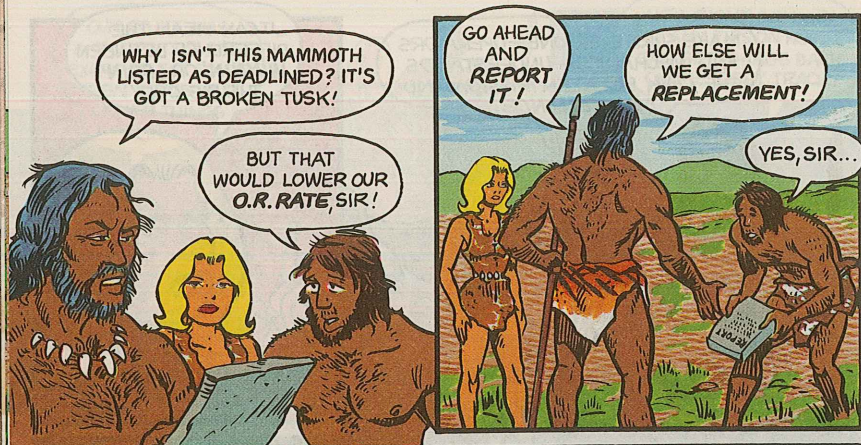


I ALWAYS THOUGHT THOSE MAINTENANCE TYPES WERE JUST TRYIN' TO MAKE LIFE HARD FOR US CREWMEN. BOY, WAS I WRONG!



GREAT BRIEFING, CONNIE. GOT ANY OTHER SUGGESTIONS FOR ME?

INSIST ON ACCURATE REPORTS. BOTH YOU AND THE BIG CHIEF NEED TO KNOW THE REAL CONDITION OF YOUR GEAR!



WHY ISN'T THIS MAMMOTH LISTED AS DEADLINED? IT'S GOT A BROKEN TUSK!

BUT THAT WOULD LOWER OUR O.R. RATE, SIR!

GO AHEAD AND REPORT IT!

HOW ELSE WILL WE GET A REPLACEMENT!

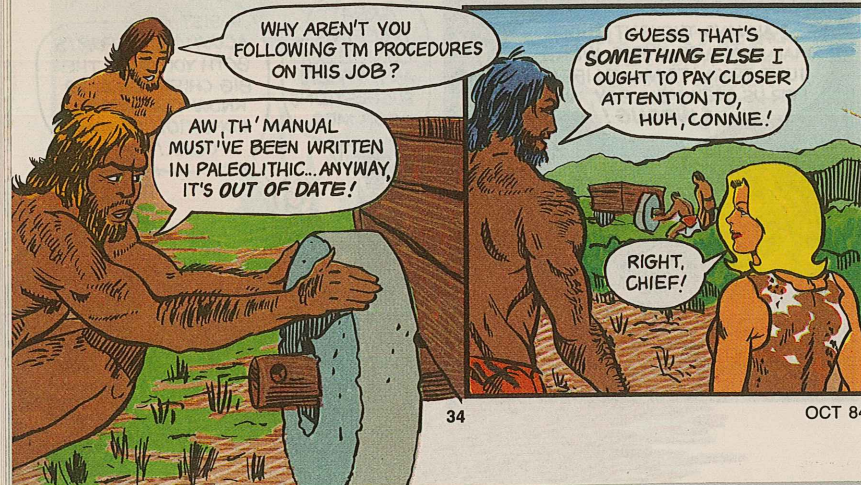
YES, SIR...



GOOD WORK, CHIEF, YOU'RE LEARNING HOW TO USE THE MAINTENANCE AND SUPPLY SYSTEMS...



NOW, THEY'LL WORK FOR YOU INSTEAD OF THE OTHER WAY AROUND...  
...UH-OH—LOOK OVER THERE!

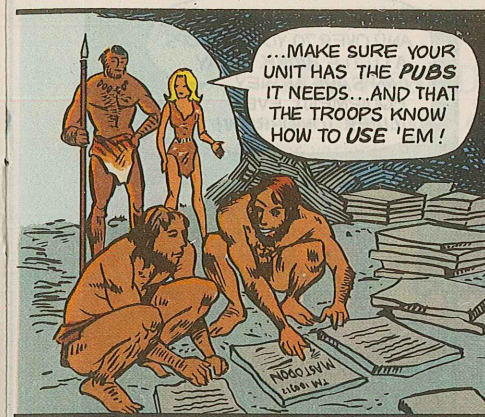


WHY AREN'T YOU FOLLOWING TM PROCEDURES ON THIS JOB?

AW, TH' MANUAL MUST'VE BEEN WRITTEN IN PALEOLITHIC... ANYWAY, IT'S OUT OF DATE!

GUESS THAT'S SOMETHING ELSE I OUGHT TO PAY CLOSER ATTENTION TO, HUH, CONNIE!

RIGHT, CHIEF!



...MAKE SURE YOUR UNIT HAS THE PUBS IT NEEDS...AND THAT THE TROOPS KNOW HOW TO USE 'EM!



LATER...

WELL, I'VE GOT ONE AREA UNDER CONTROL, CONNIE! THAT GEAR LOOKS GREAT! GOOD JOB, SOLDIER!



IT LOOKS GOOD, ALL RIGHT... BUT THAT WHITWASH MAY BE COVERING CRACKS THAT'LL TURN THESE BOULDERS INTO PEBBLES!



DON'T LET GOOD LOOKS SUBSTITUTE FOR GOOD CONDITION! AND SHOULDN'T THIS MECHANIC BE DOING WORK HE WAS TRAINED FOR!



WONDER WHAT'LL HAPPEN IF...



JUST AS I THOUGHT!



YOU CAN GO BACK TO YOUR REAL JOB! WE'LL HAVE NO WHITWASH IN THIS OUTFIT!



THAT'S THE IDEA, CHIEF BUT IF HE'D BEEN ASSIGNED PREVENTIVE MAINTENANCE, THOSE ROCKS MIGHT NOT HAVE CRACKED!



STRESS PM OVER AND OVER TO YOUR TROOPS. A LITTLE WORK TODAY CAN SAVE MONEY, EQUIPMENT, EVEN LIVES TOMORROW!



REMEMBER, IF THE GONG SOUNDS, YOU'LL HAVE TO GO WITH WHAT YOU'VE GOT!



RIGHT, CONNIE, AND WE'LL BE READY! OUR O.R. IS REALLY GONNA GO UP, NOT JUST LOOK LIKE IT HAS... AND I'LL SEE IT STAYS THAT WAY!



THANKS, CONNIE!

THE TASK IS LARGE AND THE TIME IS SHORT..

...SUCCESS IN PEACE OR WAR DEPENDS ON THE RIGHT KIND OF COMMAND EMPHASIS...

... AT ALL LEVELS!

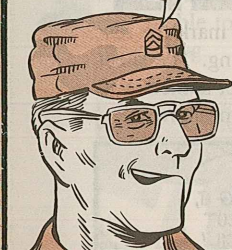
CH-47A, B, C...

## The Real Droop Scoop

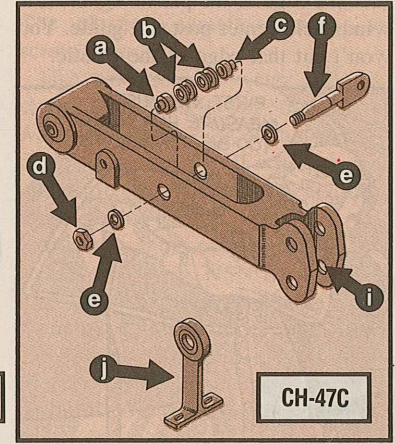
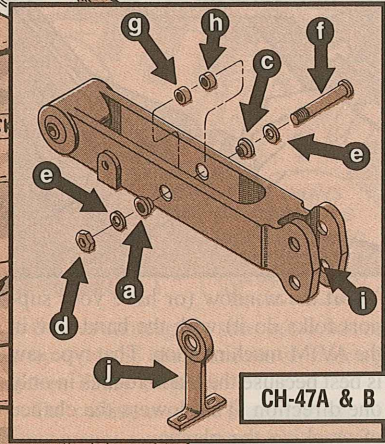
Don't throw up your hands and get droopy when you think about assembling the droop eliminator variable resistors in your Chinook's power turbine control system.

The tech manuals for the CH-47A, B and C models goofed on the hardware you need to attach the resistors to the thrust idler. The illustrations and supply info are all mixed up. The items are in Para 4-244k(2) of TM 55-1520-209-23-2 and Para 4-371k(2) of TM 55-1520-227-23-2. They go inside and outside of the idler, along with the link assembly.

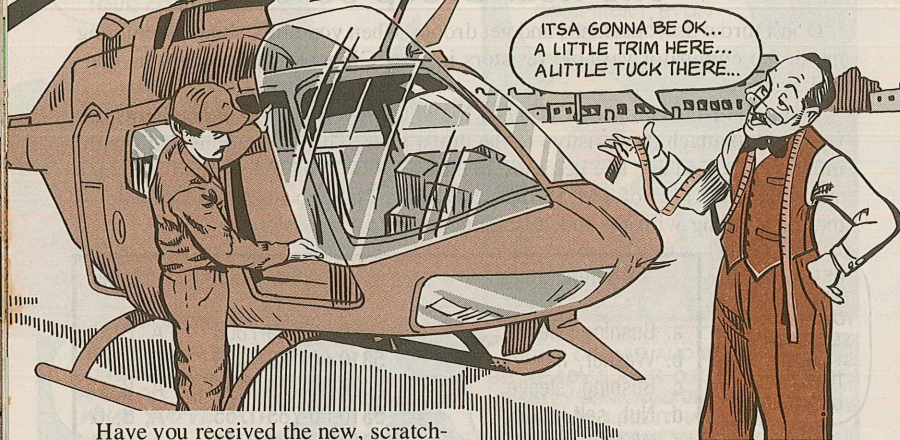
HERE ARE THE PARTS YOU NEED TO SET THINGS STRAIGHT 'TIL THE TM'S UPDATED!



Nomenclature	NSN	Model
a. Bushing, sleeve	3120-00-849-7606	A, B, C
b. Washer, flat	5310-00-183-4406	C
c. Bushing, sleeve	3120-00-726-2996	A, B, C
d. Nut, self-locking	5310-00-785-1755	A, B, C
e. Washer, flat	5310-00-167-0753	A, B, C
f. Bolt, self-retaining	5306-00-156-2398	A, B
g. Bolt, eye	5306-00-638-2224	C
h. Spacer, sleeve	5365-00-722-5839	A, B
i. Thrust idler	5365-00-633-5557	A, B
j. Link assembly & resistors	1680-01-106-2262	A, B, C
	2995-00-936-5598	A, B, C



# Cut a Trim Figure

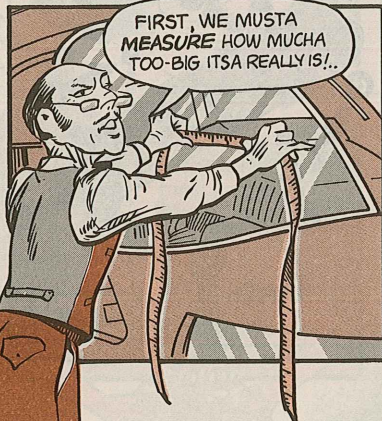


Have you received the new, scratch-resistant acrylic windshield for your Kiowa?

To get a trim fit when installing it, follow these tips:

Don't remove the windshield's protective coating before cutting.

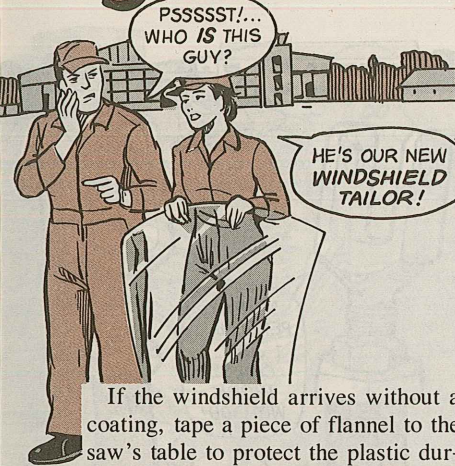
First, measure the window against your bird's window frame. Place the inboard edge of the plastic against the windshield center post as a guide. You won't cut that edge of the plastic.



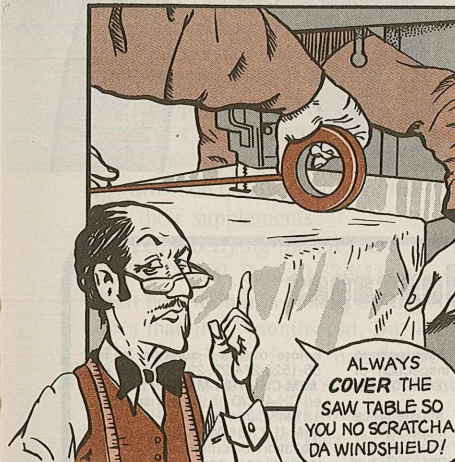
Use a grease pencil to mark the rest of the acrylic for trimming. The sheet is large and bulky, so get someone to help hold it while you measure.



Cut the window (or have your support folks do it) with the band saw in the AVIM machine shop. That type saw is best because the blade rotates in only one direction. That lowers the chance of cracking the plastic.



If the windshield arrives without a coating, tape a piece of flannel to the saw's table to protect the plastic during cutting.



Before starting the saw, rub a bar of soap over the blade to lube it, making it less likely to grab.

Try cutting a small piece outside of your grease pencil markings first, from

a section of plastic that'll be thrown away when you finish. The test cut will give you a chance to adjust the saw's cutting speed, blade size and number of teeth. Then cut the window along the markings.



Install the windshield as Para 2-128 of TM 55-1520-228-23 says.

Then clean off the coating, using the materials listed in Para 1-18 of the -23 or in Table 2-1 of TM 55-1500-333-24.

Remember to pocket rings or wristwatches before cleaning the windows. The plastic's scratch-resistant, not scratch proof!

Use low-pressure water and soft cloths, NSN 8305-00-641-5606, for the wash job. Rinse suds off before they dry. Otherwise, you'll wind up with white streaks on the window and have to do the job over.

To put a shine on your new windshield, use polish, NSN 7930-00-935-3794. For long-term protection, apply a coating of Rain Repellent and Surface Conditioner (REPCON), NSN 6850-00-139-5297. Para 2-37 in TM 55-1500-333-24 has the word on how to use it.

## Here's a Pitch for New Links

Kiowa mechs, next time you get main rotor pitch links, eyeball them carefully.

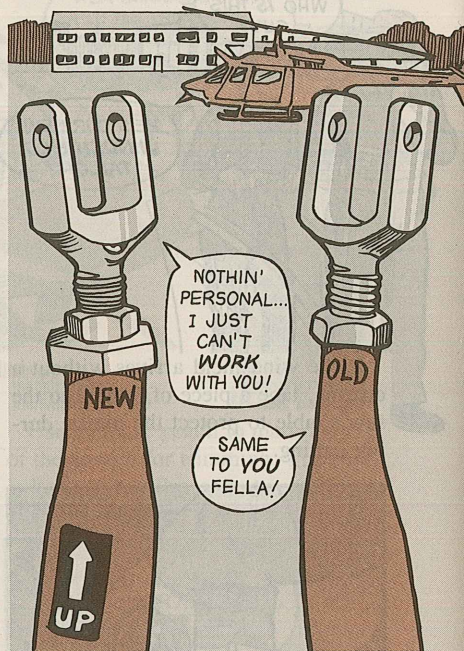
If the NSN is 3040-01-152-4578, you've got the new pitch link. It's better than link, NSN 3040-00-128-1627. But there are some important differences between the two.

For instance, C28 to TM 55-1520-228-23-1 tells you the new pitch links don't need a 300-hour or 6-month inspection. The old ones do.

On the new pitch link assembly, the fine threads are on the upper clevis and coarse threads on the lower. That's the opposite of the old-style links.

When replacing pitch links, use either 2 old style or 2 new ones. Never mix old and new types.

Check out Changes 30 and 31 to the TM for the info on how to adjust the new links.



Cat 1 EIR Phone:  
AUTOVON 693-2066  
(24 hours)

## Aviation Messages

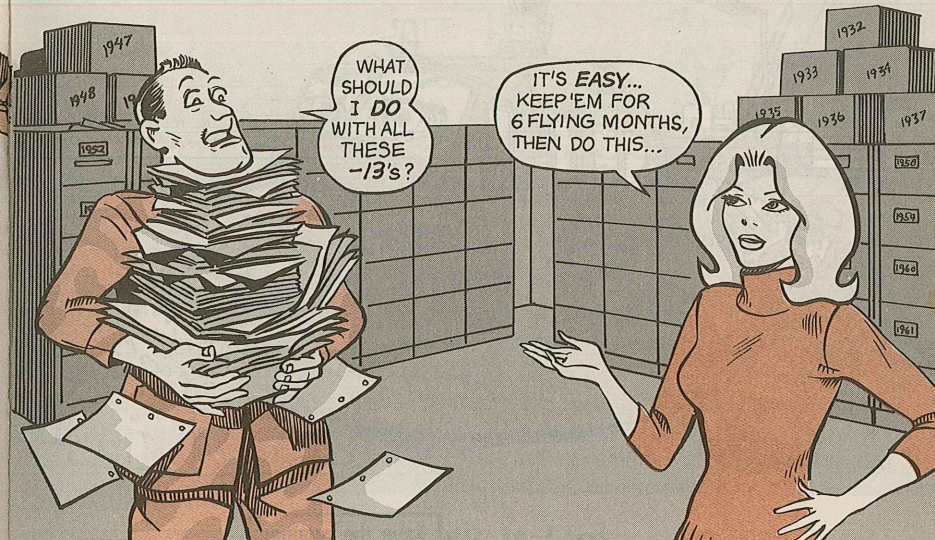
If your unit has not received a message you have an interest in, check with your next higher headquarters.

**UH-1-84-03** SOF, UH-1 turnbuckle bodies. 212130Z Jun 84.  
**SOU-GEN-MEM-84-01** Safety-Of-Use Technical, TUXCO AF-5 hydraulic dispenser. 081530Z Jun 84.  
**CH-47-84-09** SOF Operational, Operator's restriction on specific CH-47D's. 212030Z Jun 84.

**CH 47-84-10** SOF Maintenance Mandatory, 1-time inspection of CH-47D floor beams. 261530Z Jun 84.  
**CH-54-84-01** SOF Maintenance Mandatory, 1-time inspection of CH-54A/Main rotor blade pocket crack stop drilling. 061530Z Jun 84.  
**OV-1-84-03** SOF Technical, OV-1B, C inspection of main landing gear torque arms. 191600Z June 84.  
**MIM-OH-6A-MEM-01** OH-6A time

before overhaul addition to TM 55-1520-214-23. 221745Z Jun 84.  
**MIM-CH-47-84-MEM-08** Expanded CH-47C/D pitch link inspection. 181445Z Jun 84.  
**MIM-U-21-84-MEM-03** Proper installation of cotter pins in U-21 landing gear and retract system. 181430Z Jun 84.  
**MIM-GEN-84-MEM-05** Ammunition info, release of hydrogen gas from bulging PA-19 metal containers. 211900Z Jun 84

## Here's Where They Go



For good maintenance and safe flying, keep those DA Forms 2408-13 and their supplements where they belong.

But it's not necessary to keep every piece of paper forever. Here's the lowdown on the disposition of the -13's and their supplements.

Keep a 6-flying-month file of -13's, as TM 38-750, Para 10-37d(4) says. As each new month is added, destroy the -13's that are 7 months old. But if the bird doesn't fly for a month, don't count it. Drop off the seventh month only after the aircraft flies again.

If your unit takes part in Aviation System Command's Sample Data Collection Program, don't destroy the -13's. After 6 months, turn them over to your on-site field monitor.

Forms or checklists that go with the DA 2408-13 are considered continua-

tion sheets—for example, the phased maintenance checklist, DA Form 2404, rotor smoothing record and serial number checklists.

Keep those papers with the -13's in the 6-month-flying file. The unit commander decides where to keep those files, as long as they're not in the aircraft.

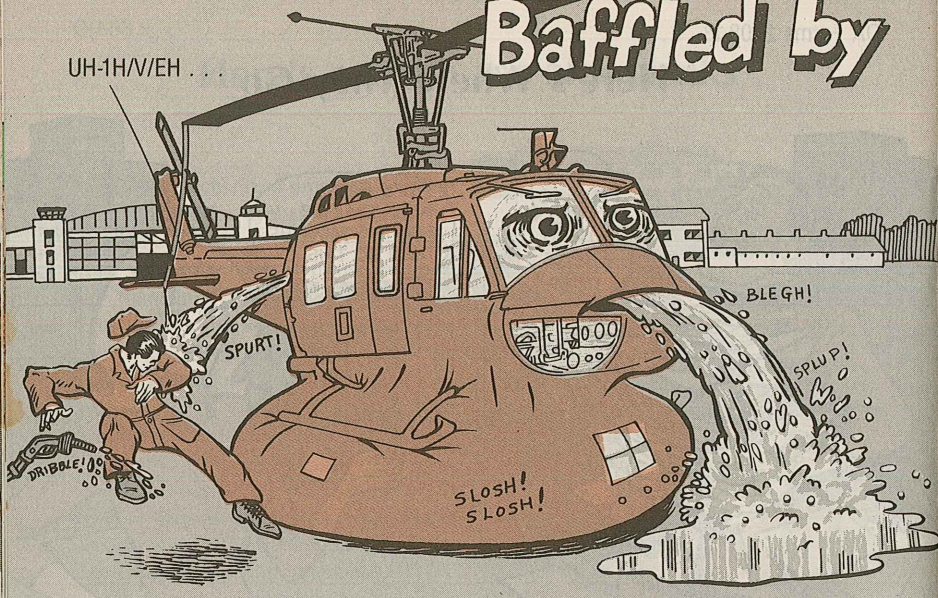
At the end of 6 months, destroy them—except for the PM checklist and the preventative maintenance periodic (PMP) inspection paperwork. Those, along with the appropriate DA Form 2408-13, are sent to:

**Commander  
Corpus Christi Army Depot  
ATTN: DRSAV-ELR  
Stop 55  
Corpus Christi, TX 78419**

# Baffled by

# Hot Refueling?

UH-1H/V/EH . . .



When a Huey crew does a rapid refueling job, the JP-4 can flow so fast that it spurts thru the fuel cell's rollover air vent valve.

That will give the bird a bellyful of JP-4—a fire hazard for sure, as well as a tricky clean-up job.

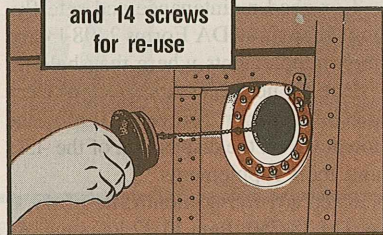
A new deflector assembly, NSN 1680-01-115-3668, prevents that spurt-ing.

The deflector—or baffle—goes onto the closed circuit refueling receiver (CCRR) in accordance with MWO 55-1520-210-30-58, like so:

Disconnect the battery like Para 9-36 of TM 55-1520-210-23-2 says.

You don't have to defuel the bird. Just keep the fuel level below the CCRR. Do the work in a well-ventilated area, and make sure the aircraft is properly grounded.

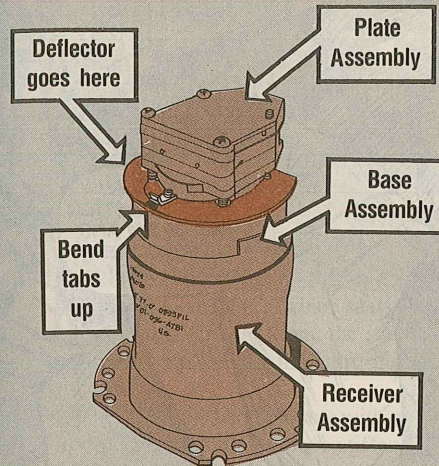
Save the retainer and 14 screws for re-use



Remove the cap, receiver assembly and packing from the aircraft.

Place the cap and receiver assembly on a clean surface with the filler face down. The "UP" mark on the assembly's top should face you.

Hold the deflector open, with the rivet toward you and rivet head facing down. Place the deflector around the 4 screws between the plate assembly, PN 750006-3, and the base assembly, PN 750004-3.



HERE'S HOW IT GOES!



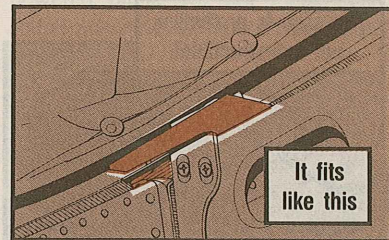
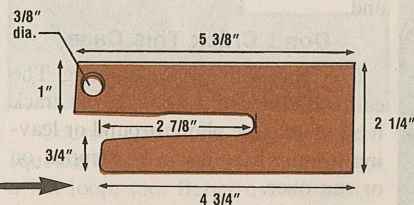
Close the deflector and bend the locking tabs up 30° to 40° to lock it in place. It should move freely up and down.

Put the CCRR back into the bird. Next time your aircraft undergoes hot refueling, there'll be no fuss, no fuel spills, no fire hazard.

## Lock It Up!

Dear Editor,  
Here's a handy helper to lock the Huey's cargo door. We had our support cut a piece of .040-inch aluminum like so:

The lock snugs up against the roller support over the door, with the door panel hinge pin thru the hole. Keeps unauthorized visitors out of our bird when we're not around.  
609th Trans Co  
Hunter AAF



(Editor's Note—Other Huey crews should really lock onto this idea! Since doors shouldn't be locked during flight, add a "remove before flight" streamer as a safety reminder.)

# Sound Out

HELLO,  
CAN ANYONE  
HEAR ME?

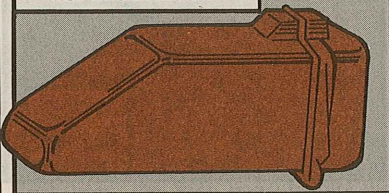
YEAH! I CAN!  
A LITTLE BETTER  
PRE-OP PM AND  
YOUR BUDDIES  
COULD, TOO!

Your voice gets no battery boost from a sound-powered TA-1. It's good PM that lets your message reach the other end.

## Don't Crack This Case

PM starts with careful handling. The case isn't fine china, but you can crack it by tossing the phone around or leaving it out where it can be stepped on or run over.

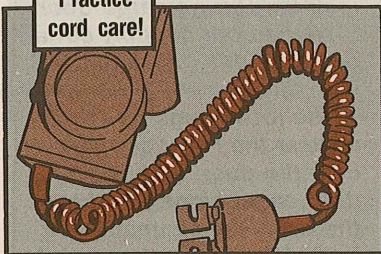
The case is protective,  
not indestructible!



It's a good idea to stow the phone carefully when you're not using it. Keep it inside its cover, also.

Stretching or twisting the handset cord damages the wiring and the insulation. Bare wires lead to shorts.

Practice  
cord care!



## Watered Down?

To keep your TA-1 waterproof, keep the moisture-preventing diaphragms on the job. They go inside both the transmitter and receiver caps.

Other moisture fighters are the stiffeners inside both protective boots.

# Your PM!

replace them. Recessed, hex-head screws are NSN 5305-00-853-4880.

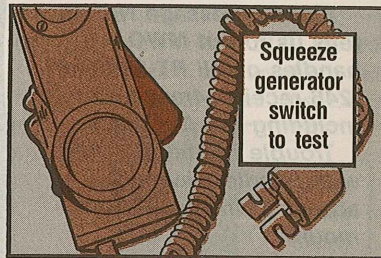
Replace  
slotted screws  
with recessed hex-  
head screw

## Troubleshooting

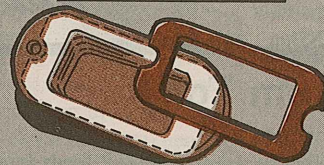
All it takes is a squeeze to tell what kind of shape your commo is in.

Press down on the generator switch. Feel mushy? Check for an open line. Too hard? Probably a short.

Squeeze  
generator  
switch  
to test



## Stiffener on the job?



Protect your rubber boots from the sharp edges of the generator and push-to-talk levers. Wrap a few layers of tape around both levers before you put on the boots. Otherwise, the levers can cut a good boot, leaving the phone open to moisture damage.

If you've been losing the slotted screws that hold the connector together,

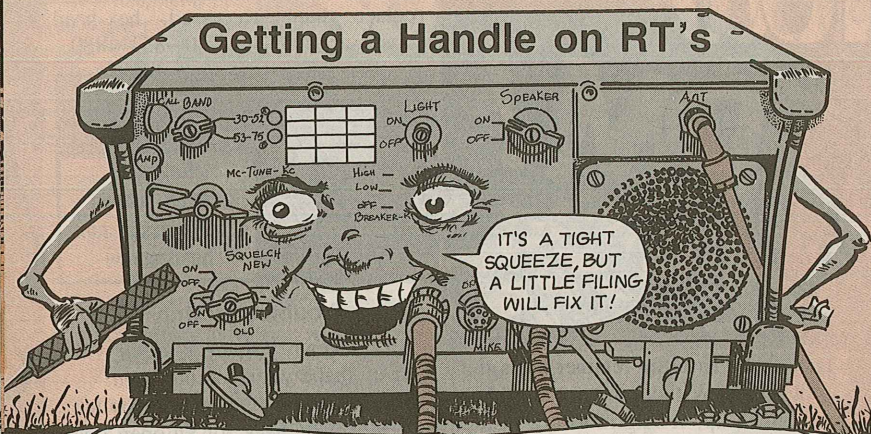
'Course, you can get that hard squeeze if you're trying to put together a hot loop, too. Better use a battery-powered phone for hot loops. The sound-powered set doesn't have the oomph.

Keep the words coming by letting up on the push-to-talk switch when you're ready to listen. You'll get only a faint sound from the other end if you hold the switch.

Finally, if you think your phone's dead, make a fast substitution before shipping the set to support. Could be just a bad earphone or microphone element.



## Getting a Handle on RT's



Dear Macon,  
**SMART Message No. 36** tells us to put **MWO handles** on all **RT-524** and **-246** receiver-transmitters, including the **A** models.

Trouble is, the **A** model with handles doesn't always fit in the **MT-1029** mount.

What gives?

SSG J. E. H.

Dear Sergeant J. E. H.,  
 No sweat, Sarge. Some handles were just-created a little more equal than others.

That is, some assemblies will overlap the side of the RT by a fraction of an inch.

A little filing or grinding (using tools from the No. 1 or 2 Common shop sets) cuts the handles down to size.

Macon

## Feed TT-76 from Top

The middle of a message is no time for maintenance.

Keep your teletypewriter's paper tape rolling by loading it so it feeds from the top of the reel.

If fed from the bottom, the tape can jam up on the tape-out alarm lever. It quits feeding and you quit punching or typing.

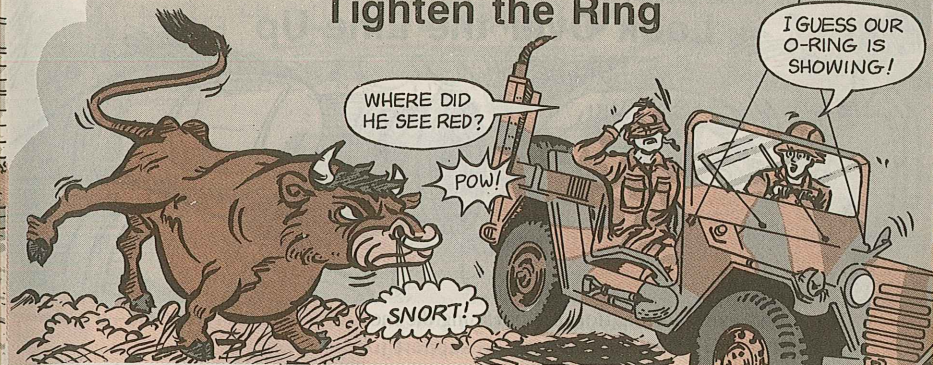
## AN/VRC-12 Alinement

TM 11-5820-401-20-1 and -2 left out an item in their PMCS tables. Make a note that once a year, or when you first put the radio into service, you must send the receiver-transmitter or aux receiver to DS for alinement.

That info will be added to both pubs.

AS-1729 Antenna . . .

## Tighten the Ring



When the threaded ring inside your antenna's AS-1730 element comes loose, you could be a 3-time loser.

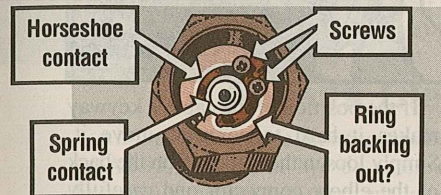
First, you lose contact. The ring can back out far enough to keep the element's spring contact from mating with the MX-6707 matching unit's contact.

Second, you can lose a matching unit. If the ring comes out too far, it lets the

Even normal vibration can shake it loose.

Operators should eyeball the antenna daily. Look for tell-tale red between the antenna element and the matching unit. That's the O-ring. Most are red.

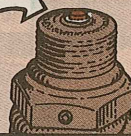
If you can see it, it means the threaded ring has already come loose and is



horseshoe contact screws rub on the matching unit insulator.

Once the metal coating is gone from

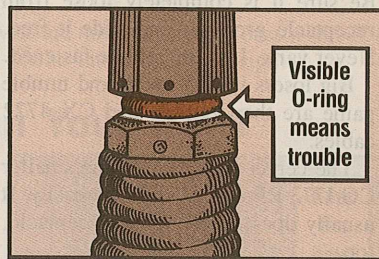
Scratched insulator KO's matching unit!



that insulator, RF power is reflected to the receiver-transmitter.

You lose again.

The solution? Keep the ring snug.



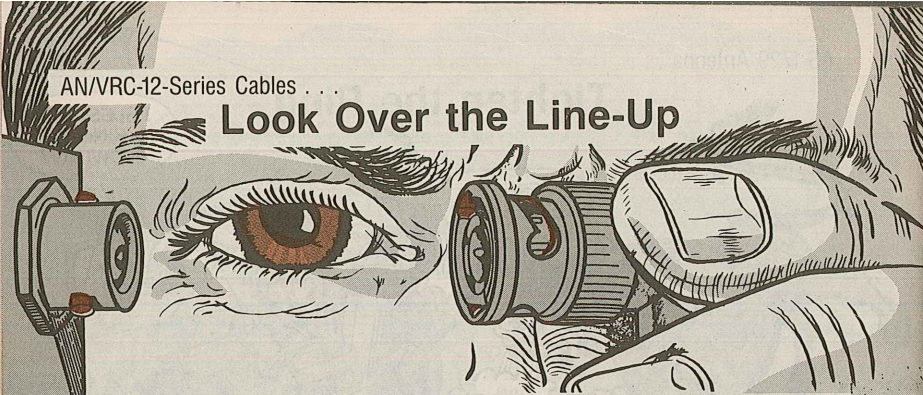
keeping the 2 contacts from mating.

Org shops should check the ring during its quarterly PMCS.

In either case, if the ring's loose, tighten it up. A needlenose pliers, spanner wrench or screwdriver will do the job.

Avoid shortcuts like just overtightening the AS-1730 on the matching unit. That adds to the grinding on the insulator. It can also break the horseshoe contacts.

## Look Over the Line-Up



Hand and eye coordination is your best defense against cable mayhem.

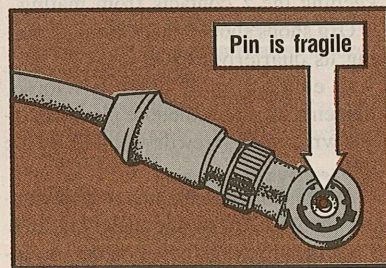
Without it, you can tear up receiver-transmitter receptacles or cable pins. Either way, you've KO'd your commo.

Use your eyes to line the key with its keyway. Use your hand to feel for a smooth matchup and turn the connector clockwise until it locks into place.

Same goes for removing the cable. Be sure it is completely loose from receptacle grooves, and slide it free. Never yank. It might still be fastened.

Big losers in this rough and tumble game are the CG-1773 and CX-4722 cables.

The center male pin on the smaller CG-1773 RF cable can break easily. It usually does so inside the receptacle, too.

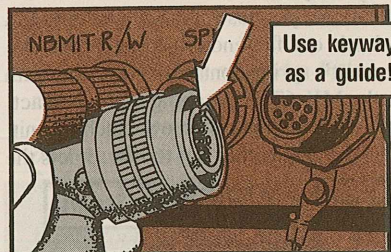


Pin is fragile

Yank it from the receptacle and you break the small key. That means replac-

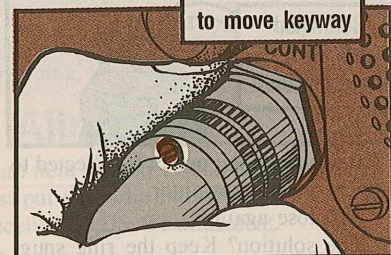
ing the module behind the receptacle—a support job.

Line up the key and keyway on the larger antenna control cable, too. Force it on and you mangle some pins.



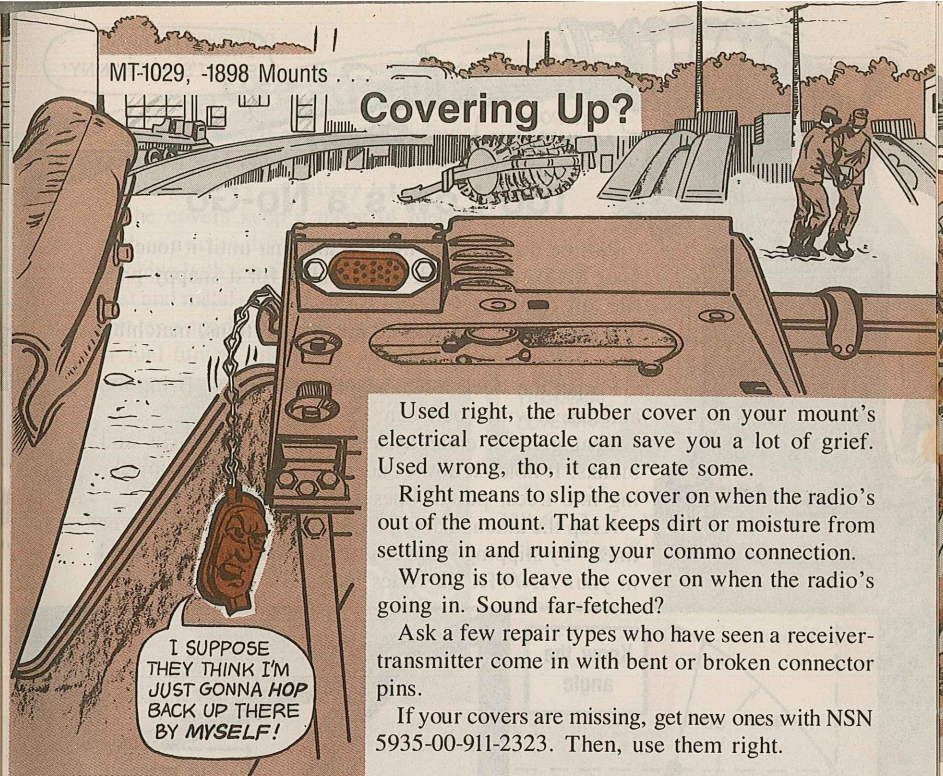
Use keyway as a guide!

If the position of the cable's keyway makes it hard to connect, move it. Simply loosen the 3 screws on the back of the elbow connector and carefully rotate the keyway where you want it. Then tighten the screws to hold the new alignment.



Loosen screws to move keyway

## Covering Up?



Used right, the rubber cover on your mount's electrical receptacle can save you a lot of grief. Used wrong, tho, it can create some.

Right means to slip the cover on when the radio's out of the mount. That keeps dirt or moisture from settling in and ruining your commo connection.

Wrong is to leave the cover on when the radio's going in. Sound far-fetched?

Ask a few repair types who have seen a receiver-transmitter come in with bent or broken connector pins.

If your covers are missing, get new ones with NSN 5935-00-911-2323. Then, use them right.

## Always Clean Your Bowl

All it takes is a little moisture inside an AB-15, AB-652 or MP-68 antenna base insulator bowl to wipe out your commo.

Wipe the wet stuff out first.

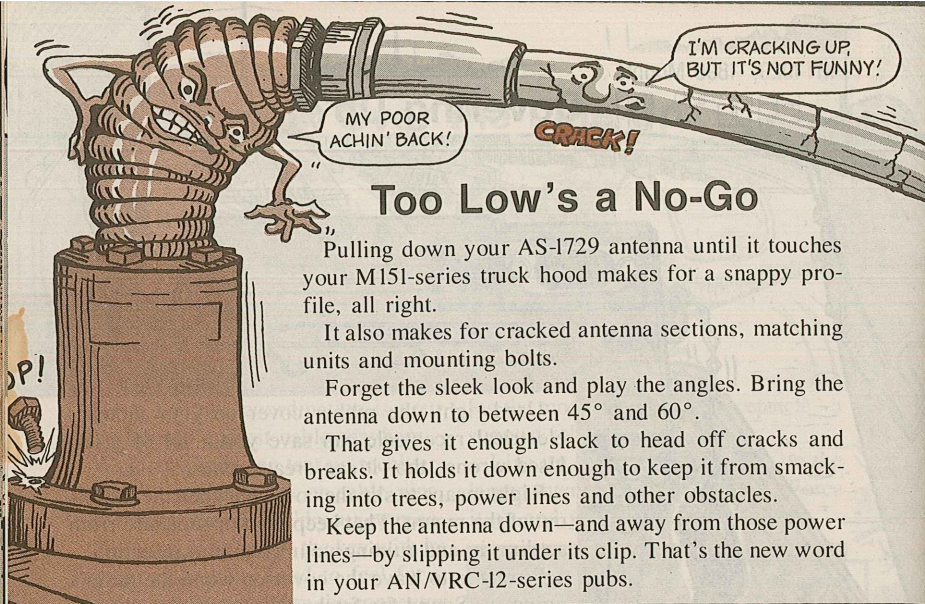
The bowl often sits on your vehicle or on an antenna mast day in and day out, rain and shine. Keeping it dry means checking it often.

You can usually see the crack that lets in a flood of water. Get the bowl replaced when you do.

Never forget that condensation can form even in a good bowl. So, you have to take it apart and clean it now and then.



Keep the bowl dry



## Too Low's a No-Go

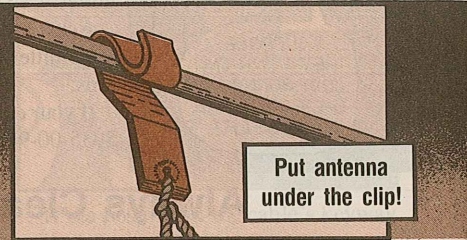
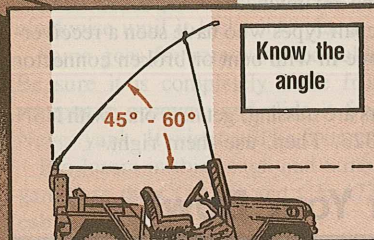
Pulling down your AS-1729 antenna until it touches your M151-series truck hood makes for a snappy profile, all right.

It also makes for cracked antenna sections, matching units and mounting bolts.

Forget the sleek look and play the angles. Bring the antenna down to between 45° and 60°.

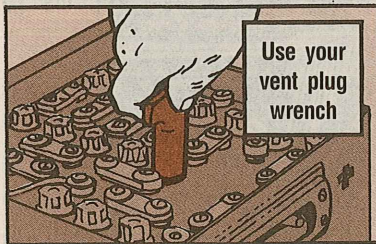
That gives it enough slack to head off cracks and breaks. It holds it down enough to keep it from smack-ing into trees, power lines and other obstacles.

Keep the antenna down—and away from those power lines—by slipping it under its clip. That's the new word in your AN/VRC-12-series pubs.



## Order Right Wrench

We goofed! The stock number for the BB-433/A battery vent plug wrench on



Page 37 in PS 374 is wrong. Instead, use NSN 5120-00-618-5305.

## Angle Brace NSN

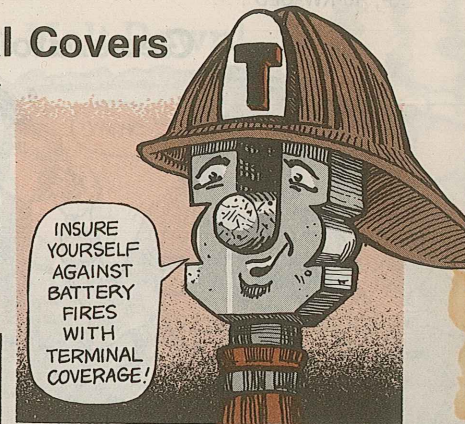
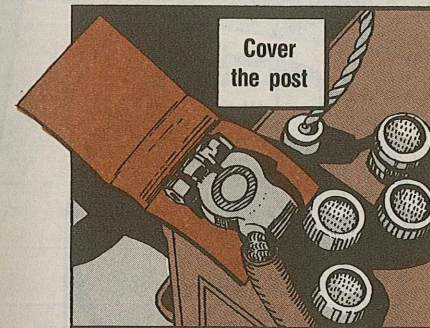
The MK-1234 installation kit's angle brace is NSN 5820-01-102-5791. It's Item 3, Fig B-1, TM 11-2300-351-14&P-22. Item 11 also has a new number. It's NSN 5340-01-163-0916.

For Fire Prevention . . .

## Use Terminal Covers

Protect yourself and your vehicle or generator set from short circuits or fires by using covers on battery terminals.

The covers keep a piece of metal, such as a screwdriver or wrench, from touching both terminals—or the positive post and metal—at the same time. That creates a spark. Add the spark to fuel, or fuel fumes, and fire is likely.



The rubber covers, NSN 5940-00-738-6272, fit all standard military batteries. They fit some other batteries, too.

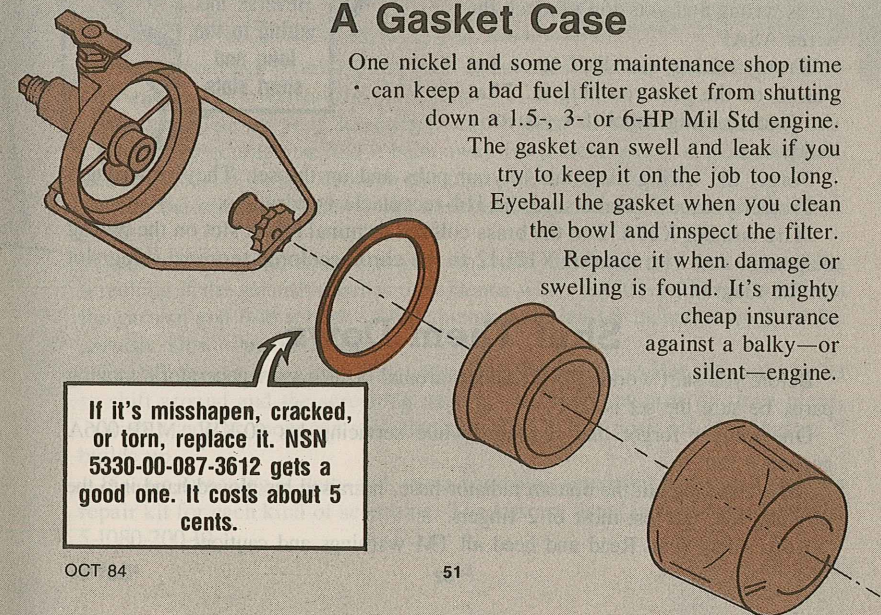
The covers will be added to your 5 and 10-KW diesel and 3, 5 and 10-KW gas generator set TM's.

## A Gasket Case

One nickel and some org maintenance shop time can keep a bad fuel filter gasket from shutting down a 1.5-, 3- or 6-HP Mil Std engine.

The gasket can swell and leak if you try to keep it on the job too long. Eyeball the gasket when you clean the bowl and inspect the filter.

Replace it when damage or swelling is found. It's mighty cheap insurance against a balky—or silent—engine.



## Generator Hot Wired?



The convenience receptacle on your MEP-002A or -003A is probably miswired.

Shocking? It sure could be if the wiring is wrong and you don't switch the wires ASAP.

Wrong wiring can lead to a hot chassis on the gear you plug in. That can lead to a big shock for you or a buddy.

Forget the wiring diagrams in your pubs and on the set. They're wrong. Protect yourself. Make sure the J14-receptacle is wired so:

Wire number X21A12 to the brass colored terminal (short slot on the wiring diagram); and wire number X12L12 to the chromecolored terminal (long slot on the diagram).

## Shut Them Down

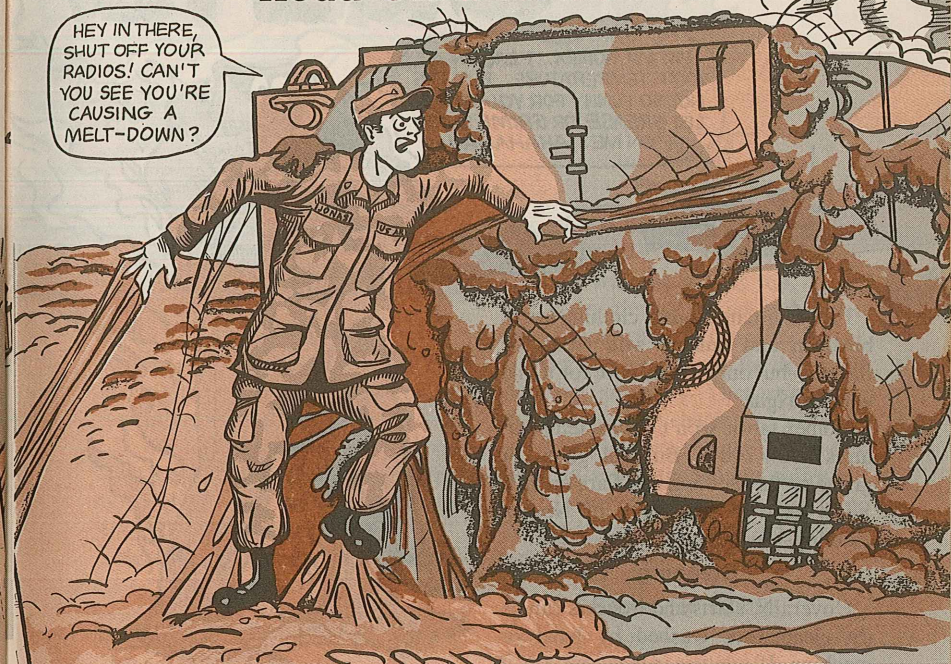
Before you start working over, under, around or near your generator's moving parts, be sure the set is OFF.

One trooper forgot that recently, while servicing his 60-KW, MEP-006A generator set.

After checking out the bottom radiator hose, he raised his gloved hand into the spinning fan. He lost most of 2 fingers.

Keep safety first. Read and heed all TM warnings and cautions.

## Head Off a Melt-Down!



Your camouflage screening can melt or burn if it touches hot surfaces. Even your radios can overheat the screening.

When you set up your screening, keep it clear of vehicle exhausts.

Cut the screening and fold it back away from stove pipes or exhaust pipes. Leave at least 8 inches between the pipe and the screening.

Keep the screening clear of the backblast area when you camouflage your artillery.

Your radio puts out a lot of power—so much that it can melt radar scattering screening if the garnish touches the antenna when you transmit. Cut a hole in the garnish and fold it back so the antenna is at least 8 inches away from the garnish. Don't cut the netting!

Eyeball the screening every hour or so. Support poles can sink into soft ground or shift around and the screening ends up touching antennas or stove pipes.

High winds or snow can shift the screening, too. Knock off snow before it builds up.

If your screening is damaged, use a screening repair kit to fix it. There's a repair kit for each kind of screening. The kits are listed in Appendix B of TM 5-1080-200-10.

# Give It Fair Wear and Care

I'M MR. NOMEX... I LAUGH AT 700°F TEMPERATURE... BUT IT'S NOT SO FUNNY FOR YOU IF YOU LET GREASE OR GRIME BUILD UP ON ME... AHAHAHAHA!



Fire-retardant Nomex clothing keeps birdmen and tankers safe from the flames—but only if they care for it and wear it right.

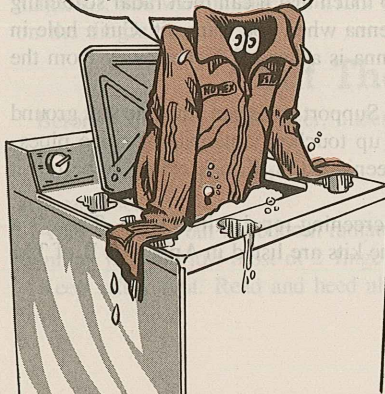
Nomex fabric won't burn at temperatures below 700°F. But fuel, grease or grime on the clothing will flare up fast.

It's easy to take care of Nomex clothing—so it'll take care of you.

## Cleaning

Coveralls, shirts and trousers can be dry-cleaned or washed by hand or machine. If you use a machine, set it on the wash-and-wear cycle for a warm wash and cold rinse. Don't use bleach or starch.

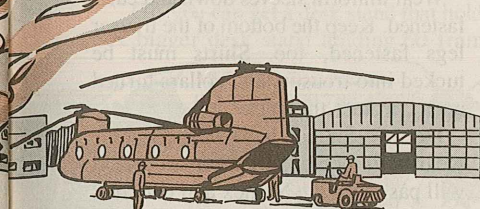
WASH BY HAND OR BY MACHINE OR EVEN DRY CLEAN, BUT MAKE SURE TO GET RID OF THE GRIME, 'CAUSE IT'S WHAT BURNS!



Before washing, turn the pockets inside out and brush them off. Close the zippers and hook-and-pile fasteners to protect them from damage. Static electricity can be dangerous during refueling. So to help stop static add a fabric softener in the rinse cycle or toss an antistatic softener sheet into the dryer.

You can hang the uniforms on hangers to drip-dry or use a regular clothes dryer set on low heat—temperatures up to 180°F. To have fewer wrinkles, hang up the garments as soon as they come out of the dryer.

If you iron Nomex, keep the hot iron away from the plastic hook-and-pile fasteners—they'll melt.



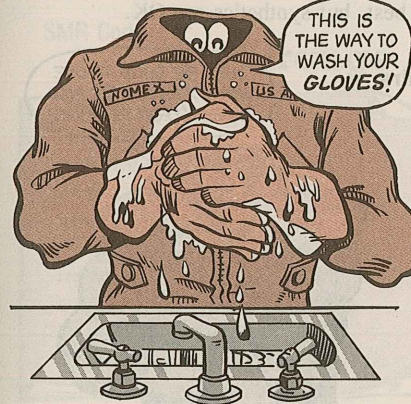
Never starch Nomex clothing—either during the wash or while ironing. Starch burns—and so will you.

If the uniform has been starched, wash it again in warm water and rinse thoroughly. That will restore the Nomex's fire retardance.

Here's a tip for new Nomex clothing—run it thru a wash and dry before wearing it. That'll soften the fabric and do away with possible skin irritation.

Hand-launder gloves by putting them on and washing with soap and warm water as if you were washing your hands. Rinse with more warm water,

THIS IS THE WAY TO WASH YOUR GLOVES!



then remove the gloves and squeeze the water out. Don't wring or twist. Machine washing is OK, too.

Drip-dry gloves—but not in the direct sun—or you can roll them in a towel. You can also toss them in the dryer with the other garments. Then stretch the gloves back into shape.

Use saddle soap, NSN 7930-00-170-5467, to soften the leather palms.

Dry cleaning is the only way to go for the lightweight and cold-weather jackets and hood.

## Steps for Static

Even if you use a fabric softener on your Nomex clothing, it pays to be extra careful to avoid static electricity when refueling an aircraft or tracked vehicle. A static spark can cause a fire fast!

Properly ground or bond the equipment. And take care not to spill fuel on yourself.

If you do get fuel on your uniform, move slowly at least 50 feet away from any refueling operation. Before taking off any garment, wet it down with water. If water's not available, grab hold of some grounded, bare metal for a few seconds. That'll take care of static buildup.

Then remove your clothes—slowly!

Launder the Nomex as soon as you can after a fuel spill—the uniform will be as good as new.



### Wear Them Right

Even spanking-clean Nomex clothing won't protect parts of your body not properly covered.

Wear uniform sleeves down and cuffs fastened. Keep the bottom of the trouser legs fastened, too. Shirts must be tucked into trousers and collars turned up to protect the neck.

Don't wear synthetic-fabric underwear with Nomex. In a hot spot, heat will pass thru the Nomex and can melt the synthetics—right onto your skin. So stick to all-natural fabrics, like cotton, under the uniform.

Gloves can protect your hands only when you have them on. Properly fitted gloves will let you operate all equipment and controls.

Close zippers all the way. And make sure Nomex covers zippers on both the outer and inner sides of the garment. That'll help keep the metal from getting hot.

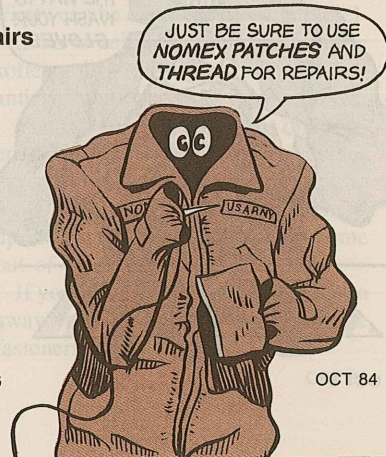
Your commander determines what patches, name tags, insignia or rank you can wear. Don't use metal pin-ons—they'll heat up. Natural fabrics are best, but synthetics are OK.

### Repairs

If a Nomex garment gets torn, don't toss it. You can replace buttons; re-sew or patch rips and tears up to 4 inches and loose seams; re-sew torn-out buttonholes and zippers; and attach belt loops.

Patches must be of Nomex fabric, NSN 8305-00-406-7449. Use Nomex thread, NSN 8310-00-405-2252.

For bigger repairs, turn in the uniform to Direct Support.



## Treat Your Fiche with T-L-C

If you are into microfiche in a big way, you need a big fiche holder. You can get a rotary stand that holds 50 housing frames with NSN 7460-01-071-3680. The frames come separately.

Or, you can get a desk stand that holds 30 frames with NSN 7460-01-034-0399. A bigger desk stand holding 60 frames is NSN 7460-01-038-5759.



NSN	Fiche per frame	Price	SOS
7460-01-049-6381*	34	\$3.65	JGG
7460-01-055-2272	38	\$3.86	G O
7460-01-081-5729*	58	\$5.17	JGS

If you have fewer fiche to keep track of, get an 8-frame letter-size easel binder, NSN 7510-01-045-4977. Use either frame NSN 7460-01-074-0663 (32 fiche) or NSN 7460-01-040-5785 (52 fiche).

Get a 6- by 9-in mini binder that holds 4 or 5 frames with NSN 7510-01-048-8593. A 10-fiche frame is NSN 7460-01-045-4958.\* The frame costs \$1.45, and the SOS is JGS.

\*These frames are not on the AMDF. Order them on a DD Form 1348-6. Your authority to order any of these is Appendix A of CTA 50-970.

SMR Codes . . .

### Strange Characters

*Dear Half-Mast,  
Recently I discovered some strange Source, Maintenance and Recoverability codes. They have six characters, as opposed to the usual five characters. What gives?  
SFC S. D.*

*Dear Sergeant S. D.,  
Ignore that sixth character in your SMR codes. It deals with demilitarization, and is not supposed to appear in parts pubs.  
Half-Mast*

Long Delay on Item?...

# Seek A Substitute!

...IT'S THE BOTTOM OF THE NINTH AND BRUISER BOZYSKI HAS JUST BROKEN HIS FAVORITE BAT...

VISITORS 011010001  
ARMY 002010001

C'MON, YOU CAN'T DELAY THE GAME ANY LONGER!

BUT COACH, I CAN'T USE JUST ANY OLD BAT, I NEED ONE JUST LIKE THIS ONE!

I GUESS I'LL HAVE TO CHECK OUT THE I&S FILE AND FIND YOU A CLOSE SUBSTITUTE!

A FEW MINUTES LATER...

THIS IS JUST TOO CONFUSING-I'LL NEVER FIND A SUBSTITUTE...

...AND TIME IS RUNNIN' OUT!

MAYBE I CAN GIVE YOU SOME I&S BATTING TIPS!

GEE THANKS, CONNIE, I THOUGHT WE WERE GOING TO HAVE TO FORFEIT!

THE FILE IS DIVIDED INTO 2 PARTS—AN INDEX AND A GROUP FILE. THE INDEX WILL GET YOU STARTED IN YOUR SEARCH FOR AN ITEM YOU CAN USE. HERE'S HOW IT WORKS!

## I&S INDEX FILE

DESCRIBED NSN/MCN/ACVC	PREFERRED NSN/MCN/ACVC
2540002746693	2540008889744
3441002746696	3441002238330
3441002746696	3441002238330
<b>4110002746718</b>	<b>4110002746718</b>
<b>4110002746718</b>	<b>4110002746718</b>
<b>4110002746718</b>	<b>4110002746718</b>
3950002746735	3950002354237
4010002746815	4010002732904
4010002746825	4010002858157

Don't let maintenance grind to a halt if a status card tells you you can't get an item—or says there'll be a long wait.

Seek out a replacement on the Interchangeability and Substitute (I&S) microfiche. The I&S fiche is furnished each month with your Army Master Data File (AMDF).

The I&S file doesn't list major end items. But it does carry a lot of items that pinch-hit for one another.

- Write down the NSN for the item you tried to order.
- Find the Index page that has the NSN.
- Find your NSN in the Described NSN column. That's the first column to your left on each half of the frame. Write down the NSN listed in the Preferred NSN column, the next one over. Ignore the Related NSN column—you won't need that info for what we're going to do.

The Preferred NSN may or may not be the same as the one you tried to order, and it might not be an item you can use. But, you'll need it to get into the I&S Group File.

# I&S GROUP FILE

READING FROM LEFT TO RIGHT, HERE ARE WHAT THE ENTRIES MEAN!



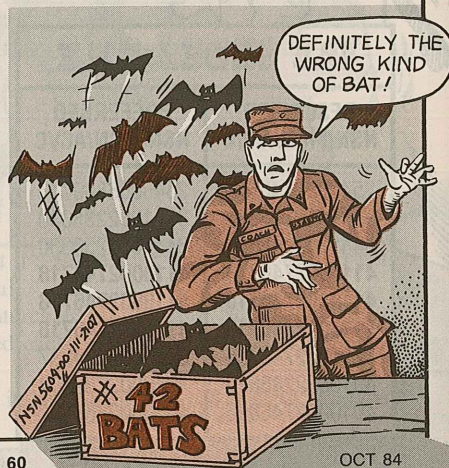
Preferred Stock Number	Nomenclature	S G	S C	Described NSN	Order of 1st	Use 2nd
4110-00-274-6718	CT Refrigerator Unit	A	A	4110-01-010-5970	AA	AB
		A	B	4110-01-074-5175	AA	AC
		A	C	4110-01-120-4604	AA	AD
		A	D	4110-00-274-6718	AA	

- Preferred NSN—the number you got from the Index File.
- Nomenclature—the name of the items in the group.
- SG—Sub-Group—These letters tell you how the items in each group relate to each other. Items with the same SG letter are interchangeable—that is, almost identical—but you request them in a certain order. Items that have different letters in the SG column are substitutes. That means they're not quite the same, but you may be able to use the substitute item instead of the one you tried to order.
- SC—Sequence Code—The letters in this column tell you in what order to request items that are in the same Sub-Group. For example, if you have 2 NSN's in SG A, order an item with a Sequence Code of A before one with a code of B.

Watch It! If the SC column has a number, you can't use the item as a swap for what you tried to order.

- Described NSN—This column lists NSN's you might be able to use.
- 1st and 2nd Order of Use columns—These help you sort out the described NSN's. The 2-letter codes are made up of letters in the SG and SC columns.

Note: If the preferred NSN isn't in the Group File, that means the NSN isn't good on the AMDF. It was left in the Index File for accounting info.



Preferred Stock Number	Nomenclature	S G	S C	Described NSN	Order of 1st	Use 2nd
4110-00-274-6718	CT Refrigerator Unit	A	A	4110-01-010-5970	AA	AB
		A	B	4110-01-074-5175	AA	AC
		A	C	4110-01-120-4604	AA	AD
		A	D	4110-00-274-6718	AA	



- 1 Look for your back-ordered NSN in the Described NSN column.
- 2 Notice the AA in the 1st Order of Use column.
- 3 Look for those letters in the SG-SC columns.

4 The described NSN to the right of those letters is the first-priority sub. Look it up in the AMDF.

5 If it's not active—or if its Acquisition Advice Code says it's not stocked—go back to it in the Described NSN column and note the AB code in the 2nd Order of Use column.

6 Look for AB in the SG-SC columns and check the AMDF for the described NSN to the right.

**Keep going 'til you strike pay dirt on the AMDF.**



NO LUCK FINDING AN INTERCHANGEABLE ITEM? HERE'S HOW TO FIND A SUBSTITUTE — A SIMILAR ITEM THAT MIGHT WORK!

- 1 Find your NSN in the Described NSN column.
- 2 Skip to the 2nd Order of Use column (the 1st column repeats the SG-SC codes for the number) and note that 2-letter code.

3 Look for those letters in the SG-SC columns and check out that NSN on the AMDF.

4 If it's not available, go to its 2nd Order of Use code, and so on until you get a good number. Keep it up until you strike paydirt on the AMDF.

Preferred Stock Number	Nomenclature	S G	S C	Described NSN	Order of 1st	Use 2nd
4935-00-083-8269	Oscillator Radio	A	A	4935-00-083-8269	AA	BA
		B	A	4935-00-08-8404	BA	CA
		C	A	4935-00-084-8406	CA	DA
		D	A	4935-00-084-8403	DA	



Even if there are several Sub-Group codes and Sequence Codes for a Preferred NSN, the system for finding a sub is the same.

When you find an NSN that's good on the AMDF, hold one before you order it—it might be on hand in the stockroom. No? Then whip out a request form.

Whether you have the similar item in stock or you order it, be sure to cancel your first request.

Want more info? The Code Reference Guide for the ARMS Monthly AMDF File, USACD Pamphlet 18-1, has the details.

If the I&S file doesn't come thru with a good substitute NSN—or if you can't come up at all with a number for a part you need — there's one more door. Try MIRAC.

That's the Management Information Research Assistance Center at New Cumberland Army Depot, PA. MIRAC provides answers to questions and problems posed by units and activities around the world. The phone number is AUTOVON 977-7431 or commercial (714) 782-7431. Or you can write to:

**USA Catalog Data Activity  
ATTN: DRXCA-A  
New Cumberland Army Depot  
New Cumberland, PA 17070**



**AND THE REST IS HISTORY**



## STP's: The Trainer's Edge

Get set for a new look in the world of training pubs. STP's—Soldier Training Publications—to support different MOS's are on their way for soldiers, their trainers and first-line supervisors.

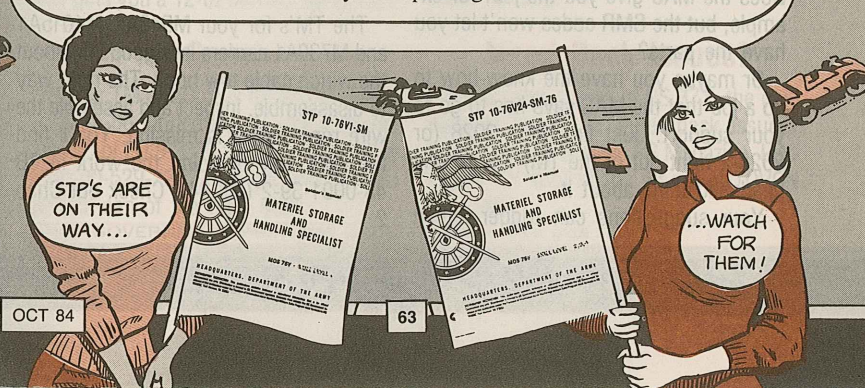
This new type of pub will include soldier's manuals (SM's), trainer's guides (TG's), and job books (JB's). All 3 types of publications have been around for years. SM's and TG's were printed as field manuals (FM's), the JB's as training circulars (TC's). Those pubs are now being updated and republished as STP's. They'll be a lot easier to find in DA Pam 310-1, since they'll have a category all their own.

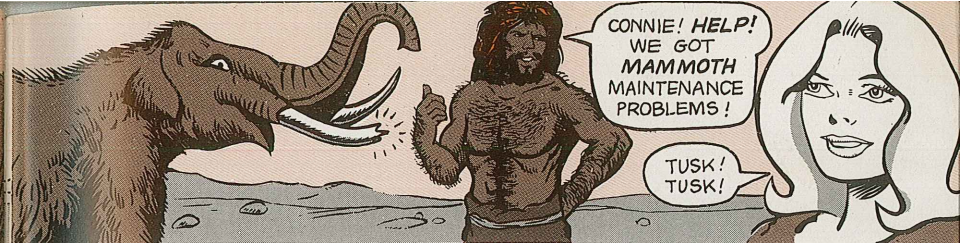
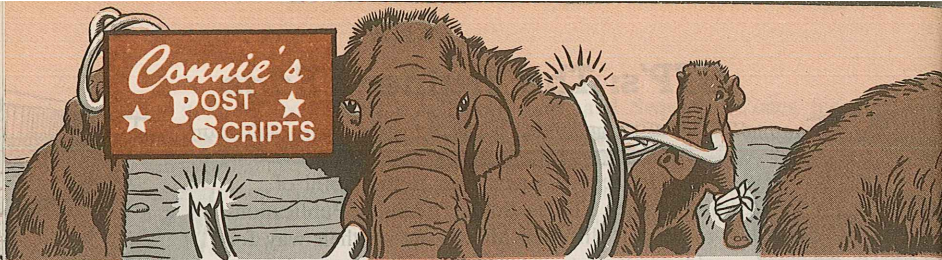
The purpose of the STP's won't change, but the numbering system will. You'll find the pubs you need by the basic series number of the STP and the number of your MOS or Career Management Field. DA Cir 310-84-1 has the details.

Here's how the number would look for a Soldiers Manual for MOS 27F, skill levels 1-3:

Publication (Media)	Basic Series (No. from AR 310-2)	Subnumber (MOS & Skill Level)	Content (SM, TG, or JB)
STP	9	27F13	SM

SM's, TG's, and JB's already in print in the old formats will be superseded by the STP's. The first STP's are already in print, but it'll take about three years to get them all overhauled. DA Pam 310-1 will list FM's and TC's in the SM, TG, and JB formats until they're superseded. STP's will be distributed automatically, the same as the pubs they're replacing.





## DA Form 2028 Has Clout!

The DA Form 2028 is widely used for submitting recommended changes to the content and format of publications. It's a valuable tool for keeping the publications on the straight and narrow.

But the form can be used for much more than that! You can use it to make suggestions and recommend changes to the concepts and policies reflected in the publication!

With a 2028, you can transmit your ideas, experiences and suggestions right to the people who prepare the AR's, TM's, FM's, TB's and other publications. Feel free to tell them not only about their words, but their music as well. The Army needs all the fresh ideas and points of view it can get, so don't be shy about giving the policy makers the benefit of your thinking and experience.

Take the Maintenance Allocation Charts and SMR codes in the TM's, for example. Do the MAC's reflect the real world? Does the MAC give you the job, for example, but the SMR codes won't let you have the parts?

Or maybe you have the know-how to do a job that the MAC says has to go to your support. Just fire off a 2028 (or 2028-2 right out of the TM) and let the headshed think about it.

Your suggestions can trigger action

that'll be of real value to you and the Army.

## M16A1 NSN Changes

The NSN's for the carrying case and the M3 bipod on Page 4-14 of TM 9-1005-249-24&P are reversed. They should read: Carrying Case, NSN 1005-00-999-2430, and M3 Bipod, NSN 1005-00-992-6676.

## Don't Clean Cleaner!

Forget about cleaning steam cleaner heating coils as outlined on Pages 56-57 of PS 380.

The Office of the Surgeon General says mixing formaldehyde and hydrochloric acid produces a carcinogen... a substance that could cause cancer. The experts are working on a safer way to de-lime the coil. AMCCOM Safety of Use Message DRSMC-MAT 262000 Jul 84 has the word.

## Wire Rope Socket Installation

The TM's for your M548A1, M1015A1 and M730A1 carriers lack good info about the winch cable tow hook. The right way to disassemble, inspect and assemble the wire rope socket is missing. You'll find the right way of doing the work in TB 43-0001-39-2 (Jul 84). Check out Chap 2.

## Revised TM 750-116 Available

The revised TM 750-116, General Purg-ing and Charging Procedures for Fire Control Materiel, is now available.

New material in the TM includes information on the M1 and M60A3 tanks, the M198 towed howitzer, and the M139/M140 alignment devices and M26 muzzle boresight.

Also new is TM 9-254, General Maintenance Procedures for Fire Control Materiel. It's been expanded into a basic reference manual with many handy conversion tables and maintenance procedures.

Have your pubs clerk order them thru the US Army AG Publications Center, 2800 Eastern Blvd, Baltimore, MD 21220.

## Penetrating Fluid

To get penetrating fluid to loosen those rusted, corroded, stubborn nuts and bolts, use NSN 6850-00-973-9091. That NSN gets you a 12-oz aerosol spray can.

## NSN for Special Lube

If your TM or LO calls for WD 40 brand or CRC5-56 lubricating oil—for example Note 20 of LO 9-2320-273-12—order NSN 9150-00-529-7222. It'll get you a 12-oz aerosol can of the right stuff.

\* U.S. GOVERNMENT PRINTING OFFICE: 1984—759-008/11

## Wrecker Towing Limits

Towing limits for 5-ton wreckers—M543A2, M816 and M936—are spelled out in TACOM Msg DRCPM-TV-S 231020Z Jul 84. Three categories are covered:

—Pintle towing (all wheels of disabled vehicle on ground)

—Lift and tow without payload on disabled vehicle

—Lift and tow with payload on disabled vehicle

If you didn't get the info, get in touch with your local Tank-Automotive Command Logistic Assistance Representative at your local Logistic Assistance Office.

## 2 1/2-Ton Brake Lockup?

Brake lockup on your 2 1/2-ton truck may be caused by the vent system breather valve. This is the vent system covered in PS 364, Page 18, and also in TB 43-0001-39-4 (Jan 83), Page 2-72. To be on the safe side, operate without the breather valve except when you're deep water fording.

## Need Back Issues?

Need extra copies of PS 371, the cold weather issue? Or other back issues? Drop a note to Bonnie, PS Magazine, Lexington, KY 40511-5101. Or call AUTOVON 745-3367.

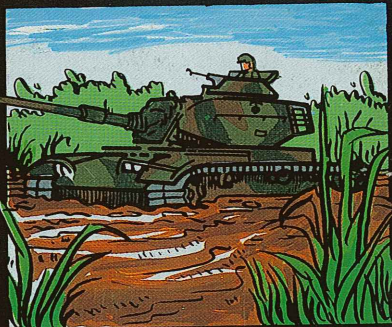
Would You Stake Your Life *right now* on

the Condition of Your Equipment?



SERVICE INTERVALS  
IN YOUR LO ARE FOR  
**NORMAL**  
CONDITIONS!

But  
unusual  
conditions  
like these . . .



. . . call for more frequent  
**Lubing, Cleaning and Care.**  
See your LO for the word