

Issue 384

PS

November
1984

THE PREVENTIVE MAINTENANCE MONTHLY



YOU **SURE** WE
DID EVERYTHING
RIGHT?

WELL, WE'LL
SOON FIND OUT!

M60 MG PM—Page 2

OPERATION FEEDBACK



Half-Mast returned from an extended field exercise the other day and immediately assembled the PS team.

"I sure have to agree with the Chief of Staff about one thing," he said, then paused, deep in thought.

Finally, Windy broke the silence: "Well, he'll certainly be overjoyed to hear that." He ducked behind Connie to escape the blistering glare Half-Mast leveled at him.

"The Chief of Staff says today's Army is the finest he has seen in his years of service," Half-Mast continued. "Everything I see backs up that opinion... and I've been around a few years myself.

"Today's troopers are proud... alert... aggressive. And—as we well know—they're quick to ask questions when equipment and systems don't work the way they're supposed to. They have some good ideas on just about anything—and they're quick to talk about them.

"Now, what we've got to do is to persuade more of them to put their ideas

in writing so the whole Army can benefit from their experiences and suggestions. There's never been a more favorable climate for ideas, suggestions, innovations... new concepts.

"Every element of the Army is bending over backward to meet the immediate and long-range needs of the field troopers. You can see the results everywhere you look: Improved training devices and facilities; responsive supply and maintenance assistance, complete with on-site specialists and HOTLINES; special initiatives, such as the Maintenance Management Improvement Program, the Supply and Maintenance Assessment and Review Team, and others.

"The equipment designers and specialists are really hungry for feedback. So are the publications people—and those who develop supply and maintenance procedures."

"Are the troops having any particular hangups on the feedback forms?" asked Connie.

"Well, the SF 368 sort of scares 'em. We also need to emphasize the use of the DA Form 2028 and 2028-2 for reporting publication errors, plus the use of SMART channels for suggestions on improving logistics.

"Today's troopers are showing their ability to cope with any task they're given. I'm sure they can run with the ball on this, too, if we can communicate to them how important their ideas are.

"Let's give it a go!"

(See *Operation Feedback* on page 29.)

NOV 84



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ISSUE NO. 384 NOVEMBER 1984

FIREPOWER

M60 MG PM	2	M548, M730-Series	19
M48A5, M60 Tanks	14	M1, M1E1 Tanks	19
M110A2, M578	16, 17, 18	Warranties	20
M88A1 RV	18		

GROUND MOBILITY

5-Ton Trucks	22	Gama Goat	25
CUCV	24	M151-Series	25

TROOP SUPPORT

D7E Tractor	26	Tube/Brass Fitting Kit	56
JD410 Backhoe	27	Soldering Iron Tips	60
Operation Feedback	1, 29	Cargo Tiedowns	60
Generators	48-50	RL-172 Wire Guides	60
M17-Series Masks	51-53	AMDF Hotline	61
M258A1 Decon	54	SF 46	62
Lightweight Tent	55	Support Repairs	63
M11 Decon	55		

AIR MOBILITY

Main Rotor Mast	37	Hydraulic Fluid	43
Aviation Messages	37	Regulator NSN	43
Huey, Cobra Wheels	38	OH-58	44
UH-60A	40-41	CH-47	44
Pilot's Penlight	41	TM Holder	45
UH-1 Couplings	42	Tool Kit SC	45

COMMUNICATIONS

AN/PRC-77 Fuse	46	MX-6707	47
Error Cards	46	AM-1780 Amplifier	47

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

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Your M60 Machine Gun...

Yes? No?

WHAT DO YA' MEAN,
THE COVER WON'T CLOSE?
WE'RE ABOUT TO BE
OVERRUN!

AH, IT SAYS HERE
WE SHOULD'VE CHECKED
THE FIT OF THE FEED TRAY!

Maybe?

Should the gong sound for your unit, it may suddenly be too late to do yesterday's work on your M60 machine gun. Uncertainty has a way of breeding anxiety—and who needs that!

So, grab your trusty ol' TM 9-1005-224-10 and see what shape your M60 is really in.

Make the checks. If something's wrong, get with your armorer. Don't figure it'll get better by itself—it won't.

TROUBLE AREAS FROM PAST EXPERIENCES ARE OUTLINED BELOW. SOME ARE PMCS CHECKS AND NEED EMPHASIS. SOME AREN'T SPELLED OUT IN YOUR PUBS, BUT THEY NEED ATTENTION. THEY'LL KEEP YOUR M60 OPERATING!

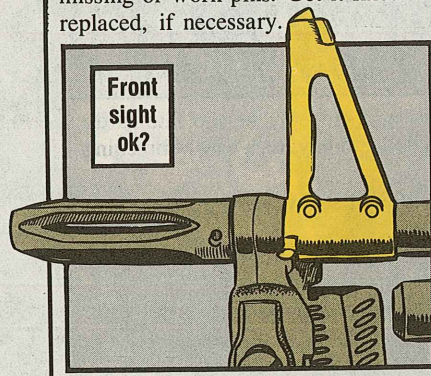
Before Operations Checks

- **Barrel Assemblies:** Be sure the barrel and spare are the ones assigned to your receiver. If they were stored separately, they should have been tagged with your receiver serial number.

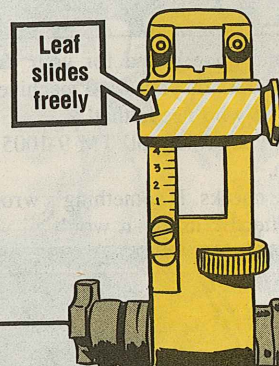
Barrels and bolts are headspaced to your receiver at Support maintenance. They go together and shouldn't be switched to another gun unless they're headspaced to it. Switching barrels damages both barrels and bolts and causes misfires. You don't need that!

Do PM (Preventive Maintenance) on **both** barrels. You may need that spare... bad. Check both barrels for twists, bulges, dents and damaged sockets.

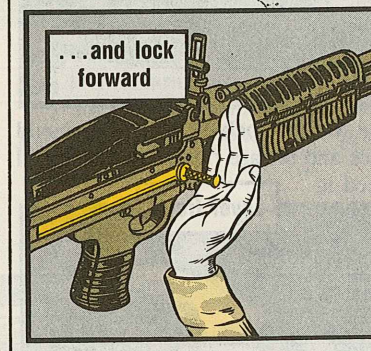
- **Sights:** As you check the barrel, look the front sight over for bends and missing or worn pins. Get it fixed or replaced, if necessary.



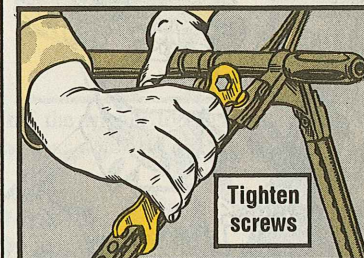
Be sure the rear sight leaf releases and slides freely. It must have readable markings. You'll need them.



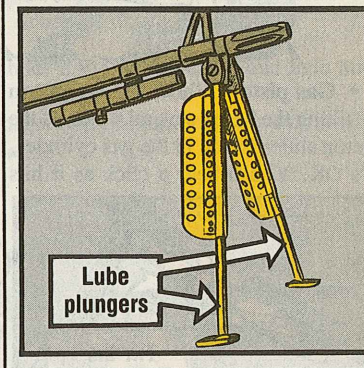
- **Cocking handle:** Work the cocking handle to be sure it moves freely and locks forward. Never try to slam or bang it home. If it's screwed up, get with your armorer.



- **Bipod legs:** Work them. They should lock in stow and down positions. If the retaining screws are loose, tighten them with your combo wrench.



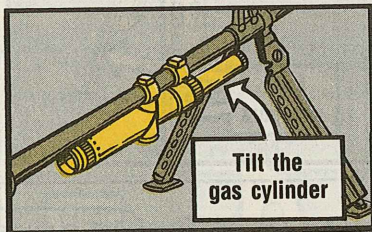
Push the plungers and extend the feet. Be sure they don't bind, and are not bent. Clean and lube the plungers and extensions if they bind.



TILT THE BARREL
SO YOU CAN LISTEN
TO THE PISTON!



• **Gas piston:** Check the gas piston by tilting the barrel several times. If the piston slides freely in the gas cylinder, it's OK. You'll hear a click as it hits



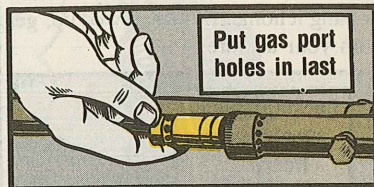
each end of the cylinder. Do not remove it. Clean it only as necessary ...and **not** after each firing.

If the piston sticks, remove it and clean off the carbon with CLP. Dry it thoroughly and reinstall it.

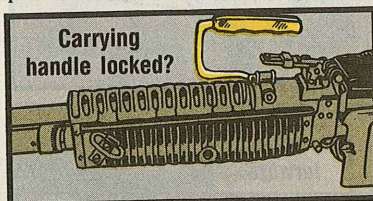
Do not leave lube on it because it'll add to carbon buildup during firing.

Short recoil and sluggish action are signs of a dirty piston.

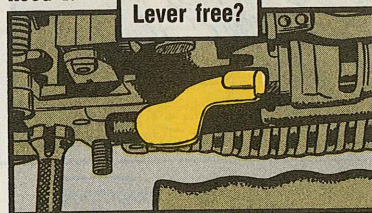
If you do have to clean the piston before firing, put it back right.



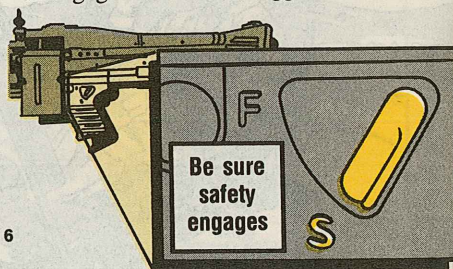
• **Sling and carrying handle:** You'll need both, so be sure they're serviceable. The carrying handle must lock in the left, right and straight up positions.



• **Barrel locking lever:** It should lock and release freely. Again, you'll need it.



• **Safety:** Be sure it engages and disengages. Work the trigger.



Firing Tips

Always clear your M60 before you load ammo. That helps prevent chambering a round into a round that's already chambered.

After you cock the bolt, e-a-s-e the cocking handle forward.

When you fire, pull the trigger all the way back...quickly. Flip your finger off the trigger to release it.

Easing the trigger on and off wears the sear notch on the operating rod and sets you up for a runaway gun.



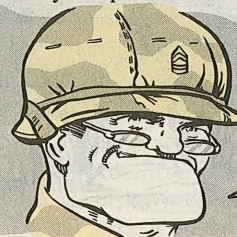
Runaway Gun

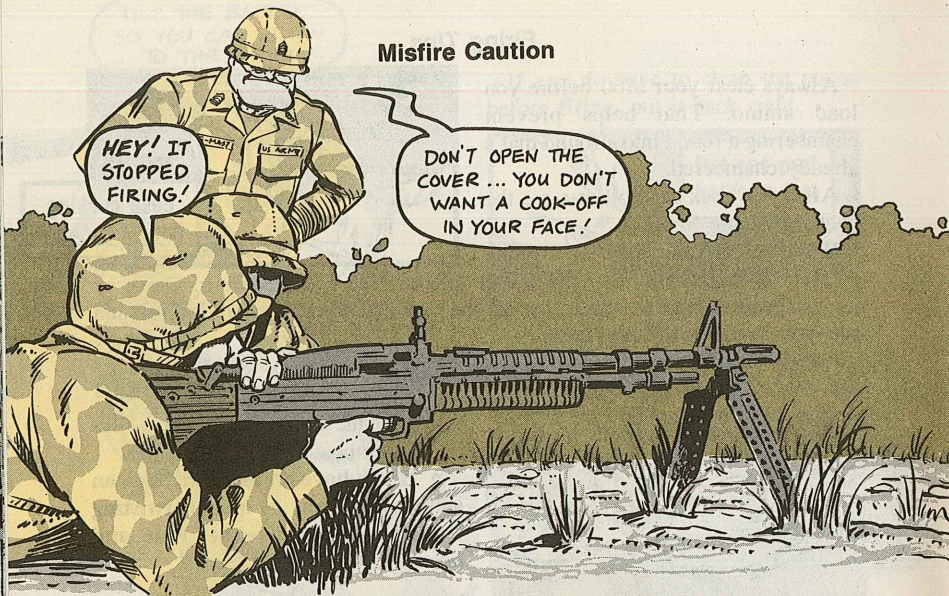
• Hold the gun on target until it fires all the ammo.

• If you have an assistant, he can stop the runaway by quickly twisting the ammo belt to either side and breaking the belt.

• When the gun stops firing, troubleshoot it to find the cause and then turn it in to your armorer.

**If you're firing an M60D, hold it on target and open the cover to stop ammo from feeding. Then follow M60 procedures.*





Misfire Caution

Stick this in your memory: If your gun stops firing, **KEEP THE COVER CLOSED!**

Follow the procedures on Pages 14 thru 17 of your TM... and **keep the cover down** for at least 15 minutes, until the gun cools. That way, a round won't cook off in your face, as it might if you raise the cover. Nasty injuries have happened that way.

When you close the cover for firing or whatever, the bolt must be to the rear. That prevents actuator cam damage.

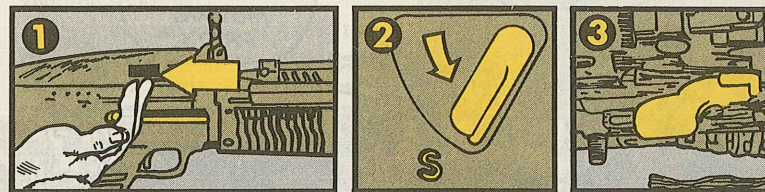
Keep cover down 15 minutes

Make sure cocking handle is forward before and after operation!

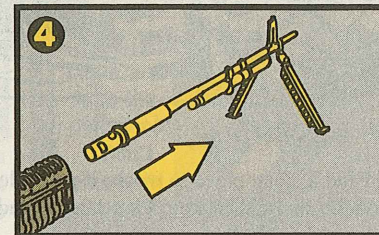
With the cover down, ease the bolt forward (Safety on "F"). Whenever your weapon's idle, keep the bolt forward.

Barrel Removal

To remove the barrel for changing, cleaning or other maintenance do this:



- 1 Retract the bolt.
- 2 Put the Safety on "S" and clear the weapon.
- 3 Unlock the barrel locking lever.
- 4 Remove the barrel.



After firing or when you're resting, set your gun down on the bipod legs and buttstock, or lay it on its side.

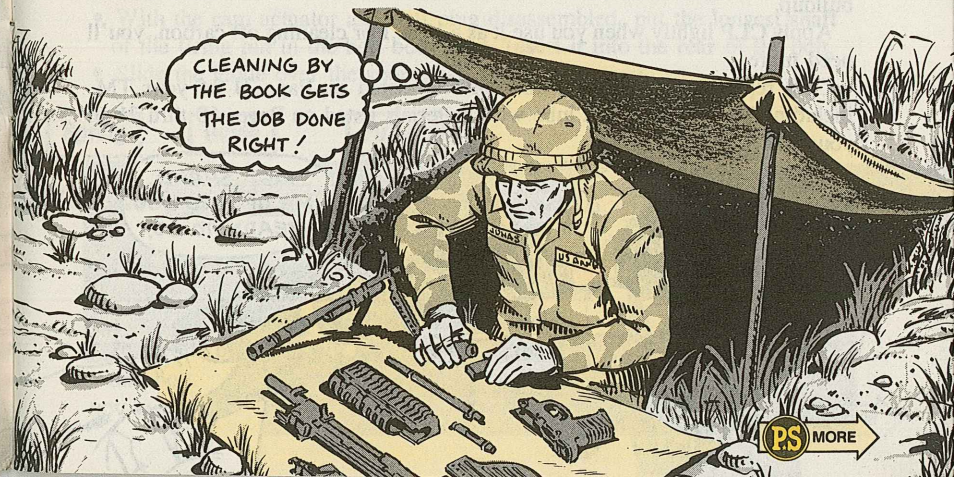
Do not stack it on the bipod legs and flash suppressor. That can bend the legs or dent the suppressor...as well as clog the suppressor.

Cleaning & Lubing

Break down your M60 into major assemblies for cleaning and lubing. Take down the assemblies only as far as your TM authorizes.

Unauthorized disassembly has disabled more weapons than it has helped. If you shouldn't take something down, or if you're not sure of a job you're supposed to do, get with your armorer or your supervising NCO.

Guessing has no business in a place where you have to use your M60. And detailed disassembly is a job for your armorer or support. Stick with TM PM.





Find a clean place to work, if possible. If not, spread the assemblies on your poncho or field jacket. That keeps crud out of moving parts, etc., when you reassemble them.

Keep pins, plungers and such with their assemblies... and keep track of them. Be extra cautious with the bolt plug pin. It's small, it gets lost regularly... and your bolt needs it in order to work.

Each pin and plunger fits exactly. Substitutes work loose and put your gun down. You don't need that. If you lose a pin, ask your armorer for a replacement.

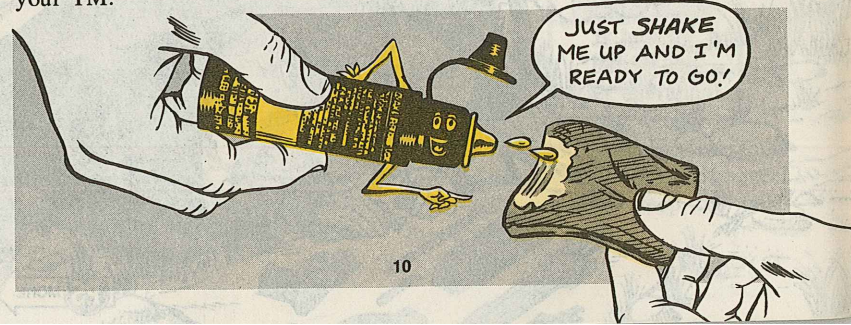
Doing the Job

Clean and lube your M60 with CLP.

Shake CLP well before you use it. That mixes the "C," the "L" and the "P" for efficient, long-lasting protection. It also prevents carbon and crud buildup.

Apply CLP lightly when you use it as a lube. For cleaning off carbon, you'll need more.

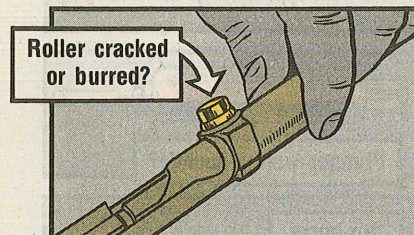
CLP replaces all the lubes and solvents listed on Page 71 of your TM, including LAW. Clean and lube with materials listed on Pages 68 thru 71 of your TM.



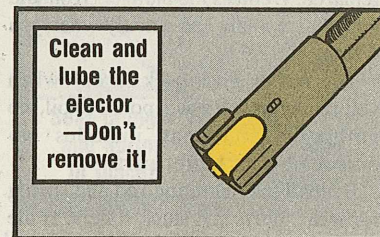
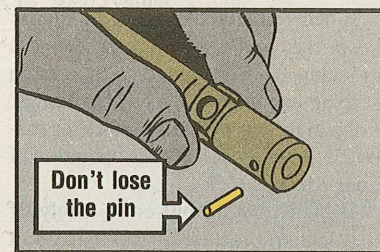
Bolt Cleaning

Remember the bolt plug pin? Use it and don't lose it!

Check the cam roller. If it won't turn or it's cracked or burred, get with your armorer for repair.

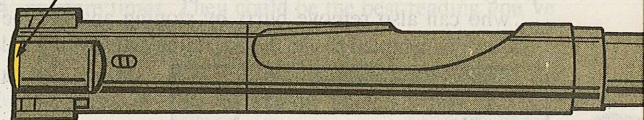


Do not remove the ejector to clean the bolt assembly. Clean it, lube it and let it be. You can screw it up for sure by taking it off.



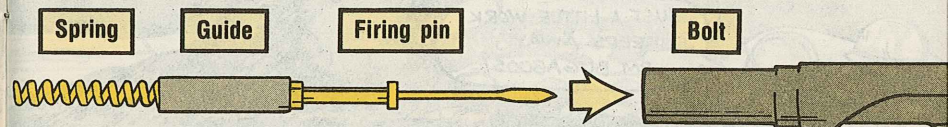
Check the bolt face and lugs for chips or burrs. Your armorer can stone most of them smooth... or turn the weapon in for a new bolt.

Check bolt face

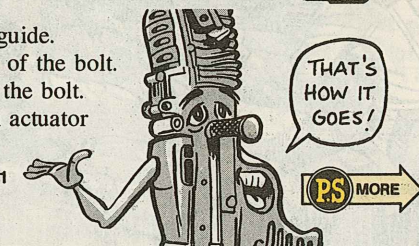


Taking down the bolt assembly is no big deal. Assembling it right is. Here's how:

- With the cam actuator and bolt plug disassembled, put the longest shaft of the firing pin in the bolt body first. Insert it into the rear of the bolt.
- Slide the guide over the short shaft of the firing pin.



- Insert the firing pin spring into the guide.
- Slide the cam actuator over the rear of the bolt.
- Screw the bolt plug into the rear of the bolt.
- Insert the bolt plug pin into the cam actuator and bolt.



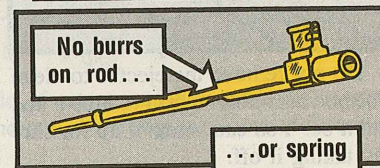
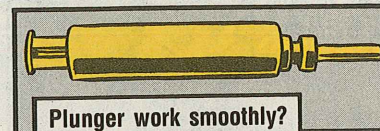
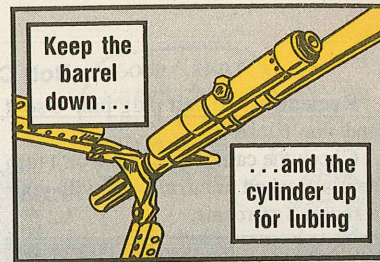
Other Assemblies

When you lube the barrel assembly, keep the barrel down and the gas cylinder up. That prevents lube from seeping into the gas ports and openings. Lube in the gas cylinder makes for carbon buildup, which affects operation of your M60.

Look hard at the buffer assembly. If it's dented, cracked or leaking, get it replaced. Depress the plunger. It should pop out smoothly and quickly when you release it.

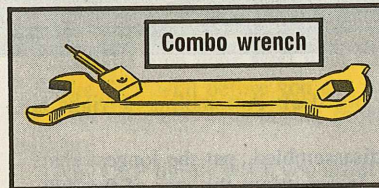
The buffer goes back in dry when you reassemble the weapon. No oil, no nothing...and that includes no disassembly of buffer parts.

Eyeball the operating rod and spring for wear, burrs and stuck rollers. If the



spring's worn flat on one side, a replacement may be due. See your armorer ...who can also remove burrs by stoning and get the rollers repaired.

Don't be tempted to use the operating rod spring guide to release the forearm spring. You can damage the rod or the forearm catch. If you put down the rod, you put down your firepower.



Instead, use your combo wrench reamer or the threaded part of a cleaning rod section to depress the forearm assembly spring.

Stick the reamer in the latch hole to disengage the spring and lift the forearm up and off.

Replace the forearm with a slow, steady push until it locks in place. A slam or snap can damage the forearm catch.

When you reassemble the trigger group, be sure the sear plunger and spring are in place.

Be double sure to position the sear right.

The sear pin hole goes down.

The humped section of the sear goes to the rear. Simple.

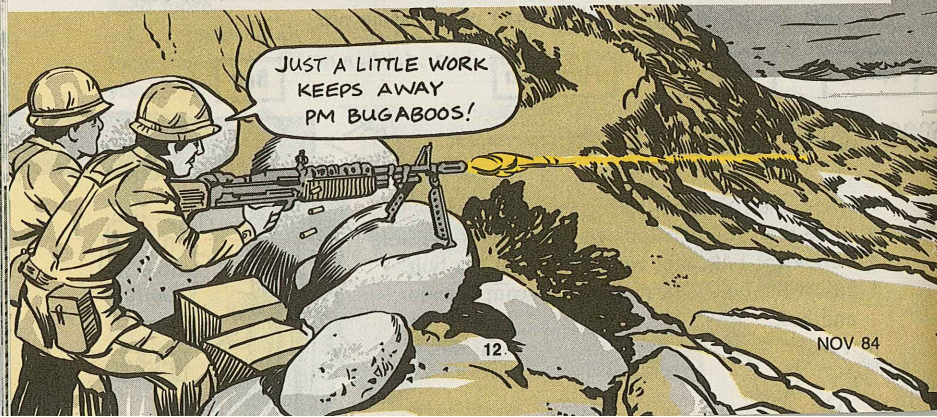
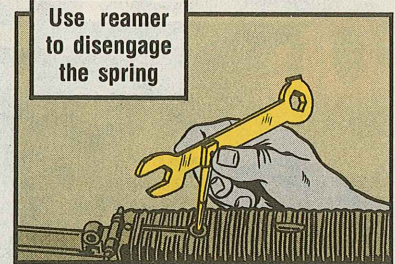
That's All She Wrote!

By-the-book and by-the-brain PM can keep your world going 'round.

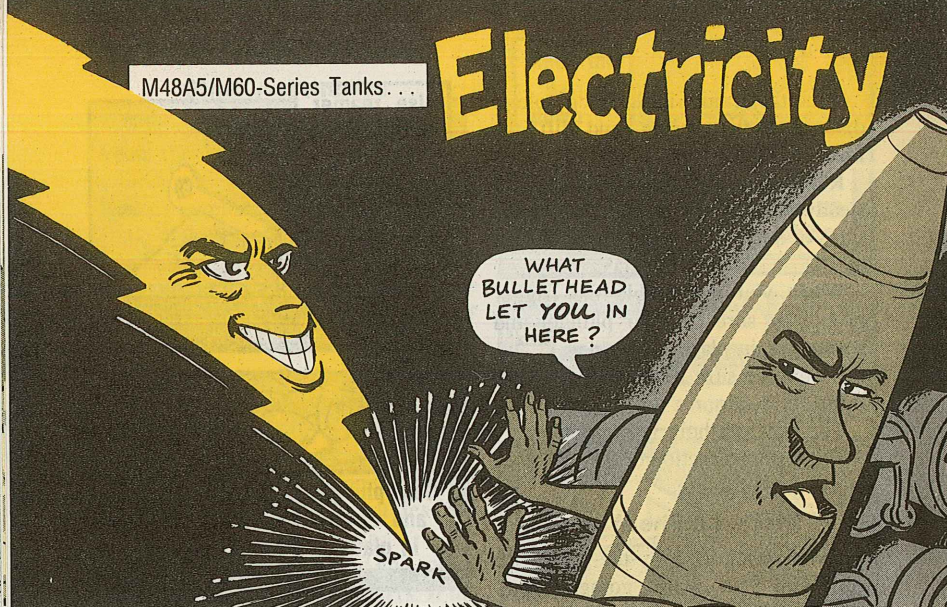
Catch up on your reading. **Really** get to know operation/maintenance procedures spelled out in TM 9-1005-224-10.

Shape up with training and maintenance tips in FM 23-67.

Read them both 3, 4, or more times. They could be the best reading you've ever done.



Electricity vs 105-MM Ammo

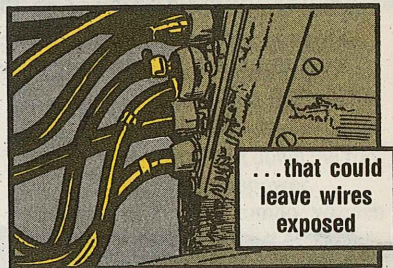
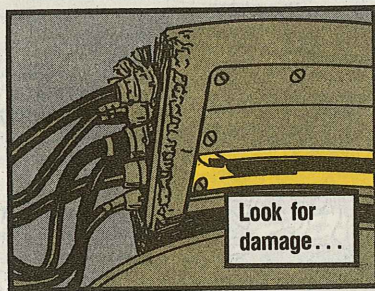


When your 105-MM ammo comes in contact with electricity, it goes boom!

When electricity and ammo meet in the gun tube, that's fine. You put steel on target.

When they meet anywhere else, that's a disaster—and it has happened.

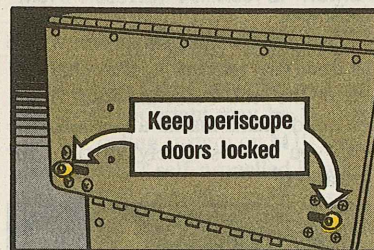
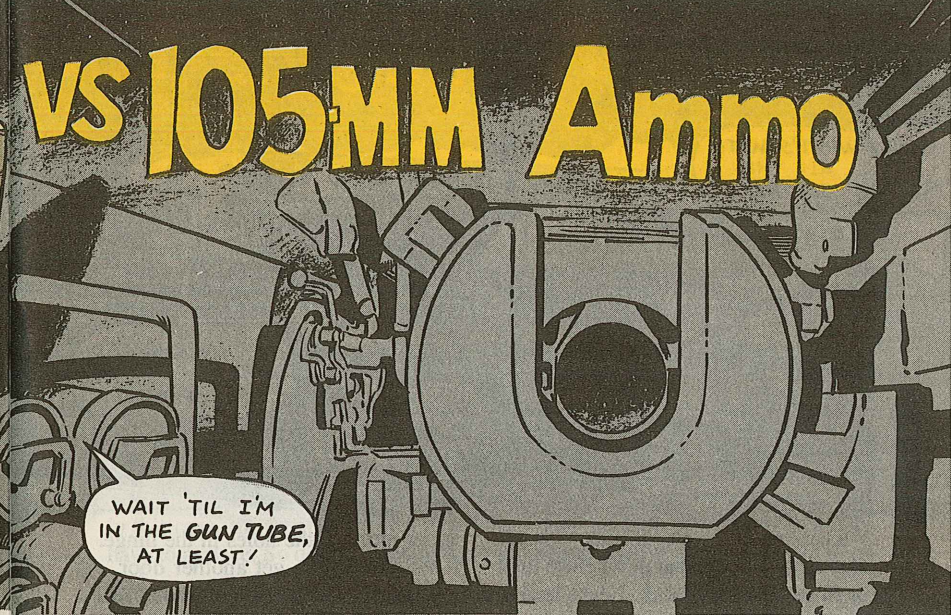
First chance you get, check your wiring harnesses, especially the ones that run between the hull and the turret basket. Look for damage that could leave a live wire exposed.



Look for cuts in the cables, cables that have been pulled loose and harnesses that have been mangled or damaged.

If you find any defects, get them fixed pronto. You can also do a few things to make sure wiring harnesses aren't damaged.

- Always make sure the driver's and gunner's periscope stowage box lids are closed before the turret is traversed. An open lid tears, cuts or rips cables and harnesses real easy like.



- Keep the turret clear of trash and spent ammo cases. That stuff mangles wiring harnesses if it gets jammed between the hull and the turret.



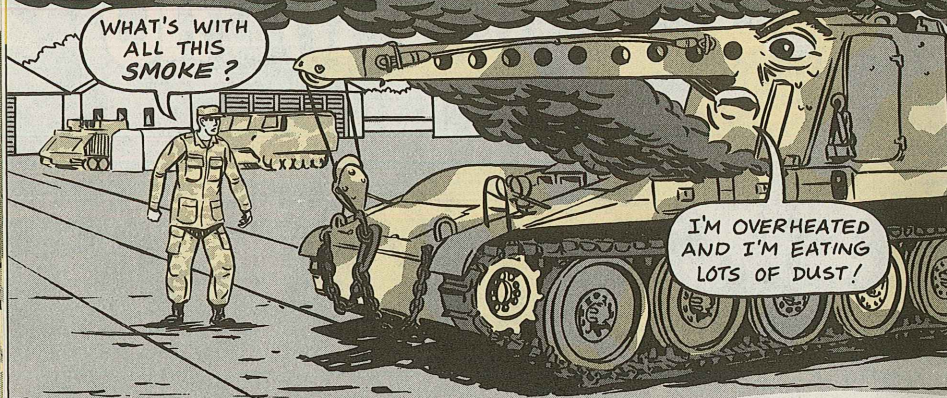
Finally, never do any maintenance in an uploaded tank **by yourself**. If, for example, you have to move an ammo round to work on the batteries, just think what could happen if that round made contact with a hot battery post or cable.

Get some help if you must handle ammo when doing maintenance. The best bet, of course, is to remove the rounds from the turret.

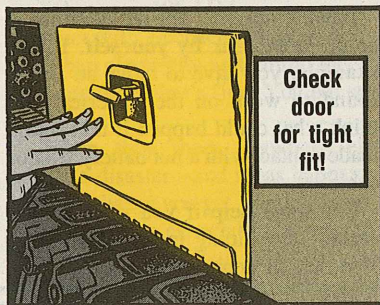


Just remember, you don't get a second chance when electricity and 105-MM ammo get together. Something's going to go BOOM!

Air Cleaner Box



Keep an eye out, mechs, for air cleaner box doors that don't close tight or fit right. They'll leak. Leaks lead to engine failure.



The problem's worse with replacement doors. They don't always match up with the opening in the hull.

Resist the temptation to beat the door into shape with something heavy. That won't work.

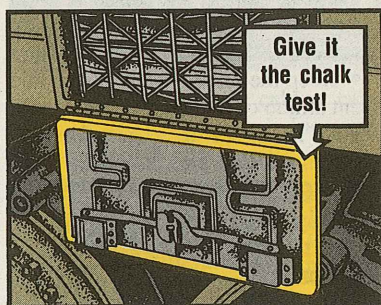
Test the door for a good fit before you mount it. You've got to make sure the door covers the opening and will lock firmly in place.

If the door fits before you mount it, but not after, you may need to adjust

one or more of the holes in the hinge. If it's still no-go, get another door.

To make sure you've got a good seal after you get the door to fit, try the chalk test.

Clean off the air cleaner box where the door seal touches it. Rub chalk all around the seal. Close the door. If you see solid chalk marks all around the box, you're most likely all right for operation.



Gaps in the chalk marks, tho, mean you probably need a new seal. Use NSN 5330-00-745-7781 to get one. Use adhesive, NSN 8040-00-152-0067 (6-oz can), to apply the seal.

Fix-up

Turbo Hose Leaks

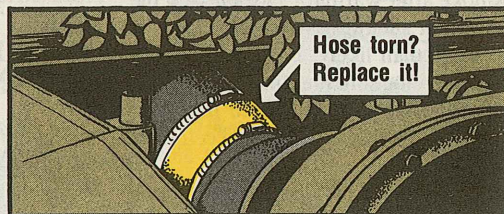
Eyeball the turbocharger air inlet hose and clamps. After several powerpack removals and installations, the hose and clamps may be worn out.

If the hose is torn or deformed so that it won't seal, replace it. Use NSN 4720-00-933-7633.

If the clamps won't get tight enough to seal the hose, replace them. Use NSN 4730-00-725-0537.

Worn-out parts in your air induction system mean increased engine wear. And in this case, the engine is worth much more than the sum of the parts you may have to replace. So don't be penny-wise and pound-foolish. Get and keep a good seal.

M578 Recovery Vehicles, SP Howitzers . . .



Red Light Means Trouble

Of all the gages, switches and lights you eyeball while driving your vehicle, the most important may be the low coolant level indicator light.

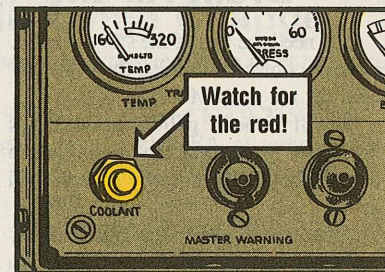
The cooling system on M109-series and M110A2 self-propelled howitzers and M578 recovery vehicles gets overheated pretty easily, especially if any part of the system is not working right.

The low coolant light lets you know that there's not enough coolant in the radiator. The light is hooked to an aeration detector mounted on the radiators. When the coolant level falls below a safe level, the light comes on. Then you stop where it's safe, shut down and let the engine cool off for 10 minutes or so and refill the radiators.

The light clues you before operation, too. It'll glow when the master switch is turned on if the coolant level is low.

The light gets broken easily if you're not careful when moving the portable instrument panel, so take care.

The light is cheap protection against the biggest cause of engine overheating—low coolant. Pay attention to the light when it "talks."



Choked on Filler?

Is your M110A2 SP howitzer or M578 recovery vehicle running rough, stalling out, or giving off excess white smoke after warmup? Does it lack the power it should have?

More than likely, crud in your fuel tanks is clogging fuel lines and filters. And there's a good chance that crud comes from deteriorating fuel cell filler blocks.

Have your organizational mech check your fuel lines and filters. If they're plugged, replace the filters and clean the lines. Run the engine about 10 minutes. If the filters and lines plug again, turn the vehicle in to support maintenance.

Do not attempt to pump out your fuel



tanks. The headshed says doing so may damage the fuel cell bladder and filler blocks.

M88A1 Recovery Vehicles . . .

Drain *All* the Transmission Oil

You need the rest of the story, mechs, when it comes to draining the transmission oil on your M88A1.

Not all of the 27 gallons of oil comes out when you open the transmission drain. About 5 gallons stay in each final drive.

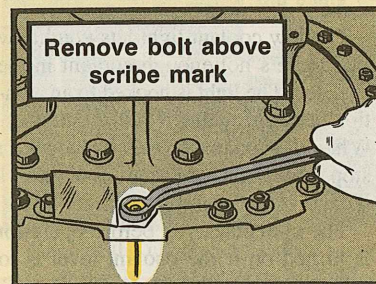
If you don't drain the final drives, any new oil you add will get mixed with the old stuff. That's bad, especially if AOAP says your transmission oil is contaminated.

To drain the oil in the final drives, remove the brake adjustment access covers under the hull.

Locate the brake lever stop on the bottom of each final drive mounting saddle. Just behind the stop you'll find

a scribe mark in the final drive housing.

Remove the bolt directly above the scribe mark and catch the oil in a suitable container.



Replace the bolt, refill the transmission according to the LO, and you'll be all set with clean oil.

Cab Door Window Fix

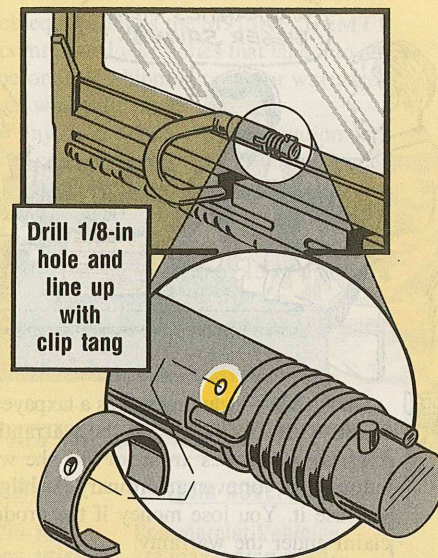
There's a solution to the broken window-handle spring problem you may have with your M548/M548A1 cargo carrier and M730/M730A1 missile carrier.

You know the problem: The torsion spring keeps slipping out of place when you work the handle.

The fix is real easy. Drill a 1/8-in hole deep enough into the handle assembly so the tang on retainer clip, NSN 5340-01-128-9533, seats in the hole.

Press the clip onto the handle assembly, trapping the torsion spring underneath.

If you need to replace the spring, use NSN 5360-00-731-8836. The 2 pins you need to secure the spring come with NSN 5315-00-276-5165.



M1/M1E1 Tanks . . .

Transmission Oil Range Change

Here's an UPDATE on when you change transmission oil to meet expected temperature ranges.

The ranges given on Card 4 of LO 9-2350-255-12 and LO 9-2350-264-12 are wrong. If you operate a transmission filled with OEA at temperatures above +20°F, you run the risk of a lockup.

From now on, use OE/HDO-30 oil for expected temperature ranges of +10°F to +125°F. Use OEA for expected temperature ranges of -70°F to +20°F.

Don't worry about the 10 degrees of overlap at the low end of OE/HDO-30 and the high end of OEA. If the temperature varies between +10°F and +20°F, you could use either type of oil.



KEY LO 9-2350-255-12		
EXPECTED TEMPERATURES*		
Refill Capacity	+20 to +125°F	-65°F to +40°F
35-40 Gallons	OE/HDO-30	OEA

KEY LO 9-2350-264-12		
EXPECTED TEMPERATURES*		
Refill Capacity	+20°F to +125°F	-65°F to +40°F
35-40 Gallons	OE/HDO-30	OEA

WARRANTIES Are Your Business



Uncle Sam—including you as a taxpayer—is losing money because some people in the Army are not using the warranties on their equipment!

These warranties are a lot like the warranty you get when you buy a new automobile—or even an ordinary flashlight. A warranty can save you money—if you use it. You lose money if the product's defective and you fail to make a claim under the warranty.

No warranty comes free. You pay for it even if you don't use it. The manufacturer figures in the cost of possible warranty claims when he figures the price of an item. If you don't make a warranty claim when you should, the manufacturer is that much ahead. You're the loser!

And that's a problem Uncle Sam faces when you fail to make claims for equipment defects covered by a warranty.

Too many warranties on Army equipment go unused. That's money down the drain. Uncle loses. Your unit loses. As a taxpayer, you lose!

This is a big problem with Tank-Automotive Command (TACOM) equipment—tanks, tactical trucks, bulldozers, road graders, engines, transmissions and lots of other items covered by warranties.

For instance, paying \$30,000 for an M915A1 truck engine, instead of getting it free under the warranty, costs your unit maintenance dollars that could be spent on other parts.

Know the Warranty

TACOM warranties generally come in two types—commercial or negotiated. Commercial warranties are the same as those offered to the public-at-large, such as the 12 months/12,000 miles warranty on a new car.

The Army gets commercial warranties on items like commercial construction and material handling equipment, engines, transmissions and many others.

Negotiated warranties come with such equipment as the M915A1, HEMTT and CUCV trucks. They are modified commercial warranties that take into account such things as extended storage before use, shipping costs for warranted parts and payback when the Army does warranty work.

So how do you tell what warranty, if any, is available for your equipment?

For some commercial-design vehicles, a copy of the warranty coverage comes with the operator's manual or the -10 TM may only mention a warranty TB.

For military-design equipment, check your -10 TM. If warranty information is listed, look for a warranty decal or plate on your vehicle's instrument panel. Check the DA Form 2408-9 that came with your vehicle. Block 15 of that form gives the warranty period.

There are warranty TB's in the 9-2300-295-15-series that cover specific TACOM equipment.



Are You Covered?

TB NUMBER	ITEM COVERED
TB 9-2300-295-15/9	Commercial Vehicles
TB 9-2300-295-15/16	M872A1/A2/A3 Trailer
TB 10-2300-295-15/18	M4K RTFL
TB 9-2300-295-15/19	HEMTT
TB 9-2300-295-15/20	M915A1-series Trucks
TB 9-2300-295-15/21	M939 5-ton Truck Engine/Transmission
TB 9-2300-295-15/22	M.A.N. Truck
TB 9-2300-295-15/23	HMMWV
TB 9-2300-295-15/24	CUCV
TB 9-2300-295-15/25	M2/M3 Engine
TB 9-2300-295-15/26	M1 Engine

Additional warranty TB's covering other equipment are being developed. Watch PS Magazine for updates and check that TB series in DA Pam 310-1.

Making a warranty claim is fairly simple. Two forms are needed—DA Form 2407 for filing the claim and DA Form 2402 for tagging the exhibit. But it's important that these forms are filled out completely.

DA Pam 738-750, in the Maintenance Management UPDATE, gives details on warranty claims. Your LAR—Logistic Assistance Representative—can also help.

GOOD GRIEF, I JUST REPAIRED THE SPRING SEATS A COUPLE OF WEEKS AGO! HOW COULD THEY FAIL SO SOON?

Spring Seat—Get It Right!

MAYBE YOU PUT THE PARTS IN WRONG...THE TM'S A LITTLE FUZZY ON THAT!

Rear spring seats require attention to detail

Just one part missing... or only one part in the wrong place... or a part installed backward—and your rear spring seat repair job or lube service can be a waste of time.

Worse, you could make more trouble than there was to start with!

A cocked-off seal, for instance, can lead to lube contamination—with gritty dirt tearing up trunnion bearings. Careful when you install the seal and the spring seat!

All 3 fleets use the same spring seat assembly. It includes more than 2 dozen parts that must be removed and put back—or replaced—in a complete repair job. Some of these parts must be installed just so—and very carefully.

Especially tricky are parts for the inner side. Here's the right way!

CUP
(Shown already installed)

BEARING
SEAL

WIPER
RETAINER

DUST SEAL

FLAT
WASHER

Here are other pointers that'll clear up some confusion in the TM's and LO's:

- The bearing cup remover-replacer in TM 9-2320-272-20-1 is not yet available. You use a drift punch and hammer.
- Always replace **both** the bearing and the bearing cup if **either** needs replacing.
- Never switch inner and outer bearings.
- Besides replacing the bearing cap gasket whenever you remove the cap, you also replace the 6 lockwashers for the bearing cap screws. And you always replace the felt dust seal before installing the spring seat. These new parts are required whether you are doing a repair job or pulling the remove-clean-repack bearing lube service.
- The interval for the remove-clean-repack bearing lube service is 6,000 miles or annually.

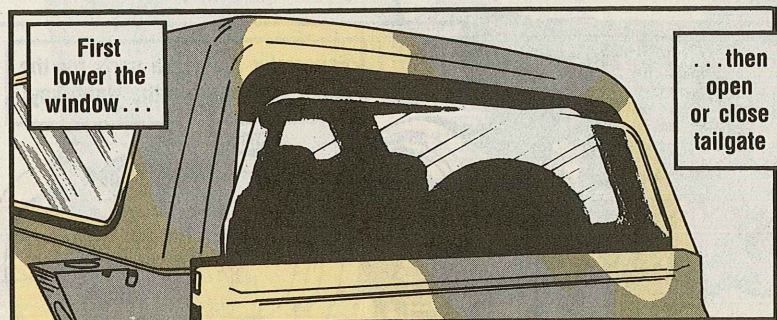
Prevent A Shattering Experience

You M1009 drivers can prevent a shattering experience by looking after the tailgate window. There's nothing in your -10 TM about the 3/4-ton truck's rear window, so read and heed.

The window does not go all the way down into the tailgate . . . about 3/8-inch remains above the lip.

Throwing a tow bar or anything else big and heavy across the tailgate into the cargo area with the window down can break the glass. So lower the window and open the tailgate before loading big items.

Opening and closing the tailgate with the window up can break the glass, too. The back window is tapered to fit into the cab cover . . . the bottom is wider than the top. To prevent breakage, completely lower the window, then open or close the tailgate.



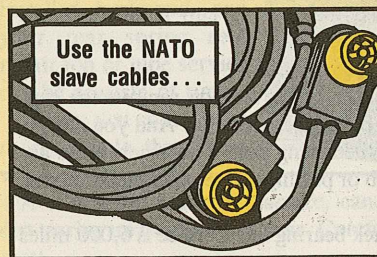
Don't Jump Start 'em

Hold it! Don't use jumper cables to slave-start your CUCV.

Using jumper cables can blow up the batteries, ruin the alternator or voltage regulator, burn up the wiring or even start a fire.

Check all the emergency starting procedures in Para 2-20 of your -10 TM.

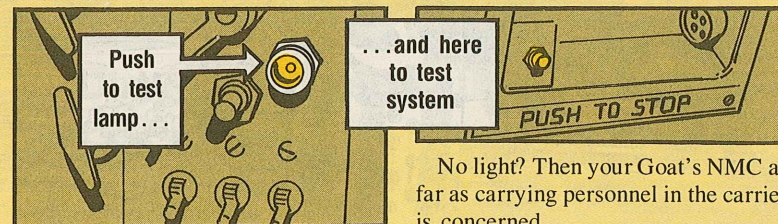
Use the NATO slave cable, NSN 2590-00-148-7961, that's part of the No. 1 Common shop set. Connect it to the slave receptacle on the front of the vehicle.



Give Signal System Full Test!

Your Goat's PUSH-TO-STOP system can be knocked out and you won't know it—if you depend only on the press-to-test button for the dash-mounted light. That test tells you only if the lamp's any good.

You've got to test the complete system like it says in your TM 9-2320-242-10-2 PMCS—Item 19 on Page 1-12. This takes 2 people—1 to push the button in the carrier and the other to see if the light comes on.



Lamp Socket Corroded?

When you mechanics troubleshoot a failed PUSH-TO-STOP system, check the lamp socket. It may be corroded. If you can't clean up corrosion with a pencil eraser, replace the light assembly, NSN 6210-00-688-5088, Item 40 in Fig 55 of TM 9-2320-242-20P.

When you install a new light assembly, spray the lamp socket with cleaning compound, NSN 6850-00-105-3084, to prevent corrosion. This's also good to use if you've been able to clean up the old lamp socket.

Lamp burned out? It's NSN 6240-00-155-8714.

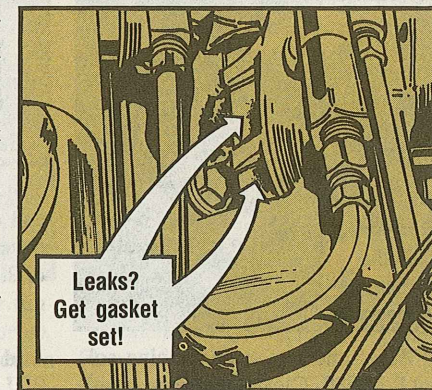
M151-Series 1/4-Ton Truck . . .

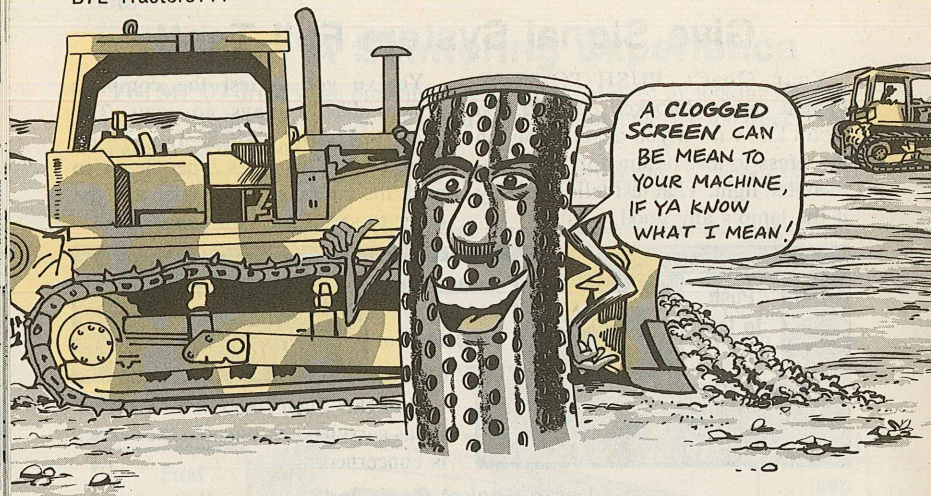
Halt Exhaust Leaks

If you've been looking for something to knock out exhaust manifold leaks before they knock you out, look no longer.

Get an exhaust manifold gasket set including installation instructions with NSN 2530-01-161-7668. The set's listed in TB 43-0001-39-2 (Jul 84).

As a bonus, the gasket set will have new nuts and washers for attaching your exhaust manifold. They are Items 2 and 3 in Fig 25 of TM 9-2320-218-20P.





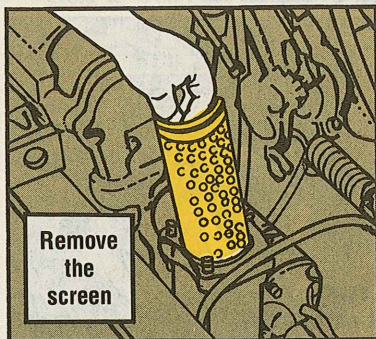
Keep Your Screen Clean

A clogged screen can restrict oil flow in your D7E tractor's transmission and cause damage!

Cleaning the screen and magnets is a 250-hr service in TM 5-2410-214-12. But there's nothing in the TM to tell you how to clean the screen.

Here's how:

- Remove the cover and spring, then remove the screen and magnets.



- Wash the screen in cleaning solvent P-D-680. Clean the magnets with

a stiff bristle brush, like NSN 7920-00-215-7134. Don't use a wire brush! Do not drop or rap the magnets. That can damage them.

- Check the cover seal for damage. If it's bad, get a new one with NSN 5330-00-863-5549.



- Install the magnets, screen, spring and cover, in that order. Tighten the cover nuts to 31-34 lb-ft dry (no oil) or 23-25 lb-ft wet (threads lubed with oil).

- Check the transmission oil level. Add oil if needed to bring it to the FULL level.



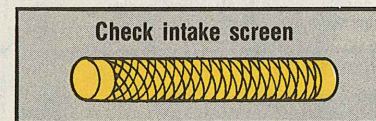
Dirty Oil Fouls Up the Works

Dirty hydraulic oil and clogged filters on your JD410 can make for sluggish responses and slow operation. That dirty oil circulating thru the transmission and hydraulic system damages controls, parts and seals. Damaged seals mean leaks. Leaks make a JD410 NMC.

New oil can get dirty before you use it. Keep opened cans and drums tightly covered to keep out dust, dirt and water.

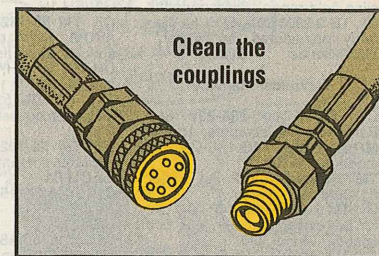
Dirt and water can get in if you forget to replace the filler cap, or if the cap works loose during operation. Keep an eye on it.

If your tractor is unused for long periods, condensation builds up in the transmission case. Acid forms in the oil and dissolves the filters. Fibers from the filters clog the intake screen and cut off oil to the pump.



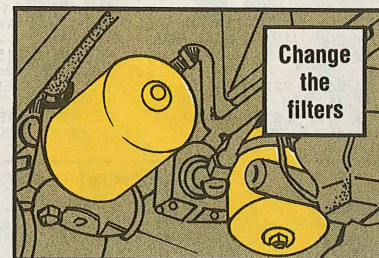
Cut down on water buildup by running your JD410 once a week or so. Run it until the temperature reaches the operating range.

Before you hook up the auger or impactor, wipe any dirt off the coup-



plings. Keep the coupling caps in place when you don't have an accessory attached. That will keep the dirt out.

When you change the filter elements and oil at the 1,000-hr change called for in the PMCS, don't forget to clean the transmission intake screen.



It catches everything that gets past the filters. If it gets clogged, oil can't get to the pump.

PUBS

Miscellaneous

ARTEP 6-400-1 Jun Field artillery cannon battalion - TACFIRE SC 2640-98-CL-E01 Aug Tubeless tire repair kit
SC 4910-95-CL-A73-HR Jul No. 1 Common supplemental
SC 4940-95-CL-A63 Aug Canvas and glass shop
SC 5180-90-CL-N09 Aug Carpenter's tool kit, engineer platoon
SC 7360-90-CL-N03 Aug Gasoline field range accessory outfit
C1, TB 9-2300-295-15/16 Jul Warranty procedures, semitrailer, M872-Series

Technical Manuals

C1, TM 5-3805-235-23P Sep Earth moving scrapers, towed; MRS model MS-100-CM-64, model MRS-100
TM 5-3805-253-20P Jul Huber F1500M road grader
C1, TM 5-3895-333-24P Sep List for pile-driver hammer, link belt speeder Model 440
TM-5-4120-241-24P Sept Pneumatic drill, Joy Model RAM-MS-5/450A-DR
TM 5-6115-594-14P Sep DED generator sets, PU-405A/M, PU-406B/M, PU-732/M, PU-760/M, PU-707A/M, PU-495A/G, AN/MJQ-10A, AN/MJQ-15, PU-650B/G, AN/MSQ-12A, PU-751/M, AN/MJQ-16, PU-753/M, AN/MJQ-18 and AN/MJQ-25
TM 9-1425-646-20 Jun M270 (multiple launch rocket system)
TM 9-2330-231-148P Sep Trailer, ammunition: M332
C7, TM 9-2350-217-10N Jul Howitzers, M109A1 and M109A3
TM 9-2350-255-20-2-2-3 May Tank, M1
TM 9-2350-261-10 May Carrier, M113A2 FOV
C6, TM 9-2350-303-10 Jul Howitzer, M109A2

TM 9-7440-648-12 Aug MLRS communications system
C1, TM 10-7360-206-13 Sep MKT-75, -75A, MKT-82 field kitchen
TM 11-5800-213-L Sep LOAP for C-E equipment
C2, TM 11-5985-335-15 Aug AS-1425/GRC antenna
C3, TM 55-1520-209-23-3 Jul AVUM, AVIM manual for CH-47A
C42, TM 55-1520-210-23-1 Jul AVUM, AVIM manual for UH-1D/H/VEH-1H
C7, TM 55-1520-210-23P-1 Jul AVUM, AVIM repair parts and special tool lists for UH-1B, UH-1C, UH-1H, UH-1M, EH-1H and UH-1V
C1, TM 55-1520-214-MTF Jul Maintenance test flight manual for OH-6A
C3, TM 55-1520-214-PMS Aug Preventive maintenance services for OH-6A
C10, TM 55-1520-220-23-1 Jul AVUM, AVIM instructions for UH-1C/M
C16, TM 55-1520-221-23-1 Jul AVUM, AVIM manual for AH-1G and AH-1Q
C6, TM 55-1520-227-10-1 Aug Operator's manual for CH-47B
C23, TM 55-1520-227-23-2 Jul AVUM, AVIM manual for CH-47B and CH-47C
C7, TM 55-1520-233-10 Aug Operator's manual for TH-55A
TM 55-1520-233-CL Sep Operator's and crewmember's checklist for TH-55A
C16, TM 55-1520-234-10 Jul Operator's manual for AH-1S
C27, TM 55-1520-234-23-1 Jul AVUM and AVIM manual for AH-1S
C9, TM 55-1520-236-10 Jul Operator's manual for AH-1S (prod), AH-1S (ECAS), and AH-1S (mod)
C5, TM 55-1520-236-CL Jul Operator's and crewmember's

checklist for AH-1S (prod), AH-1S (ECAS) and AH-1S (mod)
C3, TM 55-1520-236-MTF Aug Maintenance test flight manual for AH-1S
C27, TM 55-1520-237-10 Aug Operator's manual for UH-60A
C28, TM 55-1520-237-23-4 Jul AVUM, AVIM manual, UH-60A
C17, TM 55-1520-237-23-8 Jul AVUM, AVIM manual, UH-60A
C1, TM 55-1520-237-MTF Jul Maintenance test flight manual for UH-60A
C1, TM 55-1520-240-T-3 Jul, AVUM, AVIM troubleshooting manual for CH-47D
TM 55-2840-238-23P Jun AVUM, AVIM repair parts and special tools list for engine assembly, T700-GE-701

AUDIO-VISUAL STUFF

Available at battalion or post Learning Center
TEC Lessons

041-061-5971-A Inspect/Service/Clean the aiming posts, night lighting devices, collimator, and alignment device, M198
041-061-5973-A Inspect/Service the fire control equipment, M198
041-061-5981-A Inspect/Service the traversing mechanism, elevating mechanism, and equilibrator cylinders (M198)
043-441-7896-F Engage targets with the Stinger weapon
221-441-5708-J FAAR: Operate and de-energize
221-441-5711-J FAAR: Operate in an ECM environment
600-551-8847-F Repair pitch links on CH-47C
931-031-007-F Maintenance of AN/PDR-27 radac set

MAINTENANCE ADVISORIES

AMCCOM MA84-20—Alarm, Chemical Agent, Automatic Portable M8, NSN 6665-00-935-6955, AMSMC-MAR-C 241430Z Aug. 84.
TACOM SOU—Advisory, Tie Down Procedure For AS-1793/VRC Antenna Mounted On M1-series Tanks, DRCPM-GCM-LM 271445Z Jun 84.

TACOM SOU—Advisory On All 2 1/2-Ton Trucks (Short Front Brake Line Hose), DRSTA-MTB 062000Z Jul 84.
TACOM SOU—Advisory On All 2 1/2-Ton Trucks With Spare Tire Mounted Under Chassis, DRSTA-MTB 122000Z Jul 84.

TACOM SOU—Advisory On All 2 1/2-Ton Trucks With Gas Engines (Zenith Carburetor Installation), DRSTA-MTB 111500Z Jul 84.
If you need a maintenance advisory, contact your direct support unit or your local Logistic Assistance Office (LOA).

OPERATION FEEDBACK



IF YOU SEE
A WAY TO IMPROVE
YOUR GEAR, OR
MAKE IT WORK
BETTER, SEND IN
AN SF 368,
EQUIPMENT
IMPROVEMENT
RECOMMENDATION!

SF 368

QUALITY DEFICIENCY REPORT
(Category II)

1. From (Originating point)
Co A, 142d Trans Bn
APO San Francisco 96271

2. To (Screening point)
US Army Tank-Automotive Materiel Readiness
ATTN: DRSTA-MP
Warren, MI 48090

3. Report Category
SSG Bn

4. Title
MYOUBO

5. Typed Name, Duty Phone and Signature
Ray Crossland

6. Typed Name, Duty Phone and Signature

7. Man

8. Contract/PO/Document No.
DAAE07-7500141

9. Government Furnished Material
☐ Yes ☒ No

10. In Stock
☐ Yes ☒ No

11. Deficient Item
1. Item
2. Description
3. Location
4. Date
5. Cause
6. Effect
7. Action
8. Remarks

12. National Stock No. (NSN)
(1) M880 and M890

13. Serial No.

14. Port No.

15. Unit Code/EIC (Army and Air Force)

16. Repaired
☐ Yes ☒ No

17. Other (Explain in item 12)

18. Part No.

19. Serial No.

20. Lot No.

21. Part No.

22. Serial No.

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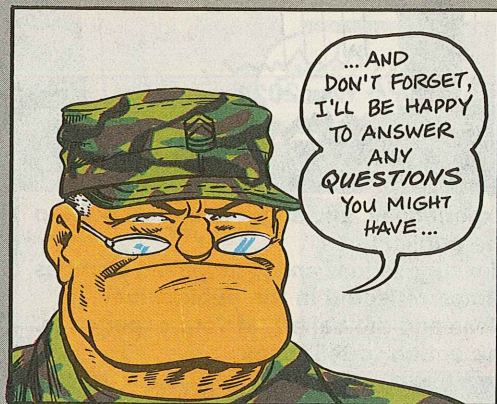
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ALSO USE AN SF 368 TO
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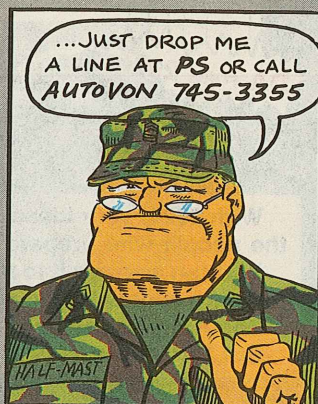
DA FORM 1045



You can use the DA Form 1045 for any type of suggestion. Chapter 2 of AR 672-20 has the details.



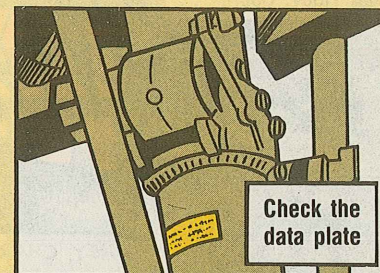
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NOV 84

Check Main Rotor Mast Now!

Huey mechs, the bird headshed needs an update **now** on your main rotor masts. Check the data plate on each mast and compare the serial number and part number against the info on the DA Form 2408-16, Aircraft Component Historical Record. Then fill out Sections I and IV on a DA Form 2410, Component Removal and Repair/Overhaul Record.



COMPONENT REMOVAL AND REPAIR/OVERHAUL RECORD				REQUIREMENT CONTROL SYMBOL	
For use of this form, see TM 38-750; the proponent agency is DCSLOG.				CSGLD-1062(R3)	
SECTION I - IDENTIFICATION					
CONTROL NUMBER 0501710	1. NOUN NOMENCLATURE (Comp) Mast Assembly	2. MODEL	3. NATIONAL STOCK NO. 1615-00-255-2896		
4. SERIAL NO. 1234-5	5. MANUFACTURER'S CODE 974	6. PART NO.	7. USAGE SYMBOL LAST INST (U)	8. FAILURE CODE 799	

DA FORM MAY 81 2410

For PN 204-040-366-15
Record this NSN in block 3...

If your UH-1 mast has PN 204-040-366-9, put NSN 1615-00-073-8203 in Block 3 of the 2410. For PN 204-040-366-15, record NSN 1615-00-255-2896 in Block 3. **Send the 2410's to:**

**Aviation Systems Command
ATTN: AMSAV-MPSD
4300 Goodfellow Blvd.
St. Louis, MO
63120-1801**

Record your inspection on the bird's DA Form 2408-13 and DA Form 2408-15. Then you'll be in compliance with Safety of Flight Msg UH-1-84-04.

If any of your Hueys has a thin-walled mast, NSN 1615-00-073-8203, replace it. See AVSCOM Msg DRSV-M, 171630Z May 84 for instructions.

Aviation Messages

UH-1-84-06 SOF Emergency, Immediate grounding of all UH-1 except C/M models. 132040Z Jul 84.
UH-1-84-07 SOF Supplemental, Inspection criteria for pitch change link clevis. 171645Z Jul 84.
UH-1-84-08 SOF Emergency, Immediate grounding of all UH-1 except C/M models, concerning replacement of thin-wall masts. 181830Z Jul 84.
UH-60A-84-11 SOF Maintenance Mandatory, UH-60A inspection of longitudinal/lateral link assemblies for cracked bearing inner race. 022100Z Jul 84.
UH-60A-84-12 SOF Maintenance Mandatory, UH-60A 1-time inspection main rotor spindle assembly

pitch control arm attaching bolts. 301420Z Jul 84.
OH-6A-84-04 SOF Technical, Pre-flight inspection of OH-6 with metal tail rotor blades. 232330Z Jul 84.
OH-6A-84-05 SOF Technical, Supplement to previously released message OH-6A-84-04. 261615Z Jul 84.
OH-6A-84-06 SOF Maintenance Mandatory, 1-time inspection of anti-icing valve poppet seat screw on T63 engines. 271535Z Jul 84.
OH-58-84-01 SOF Maintenance Mandatory, 1-time inspection of anti-icing valve poppet seat screw on T63 engines. 271535Z Jul 84.
MIM-T63-84-MEM-01 TBO changes on T63-A-720 engine. 191930Z Jul

MIM-UH-60A-MEM-84-02 UH-60A main rotor blade spar leakage test procedures 052030Z Jul 84.
MIM-UH-60A-MEM-84-03 UH-60A delete record keeping on certain components. 191950Z Jul 84.
MEM-CH-47-84-MEM-09 Correction to CH-47A/B/C message MIM-CH-47-83-MEM-13. 091700Z Jul 84.
MIM-CH-47-MEM-84-MEM-10 Urgent change to TM 55-1520-227-10-2, 29 May 84. 061930Z Jul 84.

Cat 1 EIR Phone
AUTOVON 693-2006
(24 hours)

NOV 84

37

Huey, Cobra . . .

Watch Out for the Wheels!

HEY, CHARLEY,
THEY FORGOT TO FULLY
ENGAGE OUR FORWARD
EYEBOLT!

YEAH, I KNOW...
SO WHEN THEY
START TO PUSH
US AROUND —
WE'LL
MAKE A BREAK
FOR IT!

C'MON, WE'VE
GOT ONE MORE
TO MOVE!

Ground-handling wheels for Hueys and Cobras have been around so long, all the bugs have been worked out, right?

Wrong-o! Birds and their crews still get nasty surprises from wheels that accidentally depart the skid.

Tender loving care and regular PM will keep those wheels where they belong.

Make sure the wheels face the right way when you're mounting them. That sounds really basic—but some Murphys still manage to do it backwards.

Remember, the fixed pin goes into the rear eyebolt and the spring-loaded pin in the forward eyebolt.

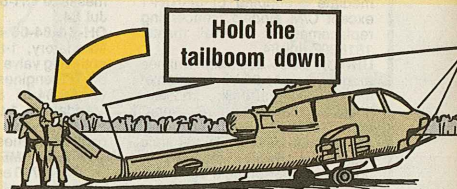
Get that front support pin fully engaged in the eyebolt! Use your finger to make sure the pin is all the way extended. Otherwise, those wheels will go flying. That's bad news for a Cobra's rocket pod—or the unlucky mech jacking up the wheels.

Make sure
pin is
completely
extended



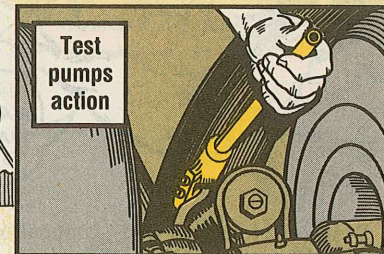
The ground wheels' hydraulic pump wasn't designed to lift or lower a loaded chopper's weight. So before extending or lowering the wheels, get a couple of buddies to push down on the tail boom, taking the load off the wheel assemblies. You'll save unnecessary wear and tear on the pump seals.

Hold the
tailboom down



Pamper that hydraulic pump. Give it a good going over. You can replace a pooped pump or repair it.

Test
pumps
action

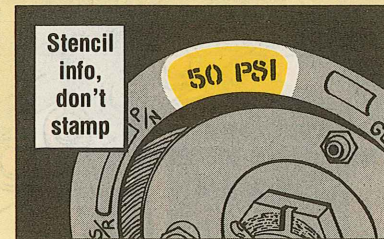


Test the tires. If they're cut or worn to the recapping point, order new ones.

Inflate the tires to 50 PSI.

If your unit identifies wheels, use a stencil and paint. Metal stamping, especially on the wheel rim or hub, will lead to cracks in the wheel.

Stencil
info,
don't
stamp



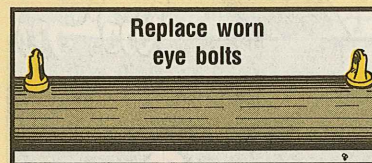
Take a good look at the rest of the wheel assembly. Tighten loose hose connections. Replace any wheel-mounting pin that's cracked, chipped, broken or bent.

Test the spring-loaded front pin for easy in-out action. Crud or rust could keep it from seating properly.

Remember the spring. If it feels like it's lost some of its zip when you finger-test it, change it.

Do your part, and those ground-handling wheels will keep on rolling along!

Replace worn
eye bolts



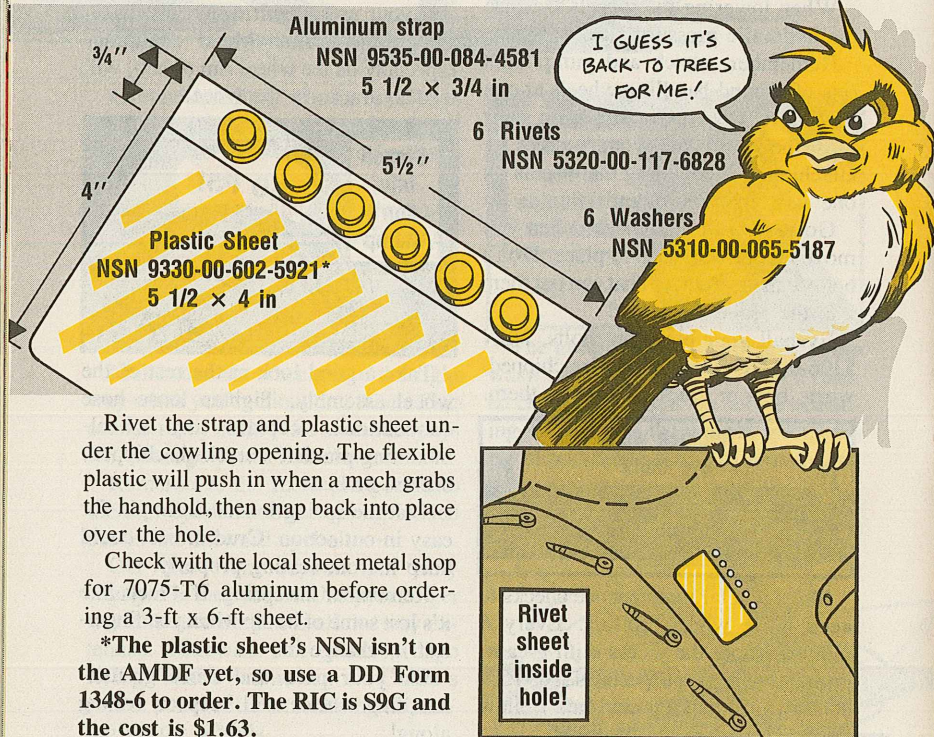
Make regular maintenance checks to keep those wheels rolling. Every 6 months, shoot the works with grease, aircraft, general purpose. NSN 9150-00-944-8953 gets a pound can. Follow the lube chart in the bird TM.

Strictly for the Birds!



Birds—the feathered kind—continue to set up housekeeping in the UH-60A's tail rotor gearbox cowl.

The bird (Army-type) headshed has now come up with a sure-fire fix to keep those cowlings clear. Here's what you'll need to make the handhold cover.



Rivet the strap and plastic sheet under the cowl opening. The flexible plastic will push in when a mech grabs the handhold, then snap back into place over the hole.

Check with the local sheet metal shop for 7075-T6 aluminum before ordering a 3-ft x 6-ft sheet.

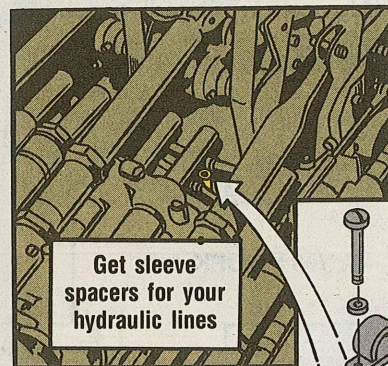
*The plastic sheet's NSN isn't on the AMDF yet, so use a DD Form 1348-6 to order. The RIC is S9G and the cost is \$1.63.

Hydraulic Lines Should Stand Tall

Rivets in the floor of the Black Hawk's main rotor pylon can wear thru hydraulic lines if the lines aren't raised high enough.

A hydraulic line that leaks in flight makes all kinds of lights flash on the instrument panel—signaling an in-flight emergency.

Check those lines. If any rivets are too close for comfort, lift the lines out of trouble with longer sleeve spacers.



NSN 5365-00-662-3098 gets a half-inch long aluminum spacer that's good for No. 8 or No. 10 machine screws. For a 1/2-in spacer for a 1/4-in bolt, use NSN 5365-00-826-5192.



Use NSN 6240-00-797-2585 to get a new bulb for the pilot's penlight-style flashlight, NSN 6230-00-171-3362. NSN 6135-00-643-1309 gets replacement AA batteries for the lights.

Couplings Need Lube, Too!

A Huey can lose tail rotor control if you bird mechs don't lube **all** drive shaft couplings on schedule and by the book.

Inspect and lube the couplings every 600 hours or annually, whichever comes first. Follow the poop in TM 55-1520-210-23-1. You can get a 6-oz tube of grease for the job with NSN 9150-00-506-8497.

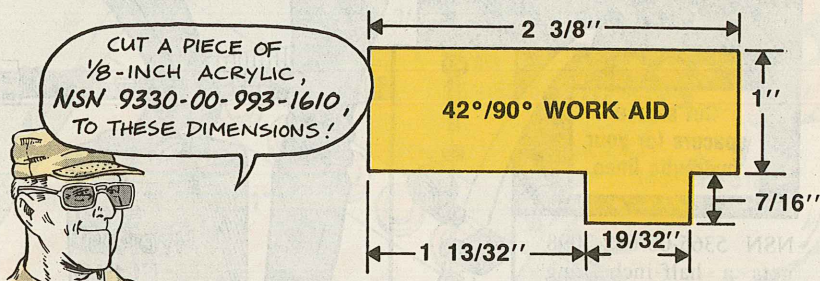
Don't overlook any couplings. Remember the quill coupling at the transmission, for example. That's the first in the series, not the couplings at the No. 1 hanger bearing.

That quill coupling is hard to reach. It takes 2 mechs to remove the clamps. But it only takes one weak link in the drive shaft chain to down a bird!

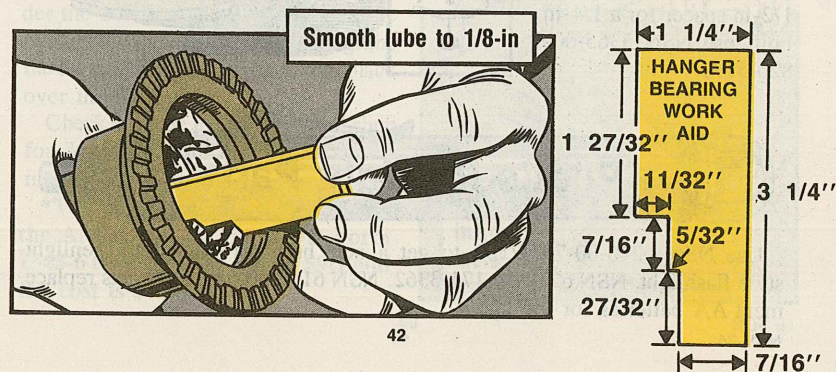
Don't lube the hanger bearing itself. That's done at the factory. Just wipe off any excess grease, and give the bearing the once-over to see if it needs to be changed.

The 42° gearbox quills have a 600-hr lube schedule, too.

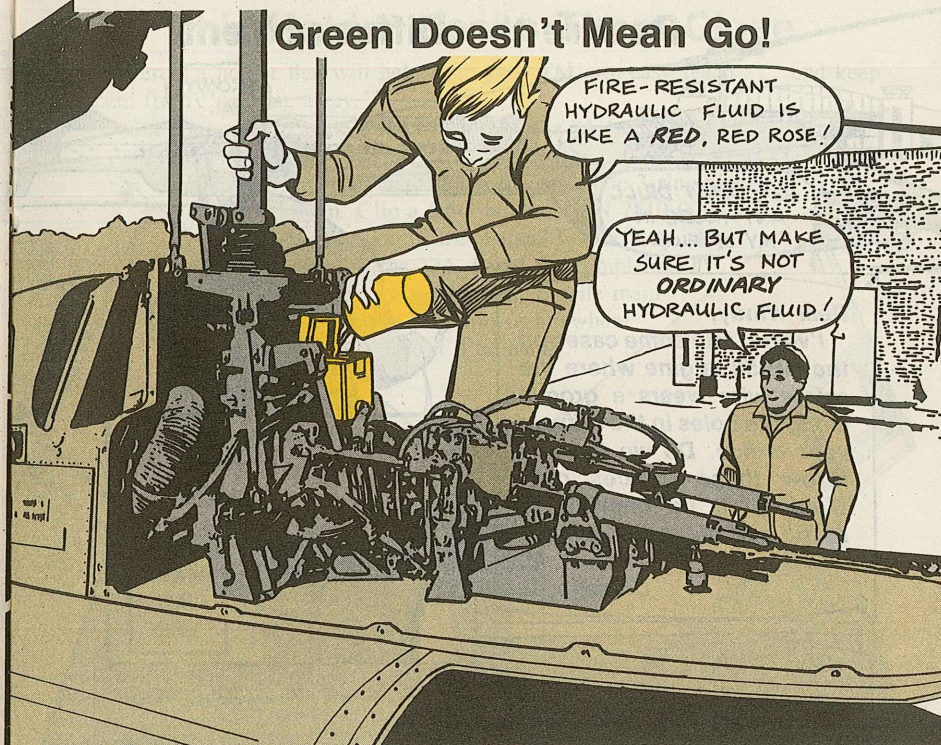
Having trouble getting just enough grease where it belongs? The mechs at the 3/498th Med Co (AA), Ft Stewart, GA, have come up with 2 helpful tools.



Squirt grease on the coupling splines, then insert the tool and rotate it. The grease will be smoothed out and the excess removed.



Green Doesn't Mean Go!



Keep an eye on the hydraulic fluid you feed your babies, bird mechs.

MIL-H-83282 fire-resistant fluid is red and comes in a red can. Hydraulic fluid MIL-H-5606 also comes in a red can. So if you get any other color **can**, turn it in.

Some units are receiving MIL-H-46170 hydraulic fluid. Green cans of that stuff are marked "compatible with MIL-H-83282." But "compatible" doesn't mean "interchangeable."

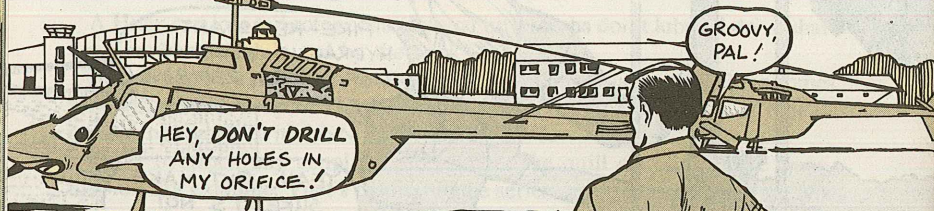
So make sure you see both a red can and red fluid when you add hydraulic fluid to your bird.

Regulator NSN's a Real Gas!

Need a new regulator to get your oxygen servicing unit, NSN 1730-00-435-7817, back on line?

Order it under NSN 6685-01-089-3906. The number's not on the AMDF, so use a DD Form 1348-6. The RIC is FLZ and it costs \$7.63.

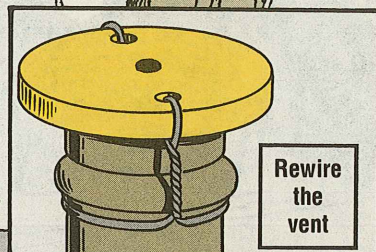
Rewire the Diffuser Vent



Dear Windy,

I've run into some cases on the OH-58 engine where the safety wire wears a groove along the holes in the diffuser vent orifice. Do we have to throw those orifices out? Wouldn't it be cheaper to redrill and reuse the orifice?

P. B. M.
Chicago, IL



Dear Mr. P. B. M.,

If the safety wire hole is the only worn part of an orifice, you can probably use it again.

Loose safety wire can wear a groove in the hole it goes thru. But that's OK—as long as the hole isn't worn completely thru. Just rewire the orifice back into place—more tightly this time around.

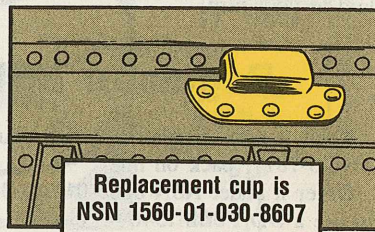
I don't recommend drilling new holes. Not everyone has the skill and drills to do the job and meet aircraft safety standards.

Windy

CH-47 Drain Cup

The drain cup under the spring of the Chinook's crown cover access door fastener wears out after repeated riveting.

NSN 1560-01-030-8607 gets a new plastic cup. It's listed as item 21A in Fig 13 of TM 55-1520-241-23P, (Jul 84).

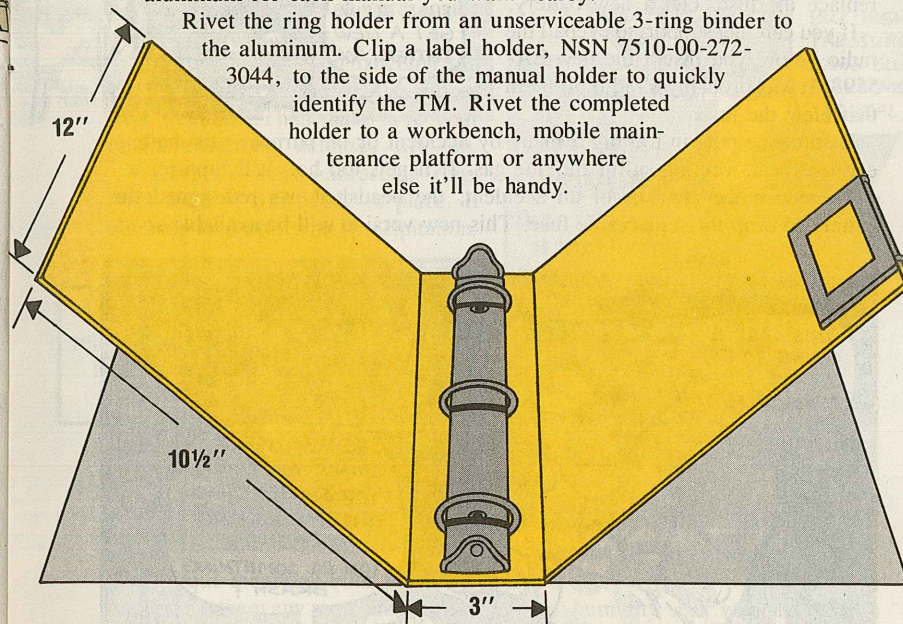


This Holder Keeps Them Close

Here's a holder that will help keep your TM's in easy reach . . . and keep 'em from "walking away."

Get your support people to cut and shape a 24- x 12-in piece of .040-in aluminum for each manual you want nearby.

Rivet the ring holder from an unserviceable 3-ring binder to the aluminum. Clip a label holder, NSN 7510-00-272-3044, to the side of the manual holder to quickly identify the TM. Rivet the completed holder to a workbench, mobile maintenance platform or anywhere else it'll be handy.



Keep Old Tool Kit SC

Hold on to your Jun 81 version of SC 5180-97-CL-A01 on the Aircraft General Mechanics Tool Kit.

Don't toss out the old SC in favor of the Aug 83 microfiche version. The newer edition is missing a heap of tools.

The headshed has scrapped plans to break the General Mechanics Tool Kit into 2 parts. AVSCOM Message DRSAB-MCAPT 171900Z Apr 84 says to disregard the Aug 83 SC 5180-97-CL-A01.

The message also notes that SC 5180-97-CL-A16 (Aug 83) is headed for the scrap heap, too. That supply catalog contained the list of tools removed from the A01.

So until a corrected A01 comes out, use the 1981 SC to do your tool inventories.

Blown Fuse Is Bad News!

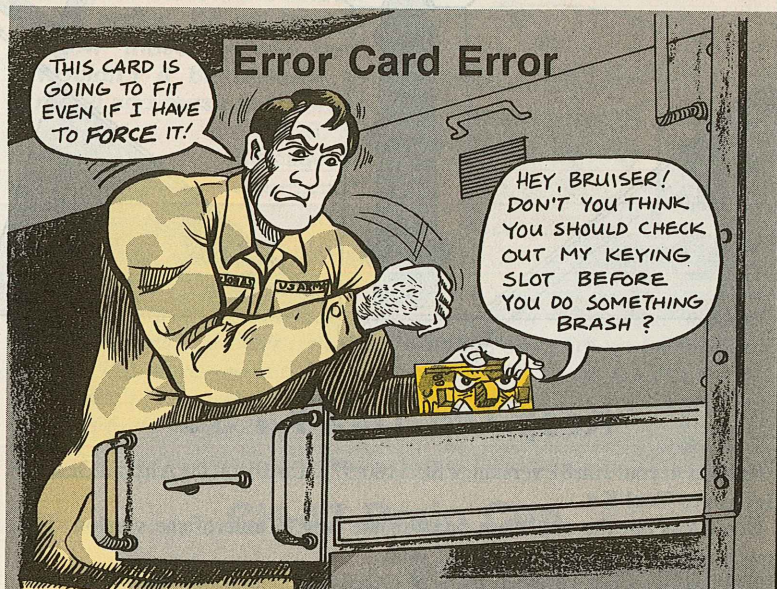
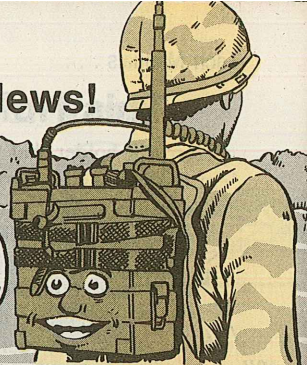
When your AN/PRC-77 radio set's new lithium battery pops a fuse, don't replace the fuse. Get a new battery.

If you can, get support to eyeball the radio before you install the new BA-5598. It was probably a radio problem that blew the fuse.

If someone puts in too big a fuse—by accident or on purpose—the battery can overheat, venting sulfur dioxide gas. If it gets too hot, it'll rupture.

To reduce the chances of an accident, the headshed has redesigned the battery to drop the replaceable fuse. This new version will be available soon.

IF YOUR FUSE BLEW, GET A NEW BATTERY, TOO!



The supply system is dealing your AN/TTC-38 telephone central bad cards. Some error return summary cards, NSN 5805-00-111-4853, are showing up with the keying slot cut out near the wrong pin.

If you install these bad cards, you can ram the connector's key slot pin into the assembly wiring. This will cause an equipment malfunction.

Before installing a new card, make sure its keying slot is at pin 7. Bad cards are slotted at pin 5.

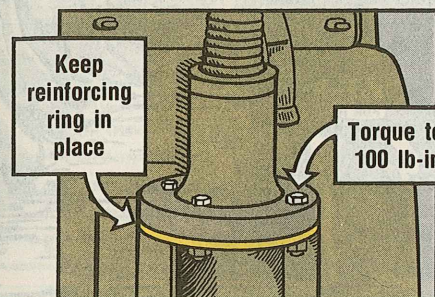
'Hard Water' Kills MX-6707

Raindrops can fall on your matching unit all day and it'll keep on switching.

A minute's blast from a high-pressure hose, tho, can put enough water inside the unit to short it out.

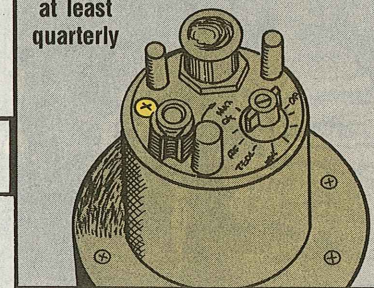
The first step in a good matching unit PM program is to lay off the rubber hose treatment. Then make sure your moisture-fighting defenses are up.

- Keep the steel reinforcing ring, NSN 5985-01-012-5425, in place. It will help fend off normal precipitation.



- Torque mounting bolts to 100 lb-in. Tighten them any more and you can crack the plastic case.

Drain unit at least quarterly



- Drain the unit at least quarterly. Do it more often in wet weather or when humidity and wide swings in temperature create condensation.

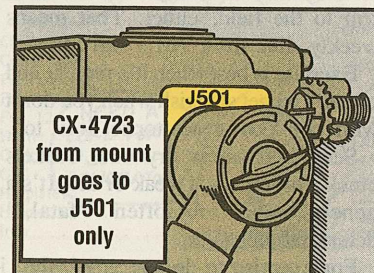
Overpowering Your AM-1780?

Watch where you're going with the CX-4723 power cable from your MT-1029 mount.

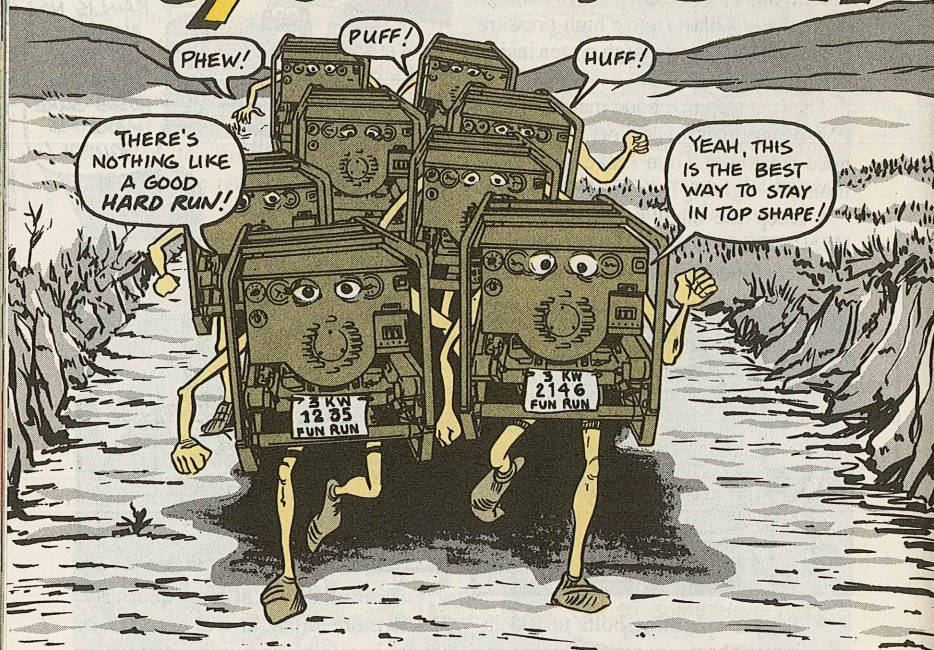
It goes one place only. That's the J501 plug on your AM-1780 audio frequency amplifier. That's the only input that can take the cable's 24 volts.

The other jacks look like the J501, but they can't take the CX-4723's extra oomph.

Head off this volt jolt with a colorful reminder. Put a small piece of tape on the cable and another near the receptacle.



Operators, Start



Your generator set stays in fighting trim the same way you do—with regular workouts.

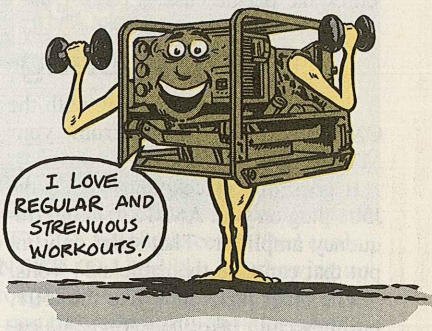
That doesn't mean just before each trip to the field, either. That means weekly, like most TM's call for.

Exercise is best when it's regular and often. You get sluggish when you don't work out. Your generator set does, too.

Seals and filters dry out. Gaskets crack. Batteries get weak or die. It's a general, and too often "fatal," deterioration.

For exercise to do any good, tho, it has to be strenuous.

For a generator, that means a load of **at least 50 percent**. More than 80 percent is better.



Your Engines

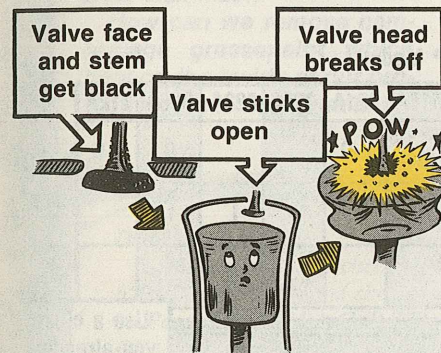
Idling the engine is the worst thing you can do. Idling can ruin the exciter, burn out the voltage regulator or blow the rotor rectifier diodes.

Running with a light load is especially hard on diesels. Wetstacking—a partly burned oil and fuel mix belching from the exhaust during normal operations—is one clue to underloading. If your diesel is wetstacking, run it until the exhaust clears. It may take up to 6 hours.

Both gas and diesel sets have other problems which start with no clues.

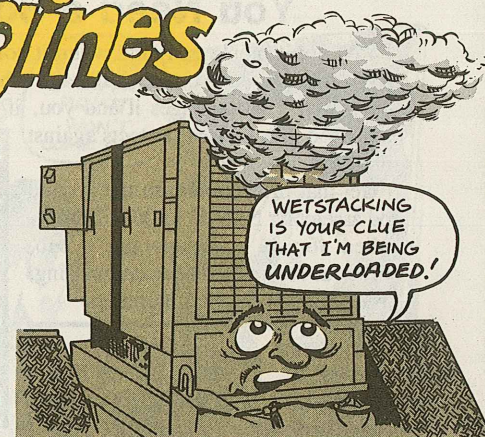
Carbon builds up on valves of engines that are run with a too-light load, because the temperature doesn't get up to operating range.

Before long, carbon keeps the valves from seating. When valves don't seat, power loss is sure to follow.



Bigger generators come with load banks or have one OK'd by their pubs. Use them.

For 10-KW and smaller sets, there



are no load banks. Your best bet is to hook up the equipment the generator usually powers.

If that's not possible, get a substitute that will put an 80 to 90 percent draw on the set's output. Your DS should have a 33-KW load bank, NSN 6625-00-518-3499, that will do the job, too.

If you need help figuring loads, there's some good info in Chap 3, FM 20-31, Electric Power Generation in the Field.

Table 3-1. Wattage Consumption of Electrical Appliances

Appliance	Average Wattage
Clock	3
Coffeemaker	1000
Fan, 8-inch	30
Fan, 10-inch	35
Fan, 12-inch	50
Heater	1300
Griddle	450
Grill	600
Hotplate	1250
Humidifier	500
Iron	1000

A good exercise is to run the set under load for 15-30 minutes after it's warmed up.

You Need a Sound Ground!

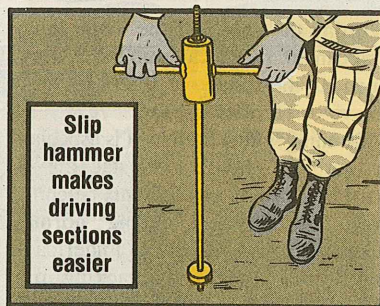
You don't monkey around when it comes to grounding your generator set. Without a good ground, shorts and other circuit problems can electrify your whole set. That damages it and you, if you grab it.

A good ground also protects against lightning.

Get that protection with the ground rod assembly, NSN 5975-00-878-3791, called for in your operator's pub.

If your assembly has pieces missing, order them with these numbers:

Item	NSN
Rods (3)	5975-01-143-7340
Coupling (2)	5975-00-794-2523
Drive head/stud	5975-00-924-9927
Clamp	5999-00-186-3912
Ground terminal	5940-00-112-5218
No. 6 AWG Wire	6145-00-189-6695



Make driving easier by using a slip hammer to sink the sections. Get one with NSN 5120-01-013-1676. Use the hammer to pull the rod up, too.

3-, 5-, 10-KW Generators...

Clip Tip

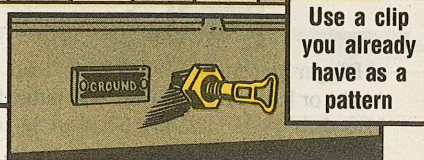
Need safety clips for your generator's ground and load terminal studs? You have to make your own. They aren't stocked in the supply system. Here's the wire you need to do the work.

Use on MEP Model

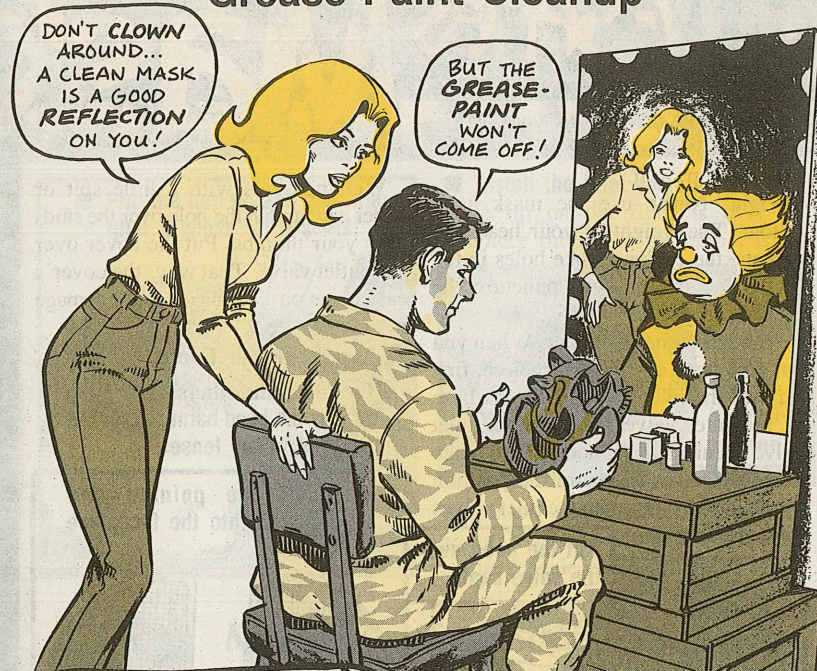
NSN 9505-	002A	003A	016A	017A	018A	021A	022A	023A	026A	112A
00-804-3814 .042 inch			L-G			L-G			G	L-G
01-049-0144 .050 inch	L-G	L-G			L			L	L	
00-596-1668 .051 inch				L-G	G		L-G	G		

L = Load Terminal
G = Ground Terminal

Safety clips for larger generators use .090-in wire, NSN 9505-00-596-1662.



Grease Paint Cleanup



Dear Half-Mast,
How can we remove camouflage greasepaint which gets on the inside of our protective masks during training?
CW2 A. S. G.

Use alcohol on grease



Dear Mr A. S. G.,

Rubbing alcohol and cheesecloth will do the job, Sir. The alcohol, NSN 6505-00-682-6529, and cheesecloth, NSN 8305-00-222-2423, are listed on Page C-3 of TM 3-4240-279-10. Page 3-25 of the TM gives you the OK to use the alcohol on grease. It also works on greasepaint. Soak the cheesecloth with alcohol, rub it on the greasepaint spots, and wipe it off with clean, dry cheesecloth.

Half-Mast

M17-Series Mask

Preventing damage to your M17-series mask is as simple as...not going to sleep on it.

Right! **Never** use the mask as a pillow. The weight of your head can damage the eyelens, poke holes in the filters and maybe even puncture the facepiece.

Another damage stopper: When you put your hood over your facepiece, first remove the inlet valves. Slip the base of the inlet valves through the inlet valve openings in the hood. Then rotate the inlet valves to insure the position of the louvers and snap the inlet valves onto the facepiece.

Put the hood over the valve seats...

...then put the inlet valves on

Cover Story

When you install the voicemeter outlet valve assembly cover, slip the cover over the voicemeter and snap the 2 side studs into place.

Snap studs into place

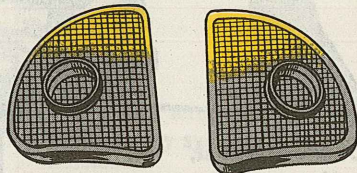
Wet the studs with a little spit or water and stretch the hole over the studs with your thumbs. Put the cover over the outlet valve. That way, the cover's easy to get on...and you won't damage it.

Filter Facts

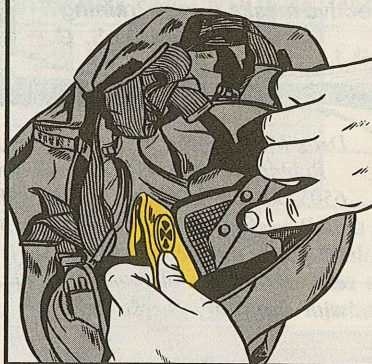
To install the filters:

■ Lay the head harness over the front of the lenses.

■ Insert the pointed end (longest) into the facepiece first.

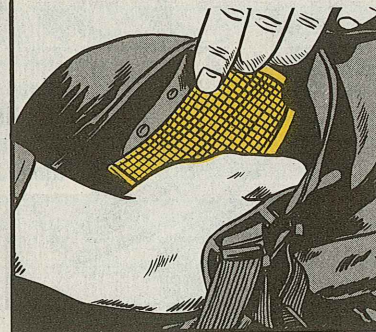


■ Move the nosecup to the side.

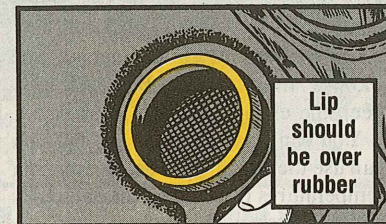


Snoozing

■ Pull the flap up and give the filter a shove till it seats.



■ Install the inlet valve. Be sure the valve lip on the filter is over the facepiece rubber. If the rubber is not



snug under the lip, the inlet valve won't go on. You can damage the inlet valve or the facepiece by forcing it.

Mask Clip End Source

Dear Half-Mast,
Is there a stock number for the harness strap clip ends used with M17-series protective masks?

SGT L. S.



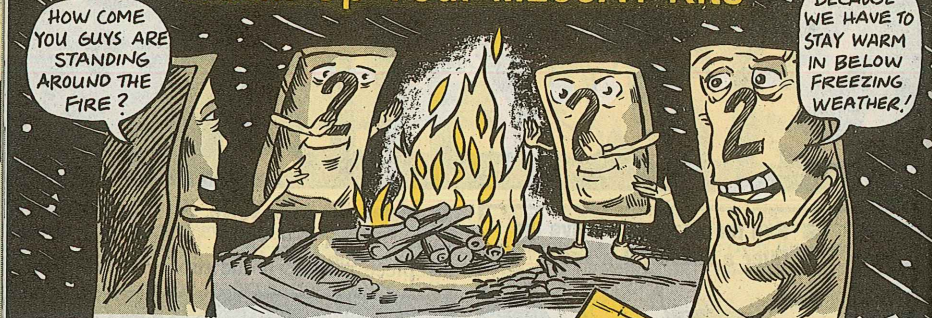
Salvage clip ends from old harnesses

Dear Sergeant L.S.,

No! The quickest way to get clip ends is from salvaged head harnesses. Armament/Munitions/Chemical Command (AMCCOM) Msg DRSMC-MAO-N 101710Z May 84 authorizes using units to salvage clip ends from unserviceable harnesses. The only other route is straight from the manufacturer, using an exception data request (DD Form 1348-6), PN B5-2-1649 FSCM 81361. Page 2-6 of TM 3-4240-279-20&P shows how to remove the clip ends for salvage.

Half-Mast

Warm Up Your M258A1 Kits



Store your M258A1 decon and M58A1 training kits above 32°F to keep the chemicals from freezing.

You can't use a frozen kit, but you can use the M258A1 at below freezing temperatures if you keep the ampoules and wipes thawed.

Don't use the M58A1 on bare skin in sub-freezing weather. The training kit contents might cause frostbite.

Normal operating range for the M58A1 and M258A1 is 32°F to 110°F. Replace kits subjected to more than 110°F. They lose effectiveness.

The word's in TM 3-4230-216-10.



Use M258A1 on Your Skin First

Use your M258A1 decontaminating kit on your skin **first**... and then think about your personal gear.

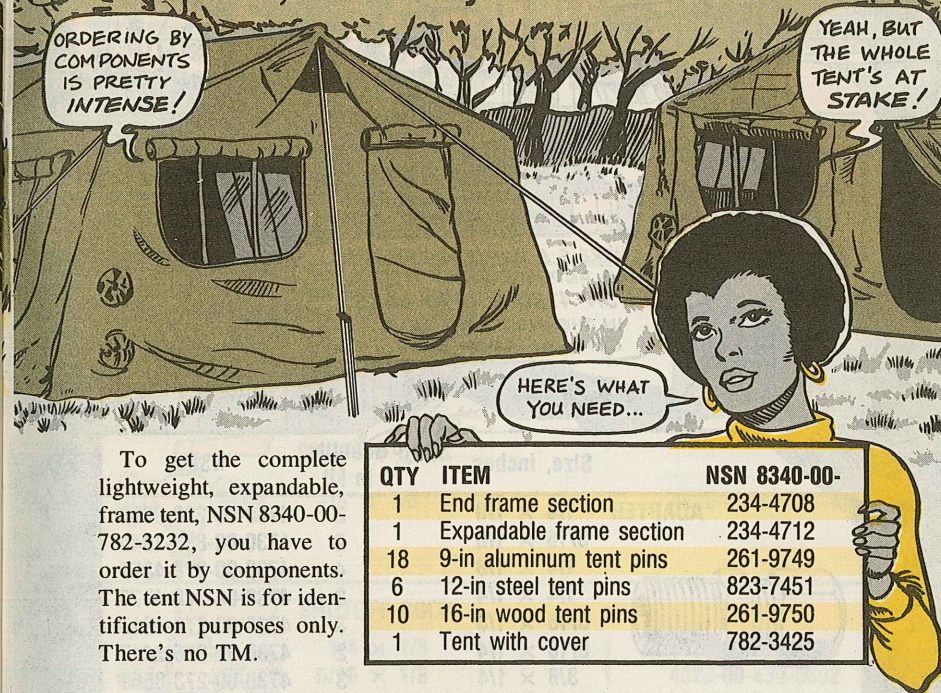
Your exposed skin needs immediate "maintenance." Your gear will wait till the main chore is done.

Decontamination of personal gear with either the M258A1 or the M58A1 training kit is up to local SOP. Know what your command's SOP is.

A big point: Know the procedures in TM 3-4230-216-10 before you have to use the decon kits. The brief instructions on the kits' containers are memory joggers and aren't intended to replace the TM.



Oh, Well—By the Numbers!



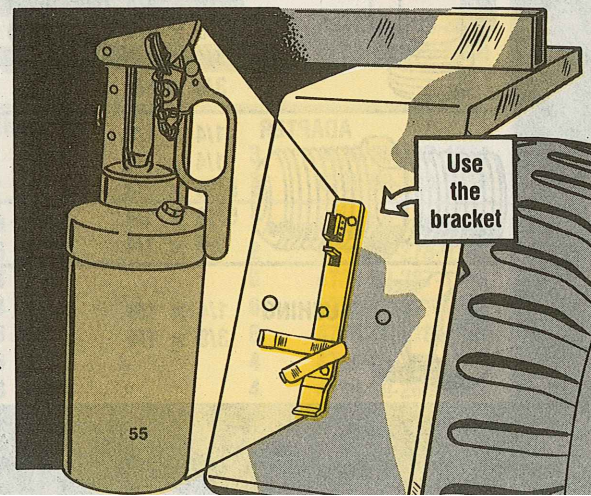
To get the complete lightweight, expandable, frame tent, NSN 8340-00-782-3232, you have to order it by components. The tent NSN is for identification purposes only. There's no TM.

Protect M11 After Use!

M11 decon brackets on your vehicles give you quick and easy access to the decon when you need it.

The brackets also protect M11 parts from damage, snags, even loss.

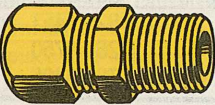
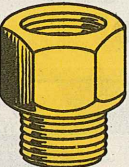


So use them. Tossing the decon into your vehicle after use might save you a few seconds, but those seconds might cost you the serviceability of the decon.



Get Your

Fittings Here

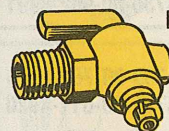
HERE'S A RUNDOWN OF THE
TUBE AND PIPE BRASS FITTING KIT,
NSN 4730-00-470-6625
IN THE NO. 1 AND NO. 2
COMMON SHOP SETS...

	Size, inches	Quantity in kit	NSN
	ADAPTER 1/8 x 1/8	2	4730-00-288-9928
	3/16 x 1/8	2	4730-00-851-1940
	1/4 x 1/8	4	4730-00-278-4357
	1/4 x 1/4	2	4730-00-278-4575
	5/16 x 1/8	3	4730-00-270-4613
	5/16 x 1/4	2	4730-00-266-2417
	3/8 x 1/4	3	4730-00-273-8561
	ADAPTER 3/16 x 1/8	6	4730-00-278-8253
	1/4 x 1/8	6	4730-00-288-9930
	5/16 x 1/8 (60° flare)	6	4730-00-011-4919
	5/16 x 1/8 (42° flare)	6	4730-00-277-8768
	1/4 x 1/8	6	4730-00-540-2612
	3/8 x 1/8	6	4730-00-289-1930
	ADAPTER 1/4 x 1/8	6	4730-00-900-3296
	1/4 x 1/4	6	4730-00-391-3771
	5/16 x 1/8	6	4730-00-142-2177
	5/16 x 1/4	4	4730-00-266-0536
	3/8 x 1/4	6	4730-00-081-7537
	BUSHING 1/4 x 1/8	3	4730-00-277-9386
	3/8 x 1/4	3	4730-00-202-6491



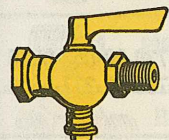
DRAIN COCK

1/8 (Int seat)	2	4820-00-752-9040
1/8 (Ext seat)	2	4820-00-684-0880



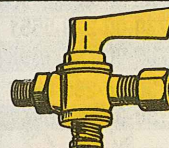
DRAIN COCK

1/8	1	4820-00-555-9761
1/4	1	4820-00-287-4268



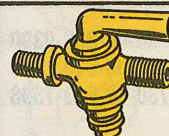
SHUTOFF COCK

1/8 x 1/8	1	4820-00-274-3646
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SHUTOFF COCK

1/4 x 1/8	1	4820-00-812-9029
5/16 x 1/8	1	4820-00-430-5602



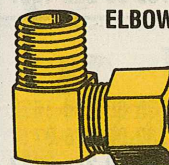
SHUTOFF COCK

1/4 x 1/8	1	4820-00-263-3024
1/2 x 1/8	1	4820-00-272-3360



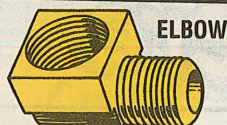
COUPLING

1/8	3	4730-00-287-1614
1/4	3	4730-00-223-9255



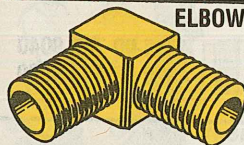
ELBOW

1/8 x 1/8	1	4730-00-263-4976
3/16 x 1/8	2	4730-00-278-0187
1/4 x 1/8	6	4730-00-287-1766
1/4 x 1/4	6	4730-00-277-7621
5/16 x 1/8	6	4730-00-278-4740
5/16 x 1/4	4	4730-00-278-4741
3/8 x 1/4	4	4730-00-263-4983



ELBOW

1/4 × 1/8	4	4730-01-043-5999
5/16 × 1/8	4	4730-00-640-1051
3/8 × 1/8	6	4730-00-277-8269



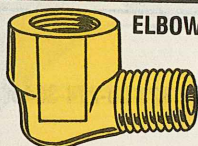
ELBOW

1/4 × 1/8	3	4730-00-254-6211
1/4 × 1/4	2	4730-00-254-6225
5/16 × 1/8	2	4730-00-964-1565
5/16 × 1/4	6	4730-00-254-6226
3/8 × 1/4	3	4730-00-902-8991



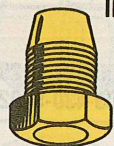
ELBOW

1/4 × 1/8	2	4730-00-767-8076
5/16 × 1/8	2	4730-00-011-4920



ELBOW, STREET

1/8	2	4730-00-053-0266
1/4	2	4730-00-277-5553



**INVERTED
NUT**

1/8	2	4730-00-278-5490
3/16	6	4730-00-278-5551
1/4	6	4730-00-142-1593
1/4 (Ford nut for gas)	3	4730-00-288-8567
5/16	6	4730-00-288-8011



**INVERTED
NUT
(STEEL, ZINC
PLATED)**

3/16	5	4730-00-288-9390
1/4	5	4730-00-013-7397
5/16	5	4730-00-013-7398



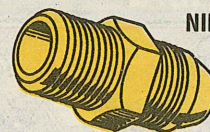
NIPPLE, PIPE

1/8-27 × 3/4	6	4730-00-230-1996
1/4-18 × 15/16	6	4730-00-222-1837

NIPPLE, TUBE (WITH NUT AND SLEEVE)

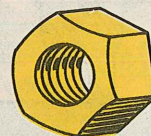


3/16	1	4730-00-289-1622
1/4	2	4730-00-278-8717
3/8	3	4730-00-289-0782



NIPPLE, TUBE

5/16	6	4730-00-764-8770
3/8	4	4730-00-289-1074



NUT

1/8	5	4730-00-067-9801
3/16	6	4730-00-043-3750
1/4	12	4730-00-011-4627
5/16	12	4730-00-278-8829
3/8	12	4730-00-287-1537



NUT

1/4	3	4730-00-011-6452
5/16	6	4730-00-240-1739
3/8	6	4730-00-902-8990
1/2	4	4730-00-054-2572



PIPE PLUG

1/8	6	4730-00-011-3175
1/4	6	4730-00-011-2578



REDUCER

1/4 × 1/8	2	4730-00-529-1487
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COMPRESSION SLEEVE



1/8	15	4730-00-278-8761
3/16	20	4730-00-701-7737
1/4	24	4730-00-278-8763
5/16	24	4730-00-278-8764
3/8	24	4730-00-278-8765
1/2	24	4730-00-054-2571



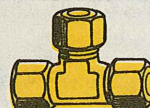
TEE

1/8 × 1/8 × 1/4	2	4730-00-274-9258
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TEE

1/8 × 1/8 × 1/8	1	4730-00-288-9482
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TEE


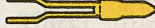

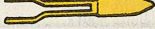
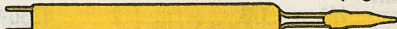
3/16 × 3/16 × 3/16	2	4730-00-287-1689
1/4 × 1/4 × 1/4	2	4730-00-424-5864

Cordless Soldering Iron Tips

Dear Half-Mast,
How do we get replacement tips for the cordless soldering iron, NSN 3439-01-045-1817, you had on Page 40 of PS 372? SP5 I. L. F.



Dear Specialist I. L. F.,
Here's a list of available tips for your Wahl cordless soldering iron:

NSN 3439-01-073-1178*		SIZE (IN)	TIP SHAPE
00-264-5818		5/32	chisel
00-264-5807		5/32	regular
01-073-1179		1/16	fine tip
		3/16	heavy duty (high wattage)
01-043-6780*		1/16	tuner extension

*These NSN's are not on the AMDF. Order on DD Form 1348-6. The RIC is S9G. The chisel tip is \$2.39 and the tuner extension tip is \$3.79.

Half-Mast

Tiedown Components Available

You can now order MB1 cargo tiedowns by components. The parts aren't on the AMDF, so use a DD Form 1348-6 to order them.

ITEM	NSN	PRICE	RIC
Adjuster assembly	1670-00-212-1149	\$18.83	FPZ
Chain	1670-00-516-8405	\$12.78	FPZ

RL-172 Wire Guides

TM 11-3895-207-10 lists the wrong NSN's for your reeling machine's wire guide masts. The correct NSN's are NSN 3895-00-197-6376 for the MX-7247 and NSN 3895-00-197-6378 for the MX-7248.

Spaced Out by Sky-High Prices?

Dial the AMDF Hotline!



Do out-of-this-world prices for supplies and equipment put you into orbit? Get back down to earth and do something about them!

Call the hotline at the Management Information Research Assistance Center (MIRAC) to report a sky-high unit cost. The phone number is AUTOVON 977-7431, commercial (717) 782-7431 or FTS 589-7431.

The hotline operates 24 hours every day. If you get a recording, just give the info to the machine. Give your name, rank, unit, phone number, the NSN and current cost of the item and the month and year of the AMDF microfiche you used. Tell what you think the price should be, and why.

If you think you know of a suitable substitute with a lower cost, give that info, too.

Your complaint won't fall into a black hole. The hotline people will get back to you, usually within 48 hours. If it takes longer to research a problem, they'll let you know.

Not all high prices are wrong. Sometimes a unit cost goes up because the Army buys only a few of that item. Other times, special materials or manufacturing processes mean more money.

But the folks at MIRAC say that even if only 10 percent of the calls they get result in lower prices, it saves the government dollars. MIRAC can also help you track down a missing stock number or answer just about any other supply-type question.

If you can't call the hotline, don't fret. Put your problems on paper and send them to:

Chief
USAMC Catalog Data Activity
ATTN: AMXCA-DL
New Cumberland Army Depot
New Cumberland, PA 17070-5010

When Your Number's Up!

Putting permit numbers on an SF 46, US Government Motor Vehicle Operator's Identification Card, can be tricky. Especially when more than one permit's involved.

But Page 9-12 of FM 55-30, Army Motor Transport Units and Operations, has some pretty good words on numbering permits.

So when your number's up on the SF 46, use the right one!

You assign permit numbers by sequence and year. Active Army units put USA before the numbers. Reserves put USAR; National Guard units use ARNG.

So the 78th permit issued by a regular Army outfit in 1984 would be numbered USA-78-84.

THIS BLOCK SHOWS
THE **ISSUER**—USA, USAR,
OR ARNG—PLUS THE
NUMBER **ISSUED** AND
THE LAST TWO DIGITS
OF THE **CALENDAR**
YEAR!

Standard Form 46 Revised Jan. 1977 USCSC FPM Chapter 930				U.S. Government Motor Vehicle Operator's Identification Card		Card No. USA-78-84
Name of Operator WARDLOW JOHN R.		Sex M	Date of Birth 11 Nov 55			
Height 5'10"	Weight 170	Social Security No. 123-45-6789				
Color of Hair BLK Eyes BLU		Signature of Operator (Not until signed) <i>John R. Wardlow</i>				
Name and Location of Issuing Unit 277th Maintenance Co. Ft. Carson, CO		Signature and Title of Issuing Officer <i>A. K. Comm</i> SUPV. B. T. 105				

The holder of this card is qualified to operate U.S. Government vehicles and equipment specified, subject to the restrictions set forth on the reverse.

Number, Number

But that number's good only for that SF 46. When you renew or reissue an SF 46, use a new number.

When you fill up one SF 46 and issue another one, it gets a separate number too—because the 2 permits were issued at different times.

But if you issue more than one SF 46 to the same person at the same time and place, you can use the same number. Or stick a letter or second number on them: USA-78-84-1 and USA-78-84-2 or USA-78-84a and USA-78-84b, for example.

When you qualify an operator on other pieces of equipment, just add that gear to the soldier's current SF 46—until you run out of lines. Adding equipment to an SF 46 does not change the number—or the renewal date!

Only when you run out of lines and go to a new SF 46 do you need a new number. Depending on your SOP, the additional form can have its own renewal date or the same date as the first permit.

Make sure you note additional SF 46's issued in Section III of the DA form 348.

Support Repairs ...

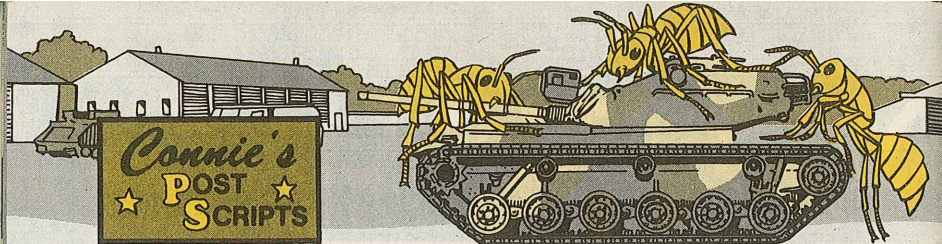
All...or Nothing at All



When you send tactical trucks, combat vehicles or major assemblies, such as engines and transmissions, to support for repairs, be sure you send the complete item.

Sure, you could use some component to keep another end item operationally ready, but support can't perform its technical inspection to determine needed repairs unless they have the whole thing. So send everything.

Once DS has determined what repairs are necessary, you can coordinate with them for removal of the part you need. This controlled exchange to help you keep your Operationally Ready rate high is authorized by AR 750-1, Army Materiel Maintenance Concepts and Policies. But make sure you get that removed part on order as per Para 4-44b of that AR, so you'll have everything you need to put your DS-repaired item back in service when it's returned.



Better Blackout Light

M101 and M101A1 towed howitzer owners, there's a better blackout light available for your guns. The light offers more visibility to the rear and is equipped with turn signals. To get the light, you order 2 component parts—taillight assembly, NSN 1015-01-130-6273, and cable assembly, NSN 1015-01-130-5949. The parts are free issue.

Improved Fifth Wheel

When the fifth wheel assembly on your 2 1/2- or 5-ton tractor truck needs replacing, use NSN 2510-01-094-6714. It's stronger than the old assembly, NSN 2510-00-809-7791.

The M819 and M246-series tractor-wrecker trucks stay with the old fifth wheel, tho. The wrecker won't work right with the new assembly.

Brake Safety!

Now there're no if's, but's or maybe's—all M44-series 2 1/2-ton trucks must be equipped with improved front brake hoses. Check now! If your truck's got short brake hoses, your mech will change them to longer hoses as instructed in Para 4-10a of TM 43-0143. TACOM Safety-of-Use Msg DRSTA-MTB 062000Z Jul 84 has the word.

More LIF Phone Lines

The Logistic Control Activity in San Francisco has added some more telephone numbers for use in accessing the Logistics Intelligence File.

If you have access to a remote dial-up inquiry device or a computer terminal, you can use these numbers 24 hours a day:

AV 586-5313/5441/5532/5833/5635/5761

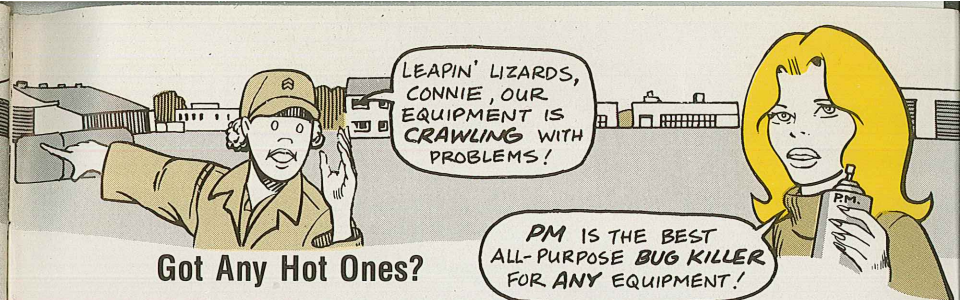
Commercial (415) 561-5313/5441/5532/5833/5635/5761

No terminal? Call AV 586-5823, commercial (415) 561-5823, from 6 a.m., to 4 p.m. weekdays (PST). After 4 p.m., weekends and holidays dial AV 586-5841, commercial (415) 561-5841. Have your document numbers ready.

If you have questions, give the Customer Service folks a call. They're available Monday thru Friday, 7:30 a.m. to 4 p.m. (PST), at AV 586-5705/2131, commercial (415) 561-5705/2131.

Tank & Pump Elbow

Use NSN 4730-00-246-9219 to get the 1-in street elbow that connects the muffler to the engine on the Highland Industries tank and pump unit. The NSN listed in TM 5-4930-227-24P is wrong.



Got Any Hot Ones?

Some dials and gages for construction equipment, combat and tactical wheel vehicles have radium in them. When they go bad, they've got to be disposed of in just the right way.

Since you can't tell the difference between radioactive and non-radioactive instrument panel dials and gages, get your local NBC team to scan 'em with a AN/PDR-27() radiac set.

If the items are radioactive, use AR 385-11 and TB 43-0116 to identify 'em and dispose of 'em.

Ammo Tiedown Savings

If your unit has a non-nuclear mission, you don't need the expensive nuclear ammo tiedown strap, NSN 5340-01-089-4997 (7,000-lb pull strength, cost \$23.10). They're in short supply.

For conventional ammo use, tiedown strap NSN 5340-00-980-9277 (5,000-lb pull strength, cost \$8.37).

Nuclear mission units should use Advice Code 2B to tell support not to substitute.

Gama Goat Breakers

NSN's for circuit breakers on Page 63 of TM 9-2320-242-20P are wrong. Use NSN 5925-00-954-9289 for Item 7. NSN 5925-00-026-4767 gets Item 8.

Move Up With NCOLP

You can help the Army get the training logistics managers it needs—and give your career a real boost—through the Noncommissioned Officer Logistics Program (NCOLP).

NCO's in 31 MOS's are needed to fill key logistics management positions. Section III of Chap 7 of AR 614-200 spells out the requirements and assignment opportunities.

These MOS's have been added to the NCOLP:


- 21L Nike Test Equip Repairer
- 24V I-Hawk Maint Chief
- 27B Land Combat Support System Test Specialist (Lance Repairer)
- 27G Chaparral/Redeye Repairer
- 27Z Ballistic/Land Combat/Light Air Def Maint Chief
- 63R, M60A2 Tank Systems Mechanic, has been dropped from the program.

Want to talk to someone about the NCOLP? Call MSG Zaccariello or Mr. Malafronte, AV 221-6428/6429. Or write: USA MILPERCEN, ATTN: DAPC-EPM-L, 2461 Eisenhower Avenue, Alexandria, VA 22331-0400.

Would You Stake Your Life ^{right now} on

the Condition of Your Equipment?

★ U.S. GOVERNMENT PRINTING OFFICE: 1984—759-008/12



WHO, ME?

Yes - You!

You're the one who
knows the equipment best.
The ARMY wants to hear from

See page 29

YOU!