


Issue 380

PS

July 1984

# THE PREVENTIVE MAINTENANCE MONTHLY



YOU MEAN  
THAT STE/ICE  
CAN DO ALL  
THAT!

YES, BUT NOT  
WHILE IT'S ON  
THE SHELF!

**STE / ICE**

It's user friendly!  
Give it a try!



# LAO's The Way to Go!

When you hit a dead end on a maintenance or supply problem, help could be as close as your phone.

Your local Logistic Assistance Office (LAO) of the US Army Materiel Development and Readiness Command is staffed with Logistic Assistance Representatives (LAR's) who can help you solve most maintenance or supply problems.

These LAR's are on-site expert troubleshooters for the equipment managers.

They can help solve maintenance and supply problems, and provide on-the-job training on a host of subjects.

CONUS	COMMER-CIAL	AUTO-VON	EXTENSION
Ft Benning	(404) 545	835	4185/4115
Ft Bliss	(915) 568	978	1832/1932
Ft Bragg	(919) 396	236	5188/5509
Ft Campbell	(502) 798	635	4510/6929
Ft Carson	(303) 579	691	2291/4669
Ft Devens	(617) 796	256	2509
Ft Dix	(609) 562	944	4865/6859
Ft Eustis	(804) 878	927	2206/5707
Ft Gordon	(404) 791	780	5360/5305
Ft Hood	(817) 287	737	6608/3103
Ft Huachuca	(602) 538	879	6328/6329
Ft Irwin	(619) 386	470	3755/3757
Ft Jackson	(803) 751	734	4316/6078
Ft Knox	(502) 624	464	2222/4955
Ft Leonard Wood	(314) 368	581	7312/7314
Ft Lewis	(206) 967	357	5593/3327/3308
Ft Ord	(408) 242	929	2304/3193
Ft Polk	(318) 537	863	2975
Ft Riley	(913) 239	856	4241
Ft Ritchie	(301) 879	277	5133
Ft Rucker	(205) 255	558	4694/3971
Ft Sill	(405) 351	639	2778/4961
Ft Stewart	(912) 767	870	4390/4910
FORSCOM	(404) 752	588	3423/2012
TRADOC	(804) 727	680	3637/3638
National Guard Bureau	(202) 694	224	2185

JUST CALL YOUR LOCAL LAO AT...

<b>ALASKA</b>	
Ft Richardson	863-7281
<b>KOREA</b>	
293-3873/6237 (AUTOVON)	
Camp Casey	299-3502/3943
Camp Walker	264-4392/4379
<b>PACIFIC</b>	
Ft Shafter	438-2715/9751
Schofield Barracks	455-9348/9458
Japan	635-2747/3292
<b>PANAMA</b>	
313-285-4153/4154	

If they don't have the answers at hand, they can get them for you. They have hotlines to the equipment engineers, depots and pubs people.

## USAREUR

Chief  
 Heidelberg Mil (2121) 8888/7355  
 V Corps  
 Frankfurt Mil (2311) 6306/8346  
 VII Corps  
 Nellingen Mil (2724) 6198/7152  
 32d AADCOM  
 Darmstadt Mil (2371) 8357/6550  
 1st Armored Div  
 Nuernberg Mil (2624) 633/805  
 2d Armored Div (FWD)  
 Garlstedt Mil (2445) 6445/6370  
 3d Armored Div  
 Drake Kaserne Mil (2314)  
 8204/7302  
 7th CATC  
 Vilseck Mil (2641) 876/865  
 3d Inf Div  
 Kitzingen Mil (2325) 715/785  
 8th Inf Div  
 Bad Kreuznach Mil (2255)  
 7226/6161  
 5th Signal CMD  
 Worms Mil (2421) 7800/7847  
 21st SUPCOM  
 Kaiserslautern Mil (2221)  
 8211/8123  
 200th TAMMC  
 Zweibruecken Mil (2281)  
 6016/6246  
 2d ACR  
 Nuernberg Mil (2625) 635/804  
 11th ACR  
 Fulda Mil (2364) 725/625



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 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.

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

MSG Half-Mast  
 PS Magazine  
 Lexington, KY  
 40511

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Dear Half-Mast,

I've seen 1/4-ton trucks with a cable-cutter mounted on the front. This is used to take out a wire that an enemy might stretch across the road—mighty bad medicine for personnel in the vehicle, especially if the windshield's turned down.

What's the authority for mounting a cable-cutter? Where do we get it?

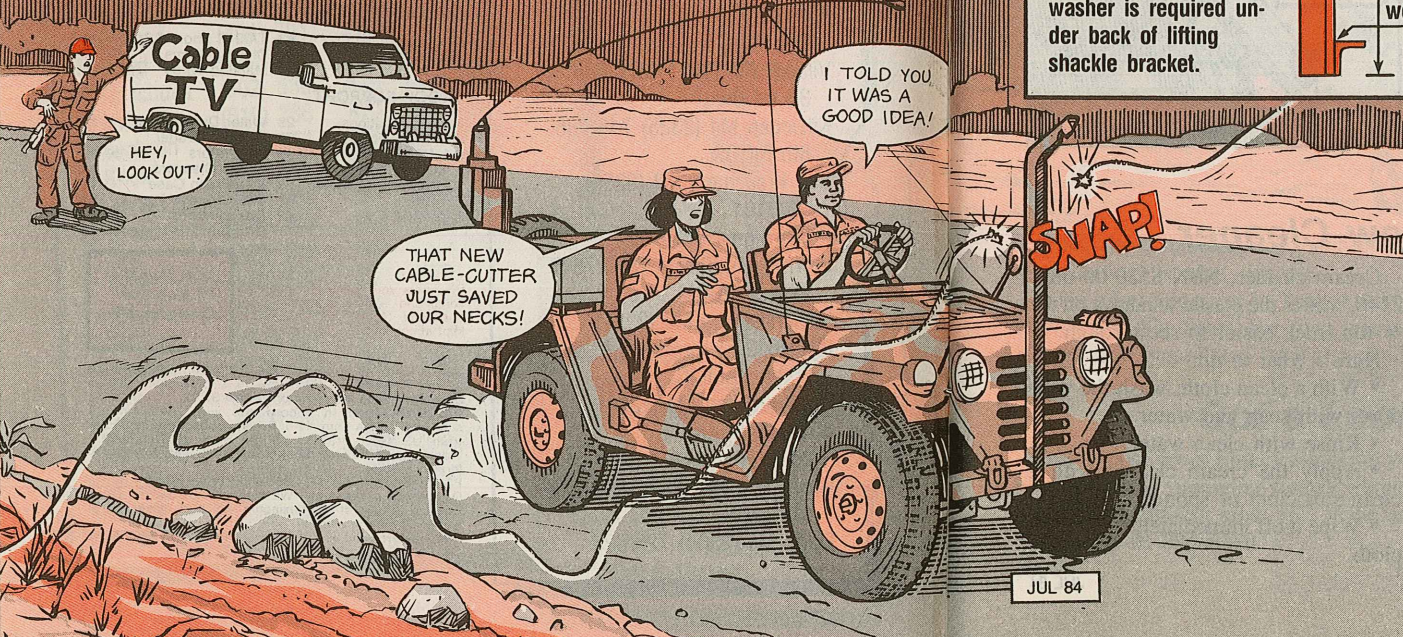
SFC G.V.

Dear Sergeant G.V.,

There's no DA authorization for such a device. Authorization is strictly up to your local command.

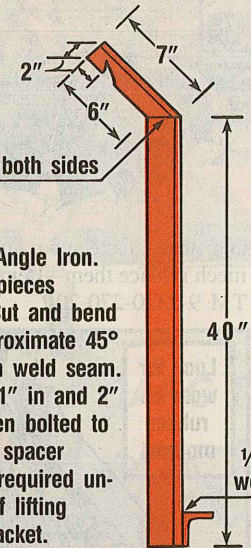
Also, there's no such ready-made cable-cutter in the supply system. You fabricate it any way you want to from whatever materials are readily available. However you do it, though, the vehicle must be restored to its original configuration before it's transferred or turned in.

# Head Saver



Here's the way it's done by the 598th Maint Co at Ft Benning. This cable-cutter mounts under the lifting shackle brackets so it's simple to install and remove.  
*Half-Mast*

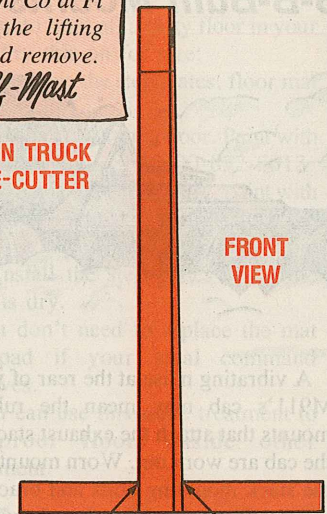
SIDE VIEW



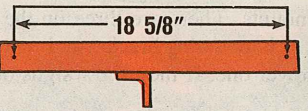
Stock: 2" Angle Iron. Weld two pieces together. Cut and bend for an approximate 45° angle, then weld seam. Cut notch 1" in and 2" down. When bolted to bumper, a spacer washer is required under back of lifting shackle bracket.

1/4-TON TRUCK CABLE-CUTTER

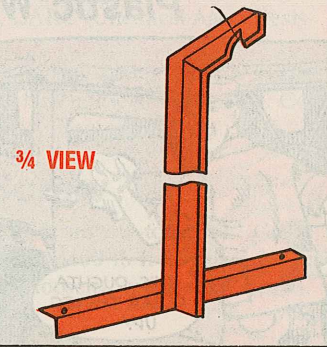
FRONT VIEW



Drill 1/2-in holes for line up with mounting holes for lifting shackle brackets.



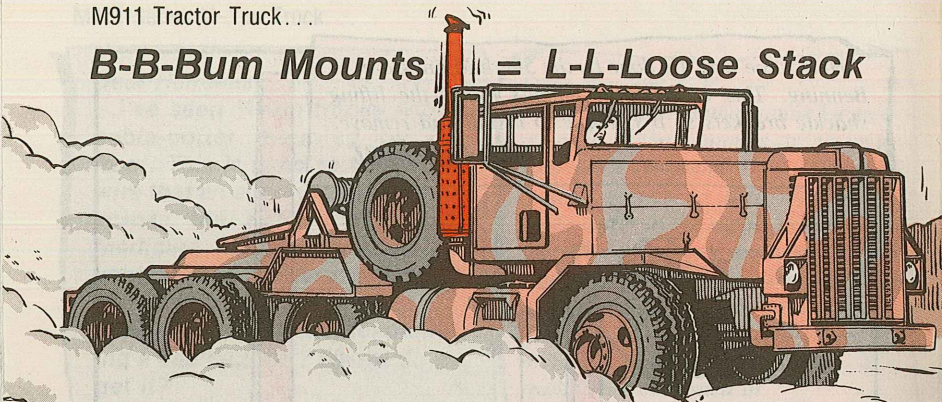
TOP VIEW



3/4 VIEW



## B-B-Bum Mounts = L-L-Loose Stack

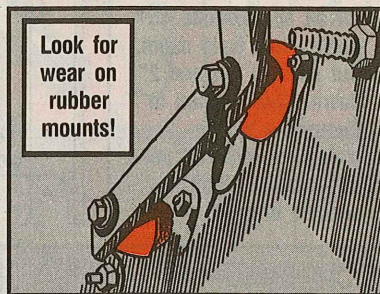


A vibrating noise at the rear of your M911's cab may mean the rubber mounts that attach the exhaust stack to the cab are worn out. Worn mounts let the stack mounting bolts and brackets loosen. The looser they get, the worse the vibration.

This vibration adds strain on the exhaust pipe and could even cause it to crack.

So keep an eye on those rubber mounts. There are three on the upper stack mounting bracket and two on the lower one. If they show signs of wear

and tear, have your organizational mech replace them—Item 6, Fig 13, in TM 9-2320-270-20P.



## Plastic Window Cleaner



Cream cleaner, NSN 8520-00-082-2146, makes the plastic windows on the 1/4-ton truck easier to see through.

Here's what to do:

- With a clean cloth, wash the windows with soap and water.
- Rinse with clean water.
- Apply the cream cleaner with a clean soft cloth or sponge.
- Wipe it off immediately with a dry cloth.

## Bust Rust



Want to head off a rusty floor in your cab? Try this on for size:

★ Remove the step plates, floor mat and pad.

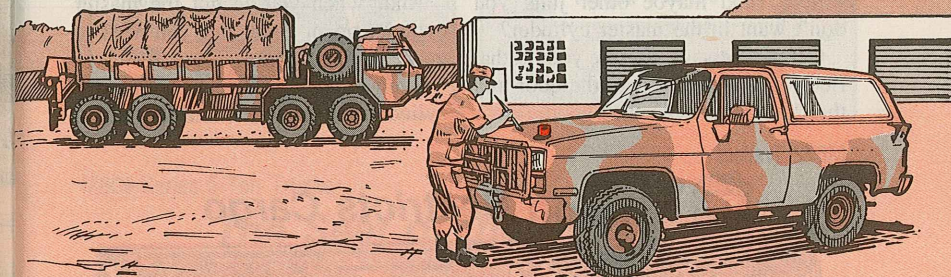
★ Clean and dry the floor. Paint with primer, NSN 8030-00-852-8013. Then, when the primer's dry, paint with olive drab non-skid walkway compound, NSN 5610-00-141-7838.

★ Install the step plates when the paint is dry.

You don't need to replace the mat and pad if your local command approves.

You can use this same treatment to skid-proof floors inside other equipment.

## Use CARC for Touch-Up



When these vehicles need touch-up painting, CARC (Chemical Agent Resistant Coating) is what you use.

NSN's for colors are in Tank-Automotive Command Letter DRSTA-MTC, (1 Nov 83). The letter also gives instructions on how to use CARC safely. Get a copy from your local LAR (Logistic Assistance Representative).

## Got a Loose Screw?

Got a loose front brake caliper on your M880-series 1/4-ton truck? Could be the housing mounting screws weren't torqued to 100 lb-ft as called for in TM 9-2320-266-20, table 1-2. If the caliper still loosens, replace the screws, NSN 5305-01-095-6140.

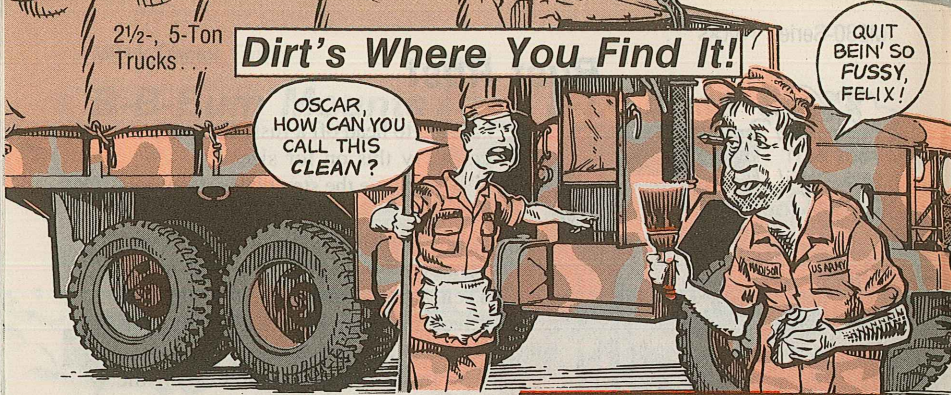


2½-, 5-Ton Trucks...

## Dirt's Where You Find It!

OSCAR, HOW CAN YOU CALL THIS CLEAN?

QUIT BEIN' SO FUSSY, FELIX!

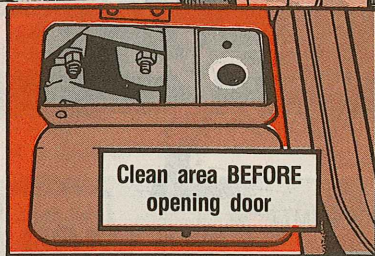


So you're fussy—like you should be—when you check the fluid level in your brake master cylinder. You clean the top of the cylinder carefully so dirt won't get in when you open it.

That's good!

But what about the floor—right above the master cylinder—where there's always lots of dirt...and maybe water...and maybe other junk you don't want in the master cylinder?

Get the message? Before you lift that floor access door, clean the door and the floor around it—real good.



And, when you've got the master cylinder open, cover it if you need to go get brake fluid.

Even a tiny bit of dirt in your master cylinder can lead to brake trouble!

M872 Trailers...



## Bent Restricts Cargo

You're flirting with trouble if containers aren't fastened down securely!

The flooring on some M872 semitrailers has bent bad enough so 35- and 40-ft containers won't sit flush. Worse, F pins that secure containers can't be installed right—you could lose your load!

Check your trailer. If there's an obvious bend toward the front of the bed, report it. More important, if you can't secure 35- and 40-ft containers, don't haul them. There's no problem with other cargo, like 20-ft containers, as long as the F pins are locked in place.

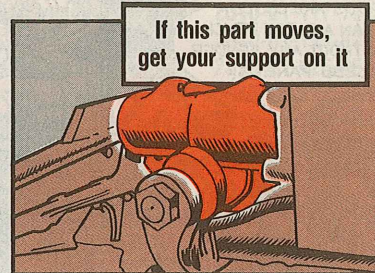
TACOM Msg DRSTA-MVA 111530Z Oct 83 tells your unit how to report bent trailers.

M809/M39-Series 5-Ton Trucks...

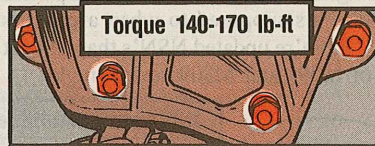
## Steer Clear of Trouble

Steering failure is a sure thing if you don't keep your eyes peeled for loose steering gear mounting hardware. This goes for the screws on M809 and converted M39-series trucks and the nuts on unmodified M39-series trucks.

To check for loose screws on your M809 and M39 converted trucks, put your transmission in NEUTRAL and your handbrake ON. Get someone to turn the steering wheel back and forth while you eyeball the steering gear bracket. If it wiggles or wobbles, it's loose. Send the truck to DS.



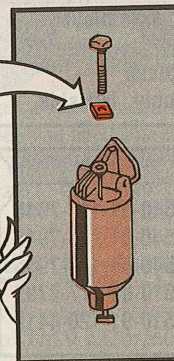
Head off trouble by checking the 4 lower nuts on the unmodified M39 steering gear bracket. Shiny spots around the nuts or the bracket show they're loose. Get your mechanic to torque bracket nuts to 140-170 lb-ft.



M809-Series 5-Ton Trucks...

## The Seat of the Problem

Engine running a little rough? Could be the square washer, NSN 5310-00-420-8044, on the fuel filter is not seated squarely. If so, air can be sucked into the fuel system and cause rough engine operation. Check it out and make sure the washer is seated in the square recess on the top of the filter.

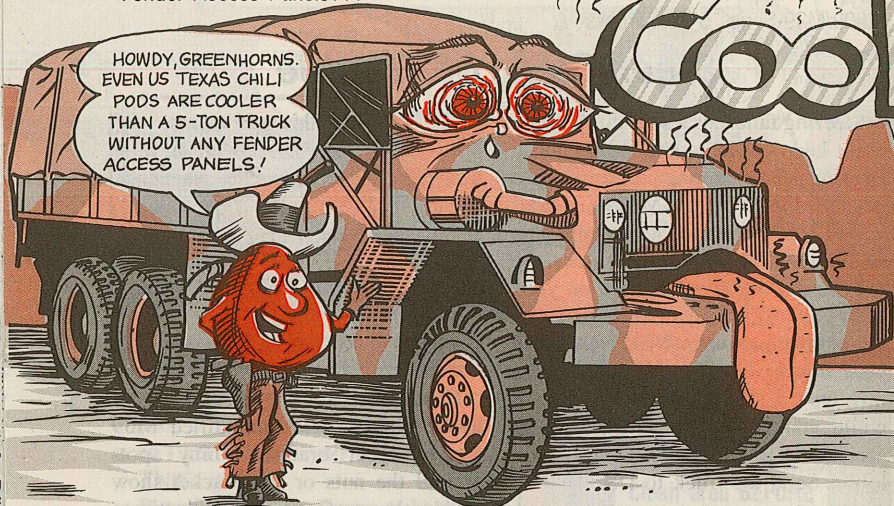


GIVE YOUR FUEL FILTER A SQUARE DEAL!





Fender Access Panels...



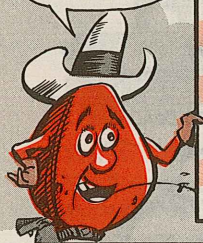
HOWDY, GREENHORNS. EVEN US TEXAS CHILI PODS ARE COOLER THAN A 5-TON TRUCK WITHOUT ANY FENDER ACCESS PANELS!

# Cool It!

Missing some fender access panels on your 5-ton truck? That can make your engine hotter than a Texas chili pod! Cooling air doesn't flow around the engine like it's supposed to when a panel is missing.

Here're updated NSN's that will get you the access panels in the front fenders of M39- and M809-series trucks:

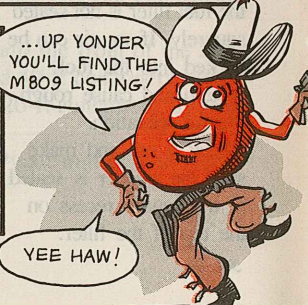
THESE NSN'S ARE FOR THE M-39 SERIES...



M39-Series, Multifuel/Diesel	NSN
Panel, lower front, right side	Not available—check your “can point”
Panel, upper rear, right side	2540-01-119-8709
Panel, rear complete, right side	2510-00-104-4501
Panel, fender, right side	2510-01-128-4418
Panel, fender rear assembly, left side	2510-00-880-4655
Panel, left front splash	2510-00-880-4657
Plate louver assembly, left side	2510-00-107-4237

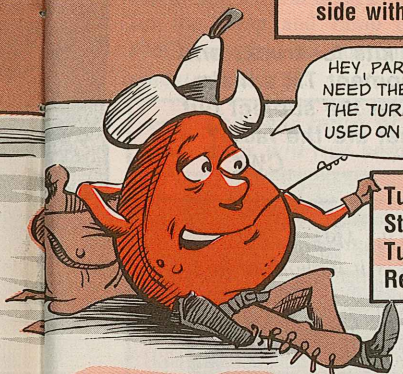
M39-Series Gasoline	NSN
Panel, rear splash, right side	2540-01-117-7948
Panel, splash, right side	2540-01-117-7945
Panel, fender, right rear	2540-01-117-7956
Panel, fender, left rear	2510-00-177-7799
Panel, splash, left front	2510-01-128-4419

...UP YONDER YOU'LL FIND THE M809 LISTING!



YEE HAW!

M809-Series	NSN
Panel, front end, right fender	2510-01-117-7946
Panel, upper, right side	2540-01-119-8709
Louver, panel, complete right side	2510-01-125-0529
Panel, left, front splash	2510-01-117-7947
Panel, louver assembly, left side	2510-00-107-4237
Louver, panel, fender, left side without studs	2510-01-128-4772

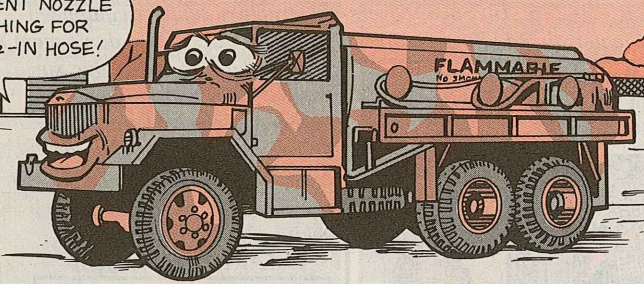


HEY, PARDNER, YOU MAY ALSO NEED THESE ITEMS TO REPAIR THE TURN-LOCK FASTENERS USED ON SOME OF THE DOORS!

Turn-lock stud	5325-00-290-8240
Stud receptacle	5325-00-637-2369
Turn-lock eyelet	5325-00-449-2797
Receptacle rivet	5320-00-994-7075

YOU NEED A DIFFERENT NOZZLE AND BUSHING FOR YOUR 1 1/2-IN HOSE!

## Fuel Nozzle Switch



You can no longer get a 1 1/2-in nozzle for your M49A2C fuel tank truck's 1 1/2-in hose. Instead, when you need a new nozzle, order NSN 4930-01-087-4766. It has a 2-in inlet, so you also need bushing, NSN 4730-00-268-7479, to connect the nozzle to the tanker's hose. TB 43-0001-39-3 (Oct 82) gives you the authority.

## Drilled Bolt for 5-Tonner

NSN 5306-00-930-5248 gets the drilled bolt for the rear wheel adapter shown as Item 17 on Page 285 of TM 9-2320-260-20P. The NSN on Page 279 is wrong.





## Rifle Kits? Yes, No & Maybe

Dear Half-Mast,

What's the story on rifle-mounting kits for trucks and construction equipment? Some equipment TM's make no mention of the kit. Others touch on the subject but don't give complete information. What are the facts?

CW4 G. T.

Dear Mr. G. T.,

The rifle-mounting kit is not required for the M915-series trucks or the M911 HET tractor truck. Nor is it authorized for ambulances.

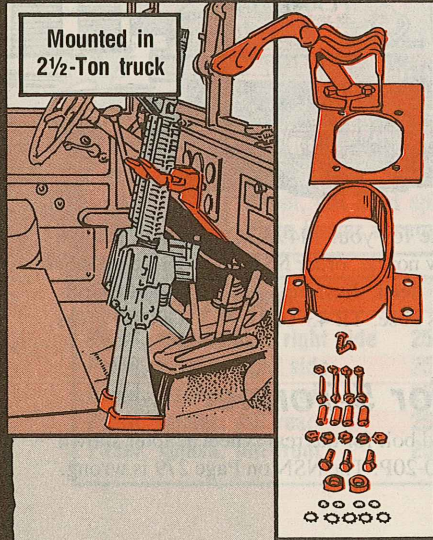
It is required in all Goer vehicles and in all CUCV's and HMMV's (except ambulances). As for other trucks and construction equipment, local command makes the decision.

Instructions for mounting the kit on construction equipment are in TB 750-246. This also covers construction support equipment and materials handling equipment. If your truck TM's don't mention the kit—or don't give you enough information—ask your support to check their TM's.

Your local TACOM Logistic Assistance Representative (LAR) can also give you a hand on vehicle-gun kit matchups. No LAR? Drop a line to:

**Commander  
US Army Tank-Automotive  
Command  
ATTN: DRSTA-MT  
Warren, MI 48090**

Kit, NSN 2590-00-045-9611,  
changing to  
NSN 2540-00-763-7348

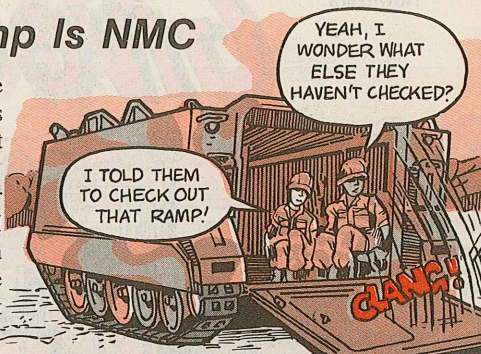


M113/M577-Series Carriers ...

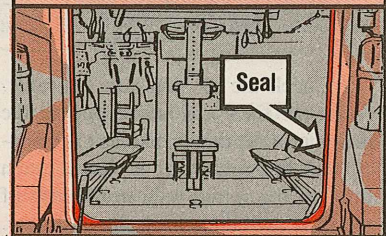
## Bad Ramp Is NMC

No more operations with defective ramps on M113-series and M577-series carriers—that's the word in the latest PMCS for those vehicles.

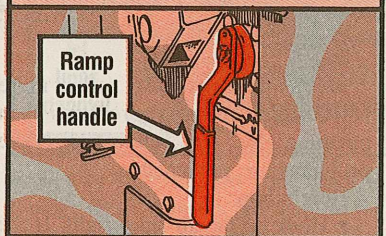
Both the new TM 9-2350-261-10 for the M113A2-series and a change to TM 9-2300-257-10 will carry NMC criteria for the ramp and ramp door. The PMCS say that the equipment is not ready/available if:



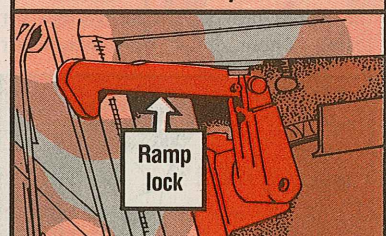
The rear ramp or ramp door will not seal.



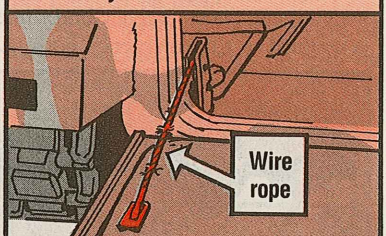
The rear ramp will not raise or lower under power.



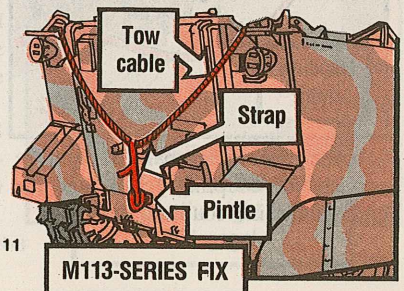
The ramp lock will not hold the ramp closed.



The ramp wire rope is frayed or broken.

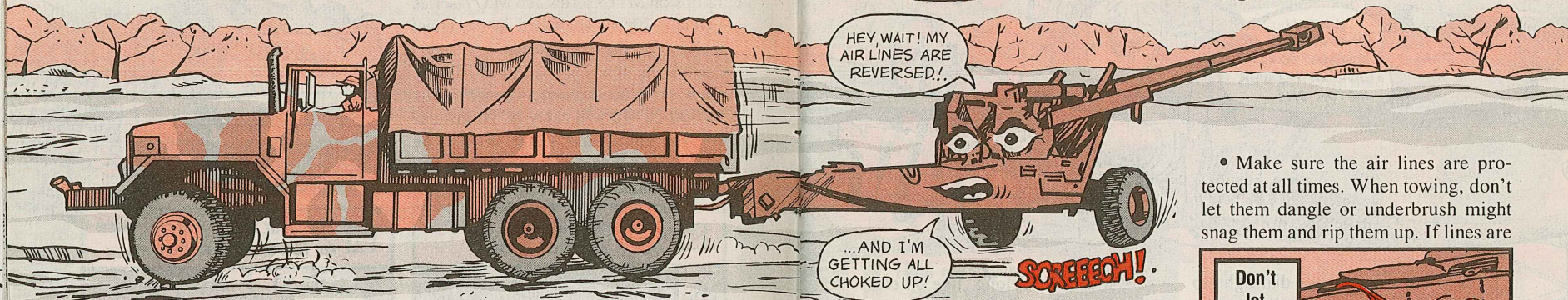


Methods of securing an inoperable ramp shown in both TM's can be used to get your carrier back to organizational maintenance for repairs. However, you cannot use the carriers for operations. There's too much danger someone will get injured or killed if the ramp falls.





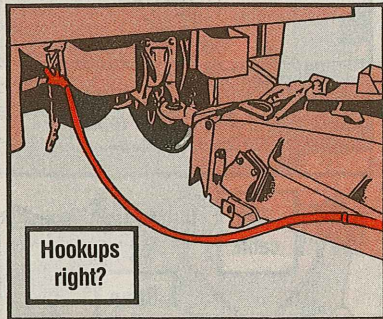
# Give Brakes a Break!



M198 towed howitzers collect more NMC time for brake problems than anything else. And, almost all brake problems are preventable.

Here's how:

- Hook up the air lines right. If the lines are reversed, the brake system will lock up. Make sure the service brake line is coupled to the service hookup, and the emergency brake line is coupled to the emergency hookup.

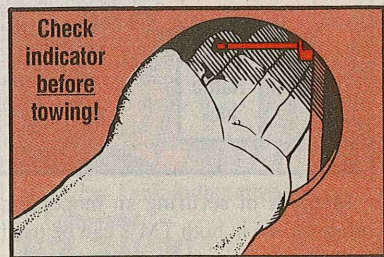


Hookups right?

If your lines aren't marked, paint the service line coupling yellow and the emergency line coupling red.

- Check the air pressure indicator. After the lines are hooked up to the prime mover, the air valves are opened and the reservoir is filled, reach through the round hole in the side of the right trail and check the indicator. Do this every time before you tow.

If the indicator sticks out more than 1/2 inch, check both the howitzer's and the prime mover's brake system for leaks. There must be enough air



Check indicator before towing!

pressure getting to the brakes to release the carrier/liner off the discs. Otherwise, they'll hang up or overheat.

- Check the prime mover's dash-mounted air pressure gage. The system

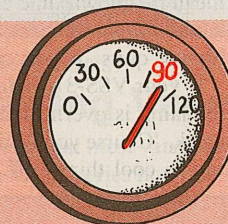
HEY WAIT! MY AIR LINES ARE REVERSED!.

...AND I'M GETTING ALL CHOKED UP!

SCREECH!

should provide the 90 PSI needed to release the brakes. If there's not enough pressure, get it fixed or get another prime mover.

Make sure you have at least 90 PSI



AIR

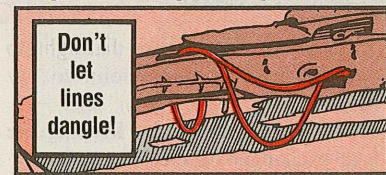
M901 ITV...

## Pressure Gage Change

Before servicing the hydraulic accumulator on your M901 ITV, make sure your charging system has the right manifold pressure gage on it. The wrong gage can cause the system to be damaged.

The gage—NSN 6685-00-764-7623—currently called for in TM 9-2350-259-20, has a pressure range of only 0-300 PSI.

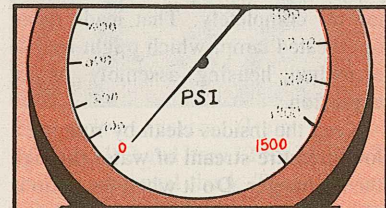
- Make sure the air lines are protected at all times. When towing, don't let them dangle or underbrush might snag them and rip them up. If lines are



Don't let lines dangle!

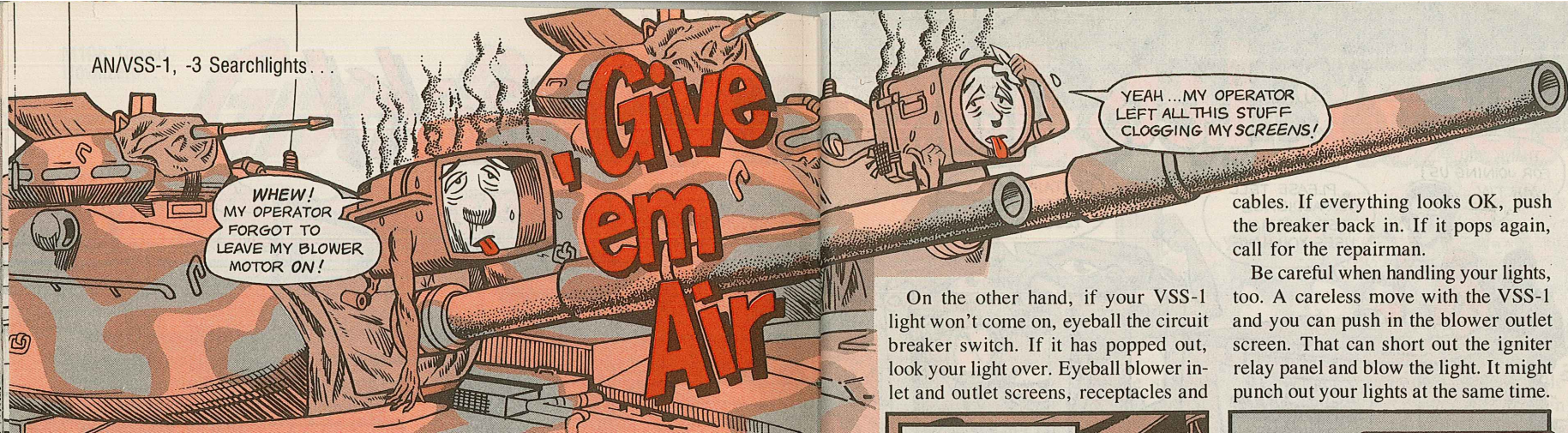
kinked or smashed, get your mech to change them. Always put them in the stowed position, hooked to their dummy couplings, when the howitzer is emplaced or parked so the trails won't get dropped on them.

Towing an M198 with locked or hanging brakes is tough on both the howitzer's brake system and the mover's engine and transmission.



NSN 6685-00-527-9315 gets you the right 0-1500 PSI gage!





Those big xenon lamps that light up your life need plenty of coolin' to stay healthy.

You give it to 'em by keeping the heat exchanger on the job.

Keep intake and outlet screens clean and uncovered. Dirt and debris cut



down airflow. A tarp or field jacket cuts air off completely. That leads to an overheated lamp, which might lead to a melted housing assembly or an explosion.

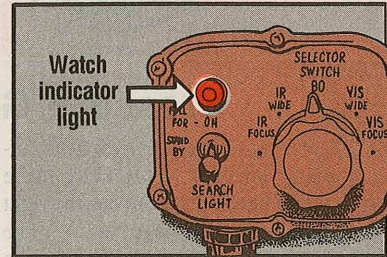
Keep the insides clean by running a low-pressure stream of water through the exchanger. Do it when the lamp is off, and cool, of course.

Lay off with the high-pressure hose, tho. The water'll just force its way in

where it doesn't belong, like on electrical connections and circuits.

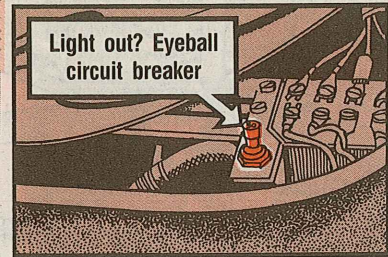
Leave the blower motor on when you shut down the light. It needs the extra time to cool. Turning off vehicle power or disconnecting the power cable can mean meltdown time again. Give it at least 5 minutes to cool, but wait 'til the blower quits, if you can.

If your VSS-3's indicator light says the lamp is overheated, shut it down, quick. 'Course you'll still let the blower run to cool things off.



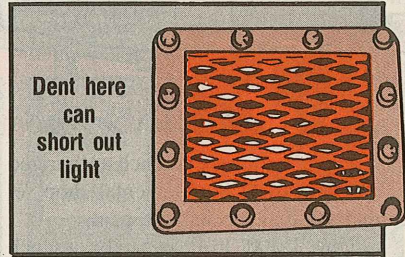
Don't turn down the light on your indicator bulb unless the mission requires it. Without the early warning, you could easily lose an overheated searchlight.

On the other hand, if your VSS-1 light won't come on, eyeball the circuit breaker switch. If it has popped out, look your light over. Eyeball blower inlet and outlet screens, receptacles and



cables. If everything looks OK, push the breaker back in. If it pops again, call for the repairman.

Be careful when handling your lights, too. A careless move with the VSS-1 and you can push in the blower outlet screen. That can short out the igniter relay panel and blow the light. It might punch out your lights at the same time.



M109-Series SP Howitzers . . .

## Testing Vaneaxial Backlash

Mechs, you can beat most vaneaxial fan troubles on M109-series howitzers if you're up to snuff on a couple of things.

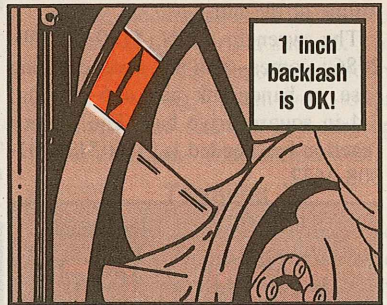
Make sure there's plenty of GIA in those gearcases. Lube them quarterly with GIA until you see grease coming out of the relief valves.

Keep an eye on backlash, or the "play" between gears in a gearcase.

Normally, gears fit together with just a little backlash—1 inch or less is called for in the TM's.

Too much backlash can lead to stripped fan gears, "frozen" fans and even overheated engines.

The -20 TM PMCS for the engine



fan drive system (Item 14 for M109A1/A3 and Item 12 for M109A2) call for an annual check. That's just not often enough. The headshed says to make that a quarterly check. It may save you more work down the line.

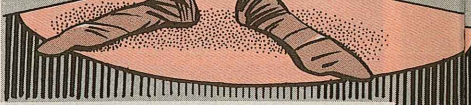
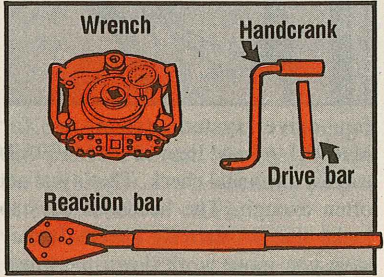


# Let's Talk Torque Wrenches



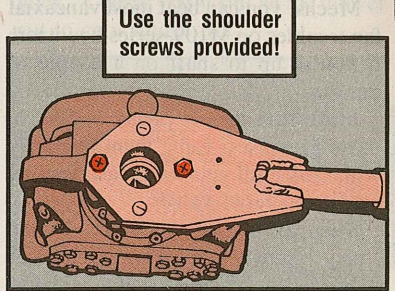
There's a torque wrench authorized in your No. 2 Supplemental shop set that's a real mechanic's gem. This 1,200 lb-ft capacity wrench weighs about 19 pounds. Its 800:1 gear means you need only 6-7 lb-ft input on the handcrank to get 1,200 lb-ft output torque at the nut.

The wrench, NSN 5120-00-169-2986, comes with its own carrying case, a handcrank and a 6-in long, 3/4-in square drive bar. The 3-piece reaction bar needed is NSN 5120-01-008-3632.



### Getting Ready to Torque

Mount the paddle-shaped reaction adapter to the base of the wrench.



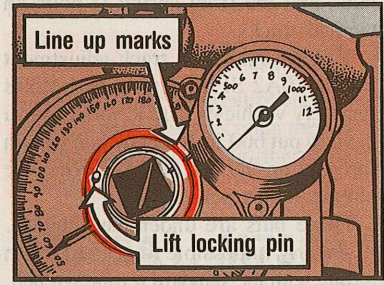
Use the shoulder screws provided!

Set the ratchet for clockwise output. Turn the knurled collar until the mark on the collar lines up with the mark on the output shaft. (On older models, you have to lift the ratchet locking pin to turn the collar.) Insert the drive bar.



Turn it clockwise to make sure the ratchet pawls have been engaged. You don't want the ratchet to let go when you start to apply torque.

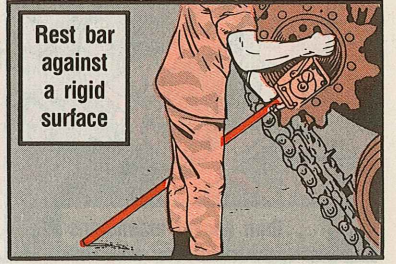
Just use the reaction bar as the handle and ratchet in the direction to tighten the nut. Tighten until you see about 100 lb-ft on the dial.



Run down the nut to be torqued until it's tight.

Place a 3/4-in drive socket on the nut. Put the drive bar in the socket.

Line up the wrench with the drive bar. You can use the wrench like a regular ratchet wrench to seat the nut.



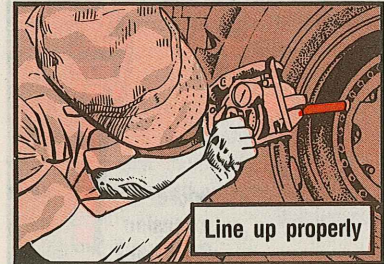
Rotate the wrench until the reaction bar rests against a rigid surface. This is always in the opposite direction you're torquing. When you torque clockwise, the reaction is in the opposite direction—counterclockwise.

### Torquing

Turn the handcrank clockwise. Tighten the nut to the required torque.

Take your hand off the handcrank and wait 1 minute. The torque will back off. This's because the torqued bolt's twist is relaxing and the thread surfaces are seating.

Retorque. Then wait 1 minute again for the torque to back off. Retorque once more. The torque should stay put.



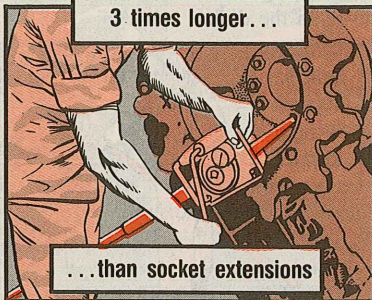


## You Can Use Extensions

This wrench, unlike other torque wrenches, is made to work with extensions.

The secret is, when you use extensions, the reaction bar must be at least 3 times longer than the extension. Say you're using a 16-in long socket wrench extension. Your reaction bar must be at least 48 inches long. Since the reaction bar is only about 30 inches long, use 3-5 feet of iron pipe to extend it.

Reaction bar must be  
3 times longer...

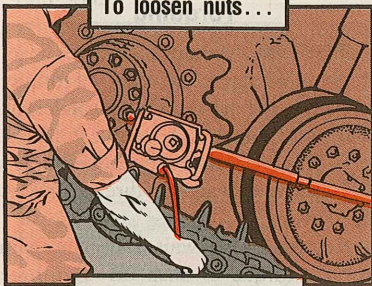


...than socket extensions

## You Can Loosen Nuts, Too

Turn the knurled ratchet collar in the counterclockwise direction. Turn the handcrank counterclockwise to loosen nuts.

To loosen nuts...



...place reaction bar  
in opposite direction

## Use Correct Sockets, Extensions

Standard 3/4-in square drive sockets are rated at 600 lb-ft. If your torque requirements are higher, get heavy duty impact wrench sockets and extensions.

## Uses Are Many, Varied

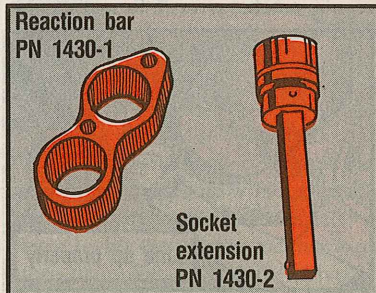
You can use this torque wrench to torque the final drive sprocket nuts on tanks, SP howitzers and recovery vehicles.

You can torque T-142 and T-156 track end connectors (both inboard and outboard). You can torque tactical truck, Goer and scoop loader wheel lug nuts, and the front spring U-bolts on tactical trucks.

You can make the track adjustment for M110A2 SP howitzers and M578 recovery vehicles with it, too, but you have to put 600 lb-ft wet torque (oil on threads) on the trailing idler eccentric nuts to hold track tension.

Those nuts are under the vehicles. It's nearly impossible to get that much torque with the standard torque wrench. But this wrench will do it.

You will need a special reaction kit, tho. It's PN 1430. What you get is a reaction bar, PN 1430-1, and an extension socket, PN 1430-2. Use FSCM 30891 and order the kit from RIC S9C.



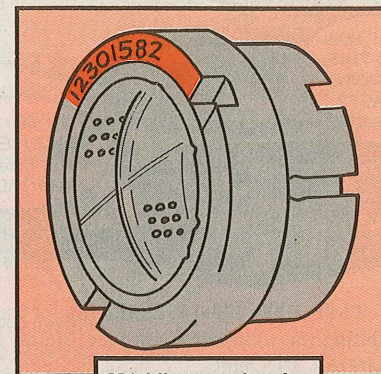
## Idler Arm Bearing Mixup

Could be the compensating idler arm bearings are causing you M1 tankers fits.

Part numbers for M1 and M60-series idler arm bearings got rolled up under the same NSN—3120-00-692-9286.

While M1 bearings work fine on the M60's, the M60 version just won't hack it on the M1.

So, make sure the bearings you install on your M1 are the right ones. They'll carry PN 12301582. And, when ordering new ones, use NSN 3120-01-166-2372 for M1 bearings only. NSN 3120-00-692-9286 is still good for the M60-series bearings.

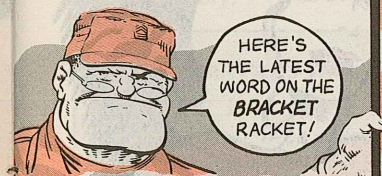


M1 idler arm bearing

## Forget Phone Fix

An inoperable external phone no longer deadlines your M60/M48-series tanks. SMART Msg 33 gives units the OK to forget repair or replacement when those telephones go bad. Working phones stay on the job until they become unserviceable, tho.

## M548A1, M730A1 Generator Bracket

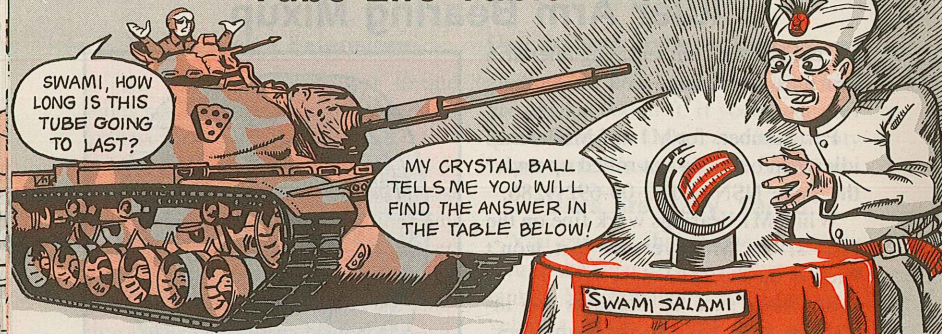


Here's everything you'll need to mount a new generator bracket for your M548A1 cargo carrier and M730A1 missile carrier. The bracket is a new design that'll solve the breakage problem caused by vehicle vibration.

Part	NSN	Quantity
Bracket, Mounting	2920-01-128-9528	1
Self-locking nuts	5310-00-087-4652	1
	5310-00-575-5329	2
Hex cap screws	5305-00-269-3214	1
	5305-00-069-5576	1
	5305-00-050-1076	1
	5305-00-071-2065	3
	5305-00-069-5572	1
Key washers	5310-00-333-7385	3
	5310-00-655-9667	1



## Tube Life Table Info



TM 9-1000-202-14, Evaluation of Cannon Tubes, no longer has the table for setting the remaining gun tube life on the M21 computer for the M60A3 and M60A3 TTS tanks.

To make the setting as directed on Page 2-294 of TM 9-2350-253-10, use the following table:

Wear Gage Reading	Actual Diameter (Inches)	Remaining Life %
.000	4.134	100
.003	4.137	95
.006	4.140	90
.008	4.142	85
.011	4.145	80
.014	4.148	75
.017	4.151	70
.020	4.154	65
.023	4.157	60
.025	4.159	55
.028	4.162	50
.031	4.165	45
.034	4.168	40
.037	4.171	35
.040	4.174	30
.042	4.176	25
.045	4.179	20
.048	4.182	15
.050	4.184	10
.053	4.187	5
.056	4.190	0

NOTE THE ACTUAL GUN TUBE WEAR FROM THE MOST RECENT PULLOVER GAGE READING SHOWN IN COLUMN F, DA FORM 2408-4 USE THIS TABLE TO DETERMINE THE PERCENTAGE OF REMAINING GUN TUBE LIFE!



A table will be included in Change 5 to the -10 TM. Until you get that change, use this information. If you have questions about the table, contact your local Logistic Assistance Office or AMCCOM Logistic Assistance Representative.

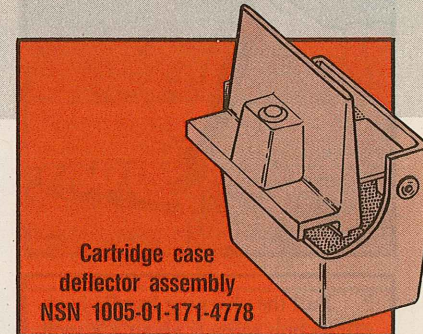
## Parts Added to Rimfire Kit



TWO BASIC ISSUE ITEMS HAVE BEEN ADDED TO THE M16A1 RIFLE'S M261 RIMFIRE ADAPTER CONVERSION KIT!



Safety goggles  
NSN 4240-00-052-3776



Cartridge case deflector assembly  
NSN 1005-01-171-4778

Cartridge deflectors currently are available from post Training and Audio-Visual Support Centers (TASC). Units should ask for rimfire brass deflector PN 9378328.

Change 2 to TM 9-6920-363-12&P will make use of the goggles and deflector mandatory.

### Other Parts Added

Additional bolt adapter assembly repair parts have been coded PAOZZ and are now authorized at unit level for the M261 kit.

The NSN's will be added to TM 9-6920-363-12&P. Parts are identified by Item number in Fig D-2 of the TM.

Item	Part	NSN
7	Plunger detent	1005-01-148-4955
11	Retaining pin	5315-00-812-3312
13	Retaining screw	5305-00-638-8859
15	Flat spring	5360-01-142-5341

## Sling Adapter

You can get the top sling adapter kit for your M16A1 rifle with NSN 1005-00-406-1570. It's shown on Page 7 of TM 9-1005-249-10.



M2 Gunners...

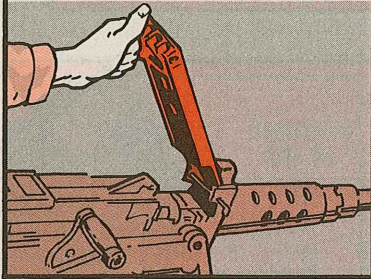
HERE'S A SUPPLEMENT TO TM9-1005-213-10 FOR HEADSPACE AND TIMING ADJUSTMENTS FOR YOUR M2 HEAVY BARREL MACHINE GUN!

### Headspace

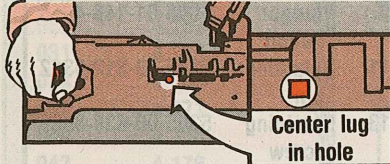
Check and adjust headspace before firing...after assembling gun...and when you replace the barrel.

**Warning:** Make sure your gun is clear of ammo before starting.

1. Raise the cover full up.



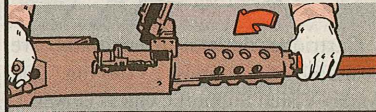
2. Pull the charging handle back till the bolt retracts about 3/8 inch and the barrel-locking-spring lug is centered in the hole on the right side of the receiver.



**NOTE:** You can hold the bolt in that position or insert the small loop of an ammo link between the trunnion block and barrel extension. Clean the bore and chamber before you install the barrel.



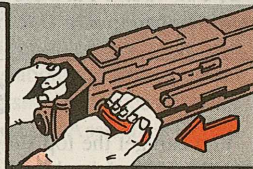
3. Screw the barrel fully into the barrel extension.



4. With bolt still retracted, unscrew the barrel 2 clicks. Then let the bolt forward.

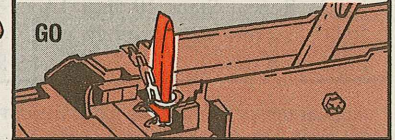
**Warning:** Try to turn the barrel in either direction. If it turns, don't try to fire the gun. Contact your armorer. Try the other barrel.

5. Pull the charging handle and bolt all the way to the rear and hold it there. This cocks the weapon and moves the firing pin back so the headspace gage will go in.

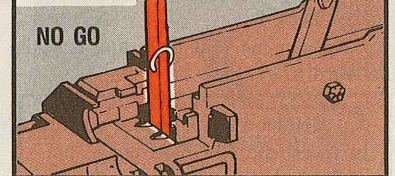


# DO It by the Numbers

9. If the GO end enters the T-slot to the center ring of the gage and



the NO GO end will not enter, headspace is OK. Remove the gage! The headspace adjustment is complete.

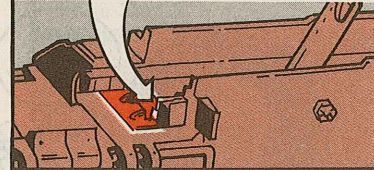


If the GO end won't go into the T-slot freely, headspace is too tight. So, do this...

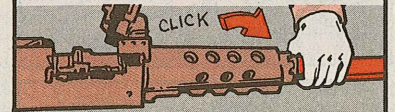
10. Retract the bolt till the barrel-locking-spring lug is centered in the receiver hole (as in Step 2).

6. S-L-O-W-L-Y return the bolt forward. Do not press the trigger.

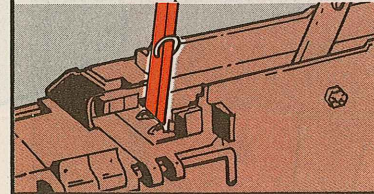
7. With the charging handle, separate the barrel extension from the trunnion block by 1/16 inch.



11. Unscrew the barrel one click.



8. Raise the extractor and insert the GO/NO GO gage. Hold the charging handle to the rear to keep the 1/16-in separation.



12. Repeat Step 7 after returning the bolt s-l-o-w-l-y forward.

13. Recheck headspace as in Step 9.

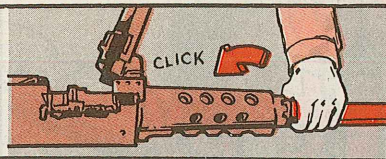
14. Repeat Steps 10 thru 13 until the GO gage end fits right and the NO GO end does not fit.

**NOTE:** Do not unscrew the barrel more than 5 clicks in Steps 10-13 beyond the first 2 clicks (7 in all). If you have to go beyond that, turn the gun in to your armorer for inspection.



## Headspace Too Loose

If the NO GO end went in during Step 9, the headspace is too loose. Repeat Steps 10 thru 13, BUT...screw the barrel in one click each time.



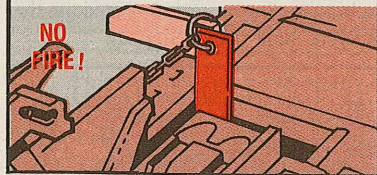
Repeat the steps until the gage fits correctly (Step 9). GO end should fit. NO GO shouldn't.

## Timing Adjustment

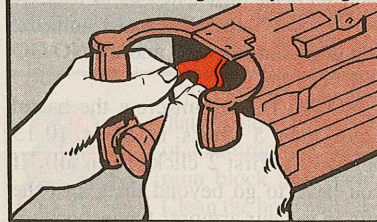
**Warning:** Clear the gun before you start.

1. Headspace adjustment must be correct. Check it.
2. Retract the bolt fully and ease it forward to cock it.

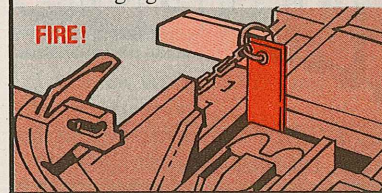
3. Retract the bolt just far enough to insert the NO FIRE gage between the barrel extension and trunnion block. Slowly release the charging handle. Insert the bevel edge of the timing gage against the barrel notches.



4. Trip the trigger. If the gun won't fire, OK so far. Go to Step 5. If the gun fires, skip to Steps 7 thru 14. You've got early timing.



5. Retract the bolt just enough to remove the NO FIRE gage and insert the FIRE gage. Slowly release the charging handle.

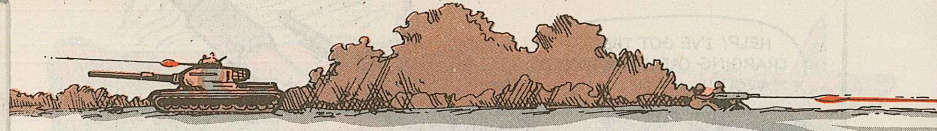


6. Depress the trigger. If the gun fires, timing is OK. If it doesn't fire, the timing is late.



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JUL 84

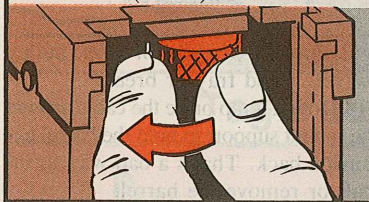


## Early/Late Timing

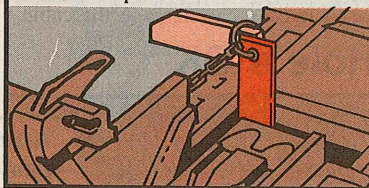
To adjust for early or late timing, follow these steps. **WARNING:** Never cock the gun with the back plate off. The driving rod spring can make a hole in you. The bolt must be forward to remove the back plate.

7. Remove the gage, cock the gun and return the bolt forward slowly.
8. Now, remove the back plate.

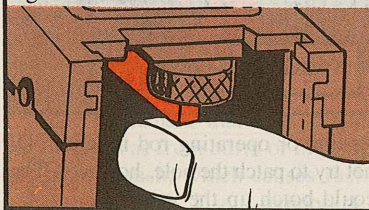
9. Turn the timing adjustment nut full down (to left).



10. Insert the FIRE gage as you did in Step 5.

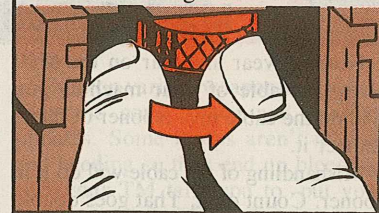


11. Push up on the rear of the trigger bar. Gun should not fire.



JUL 84

12. Turn the timing adjustment nut up one click (to right). Push the trigger bar up. Continue one click at a time. Push the bar after each click until the gun fires.



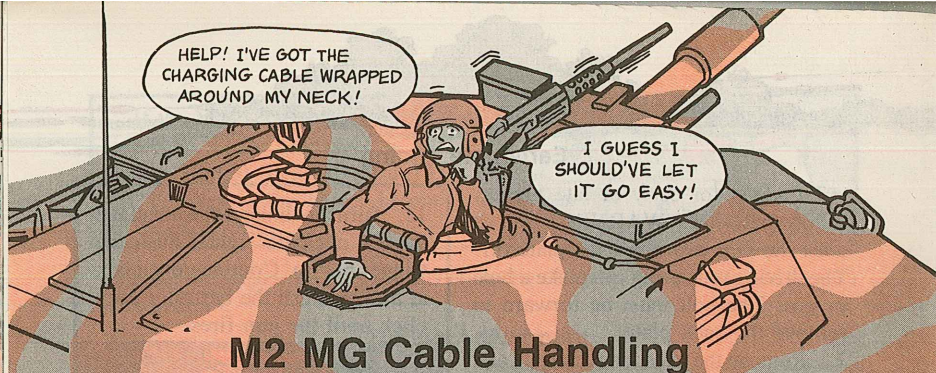
13. After it fires, turn the nut up 2 more clicks. Stop at 2!
14. Remove the gage, put on the back plate and pull the bolt to cock position. E-a-s-e the bolt forward.
15. Recheck timing with the FIRE/NO FIRE gage twice more with the back plate on. If it's not correct, do Steps 7 thru 14 one more time.

IF IT'S STILL NOT RIGHT, CALL YOUR ARMORER!



25





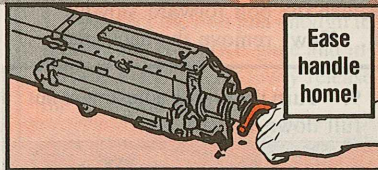
## M2 MG Cable Handling

Normal wear and tear on the M10 charging cable of your machine gun will do the cable in... sooner or later. Expect it.

Mishandling of the cable will do it in sooner. Count on it. That goes double when the M2 is mounted on the M1 tank.

To get maximum wear and to prevent fraying or breaking, do this:

- Keep the cable away from the frame of the periscope on the M1 when you charge the machine gun.
- When you release the charging handle, guide it back. If you just let the handle swing home wildly, the cable



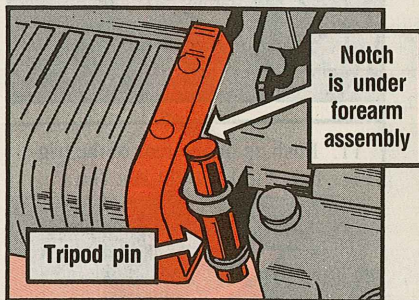
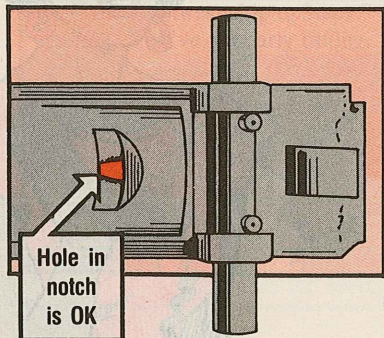
will hit the edges of the pulley swivel... and fray or break.

- Do not wrap or tie the cable around the mount support to hold the barrel extension back. That's a bad way to install or remove the barrel.
- A one-handed, steady pull is all that's needed to charge the M2 (the M85 takes 2 hands and muscle). Too much muscle can damage the cable.

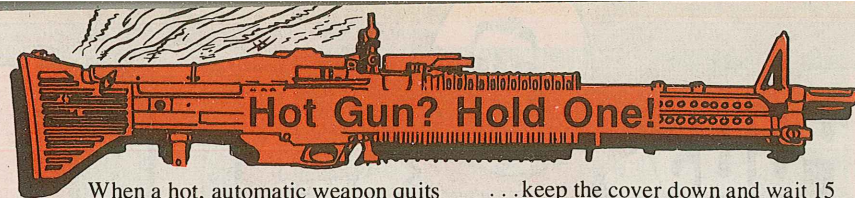
## M60 Notch Hole's OK

Don't sweat it if the forearm spring catch notch of your M60 machine gun has a hole worn through it!

The hole won't bother receiver ex-



tension or operating rod function. Do not try to patch the hole, however. That could botch the works.



When a hot, automatic weapon quits firing on its own...

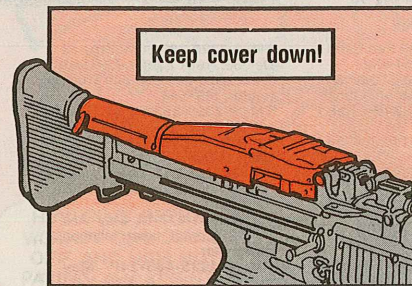
...and you can't fire or extract the live round in 10 seconds...

...keep the cover down and wait 15 minutes before you attempt to clear the weapon! Meanwhile, keep the weapon pointed down range and your face away from the ejection port.

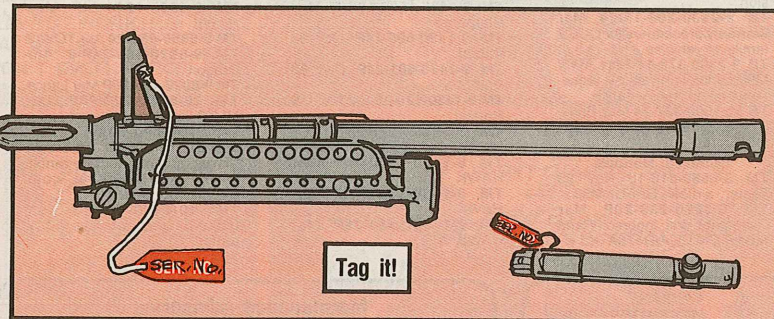
In short, wait for the weapon to cool down so that if the round cooks off it won't blow pieces of you or the gun away.

TM's on various weapons tell you to keep the cover down and wait 15 minutes. Some troops aren't reading and heeding so they end up bleeding.

If your TM tells you to, put your weapon on "SAFE" before you start your 15 minute wait.



## Tag Your Weapons



AR 190-11 says to tag small arms parts with the serial number of the weapon when parts and weapon are to be separated.

You can tie on a temporary tag.

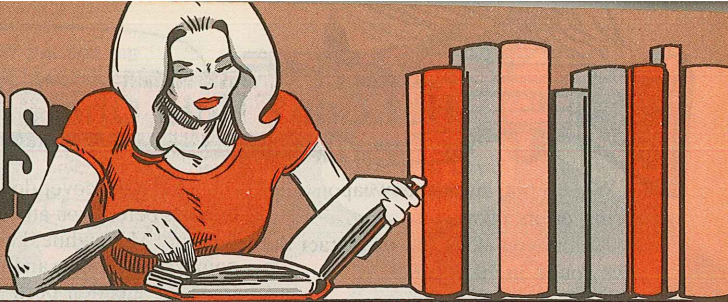
What you must not do is to make a permanent mark on a part, such as with an etching tool or a punch set. Not only can you end up paying for the part or the weapon, but you make it tough on support-level repair where parts can be headspaced or reconditioned and used on other weapons.

Also, permanent markings can interfere with the smooth operation of a part... such as from burrs or misshapen indents. They also remove the metal's phosphate finish, which causes rust.

Follow the AR. Use a temporary tag and save money and parts.



# Pubs



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

LO 5-3820-241-12 Apr Joy pneumatic drill  
 LO 9-2350-260-12 Nov 83 Tank, M60  
 LO 9-2350-261-12 Nov 83 Carriers: M113A2, M577A2, M106A2, and M125A2  
 TB 9-2300-295-15/21 Dec 83 Truck, 5-ton, M939 series, warranty procedures for Cummins engine and Allison transmission  
 TB 9-2300-295-15/24 Mar Warranty procedures for CUCV family of vehicles  
 TB 9-2300-378-14 May M48/M60 series vehicles air induction system maintenance  
 TB 55-1500-337-24 May Phased maintenance system for Army aircraft

### Technical Manuals

TM 3-6680-316-10 Nov 83 Tester, airflow, GPFU, M39  
 TM 5-3820-239-20P Mar Pneumatic drill, Ingersoll-Rand Model CM150A/D475A

TM 5-3820-242-20P Feb Earth auger, Texoma, 254-8X2  
 TM 9-1265-373-10-1 Dec 83 MILES M82, M1 Abrams tank  
 TM 9-1410-586-24P Feb Chaparral  
 TM 9-1410-600-14 Jul 83 Patriot  
 TM 9-1425-450-L Jan TOW 2 weapon system  
 TM 9-1425-480-24P May Dragon  
 TM 9-1425-601-14 Jul 83 Patriot  
 TM 9-1425-602-12 May Patriot  
 TM 9-1425-625 Apr US Roland  
 TM 9-1425-625-20-4 Mar US Roland  
 TM 9-1425-630-12&P Mar US Roland  
 TM 9-1425-1586-10-HR May Chaparral  
 TM 9-1430-600-24P Oct 83 Patriot  
 TM 9-1430-601-24P Dec 83 Patriot  
 TM 9-1430-625-20-2-2 Mar US Roland  
 TM 9-1430-1528-24P Feb HAWK  
 TM 9-1430-1532-24P Mar HAWK  
 TM 9-1430-1533-24P Apr HAWK  
 TM 9-1430-1536-24P Mar HAWK

TM 9-2320-283-20-1 thru -3 Dec 83 Truck tractor, M915A1  
 TM 9-2320-283-20P Jan Truck tractor, M915A1  
 TM 9-2350-253-20P-1 May M60A3 tank  
 TM 9-2350-255-20-1-2-2 & -3 Feb M1 tank  
 TM 9-2350-257-10-HR Mar M60A1 (RISE/M60A1 RISE Passive) tanks  
 TM 9-4931-477-14 May AN/TVQ-2 ground laser location designator  
 TM 9-4935-485-24P May Lance  
 TM 9-4935-454-24P Jul 83 TOW subsystem, Bradley  
 TM 9-4935-455-24P Jun 83 TOW 2  
 TM 9-4935-1544-24P May HAWK  
 TM 9-5855-450-24 Apr TOW 2  
 TM 9-6920-480-24P-1 Apr Dragon  
 TM 9-6920-485-20P Mar Lance  
 TM 10-5410-225-23P Jan MUST inflatable shelter  
 TM 10-8400-202-13 Jan Nomex flight gear coveralls; gloves; summer jacket; winter jacket and extreme cold weather trousers  
 TM 10-8470-202-13 Jan Ground and aircrew body armor

### SMART MESSAGES

Here are the latest SMART messages:  
**SMART Msg #36**—Describes MWO for RT-524-246 receiver/transmitter ancillary exterior handles, DALO-PLF 141641Z Feb 84.  
**SMART Msg #37**—Gives optional method of marking M60 machine gun barrels, DALO-PLF 091620Z Mar 84.  
**SMART Msg #38**—Provides AOAP policy change, DALO-PLF 221504Z Mar 84.  
**SMART Msg #39**—Describes new data to be placed on envelopes for microfiche, DALO-PLZ-B 122054Z Apr 84.

### Maintenance Advisories

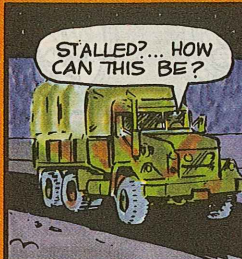
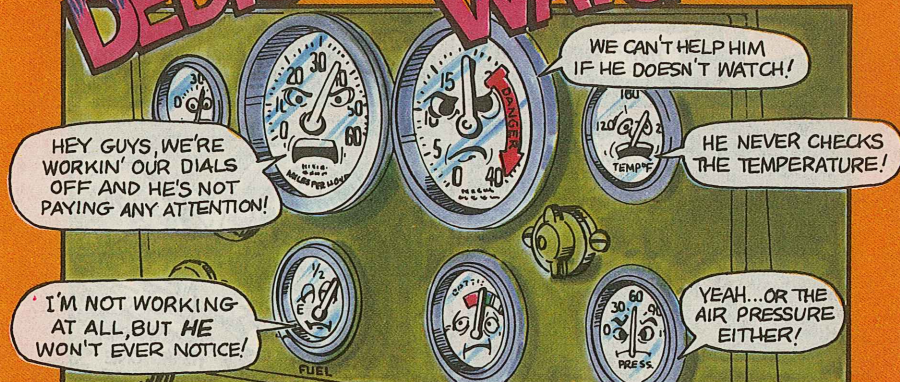
**AMCCOM MA 84-4**—Mask Maintenance Policy, DRSMC-MAO-N 221645Z Feb 84.  
**AMCCOM MA 84-5**—Shelf Life Coding of M9, M17, M24 and M25 Series Protective Masks, DRSMC-MAO-N 272020Z Feb 84.  
**AMCCOM MA 84-6**—TM 3-4240-280-10, Operator's Manual: Mask, Chemical-Biological: Aircraft, M24 and Tank, M25/M25A1, 15 June 1983, DRSMC-MAO-N 272050Z Feb 84.  
**AMCCOM MA 84-7** Chemical-Biological Protective Mask Inlet Valve/Nose Cup Disk, NSN 4240-01-104-0965, DRCIS-RI-SBS 091900Z Mar 84.

**AMCCOM MA 84-8**—Equipment Serviceability Criteria Technical Manuals, DRSMC-MAO-NC 271615Z Mar 84.  
**AMCCOM MA 84-9**—Semi-annual PMCS for M17 Series CB Protective Mask, DRSMC-MAO-N 292045Z Mar 84.  
**AMCCOM MA 84-11**—Tightening of Machine Bolts of the Inner Shell Gaskets of M3A3 Smoke Generator, DRSMC-MAO-N 172030Z Apr 84.  
 If you need a maintenance advisory, contact your direct support unit or your Logistic Assistance Office (LAO).

A LONE TRUCK SPUTTERS TO A HALT IN THE DESERT NIGHT.



# BE A DEDICATED GAGE WATCHER!





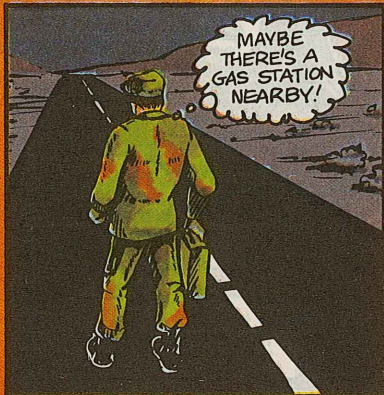


YOU SEEM TO WANT TO BLAME YOUR PROBLEM ON US GAGES-YOU ARE THE ONE RESPONSIBLE!

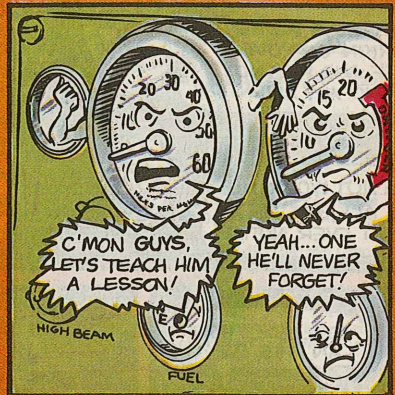
HUH?



TALKING GAGES!  
I MUST BE CRACKING UP!



MAYBE THERE'S A GAS STATION NEARBY!



C'MON GUYS, LET'S TEACH HIM A LESSON!

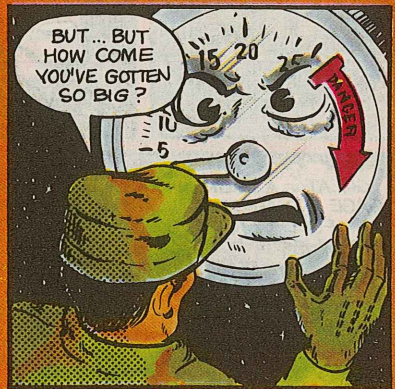
YEAH... ONE HE'LL NEVER FORGET!



COME BACK!

HOLD IT!

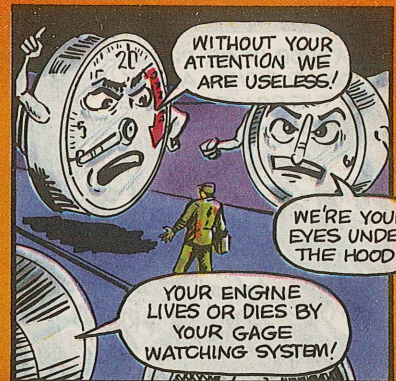
I DON'T THINK I'M GOING TO LIKE THIS!



BUT... BUT HOW COME YOU'VE GOTTEN SO BIG?



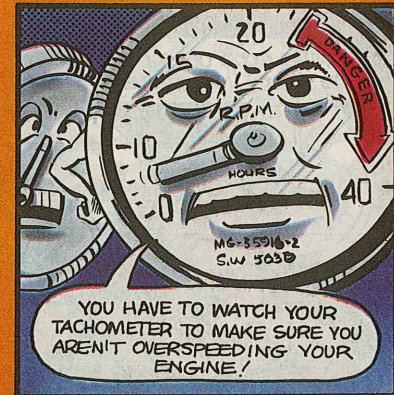
MAYBE IF WE'RE BIG ENOUGH, YOU MIGHT WATCH US!



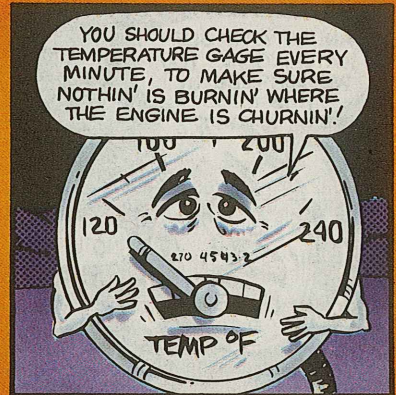
WITHOUT YOUR ATTENTION WE ARE USELESS!

WE'RE YOUR EYES UNDER THE HOOD!

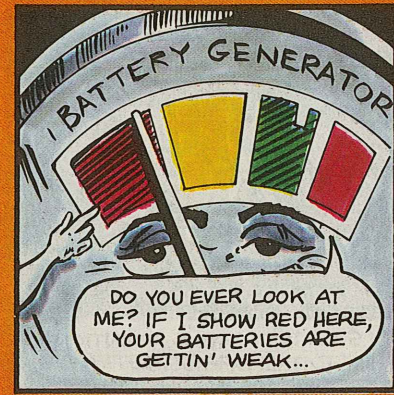
YOUR ENGINE LIVES OR DIES BY YOUR GAGE WATCHING SYSTEM!



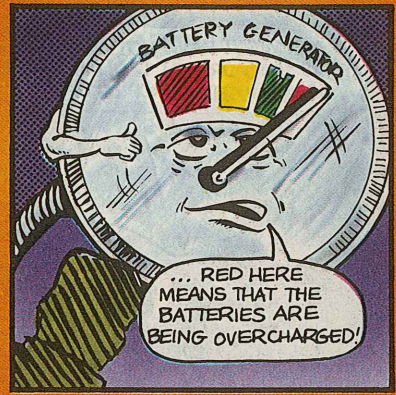
YOU HAVE TO WATCH YOUR TACHOMETER TO MAKE SURE YOU AREN'T OVERSPEEDING YOUR ENGINE!



YOU SHOULD CHECK THE TEMPERATURE GAGE EVERY MINUTE, TO MAKE SURE NO THIN' IS BURNIN' WHERE THE ENGINE IS CHURNIN'!



DO YOU EVER LOOK AT ME? IF I SHOW RED HERE, YOUR BATTERIES ARE GETTIN' WEAK...

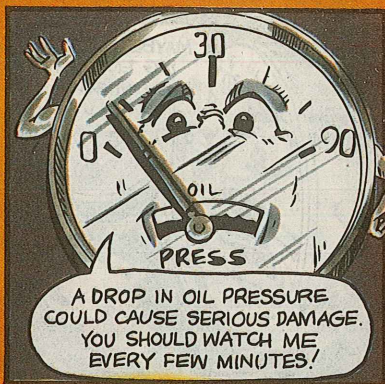


... RED HERE MEANS THAT THE BATTERIES ARE BEING OVERCHARGED!

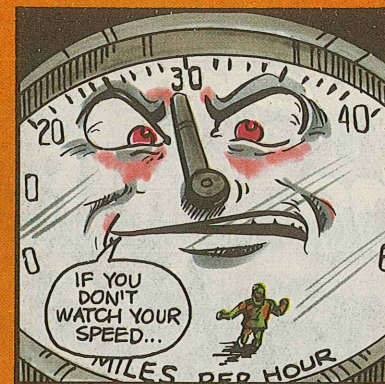




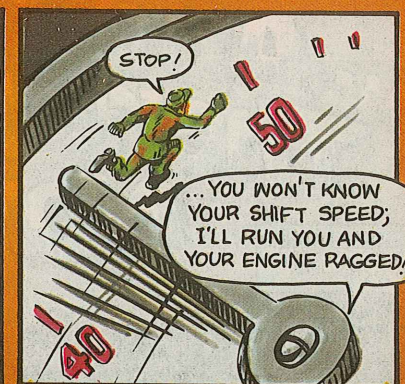
A DROP IN AIR PRESSURE  
COULD SIGNAL A LEAK IN  
THE BRAKE AIR LINE!



A DROP IN OIL PRESSURE  
COULD CAUSE SERIOUS DAMAGE.  
YOU SHOULD WATCH ME  
EVERY FEW MINUTES!

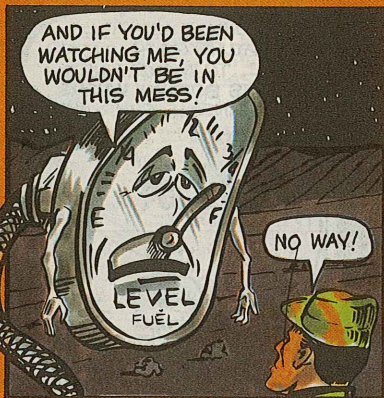


IF YOU DON'T  
WATCH YOUR  
SPEED...



STOP!

... YOU WON'T KNOW  
YOUR SHIFT SPEED,  
I'LL RUN YOU AND  
YOUR ENGINE RAGGED!

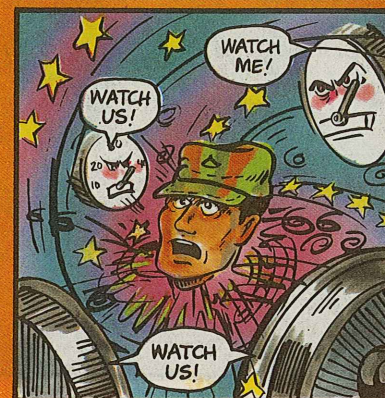


AND IF YOU'D BEEN  
WATCHING ME, YOU  
WOULDN'T BE IN  
THIS MESS!

NO WAY!



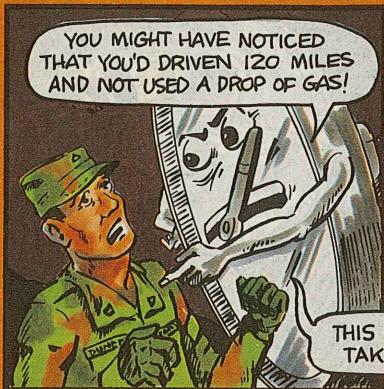
WHAT GOOD DOES IT DO  
TO WATCH A BUSTED GAGE?



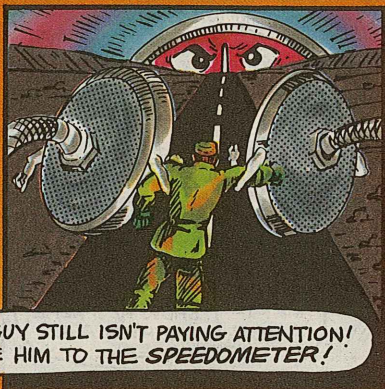
WATCH US!

WATCH ME!

WATCH US!



YOU MIGHT HAVE NOTICED  
THAT YOU'D DRIVEN 120 MILES  
AND NOT USED A DROP OF GAS!



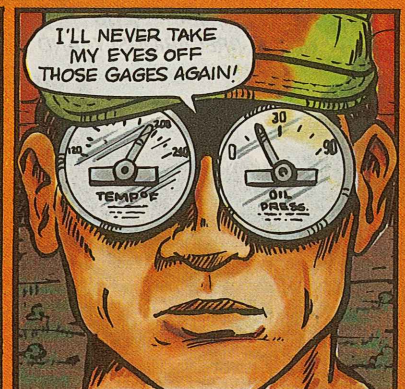
THIS GUY STILL ISN'T PAYING ATTENTION!  
TAKE HIM TO THE SPEEDOMETER!



HE'S COMING  
AROUND NOW!

GOOD!

WHAT A NIGHTMARE!



I'LL NEVER TAKE  
MY EYES OFF  
THOSE GAGES AGAIN!



Generator Abuse...

# ... And Then There Were None...

THE START OF A 5-DAY FTX

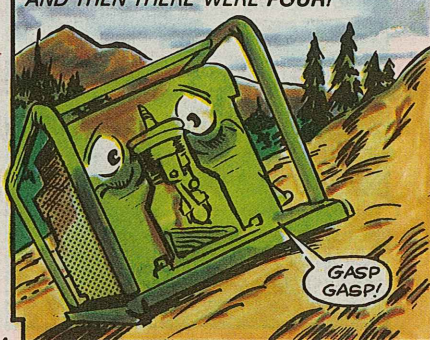


## DAY 1

FIVE LITTLE GENERATORS SET UP ON A SLOPE — TILTED PRECARIOUSLY AND LEFT TO COPE...



FIVE LITTLE GENERATORS, NOT VICTIMS OF WAR — ONE'S LUBE GOT TOO LOW, AND THEN THERE WERE FOUR!

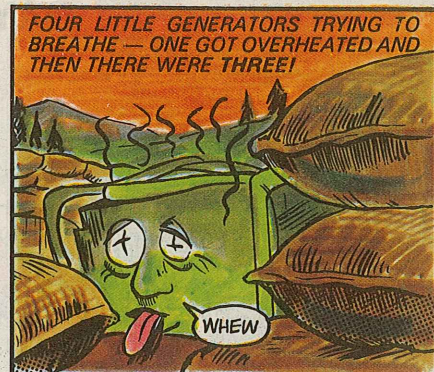


## DAY 2

FOUR LITTLE GENERATORS, CLOSED-IN BY SAND — HUFFING AND PUFFING TO BEAT THE SAND...

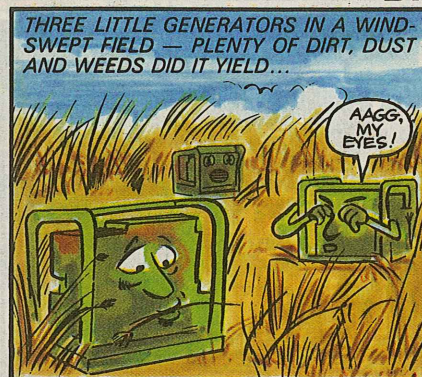


FOUR LITTLE GENERATORS TRYING TO BREATHE — ONE GOT OVERHEATED AND THEN THERE WERE THREE!



## DAY 3

THREE LITTLE GENERATORS IN A WIND-SWEPT FIELD — PLENTY OF DIRT, DUST AND WEEDS DID IT YIELD...



THREE LITTLE GENERATORS, STOUT HEART'D AND TRUE — ONE ENGINE GOT DIRTY, AND THEN THERE WERE TWO!



## DAY 4

TWO LITTLE GENERATORS RUNNING ON LINE — ABANDONED, FORGOTTEN FOR SUCH A LONG TIME...

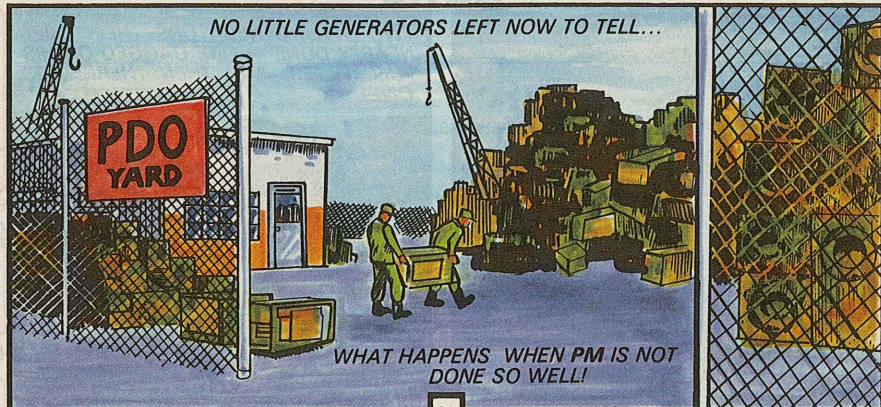
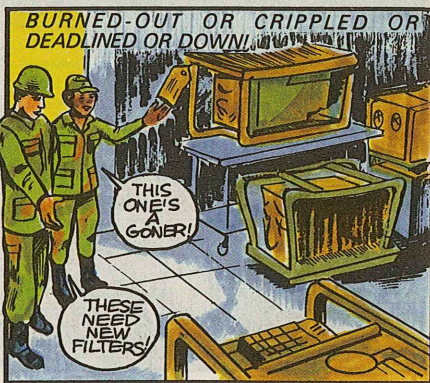
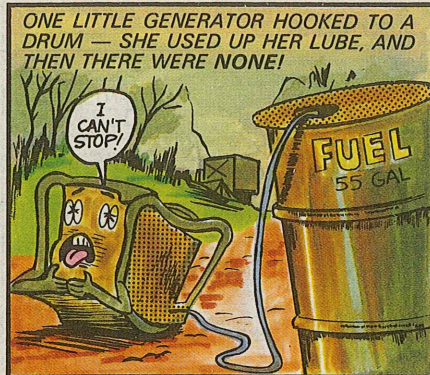


TWO LITTLE GENERATORS, THEIR SHIFT NEARLY DONE — ONE GAGGED ON HIS FUEL FILTER, AND THEN THERE WAS ONE!



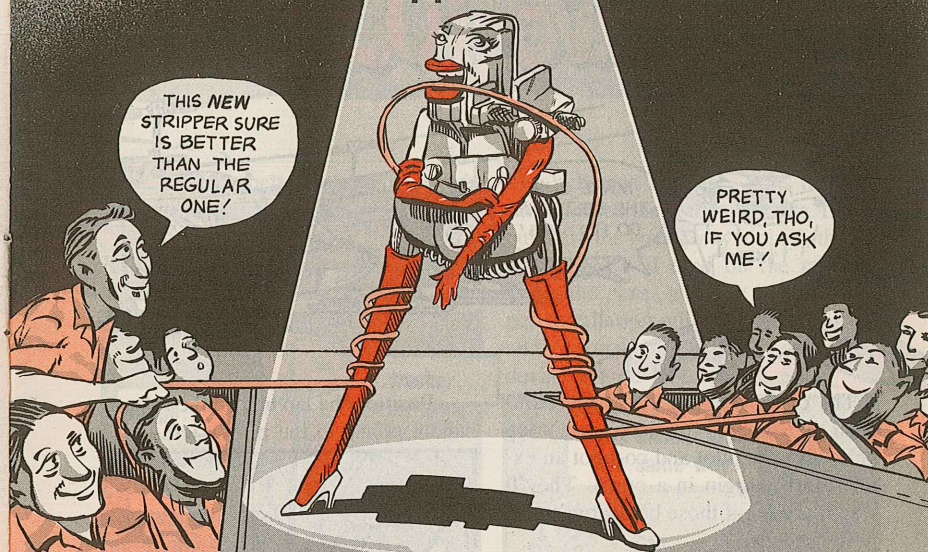


# DAY 5



Aircraft Wire Insulation

## New Strippers Take It Off



Some insulated wires have a special coating that needs a special kind of stripper. For instance, some wires on the Black Hawk and Cobra sport coats of polytetrafluoroethylene (Teflon). Regular wire strippers don't have the precision needed to get the insulation off without cutting into the strands.

Here are 3 NSN's for wire strippers that will work. The 16-26 AWG size stripper will go into the next revision of the AVUM #2 tool set. Meanwhile, use Appendix A of CTA 50-970 as your authority to order it and the other 2.

NSN	FOR AWG WIRE SIZE
5110-00-177-	
7285	10-14
7286	16-26
7287	26-30

## AVIATION MESSAGES

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

**UH-1-84-01** SOF Maintenance Mandatory, 1-time inspection for defective turnbuckle bodies on UH-1D/H/VEH-1H/X. 302145Z Mar 84.

**UH-60A-84-02** SOF Maintenance Mandatory, UH-60A 1-time inspection of wire harness routing. 161430Z Mar 84.

**OH-6A-84-01** SOF Maintenance Mandatory 1-time inspection of H-6 tail rotor assemblies. 211400Z Mar 84.

**OH-6A-84-03** SOF Maintenance Mandatory, Revision to compliance period for 1-time inspection of 0-6 tail rotor assemblies. 302200Z Mar 84.

**CH-47-84-04** SOF Maintenance Mandatory, Inspection of CH-47A/B/C/D engine transmission warning system. 232400Z Mar 84.

**CH-47-84-05** SOF Technical, Inspection of CH-47D forward transmission mounting nuts. 292300Z Mar 84.

**MIM-CH-54-84-MEM-02** CH-54A engine torque indication. 271400Z Mar 84.

**MIM-CH-47-84-MEM-04** Change to CH-47 fiberglass rotor blade deice procedure. 011900Z Mar 84.

**MIM-CH-47-84-MEM-05** Substitution skin material for fiberglass rotor blade repair kit. 072100Z Mar 84.

**MIM-CH-47-84-MEM-06** CH-47A/B/C hydraulic accumulators. 092100Z Mar 84.

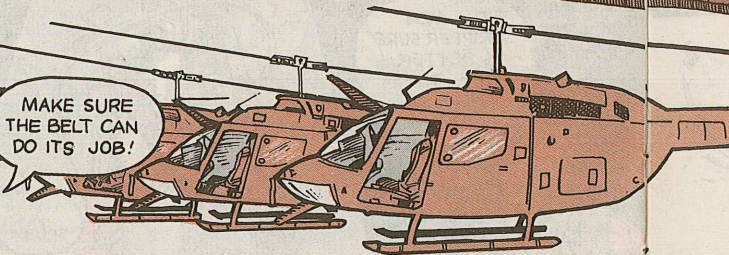
**MIM-T53-84-MEM-03** 1-time inspection of T-53-L-13B/BA turbine engine for sand and dust impactment and clearances between first-stage GP nozzle and wheels. 141545Z Mar 84.



# Have You Belted Your Bird?



MAKE SURE  
THE BELT CAN  
DO ITS JOB!

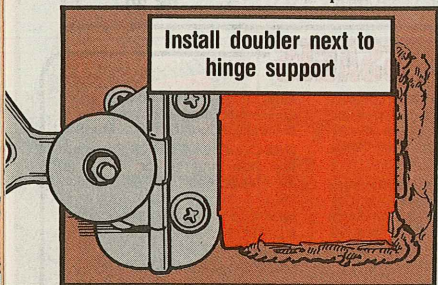


The combined seat panel and bulkhead attachments for the Kiowa's lap belts give the pilot and co-pilot an extra safety margin in a crash. They'll lose that edge if those belts aren't properly installed.

A coming change to TM 55-1520-228-23 will make it easier for you maintenance types to do the job right. Meanwhile, here's the lowdown:

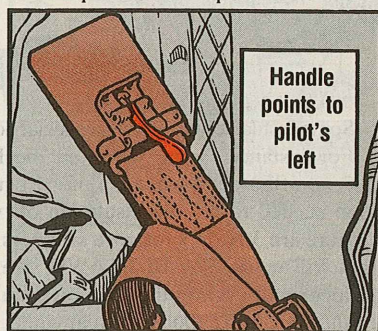
—Install 4 doublers on the seat panel, one next to each hinge support. Use .040-in × 2-in × 2-in aluminum alloy, NSN 9535-00-084-4551, for each doubler. Bond them into place with

Install doubler next to  
hinge support



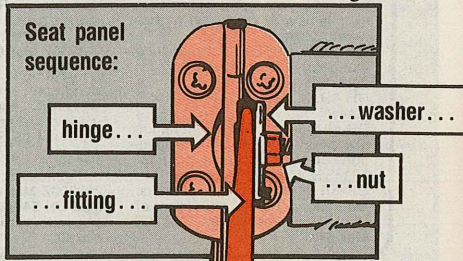
adhesive, NSN 8040-00-016-8662. The doublers keep the ends of the bolts from scratching the seat.

—Position the lap belt so the release handle points to the pilot's left.



—Attach one belt fitting to each seat panel hinge support. Be sure to put the hardware in the right order—hinge, fitting, washer, nut. The nut should be closest to the doubler. That arrange-

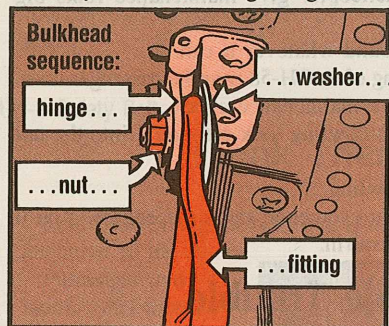
Seat panel  
sequence:



ment gives the belt the strength it needs to hold fast under stress.

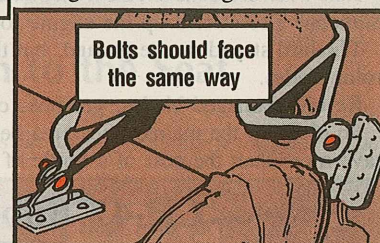
—The other belt fitting goes to the bulkhead support. The hardware goes this way: washer, fitting, hinge, nut.

Bulkhead  
sequence:



The bulkhead assembly bolts face the same way as the seat panel bolts. If you put them the wrong way around, the armor panel will bind on the nut and cause the panel hinge to loosen. Proper installation will keep that hinge—and the crew member—in one piece during a hard landing.

Bolts should face  
the same way



Aircraft Oil Reservoirs ...

## Cap Off Those Tanks!

Dangling, loose or poor-fitting oil filler caps cause lots of labor pains for aircraft mechanics.

Lube that leaks because a cap is loose or the O-ring doesn't seal causes more than a mess in the engine compartment.

If you put an oil filler cap on wrong, oil can be pumped out when the engine is running. A few minutes at zero oil pressure and you can kiss an engine good-bye.

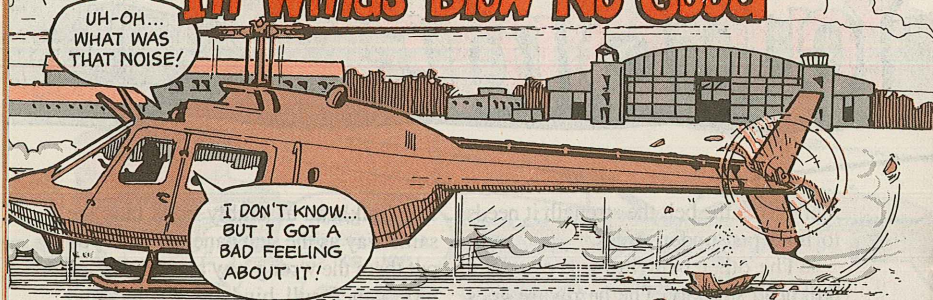
A transmission oil cap that comes loose in flight can get hung up in the cyclic controls. That's bad news for pilot and passengers.

Make sure cap is on  
right and tight!





# Ill Winds Blow No Good



Loose gear and parts lying near a helicopter give maintenance folks big headaches when the rotors start turning.

Wind from whirling blades blows around whatever it can.

Like when someone left the front cowling of an OH-58 near the passenger door. Someone else started up the engine for a maintenance check.

The bird stayed on the ground, but the cowling took off—right into the tail rotor blades.

Result—damaged blades, gearbox, cowling.

So clean up the maintenance area before someone starts the engine. You'll save more than the cost of a bottle of aspirin.

# CH-47 Bubble Trouble



You can burst your unit's bubble budget by ordering more than 2 bubble windows—NSN 1560-01-124-1048—for each of your big birds.

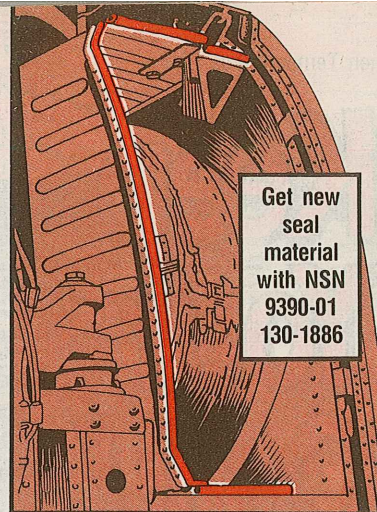
The two bubbles go in the next-to-last windows. If you use more bubbles, you muck up the Chinook's flight characteristics and instrument readings. That sets up a safety-of-flight situation.

Only 2 bubble windows are authorized. See Maintenance Information Message MIM-CH-47-83-MEM-12, 071730Z Dec 83.

AH-1...

# Deal Yourself a Seal

You Cobra mechs need a new seal deal when you order seals for the air induction baffle assembly. The part numbers listed in TM 55-1520-236-23P, for example, are on the way out. NSN 9390-01-130-1886 gets seal material to use on all Cobra air induction baffle assemblies. Use TM 55-1520-236-23, Appendix D, as your authority. Order the material by the foot, as much as you need to make new seals.



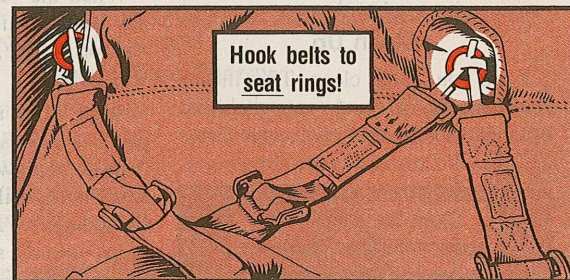
Get new seal material with NSN 9390-01 130-1886

UH-1 Safety Belts...

# Hook Them to the Seat

Soldiers wearing rucksacks in Hueys can't strap in safely if the seatbelts are anchored to the floor.

Passenger and medic belts moored to floor fittings are too short to hold anyone wearing bulky gear. So hook up those belts to rings on the seats themselves, not to the floor.



UH-60A...

# Seat Cover PM

Take a look at the seat cover straps on the troop and gunner seats. Could be they're getting chafed by the rivet head in the tube bracket.

Here's a simple fix: Replace the headed rivet, NSN 5320-00-883-9391, in the top right and left seat tube brackets with countersunk rivets, NSN 5320-00-866-4660.





# Keep Your Cool!



HMMM... NICE TO SEE THINGS HEATING UP A BIT!

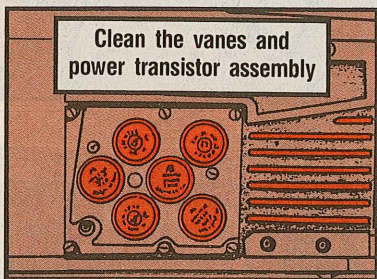
HERE ARE SOME TIPS TO HELP YOU KEEP YOUR COOL!



The last thing you need when things start to heat up is for your AN/VRC-12-series radio to shut down.

### Clean Up

Keep your radio clean. That means removing the side and rear panels and brushing off the heat exchanger vanes and power transistor assembly.



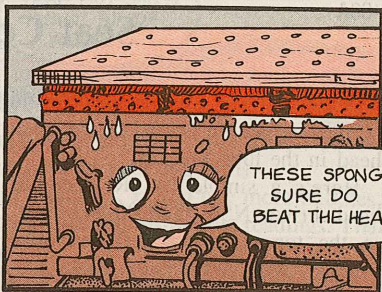
Clean the vanes and power transistor assembly

Do it at least weekly if you're in a dusty area. You may need to do it even more often. Always replace the panels. They help the fan direct the air where it's needed to cool things down.

### Find Some Shade

When the sun's beating down, use any shade available. A vehicle's canvas top, a tree, even some cardboard will help.

Some units use wet rags. Another puts a layer of sponges on the radio set. A piece of plywood or fiber board with small holes drilled in it goes on top of the sponges. Water poured on the wood seeps onto the sponges and helps keep the set cool.



THESE SPONGES SURE DO BEAT THE HEAT!



C'MON, IT'S TOO HOT TO GET ALL STEAMED UP!

IT'S 100 DEGREES IN THE SHADE, WE'RE LOST, AND NOW THE RADIO'S OVERHEATED... AND YOU EXPECT ME TO STAY COOL!

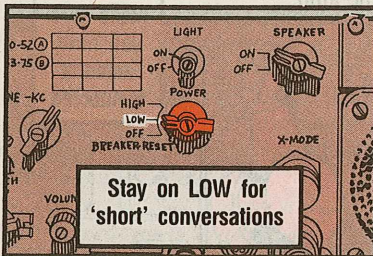
Keep other things off radios... like those form-fitting canvas covers Uncle Sam provided years ago. Now they're a no-no. Shirts, pubs, field gear too, can overheat a radio set.

Good coversup? Use solar heat reflecting forest green paint at touchup time. Get a gallon with NSN 8010-00-111-7937.

### Save Your Energy

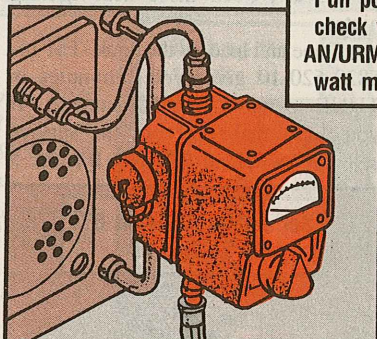
You build up the most heat when talking. So keep transmissions short. When you're transmitting less than 15 miles, use the LOW power setting. That'll draw less current and generate less heat.

Finally, keep your set alined. Your org shop can give it the once-over with their test equipment.



Stay on LOW for 'short' conversations

When you need longer range, use HIGH. Turn back to LOW when you're done.

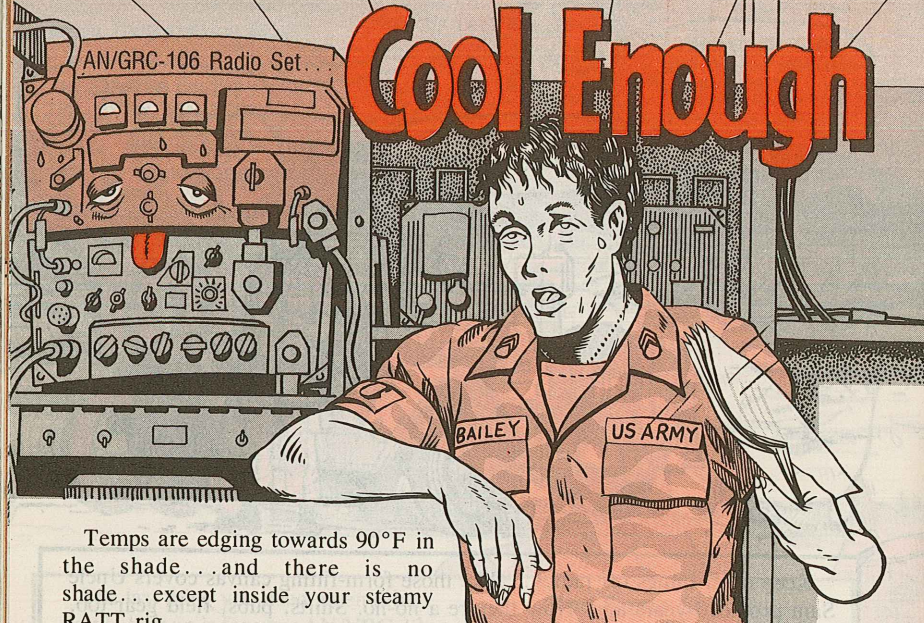


Pull power check with AN/URM-1B2 watt meter

Keeping the set within forward and reflected power limits keeps it cooler and heads off damage.



# Cool Enough

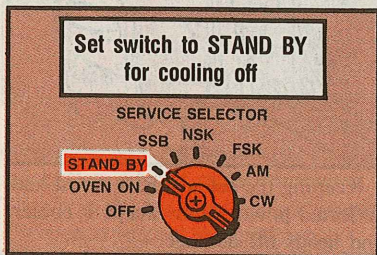


Temps are edging towards 90°F in the shade...and there is no shade...except inside your steamy RATT rig.

You think you've got it rough, right? How about your radio set? It's stuck away high in a corner. It's fighting the same heat you are from the outside, plus all that being built up inside.

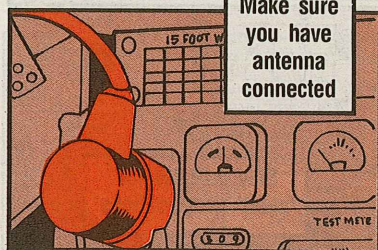
Since it's your job to keep it cool and on the air, heed these heat-fighting hints:

- Tune and load by the book. TM 11-5820-520-10 gives you 2 minutes in TUNE to make your adjustments. If you don't make it, turn the service selector switch to STAND BY for 5



minutes before trying again. That gives the amplifier time to let off steam.

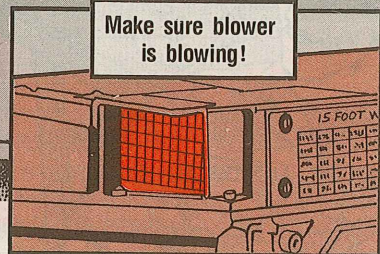
- Be sure you have the antenna connected before trying any tuning or transmitting. Make all antenna connections tight and corrosion-free. Without a good connection, that RF power you're sending out can be reflected right back, heating up (or burning up) the amp.



- Be sure your amplifier blower is blowing. If it's not keeping your radio cool, heat builds up fast.

# For You?

f 402 44



TA-312 Ringing...

## Seeing is Believing

Dear Macon,  
Our unit often has many phones in one location. When one rings, it's sometimes hard to tell which one it is.

Is there a light we can add to the TA-312 to show us which one is ringing?

MSG L.W.T.



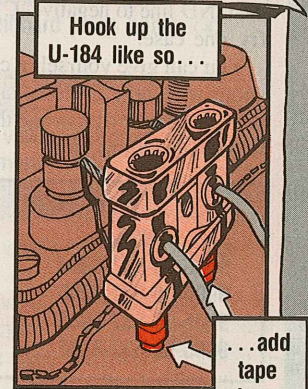
Dear Sergeant L.W.T.,  
You bet. Try a U-184 connector adapter, NSN 5805-00-708-2203. See page 248, FM 24-20.

The neon light indicator is part of the SB-993 switchboard, but works fine with field phones.

Just cut away an inch or so of insulation from your field wire. Run the wire through the U-184 to the -312's binding posts.

One caution. You can get a shock from the indicator's male plugs. A quick wrap of tape gives you all the insulation you need.

Macon





WHEN IT'S TIME TO LAUNCH YOUR COMMO CLEANUP CAMPAIGN, HERE'RE SOME ITEMS YOU'LL WANT ON YOUR SIDE!



# Cleaning Up

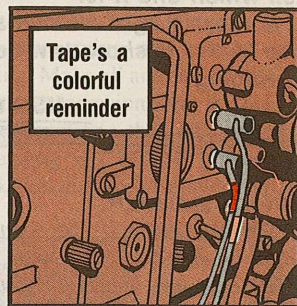
Use Tags, Tape...

## Nix Wire Mix

Wire swapping's a big no-no when you connect your battery computer system's control case to external power.

The field wire from the AUX POWER binding post goes to the positive terminal. Connect the GND line to negative. Cross them and you'll fry one case.

You can give yourself a colorful reminder by using wire tags or 1/4-in tape to ID both ends of your wire. You can use this marking on other wire connections, too.



WIRE TAGS	
NSN	COLOR
9905-00-537-8954	Red
9905-00-537-8955	Yellow
9905-00-537-8956	Green
9905-00-537-8957	White

TAPE	
NSN	COLOR
7510-00-634-2788	Yellow
7510-00-634-2790	Red
7510-00-634-2791	White
7510-00-634-1341	Green

ITEM	QUANTITY	USE
Silicone grease 6850-00-880-7616.	8-oz tube	Rubber O-rings, grommets, gaskets, preformed packing, antenna threads
Cleaning/lubing compound 6950-00-003-5295	16-oz can	Cleaning switches, contacts
Trichlorotrifluoroethane 6850-00-984-5853	5-gal can	Contact and head cleaner
6850-00-105-3084	16-oz can	
Cleaning compound 6850-00-597-9765	1-gal can	Grease, fungus, dirt remover (external)
Isopropyl alcohol 6810-00-753-4993	8-oz can	Cleaning circuit boards, electronic components
Freon type TE (PN18598MS180FREONTE)	16-oz can	Cleaning TACFIRE MTT's
RIC B16		
Varnish 8010-00-515-2487	1 pint	Moisture, fungus protection
Silicone grease 9150-00-257-5358	8-oz tube	Antenna contacts (non-insulating)
Talcum powder 8510-00-817-0295	9-oz can	Switchboard plugs and moisture shields
Denatured alcohol 6810-00-201-0906	1 pint	Cleaning plugs, springs (in humid areas), searchlight reflectors
Polishing cloth 7920-00-985-6849	13 1/2 x 11-in sheet	Switchboard plugs and packs
Silicone compound 6850-00-927-9461	5-oz tube	Heatsink compound, heat protection
Lens tissue 6640-00-285-4694	24x36 inches (100 sheets)	Night vision and projection equipment
Lens tissue 6640-00-597-6745	6x4 inches (50 sheets)	Night vision equipment, optics
Lens tissue 6640-00-240-5851	24x36 inches (100 sheets)	Night vision equipment, optics
Lens cleaner 6850-00-392-9751	2-oz bottle	Night vision and projection equipment
Anti-static compound 6850-00-882-6690	3 1/2-oz bottle	Plastic gage windows
Insulating compound 5970-00-181-0190	Kit	Protective coating for printed circuit boards

NOW, LET'S GET THE JOB DONE!





D7-Series,  
D8K Tractors...

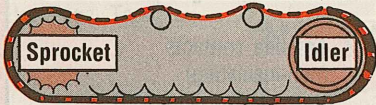
MADE IN U.S.A.

# Slack's the Way to Go!

Think slack—not sag—when you adjust the track on your D7-series or D8K tractor.

So what's the difference? Sag is measured between the idler and the front track support roller. Slack is the difference between the actual length of the track and the total length of the track system. One inch of slack in the track has proven to be the ideal tension.

Track length minus system length equals slack

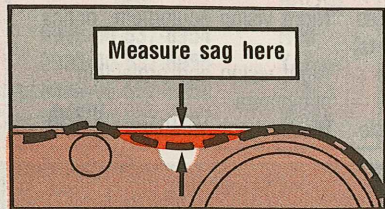


The slack method is easier and more accurate than the sag method shown in the dozer TM's.

You use the sag measurement as a quick guide to tell when to adjust the track.

To adjust the track, park the tractor on level ground. Drive forward and coast to a stop without using the brakes.

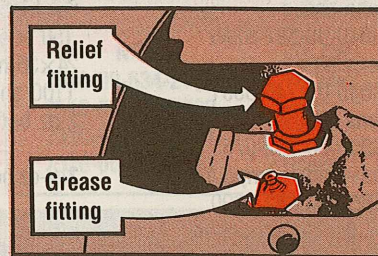
Lay a straight edge across the top of the track from the front support roller to the idler. If the sag is more than 1 1/2



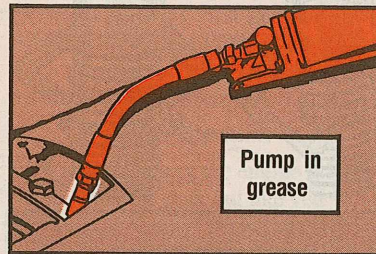
PROPER SLACK IS LIKE A COMFORTABLE BELT... NOT TOO TIGHT AND NOT TOO LOOSE!

inches for a D7 or more than 2 inches on a D8, it's time to adjust the slack.

Open the plate over the hydraulic track adjuster to get at the adjusting fittings.

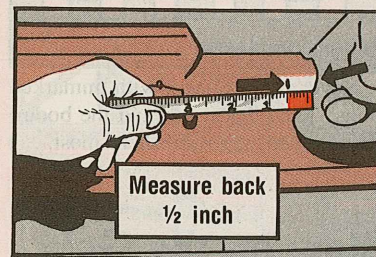


Wipe off the lube fitting and hook up the grease gun. Pump in grease until the track idler is as far forward as possible.



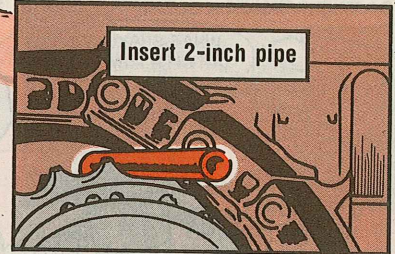
The track will be almost straight between the front support roller and the idler. Remove the grease gun.

Mark the track roller frame 1/2 inch behind the rear edge of the idler bearing wear plate.



Open the relief valve. Check if the track has loosened, but NEVER look into the relief valve to see if grease is escaping. You might be blinded by an eye full of high-pressure grease.

Place a track pin, drawbar pin or a piece of 2-in pipe between the drive sprocket teeth and the track.

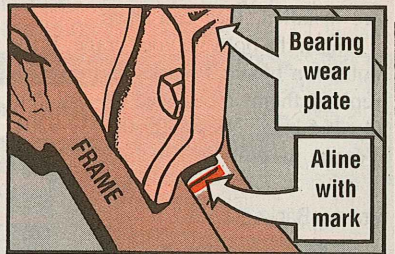


Start the tractor and move it backwards until the idler backs up 1/2 inch or more. The pipe should be at about the 12 o'clock position.

Move the tractor forward until the pipe is free. Shut off the engine and remove the pipe.

Close the relief valve.

Connect the grease gun to the fitting and pump until the rear edge of the idler bearing wear plate is even with the mark on the roller frame.



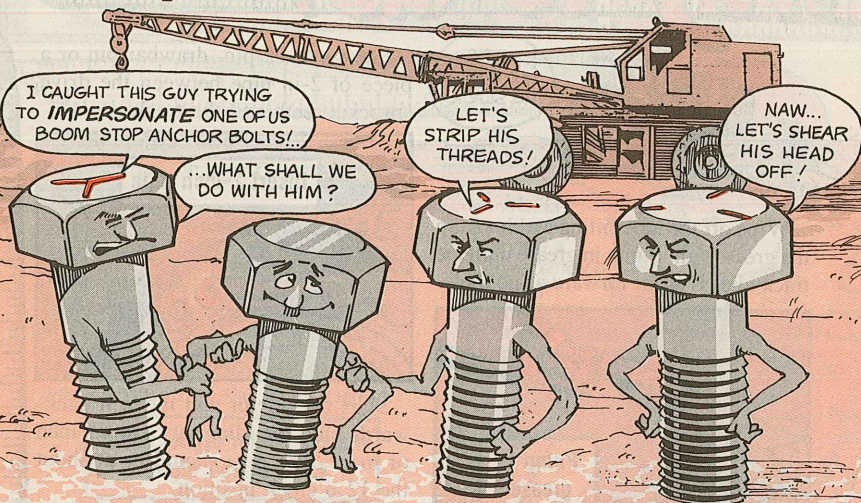
Remove the grease gun. Close the adjuster cover plate.

Repeat for the track on the other side.

The sag may vary depending on the vehicle, but the proper track tension is there.



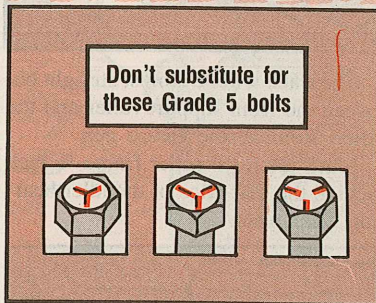
## Accept No Substitute for Boom Bolts!



The boom stop anchor bolts must be Grade 5 or they can fail under stress. That'll let the boom fall back on the cab...and it's happened!

The bolts hold the boom stop assembly to the boom. The boom stops prevent the boom from being pulled back over on the cab. If the wrong bolts are installed, they can shear.

Check the bolts on your crane. If the bolts don't have 3 marks on the head, replace them. You need 3/4"- by 2-in Grade 5 bolts, NSN 5305-00-939-9204. Torque them to 200 lb-ft.



Never replace them with unmarked bolts. They'll let you (and the boom) down when you need them most.

Loader-Backhoes...

## Keep It Low and Slow on the Go!

When you have to move your JD410 or the small Case loader-backhoe, keep both buckets close to the ground.

If you can, carry about a 1/2-bucketful in the loader and backhoe buckets. That'll reduce the chance of tipping over when you drive across uneven ground.

Keep your speed down, too.

## Tips to Keep You Going

Here are some tips to make your MLT-6-series or ARTFL-6 rough terrain forklift easier to maintain.

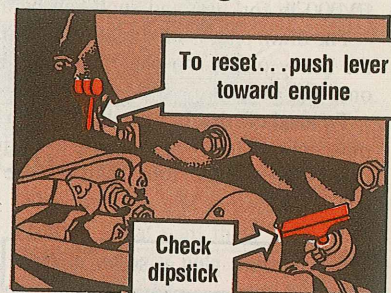
If you used the EMERGENCY STOP control to stop the engine, the emergency stop lever has to be reset by hand.

Get your mechanic to check for problems and reset it for you.

That's done by first pushing in the EMERGENCY STOP control, and then pushing the lever on the left front of the engine toward the engine.

### Oil Dipstick

When you check the engine oil level, never yank the stick out like you would



on your POV. Instead, turn the T-handle counterclockwise a couple of turns to loosen the cap, then pull it out.

When you put it back in, tighten the handle. That will keep the dipstick in and water or dirt out of the crankcase.

## Keep Forks Sliding Free

Plagued by adjustable forks that won't adjust? Could be the guide tubes in the fork carriage are clogged with dirt or rust.

Head off problems by checking the guides often. Clean out any dirt you find. Brush off rust. Coat the guides with a very light coat of grease. Don't use much grease, tho. Too much will hold dirt and dust...and make the problem worse. In sandy areas use silicone grease. NSN 9150-00-735-1800 gets you a 1-lb can.



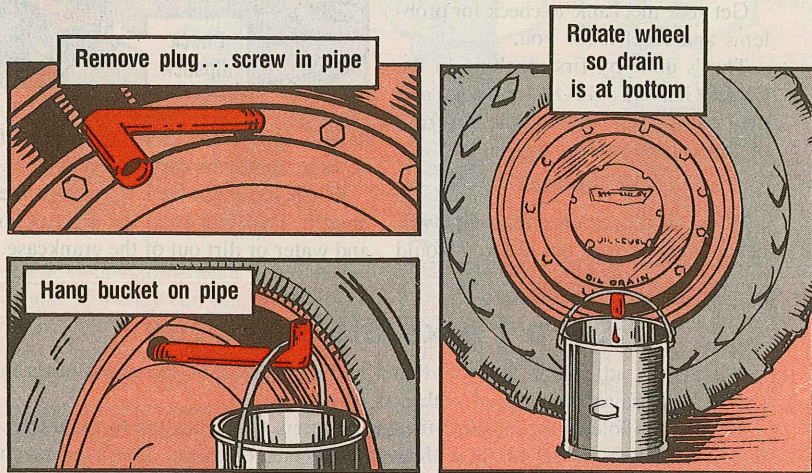


## A Draining Solution

Draining the final drives in scoop loaders, 2380/2385 cranes, 6,000-lb and 10,000-lb forklifts and such can be a real messy job.

The drain plug is on the recessed part of the tire rim. When you pull the plug, the heavy oil has no place to go but down the side of the wheel and tire and onto the ground.

To head off that mess, take a length of clean pipe and thread it to fit the drain plug hole. When you're ready to drain the final drive, rotate the wheel so the drain plug's at the top. Take out the plug and screw in the pipe.



With a bucket handy, rotate the wheel so the drain is at the bottom. Presto! The oil drains into the bucket and there's no mess to clean up.

Don't forget to remove the pipe and replace the plug when you finish.

Water Distributors...

## Clean Water Prevents Nozzle Clog

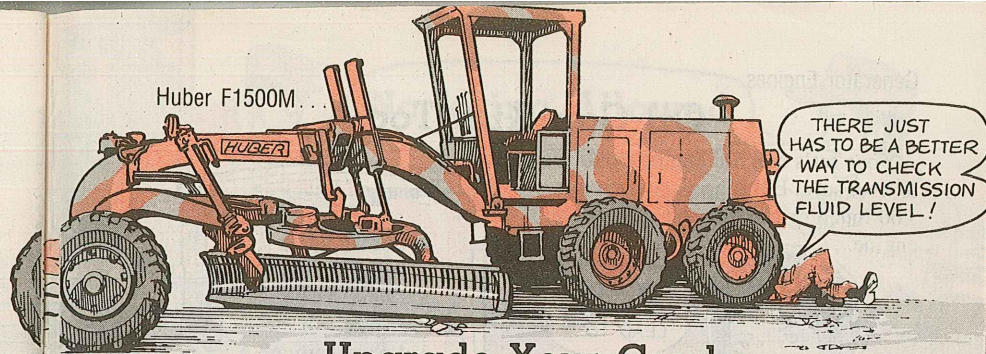
Small pebbles or trash that get by the pump intake strainer can clog the spray nozzles on your water distributor.

Pebbles and trash get sucked in when you fill up from a handy stream or lake. The strainer keeps the big stuff out...but small stuff can slip by.

Use a 5-gal bucket to end the problem. Set the bucket upright in water deep enough to cover it. Drop in a couple of rocks as weight.

Put the strainer in the bucket. It'll get cleaner water—and save nozzle cleaning.

Huber F1500M...



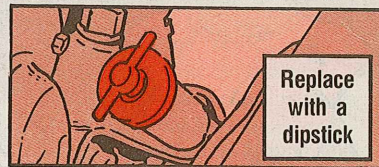
## Upgrade Your Grader

Tired of crawling under the grader to check the transmission fluid level?

Add a dipstick, NSN 6680-01-035-5023, so you can check from above. Your authority is Para 2-9a of TB 43-0001-41-8 (Jan 82).

Turn the transmission filler tube so it's straight up and down. Remove the

filler tube cap and replace it with the dipstick. That's all there is to it.

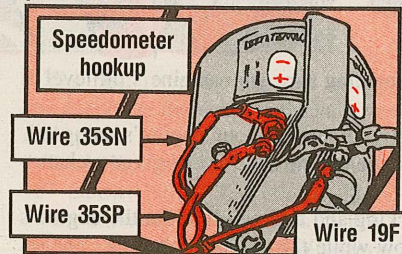


## Speedometer Checkout

Troubleshooting a bum speedometer isn't covered in TM 5-3805-253-12. Here's how:

Make sure the positive wires go to the terminals marked (+) and the negative wires go to (-). Otherwise, the speedometer won't work.

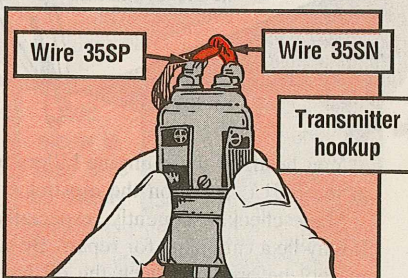
Make sure you have 24 VDC at the input voltage wire 19F. If you don't, look for a problem in the wiring to that point.



Make sure you have a good ground to the (-) terminal on the speedometer. Hooking the wire from the speedometer

to the instrument panel may not be enough. You may need to add a ground strap lead, NSN 6150-00-112-0236, from the panel to the instrument panel console.

If the wiring checks out but you still don't get a speed reading, use a multimeter to check the transmitter.



If you get continuity, the transmitter is OK. If you don't, replace the transmitter.

If none of this works, replace the speedometer.



## Oil Can Kill, Too

Your set's Mil Std engine needs oil to live, sure. But it needs just enough. Too much or too little oil can ruin an engine.

TOO MUCH OIL CAN LEAD TO...

- ★ Fouled spark plugs
- ★ Sticky piston rings
- ★ Heavy carbon deposits in the combustion chamber
- ★ Leaky rear main bearing seals
- ★ Coked-up intake ports

... WHILE TOO LITTLE OIL LEADS TO...

- ★ Heat build-up
- ★ Friction
- ★ Power loss through blow-by in the cylinders.

You head off these engine killers by making sure your engine's oil level is at the FULL mark on the dipstick.

Make checks frequently, especially if you suspect your engine's using oil. It may be a candidate for repair. Be sure the engine is OFF and given a chance to cool before you check the oil level.

Some troops try to save time by checking and adding oil while the engine's running. The oil level will always be low while the engine's running. The oil is out of the crankcase and lubing moving parts.

Finally, be sure the dipstick is straight and clean. A crooked measure is no better than a guess.

No Idling Allowed



Dear Half-Mast,  
I have checked the TM's for various generators and find no guidance on idling. Should any sets be idled at the start or end of operations? Or should they be run at rated speed and no load for a warm-up or cooling-off period?  
SFC R.B.R.

Dear Sergeant R. B. R.,  
Forget the idle, Sergeant. Idling an engine can wreck the exciter, burn out the voltage regulator or blow the rotor rectifier diodes.

As you suggest, your best warm-up and cool-down drill is to run the engine at rated speed—with no load—for 3 to 5 minutes.

Of course, you'll want to check any generator set's TM for special instructions.

*Half-Mast*

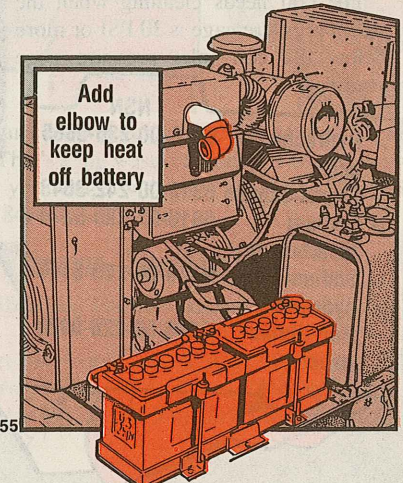
5-, 10-KW DED Generators...

## Beat the Heat

The heat from the exhaust muffler can evaporate the water in the batteries real quick.

To deflect the heat, mount a 1 1/4-in 45° elbow, NSN 4730-00-137-9218, on the exhaust muffler of your 5-KW.

You need 2 for your 10-KW generator sets—one keeps heat away from the batteries and the other keeps heat off the fuel tank.





# Steam Cleaner



Your steam cleaner is one handy machine, but not when the heating coil's plugged with lime.

Minerals in the water build up in the coil as you use the cleaner. If you don't delime—remove the deposits—the coil may plug up completely!

The coil needs cleaning when the steam pressure gage is 30 PSI or more below the coil inlet pressure gage reading.

TO DELIME THE COIL, YOU'LL NEED!...

NSN	
✓ Hydrochloric acid	6810-00-236-5665
✓ Formaldehyde	6810-00-242-3643
✓ Sodium bicarbonate	6810-00-290-5574
✓ Sodium hydroxide	6810-00-270-8177
✓ Red litmus paper	6630-00-226-0920

# Cleanout

Wear rubber boots, apron, gloves and a full face shield when you mix the acid. Start with 5 gallons of water in a drum. Add a gallon of acid and a pint of formaldehyde. Then pump the solution thru the cleaner until there's less than 10 PSI difference between the coil inlet gage pressure and the steam pressure gage.

Pump out the acid/formaldehyde solution and neutralize it with sodium hydroxide. Stir the solution until red litmus paper dipped in the solution turns blue. Then it's safe to dump the solution down the drain.

Rinse the cleaner with a solution of 2 pounds of sodium bicarbonate dissolved in 5 gallons of water. Then rinse again with clean water.

If your coil is really clogged, let it soak 24 hours in the acid solution. Then rinse with the sodium bicarbonate solution and water.

## Map, Photograph Envelopes



Some people are ordering the map and photograph case, NSN 8460-00-368-4281, just to get the envelopes inside. That's a **big** waste of money. The envelopes are available separately. Get one for your maps with NSN 8460-01-113-7575 and one for your photos with NSN 8460-01-113-7576.

## Scoop on Alarm Switch

Chances are that if your Clark 175B scoop loader's backup alarm fails, it's because of a faulty switch.

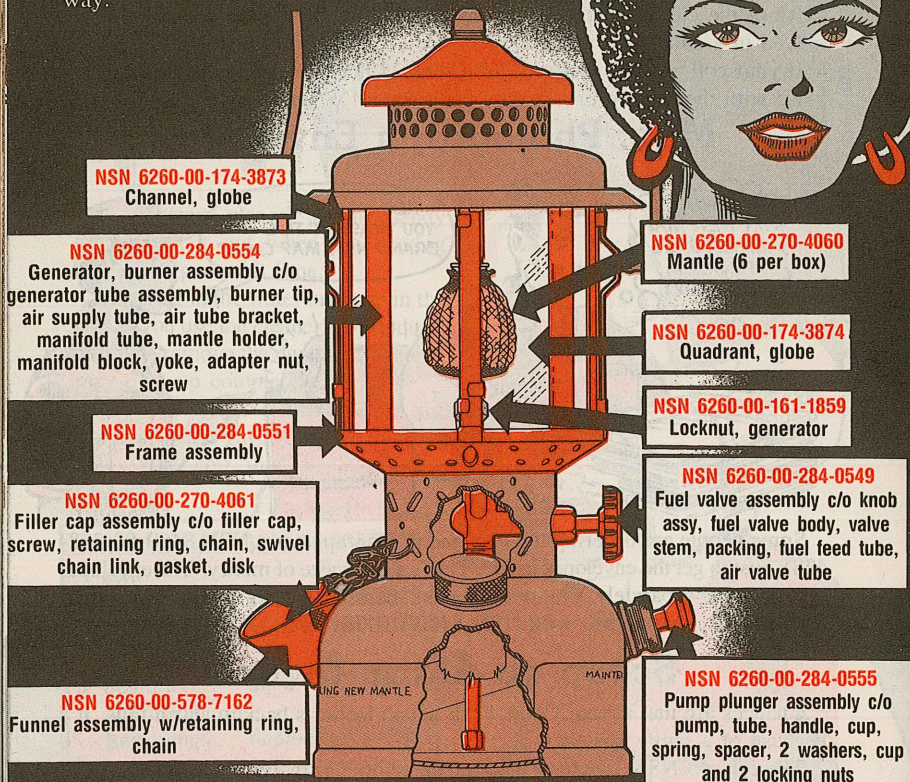
There is no NSN, but you can get the switch with FSCM 12603 and PN 620313. This replaces PN 2516008 from Page Z48-1 of your TM 5-3805-257-14&P. Order on DA Form 1348-6. Use S9C as the RIC. It'll cost you \$4.47.



# Repair Parts, P

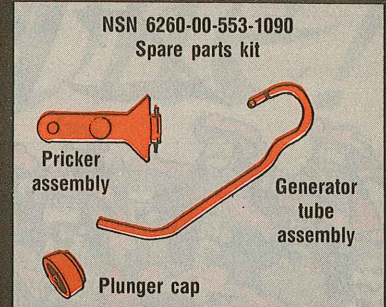
At night in the field there're plenty of things to worry about, but darkness doesn't have to be one of 'em. Not when you've got your gasoline lantern, NSN 6260-00-170-0430, to light the way.

TO KEEP YOUR LANTERN BURNING BRIGHT, USE THESE REPAIR PARTS!



# M Tips

You can also get a spare parts kit for your lantern with NSN 6260-00-553-1090. It contains a plunger cup, generator tube assembly and pricker assembly.



## Lantern PM

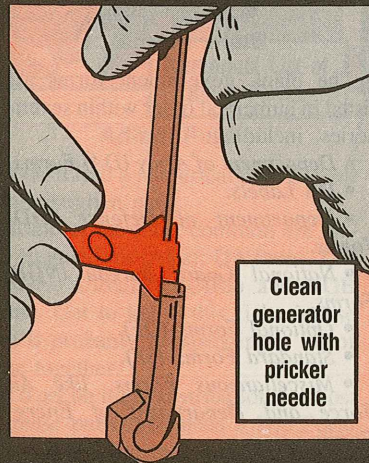
Course, you can hold down the time you spend waiting for parts and fixing your lantern if you practice good PM.

Here're a few tips that'll help:

**PUMP LEATHER CARE.** The pump plunger cup—the leather washer at the end of the fuel pressure pump plunger—gets stiff with use, especially during cold weather. Look for cracks and feel for brittleness. If needed, soften with a few drops of light oil—such as neat's foot, NSN 8030-00-597-6105.

**GENERATOR AND BURNER PM.** Keep your lantern's generator clean and it will last a long time. After about 10 hours of operation or when the flame turns yellow and the light dims, check it over for signs of carbon buildup.

If the tip is clogged, remove it with the special wrench. Clean the hole inside with the pricker needle.



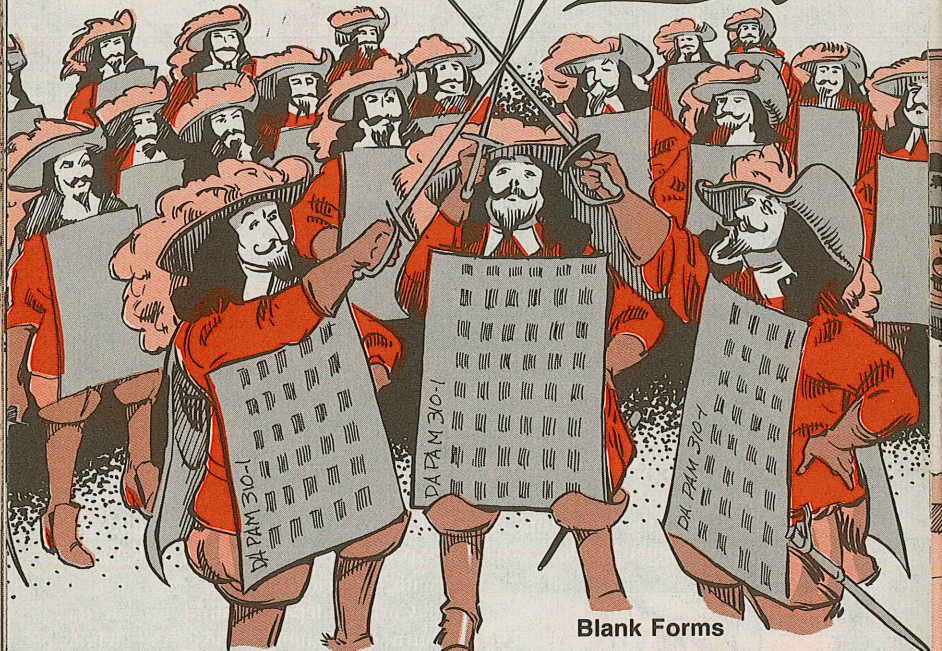
Carbon deposits build up on the burner assembly. Take the whole burner-generator assembly out of the lantern. Remove the generator. Clean the inside of the burner with a soft wire—like a pipe cleaner, NSN 9920-00-292-9946.

**GLOBES AND VENT HOODS.** Dirty quadrant globes rob you of light. Remove quadrant sections. Clean 'em in soapy water. Then use a soft, dry cloth on 'em.

A clogged or dirty vent hood chokes the light out of your lantern. Take the hood off. Use light air pressure to blow carbon particles out of the screen.



# And All



**Blank Forms**

The Three Musketeers were a loyal trio. They banded together to beat all odds. DA Pam 310-1, Consolidated Index of Army Pubs and Forms, (microfiche) is like that hardy group of men.

DA Pams 310-1 thru -4, -6 and -7 joined forces and became one powerful index in DA Pam 310-1. That one set of microfiche lists all the pubs and blank forms used by the Army.

Once you conquer using the index, you'll be able to spear all of the pubs that deal with your gear. Sound easy? It is!

The blank government forms are listed in numerical order within several series, including:

- Department of Army (DA) Forms.
- DA Labels.
- Department of Defense (DD) Forms.
- National Guard Bureau (NGB) Forms.
- Optional Forms (OF).
- Standard Forms (SF).
- Miscellaneous Forms, like Air Force and Department of Energy Forms.

# In One!

Find the form that suits your purpose? Then amble over to your local supply Central Issue Point (CIP). It's likely they'll have your form in stock. If not, have your pubs clerk get it for you on a DA Form 4569 through AUTODIN.

There is only one listing of blank forms. The rest of DA Pam 310-1 covers publications.



**Numerical List of Blank Forms**

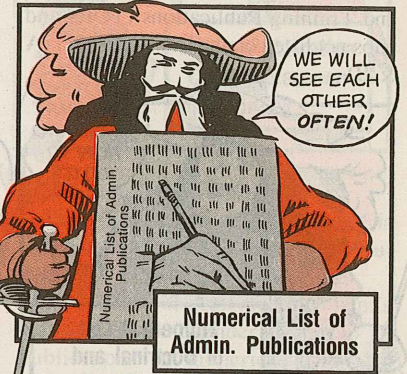
## Admin Pubs

You'll find a numerical listing of all administrative pubs.

Some of the most common are Army Regulations (ARs), DA Pams, DA Posters, Circulars (CIRs) and NGB Pams. Get to know this fiche 'cause you'll probably be spending a lot of time together.

To get on initial distribution for most of these pubs, you need a DA Form 12-4, Requirements for DA Admin

Pubs other than Regs and Circulars, and DA Form 12-9A & B, Requirements for DA Unclassified Admin Pubs (ARs, CIRs and Pams) and Classified Admin Pubs.



**Numerical List of Admin. Publications**

## Doctrinal and Training Pubs

Doctrinal and Training Pubs tell you what to do and how to do it.

Army Training and Evaluation Program (ARTEP) pubs list the tasks of everyone in your unit and the training objectives.

A Table of Organization and Equipment (TOE) states your units normal mission, organizational structure and your personnel and equipment requirements.

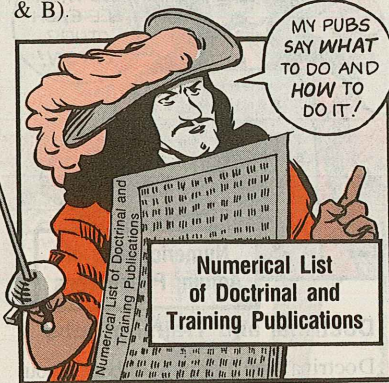
Field Manuals (FMs) contain instructions, information and reference material relating to your unit's training and operations. They state military doctrine, tactics and techniques.





Training Circulars (TCs) give you training directives, policies or other info that's revised so often it's not included in permanent training pubs. They're used to get the word out about new training doctrine or techniques.

Request initial distribution for these pubs on either a DA Form 12-11A & B, Requirements for Army Doctrinal Publications (FMs, TCs and ARTEPs), or DA Form 12-12, Requirements for Tables of Organization and Equipment and Training Publications (TOEs and pubs not listed on the DA Form 12-11A & B).



### Technical Pubs

This lists various technical pubs including:

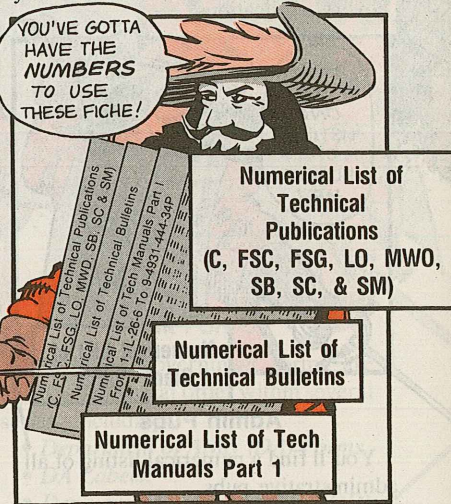
- *Identification Lists (ILs) by Federal Supply Groups*
- *Lubrications Orders (LOs)*
- *Modification Work Orders (MWOs)*
- *Supply Bulletins, Catalogs and Manuals*

To get on initial distribution for these, you use DA Form 12-21, Requirements for Federal and DA Supply Catalogs, and DA Form 12-34, Re-

quirements for DA Supply Bulletins.

Technical Bulletins are listed separately. There you'll find all the Technical Bulletins (TBs) that relate to your gear. Use a DA Form 12-34A and 12-34C, Requirements for Army Technical Bulletins, to get on initial distribution.

Technical Manuals take up several fiche. They cover all equipment in the Army, describe the gear and tell you how to operate, maintain and repair it. Use DA 12-series forms to get TMs for specific equipment. Check with your pubs clerk to find out which ones you need to use.



### Rescinded Pubs

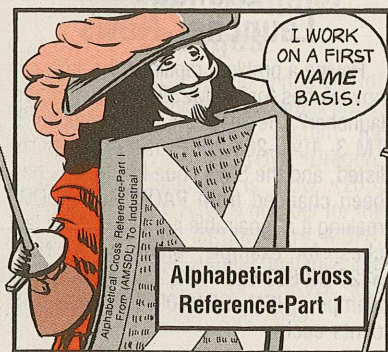
On one fiche you'll find a list of pubs that have been rescinded for the active Army, but are still good for reserve components.

On another, you'll find a list of all pubs and forms rescinded since the last issue.

### Alphabetic Cross-Reference

The alphabetic cross-reference in DA Pam 310-1 crosses the publications and blank forms to the nomenclature (name) of your equipment. So, if you know what your gear's called, you can find its pub.

This cross-reference also covers general subjects like training and personnel regs. All you need to know is the subject area.



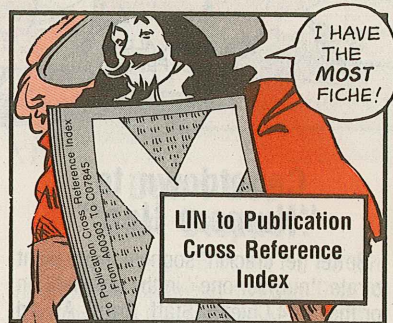
### Cross-Reference by LIN

These fiche are titled Cross-Reference by SB 700-20 Line Item Number (LIN). This section will help you find the pubs (LOs, TBs, SCs, TMs, and MWOs) you need to keep your gear going. If you know the LIN, you've got it made.

Besides your gear's LIN, you'll find the nomenclature for your gear and its NSN. Underneath is a pot of gold!

Following the LIN will be a list of basic pubs and changes for your end item. You'll also see a list of components for your gear, their names and NSNs. The fiche will list all the pubs

and changes that relate to these components. With this cross-reference, you can find just about any tech pub on your end item and its components. Now you see why it includes so many fiche!



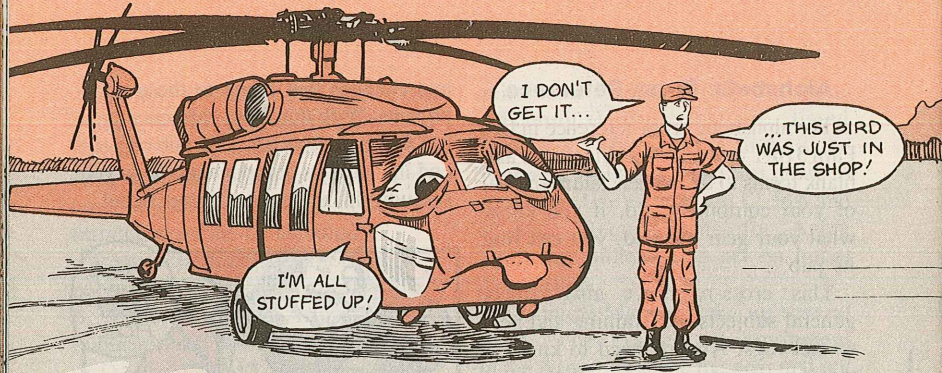
### NSN to Pub

The NSN to Pub cross-reference is the last fiche of DA Pam 310-1, but definitely not the least important!

This fiche cross-references an item's National Stock Number (NSN) to its publications in numerical order by Federal Supply Class (FSC). That's the first four digits of your NSN. It lists all the pubs you need for that particular NSN. Know the NSN of your item but not the name or LIN? Then the last place to look is the best.







## Countdown to "Numero Uno"

Better get crackin' soonest if you want to rate "number one" in the competition for the 1984 Chief of Staff, Army, Award for Maintenance Excellence. Time's running out. The good word on how to compete is in DA Cir 750-84-5 (1 May 84). Latch onto a copy and move out smartly.

A couple of tips:

Judges say be sure to back up with good info all accomplishments that meet award requirements.

Also, your unit's submission must follow exactly the format in Appendix A of the circular. If some of the items don't apply, say so and explain why. Don't just leave out an entry. That could leave you out in the cold.

## Mast Needs a Cap

The crosswind sensor mast on your M60A3 tank needs a cap to protect the tip. If the cap assembly, NSN 1220-01-018-9175, is broken or sprung, and you're waiting for a new one, try NSN 5340-00-089-4460. This 6-cent protective cap is OK for use until the spring-loaded cap comes in.

## Grenade Launcher News

Having a problem repairing the stowage box latches for the M239 smoke grenade launcher? The answer is in the launcher's TM 3-1040-266-20&P. It has box parts listed, and the SMR code for the box has been changed from PAOZZ to PAOOO, making it a repairable item. To fix the latches, for example, order rivets, NSN 5320-00-883-8271 (\$3.23 per 100), and clamps, NSN 5340-00-860-3862 (65 cents each).

## Pantel Check Error

That M137 pantel correction counter check on Page 28 of PS 375 gave you a wrong steer. The headshed now says that if the letter "L" is not on the right side and the letter "R" is not on the left side, turn the pantel in to your support for repair.

## New RATT Clock

Need a wall clock for your AN/GRC-142, -122 radio teletype-writer set? Get it with NSN 6645-00-410-2395. The NSNs shown in TM 11-5815-334-12 and -20P are no good.



## "Hotline" Number Changes

The commercial telephone number for the "hotline" handling tanks, small arms, missile guidance/control system for LCSS, ground and air TOW, Dragon, Lance and Shillelagh is now (205) 235-6582. The AUTOVON number for the "hotline" handling all howitzers, M578, FAAR, FADAC, and ground guidance and shop/test equipment for I-HAWK and Nike-Hercules is now 238-7693.

## Send DA 2410's to AVSCOM

Bird mechs, you now send your DA forms 2410 directly to Aviation Systems Command. There's no need to pass them to Data Processing for conversion to punch cards or tape. And you don't send them to the Materiel Readiness Support Activity.

That's the word in TSARCOM Msg DRSTS-MPSD 211400Z Nov 83. Send forms to:

Commander, USA AVSCOM  
ATTN: DRSAV-MPSD  
4300 Goodfellow Blvd.  
St. Louis, MO 63120

## Don't Use Nest Stopper!

UH-60A mechs, hold off on the bird nest stopper described on Page 37 of PS 375. The bird headshed now says not to use it. If an aircrew forgets to remove the stopper, it could blow into the tail rotor controls.

## Turn In Inertia Reels

Bird mechs, don't toss inertia reel assembly, NSN 1680-00-775-4182. The headshed has decided the reel can be fixed at depot level. So turn in unserviceable reels to your support folks. They'll send them to:

Commander  
Sharpe Army Depot  
Lathrop, CA 95330

## M16A1 Handguard NSN Switch

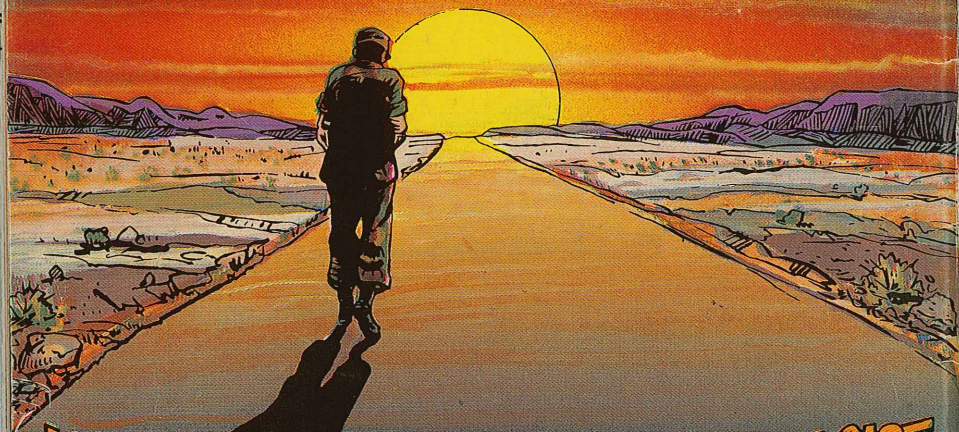
The handguard NSN's in your new TM 9-1005-249-24&P are incorrect as listed on Page C-13. The RH (right hand) guard should be NSN 1005-00-056-2252. The LH guard is NSN 1005-00-056-2251.

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

the Condition of Your Equipment?



THE SAMPLER WAS A SERGEANT  
BUT ALAS HE IS NO MORE!



HE TOOK THE OIL FROM ONE CRANKCASE  
AND SENT IT IN FOR 4!

The AOAP Lab Can Tell!