Issue 361

PS

December 1982

THE PREVENTIVE MAINTENANCE MONTHLY

1982 INDEX Page 29

More TAMMS Changes Page 1

Make a GIFT of this copy to a friend when you've read it!

PS THE PREVENTIVE MAINTENANCE MONTHLY

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

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ISSUE NO. 361 DECEMBER 1982

TROOP SUPPORT

GROUND MOBILITY

FIREPOWER

COMMUNICATIONS

AIR MOBILITY

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

MSG Half-Mast
PS Magazine
Lexington, KY
40511

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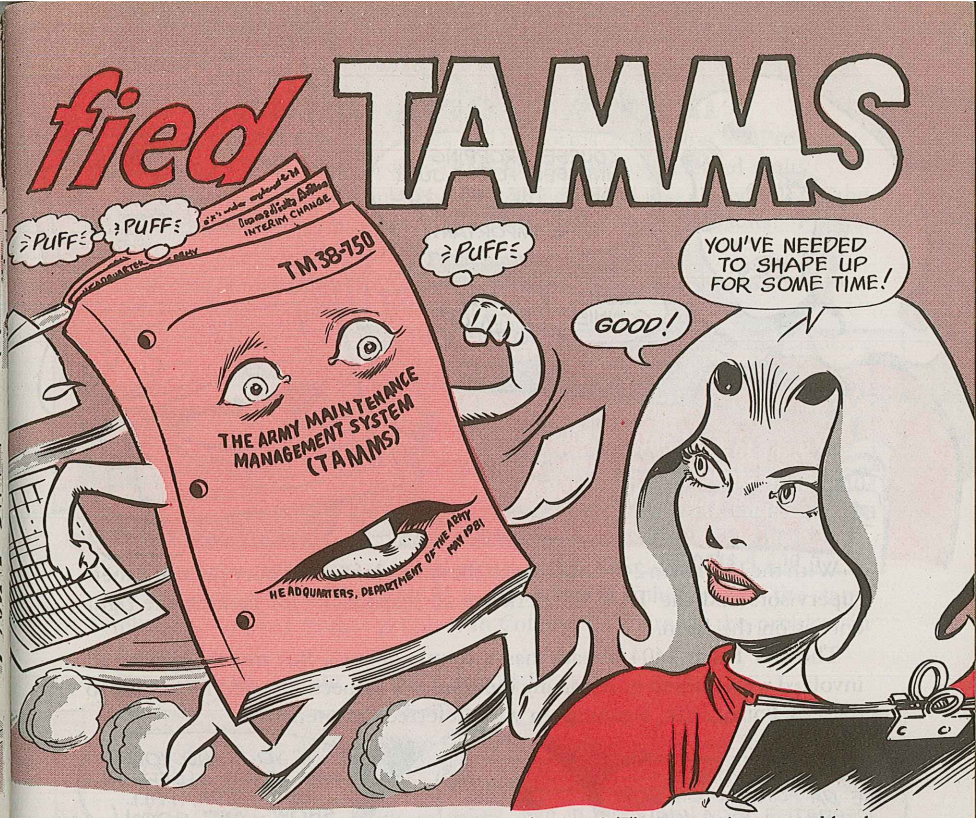
TM 38-750 just went on a diet—and lost some pages and more forms!

Actually, TM 38-750's "loss" is all part of the Supply and Maintenance Assessment and Review Team (SMART!) plan to help you keep up with your gear with fewer forms and less hassle.

Interim Change 3 to TM 38-750 has the word. The DA Form 2408-10, Equipment Component Record, was killed off for all gear. The DA Form 2408-14, Uncorrected Fault Record, and DA Form 2408-18, Equipment Inspection List, dropped from all equipment except aircraft.

Almost nobody used the entries on the DA Form 2408-10, so why keep it? Still need some component change info—like for the Army Oil Analysis Program (AOAP)? Put it in the Remarks Block of the DA Form 2408-20.



Worried about hourmeter or odometer changes? Those entries moved back to the Remarks Block of the DD Form 314—where they started out!

Some people lived by the DA Form 2408-14, while others kept it strictly for inspections. Either way, unless the DA Form 2408-14 went out in the dispatch packet, operators had no way of knowing what was deferred.

Good operators made unneeded entries or extra trips to see the TAMMS clerk. Other operators went out without the info.

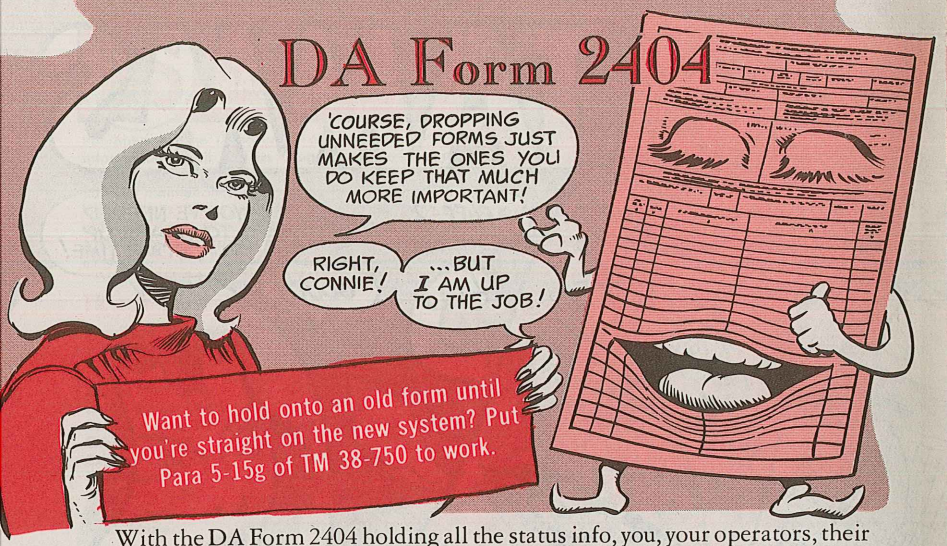
Move your deferred maintenance entries to the DA Form 2404—so everybody knows about them!

You can put any DA Form 2408-18 entries on a variety of other forms—DD Form 314, DA Form 2408-4, DA Form 2404—whatever suits you.

But after you transfer needed info from DA Form 2408-10, 2408-14 and 2408-18, trashcan 'em.

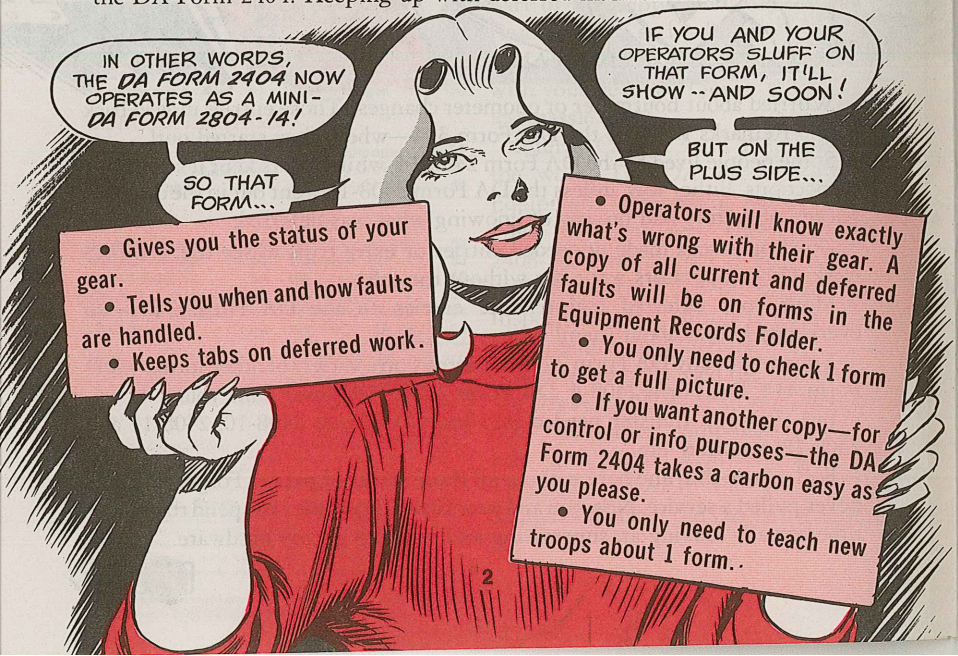
Feel a little thin and bare without all those stacks of paper? Forget it! Paper never pulled a service. Now you and your first-line people can spend that paper time actually looking at, supervising and working on the hardware.

DA Form 2404



With the DA Form 2404 holding all the status info, you, your operators, their supervisors and the TAMMS clerk are all responsible for making the right entries on the form.

The DA Form 2404 already has a couple of uses. But mostly, they're all involved with pulling or reporting the results of inspections. Add 1 more use to the DA Form 2404: Keeping up with deferred maintenance.



Double Duty Form

Operators will deal with 2 types of DA Forms 2404: One for Preventive Maintenance Checks and Services (PMCS) and one for deferred faults.

You operators get the same type of DA Form 2404 you always did for the before-, during- and after-operations PMCS. Find no before faults? Put the date in Column c.

If the equipment gets a clean bill of health from you for the during- and after-operations checks, put your initials in Column e.

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see TM 38 750; the proponent agency is the Office of the Deputy Chief of Staff for Logistics

1. ORGANIZATION			2. NOMENCLATURE AND MODEL			
B Co 3/19th Inf.			TRK Cargo M35A2C			
3. REGISTRATION/SERIAL/NSN	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION
0540-13362						DAILY

7. APPLICABLE REFERENCE

TM NUMBER	TM DATE	TM NUMBER
9-2320-209-10-2	AUG 80	

Use the same PMCS 2404 until you find a fault you cannot fix. Then fill in Blocks 4 and 5.

'Course, you hold off on those initials if you find a fault you cannot fix—or need a part to fix.

In that case, put the TM (PMCS) item number in Column a and the status symbol that applies to that problem in Column b. Write up the problem in Column c.

Sign Block 8a and put the day's date in Block 5.

...or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

8a. SIGNATURE (Person(s) performing inspection)	8b. TIME	9a. SIGNATURE (Maintenance Supervisor)	9b. TIME	10. MANHOURS REQUIRED
J.R. Eckert				

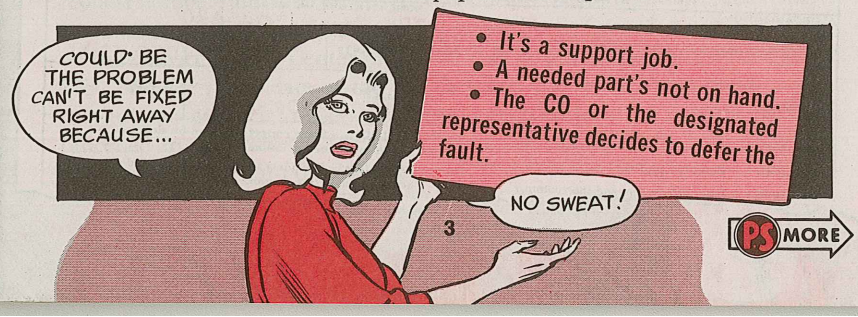
Sign in Block 8a

Take the form and the problem to the dispatcher, maintenance supervisor or mechanic.

If the fault can be fixed, the mechanic will close out that entry.

You can use that form for that day's dispatch. Just add any new problems you find during and after operations.

But once you sign in Block 8a, that form's only good for the current day. A new form is needed next time the equipment is dispatched.



If the job's for support, the TAMMS clerk closes out the entry with the DA Form 2407 info. If the fault makes the equipment not mission capable (NMC), hold onto the form. Otherwise, toss out the DA Form 2404.

Maybe the mechanic needs a part to fix it. The mechanic writes up the part—TM parts manual number; page, figure and item number; NSN or part number—and goes to the PLL clerk.

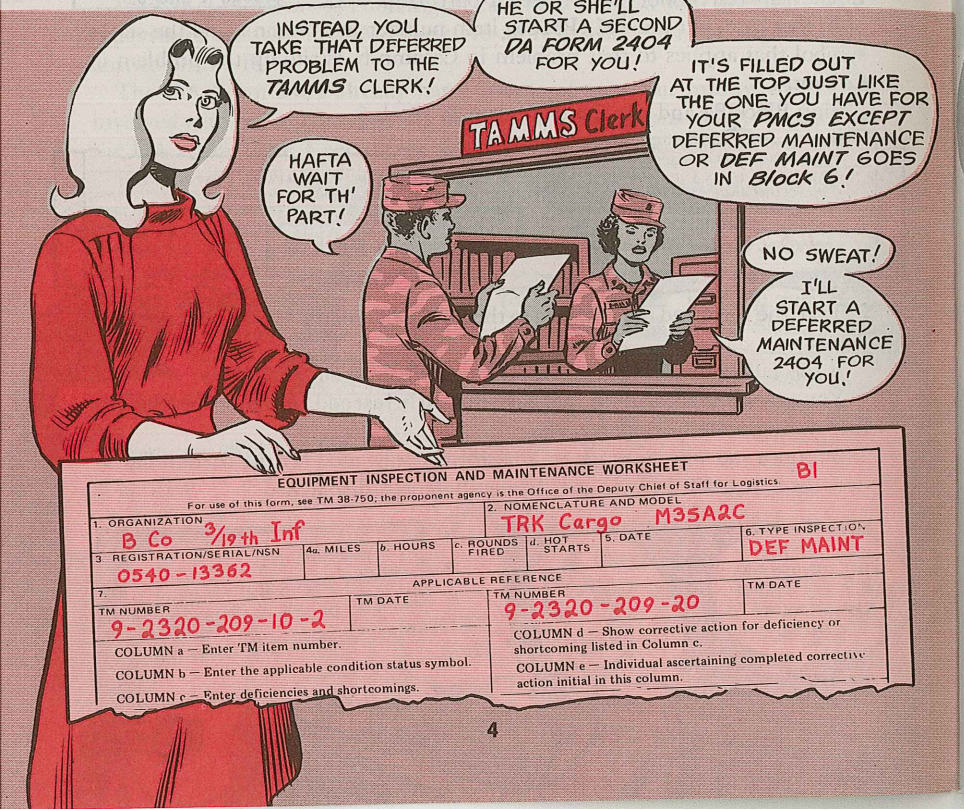
Part on hand? The PLL clerk hands it over. The mechanic fixes it, closes out the entry and you're in business.

Part not on hand? The PLL clerk writes a document number (supply request number) on the DA Form 2404.

Fixing that fault has been put off—deferred—until the part comes in.

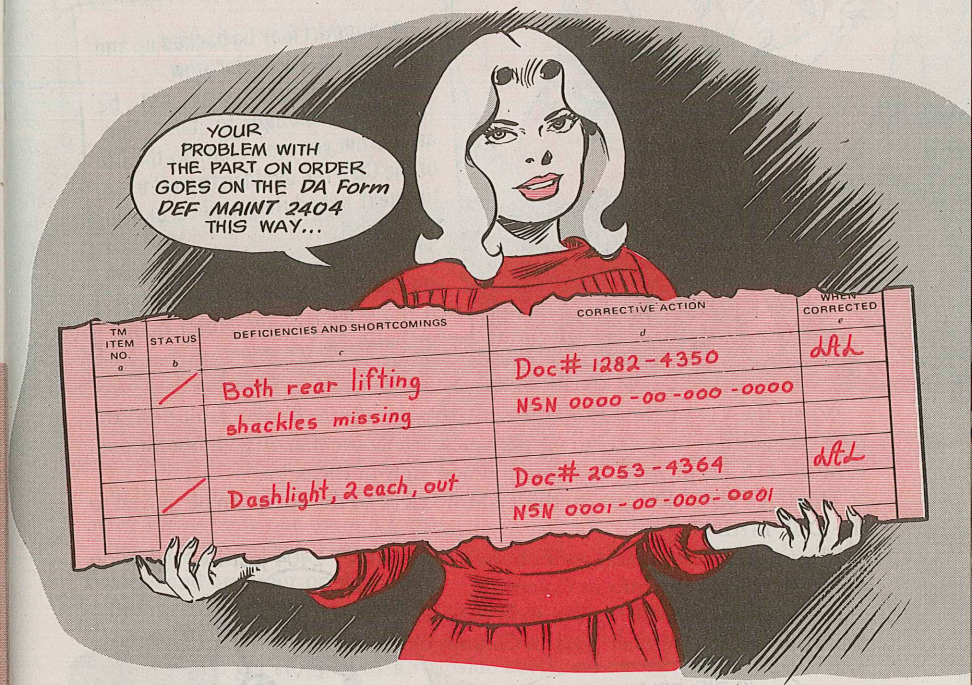
If you tried to keep up with deferred problems and your daily PMCS checks on the same form, you would soon have lots of DA Forms 2404 in your Equipment Records Folder. And before you could sign off on a PMCS, you'd have to check back over each day's entry and every form.

That's added hassle—not less work!



That second DA Form 2404 is a mini-DA Form 2408-14. All it does is keep up with the problems that have been delayed for some reason.

Any already deferred faults on a DA Form 2408-14 will go automatically to a DEF MAINT 2404, so make sure you start looking at that form now.



Column b, status symbol of the problem. (Faults with an X status symbol, though, cannot be deferred. You either fix those right away or the equipment's down.)

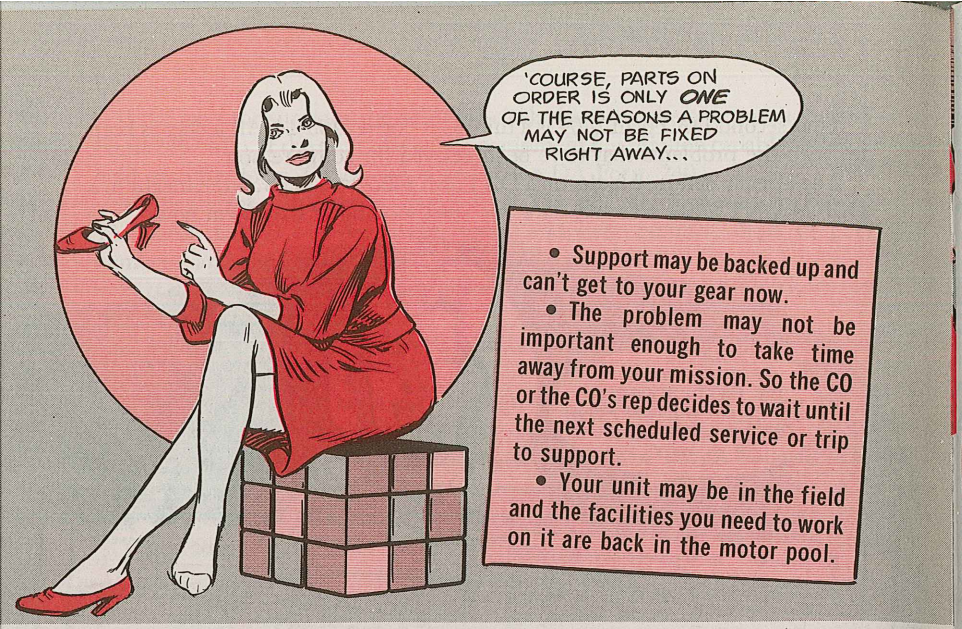
Column c, a brief description of the fault.

Column d, the reason for delay. The PLL clerk's document number (supply request number) and the NSN or part number of the item go here. Not all parts come from the PLL. Could be the part's carried by the Quick Supply Store (QSS) or Self-Service Supply Center (SSSC). If they're out of the item, write QSS or SSSC and the Julian date of the day they told you it wasn't on hand.

If the request is cancelled later, write "cancelled" and the date the part was cancelled in this column. If you still need the part, put the new document number and fault info on the next open line.

Column e, the initials of the CO or the CO's designated representative.

PS MORE

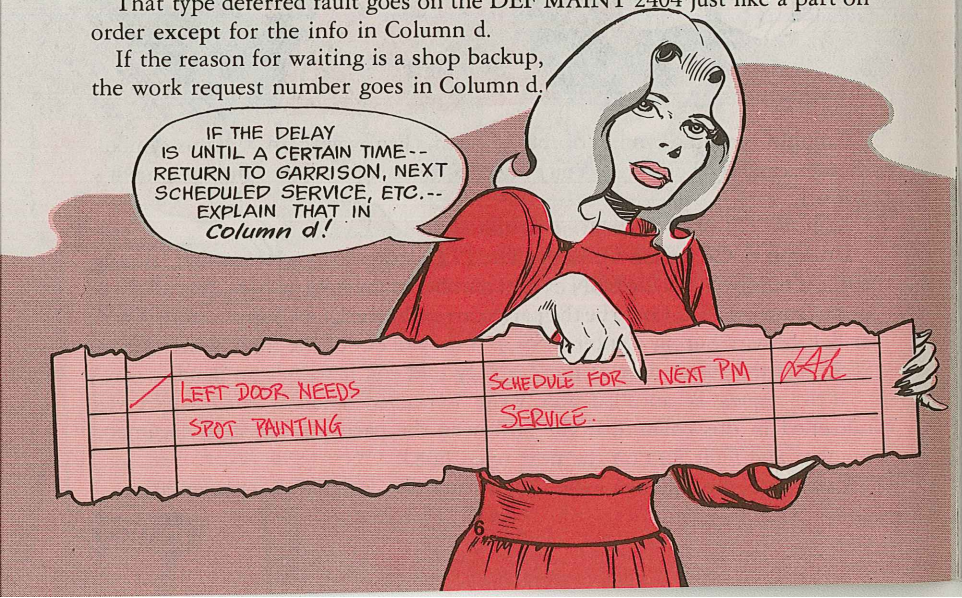


When the CO or the CO's representative decides to delay a fault until the next scheduled service, trip to support, etc, they'll note that on your operational (PMCS) DA Form 2404 in Column d and sign in Block 9a.

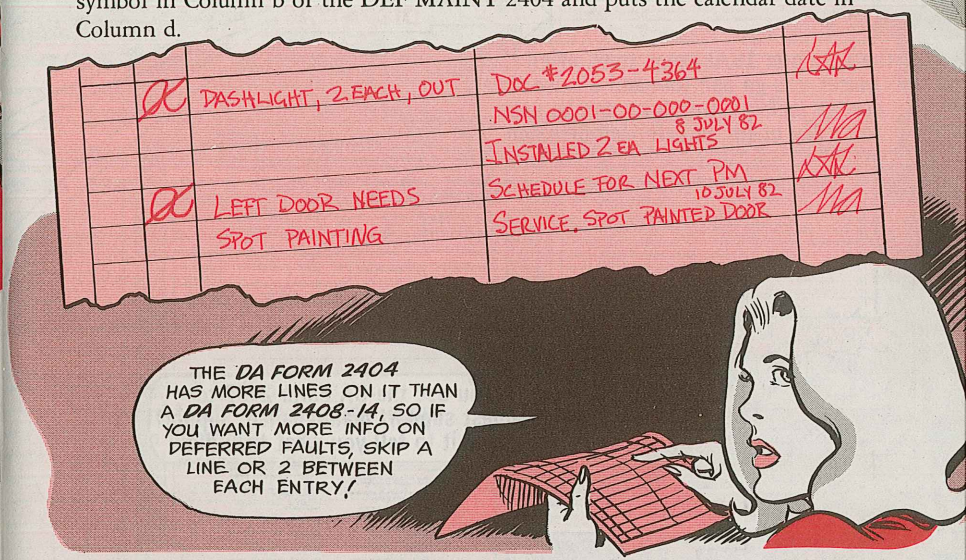
The DA Form 2404 goes to the TAMMS clerk so the entry can be moved to the DEF MAINT 2404.

That type deferred fault goes on the DEF MAINT 2404 just like a part on order except for the info in Column d.

If the reason for waiting is a shop backup, the work request number goes in Column d.



When the fault is finally fixed, the person who fixes it initials the status symbol in Column b of the DEF MAINT 2404 and puts the calendar date in Column d.



When all the faults on a DEF MAINT 2404 have been fixed or moved to other forms, toss out the old forms.

That DEF MAINT 2404 folds up in a pocket of your Equipment Records Folders and goes out on dispatch.

Before each PMCS, you operators check out the entries.

As long as a fault is on that form, you're covered. No need for duplicate entries. If you get stopped by a roadside check, no sweat.

'Course, with that form in your folder, you operators have the action on keeping up with deferred faults, too.

Sure, the TAMMS clerk or the maintenance supervisor may have a copy of your DEF MAINT 2404—that's up to them—but you have an equal stake in keeping the form up-to-date. After all, it's **your** form and **your** equipment.

If you think a part's been on order too long, you take the form to the PLL clerk and ask about it.

When you help pull a service, **personally** make sure the faults deferred to that service are fixed.

If the reason for delay has passed and an entry is still on the DEF MAINT form, check it out.

The DEF MAINT 2404 makes the operator an equal partner in keeping gear up and all faults cleared.

PS MORE

MOTOR EQUIPMENT UTILIZATION RECORD

The DD Form 1970 keeps track of all the places you go and fuel and oil use (if needed locally). This form can be used for 1 day or for an extended dispatch.

DD FORM APR 81 1970

DISPATCH

IT ALL STARTS HERE

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

PMCS check—No faults discovered. Record date & dispatch.

PMCS check—A fault discovered.
1. Record fault.
2. If corrected—Record corrective action and dispatch.

PMCS check—A fault discovered.
1. Record fault—part needed—maint action deferred.
2. Record reason for delay.
3. Create a second DA Form 2404.

PMCS check—A fault is discovered.
1. Not repairable at org level.
2. Record fault—enter "DA Form 2407 (SPT)" in Col d.
3. Prepare 2407 for evacuation to DSU.

PMCS check—A fault is discovered.
1. Record fault.
2. If an X status symbol is to be downgraded to a (X), enter "Cleared for Limited Operations (and state the specific limitation)."

DA FORM 2765-1

PLL clerk orders needed parts.

DOCUMENT REGISTER FOR SUPPLY ACTIONS

For use of this form, see DA PAM 710-2-1. The proponent agency is ODCSLOG.

When the reason for delay is awaiting parts, get the request number from the PLL clerk and put it on the DEF MAINT DA Form 2404.

DA FORM JAN 82 2064

MAINTENANCE REQUEST

You use the DA Form 2407 to request support maintenance. Support uses it to tell you what they did.

DA FORM MAY 81 2407

IF FAULT IS NMC

IF FAULT IS NMC

IF FAULT IS NMC

If support has your equipment on the last day of a DA Form 2406 report period, they'll give you any NMC time info by phone or on a DA Form 2418.

MATERIEL CONDITION STATUS REPORT

Based on the information on the DD Form 314, total NMC time for different types and models of equipment go on the DA Form 2406. This form partly measures how "ready for combat" your equipment and unit were during the reporting period.

DA FORM MAY 81 2406

DD FORM 314

PREVENTIVE MAINTENANCE SCHEDULE AND RECORD

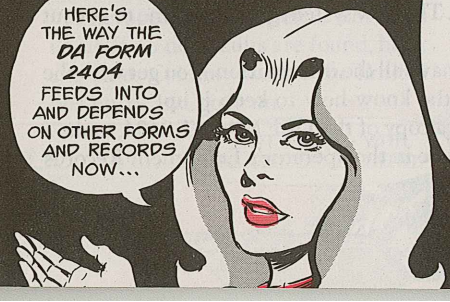
If the equipment is reportable on the DA Form 2406—alone or as a subsystem—you keep track of Not Mission Capable (NMC) days on the DD Form 314. 'Course, the next service and lube due info for the card on the outside of the Equipment Dispatch Folder comes from the DD 314, too.

DA FORM 1 APR 79 2404

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

This "DEF MAINT" form will be used as a record of maintenance actions deferred due to lack of parts, shop backlog or until the next scheduled PM service. Record fault in Col c. In Col d enter (take 2 or more lines if needed):
1. Reason for delay.
2. Supply request number.
3. NSN or part number.
4. Calendar date of correction.

DA FORM 1 APR 79 2404



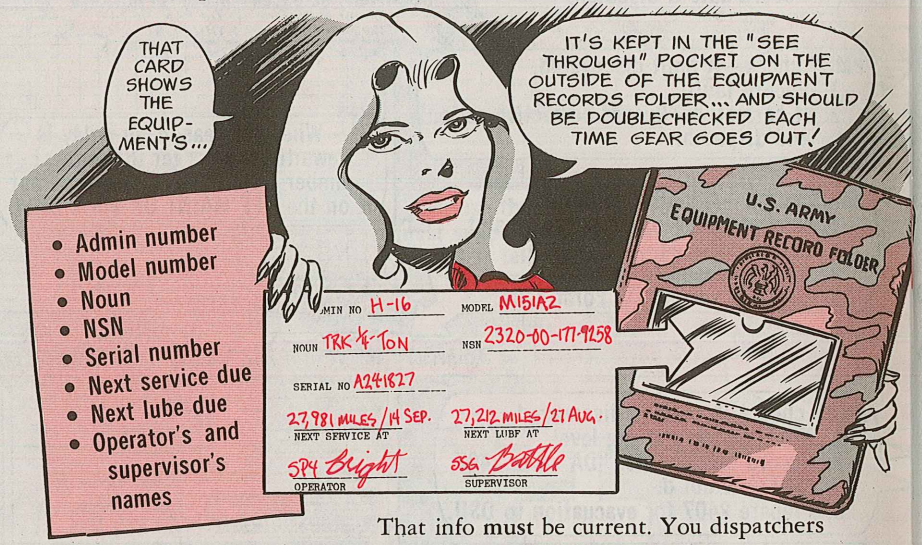
PS MORE

Dispatch

The new set-up leaves your dispatching operations pretty much intact. You still use the DD Form 1970, Motor Equipment Utilization Record, as the trip ticket.

The only change lies in the operational (PMCS) DA Form 2404 and using 2 types of DA Forms 2404. Both forms will be given to the operator and a copy of the deferred maintenance form stays in the Equipment Records Folder.

The outside pocket of the folder holds a special identity card or insert now.



That info **must** be current. You dispatchers doublecheck the card each time you send the gear out. Operators keep an eye on the next lube and service due dates.

Managing the System

Putting the new system in operation takes some hands-on supervising. In fact, hands-on is the purpose behind it all.

You supervisors, motor sergeants, platoon leaders and maintenance types spent too much time pushing a pencil. The new system gives you time to get out of the shop and on the line.

The operator and dispatch packet have all the information. You get with the operators and make sure they have the know-how to keep it up!

If you and the TAMMS clerk want a copy of the DEF MAINT 2404, make a carbon. But the working copy is the one in the operator's Equipment Records Folder.

Want to inspect the gear or check on how well PMCS's are being pulled? Get the folder. Ask the operator to pull a PMCS. Unless you pull weekly and monthly PMCS's during motor stables, stay with the operators and help them go through those "extra" checks. Weekly and monthly PMCS's are treated like dailies as far as the DA Form 2404 is concerned.

Go through the whole dispatch process with your operators. Do they know the difference between the 2 DA Forms 2404? Do they check deferred entries? Do they ask about the status of ordered parts?

Everything—open faults, downgrades, deferred entries—should be on one or the other DA Form 2404.

Need to downgrade an X status symbol fault to a circled X for an urgent mission? That action's limited to the CO or the maintenance officer now.

But if the gear is essential—no other item will do—and the fault will not put the operators in danger or further damage the equipment, the X can be downgraded.

IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

9a. SIGNATURE (Person(s) performing inspection)	9b. TIME	9a. SIGNATURE (Maintenance Supervisor)	9b. TIME	10. MANHOURS REQUIRED
DAVE Bright SP4		J. L. Nurge CPT.		

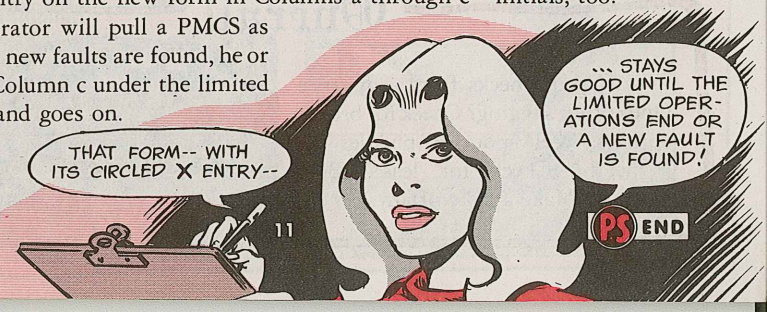
TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION d	INITIAL WHEN CORRECTED e
12	(X)	WIDGETT CELL INOPERATIVE	CLEARED FOR LIMITED OPERATIONS RESTRICTED TO SPEEDS OF LESS THAN 25 MPH	JBM

Circle the X in Column b of the DA Form 2404 used for PMCS's. Put "Cleared for Limited Operations" in Column d and add the specific limits. Initial Column e and sign in Block 9a.

That DA Form 2404—signed in Block 9a—is only good for that day's operation. Start another DA Form 2404 for the next day's dispatch.

But if the circled X fault with its limited operations still exists, that will be the first entry on the new form in Columns a through e—initials, too!

The operator will pull a PMCS as usual. If no new faults are found, he or she dates Column c under the limited ops entry and goes on.



GROUND MOBILITY

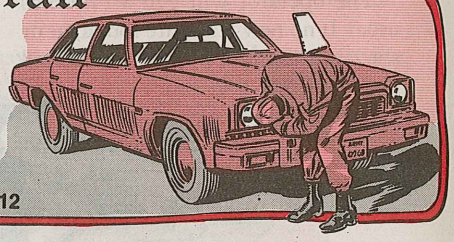
Commercial Vehicles...

Operator

When you sign out a sedan or other commercial vehicle from the motor pool, give it a good, hands-on walkaround before you drive out the gate. Head off trouble so you won't have it on the road.

Overall

Start your checks from a distance. One corner sagging? Check for broken springs. Wet spots or puddles underneath? Check for leaks! Body damage? Make a note of any.

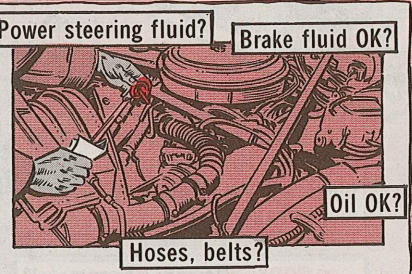


PM Checks

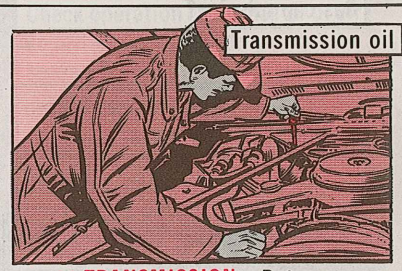
Under the Hood

Start your hands-on checks under the hood. Open the hood—does it work freely?

- **ENGINE OIL**—Between the FULL and ADD marks? If it's low, add enough to bring it between the marks. Never overfill, tho. Blobs on the dipstick? May be water. Smell of gasoline? Could be fuel in the oil!
- **HOSES AND BELTS**—Belts missing, cut, frayed? Hoses leaking? Write it up.

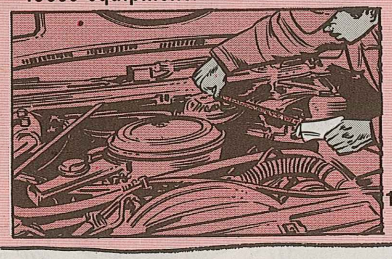


- **COOLANT**—Between the FULL and ADD marks in the overflow tank, or covering the core of the radiator in a car that doesn't have the tank? Muck or oil in the coolant? Report it!
- **RADIATOR**—Leaks? Clean bugs, leaves or other trash off the front. Use water or low-pressure air.
- **POWER STEERING**—Fluid above the ADD? (Check the owner's manual for the right level).



- **TRANSMISSION**—Between the FULL and ADD marks when you check it like the owner's manual says? Add fluid if it's low.

- **GENERAL**—Eyeball the whole compartment. Leaks, broken wires, loose equipment?



- **HOOD**—Does it close, latch securely?

PS MORE

NOW, EYEBALL THE VEHICLE ON THE OUTSIDE...

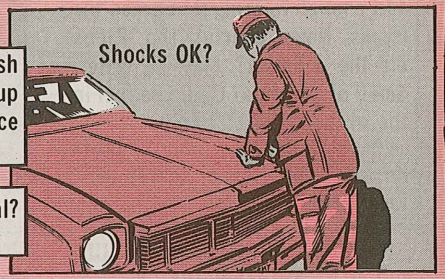
DOORS OPEN AND CLOSE EASILY?

LATCH SECURELY?

?

Outside

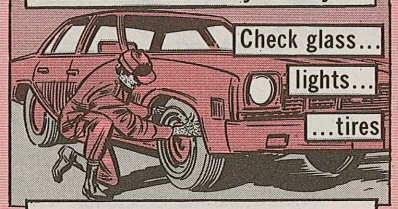
• **SHOCK ABSORBERS**—Push down on the fender and let up quick. More than one bounce means bad shocks.



• **BODY**—Damage? Torn metal? Gas cap missing?

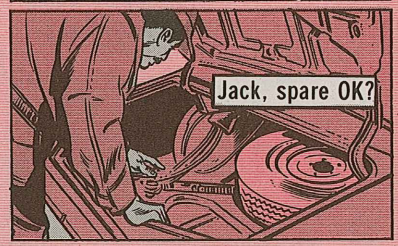
• **GLASS**—Cracked or broken windows? Cloudy areas?

• **LIGHTS**—Broken? Burned out? Clean 'em if they're dirty.



• **TRUNK**—Open, close and latch securely? Emergency tools missing?

• **WHEELS & TIRES**—Check pressure with gage. Get 'em to the pressure listed in the owner's manual. Valve caps missing? Nails or glass in tread? Tread worn unevenly? Cuts, bulges? Lug nuts missing or loose? Don't forget the spare!



NEXT, LOOK OVER THE INSIDE...

THEN, YOU CAN START-UP... BUT DON'T MOVE OUT! NOTE ANY PROBLEMS WHEN CRANKING UP THE ENGINE!

Inside

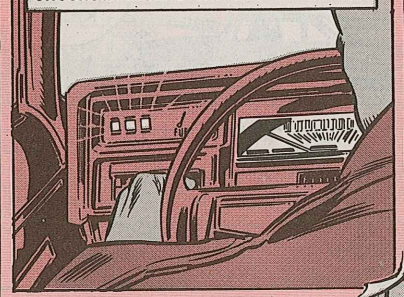
• **OVERALL**—Make sure it's clean and neat. Empty ash trays, litter bags. Clean out under the seat, too.

• **MIRRORS**—Adjust inside and outside mirrors. Won't hold adjustment? Report 'em!

• **GLOVE COMPARTMENT**—Make sure the owner's manual, identification forms, accident report forms and any other necessary paperwork's there.

• **SEAT BELTS**—One for each passenger. Any missing, defective? You gotta buckle up—passengers, too—before you move out. So says AR 385-55.

• **INSTRUMENT PANEL**—Turn the key ON, but don't start yet. Warning lights work? If not, get 'em checked. How's the fuel?



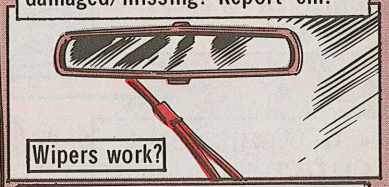
Start-Up

• **GAGES/WARNING LIGHTS**—Did the lights go out in a few seconds, or the oil pressure gage show at least 1/3 on the scale? If not, shut 'er down—NOW! Call the mechanic.

Does the alternator show less than mid-scale? Report it. Does the temperature gage stay near the bottom or shoot to the top? Shut down and check 'em out.

• **HEATER/AIR CONDITIONER**—Check operation of the heater or air conditioner, depending on the season.

• **WINDSHIELD WIPER/WASHER**—Wipers won't work, or blade damaged/missing? Report 'em.

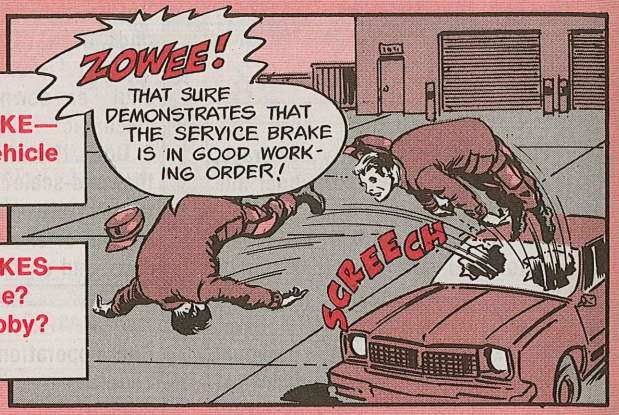


• **LIGHTS**—Check the headlights, turn signals, tail/stop lights. Get a buddy to help. Any burned out?

• **EXHAUST SYSTEM**—Any leaks? Report 'em—they're dangerous!

Before Moving Out

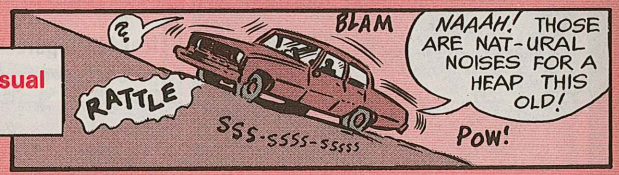
- **EMERGENCY (PARKING) BRAKE—Won't hold the vehicle stopped?**
- **SERVICE BRAKES—Won't stop vehicle? Noisy, jerky, grabby? Report 'em.**



- **STEERING—Steering wheel won't turn freely, or excessive free play?**

- **TRANSMISSION & CLUTCH—Won't shift, noisy, or clutch grabs?**

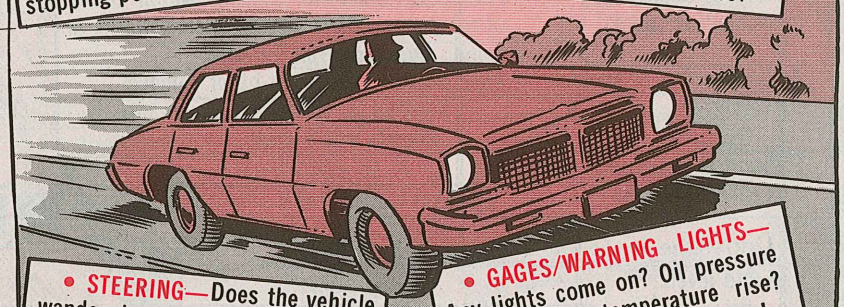
- **OTHER—Unusual noises?**



During Operation

Be alert for clues of trouble while you're on the road. Head off small problems before they cause big trouble! Stop 'n' check if you think something's wrong.

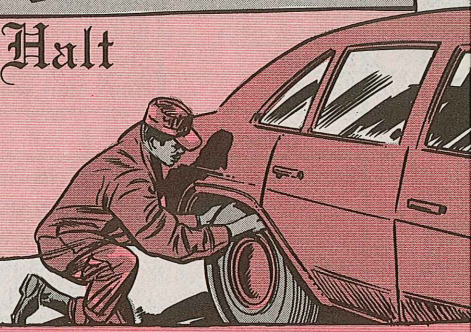
- **BRAKES—Any pulling, loss of stopping power?**
- **CLUTCH & TRANSMISSION—Hard to work? Unusual noises?**



- **STEERING—Does the vehicle wander to one side, shimmy or steer hard?**
- **GAGES/WARNING LIGHTS—Any lights come on? Oil pressure drop, or the temperature rise? Ammeter show discharge? Stop!**

At Halt

When you stop for a halt, give your vehicle a quick once-over. Clean windshield, windows, and lights if they need it. Any leaks? Tires have leaks, nails or glass in 'em? Lock up the vehicle if you leave it.



After Operation

When you finish your trip, give your vehicle another walk-around like the one before you left. Make a note on the 2404 if it's been using oil or other fluids, as well as any other faults you found, so the mechs can check 'em out. Wash the vehicle if it's dirty, and clean out the inside.

PS MORE

Check list

BEFORE OPERATION

HERE'S A CHECKLIST THAT BRINGS EVERYTHING TOGETHER...

	Exterior & underside	Faults to look for
1.	Damage (body or glass)	
2.	Leaks	Fuel or brake fluid leaks; Class III leaks of oil, coolant, transmission fluid.
3.	Wheels & Tires (Including spare)	Cuts, cracks or damage which could cause failure during operation. One or more tires flat, or bald.
4.	Suspension or shocks	Broken springs, or other damage.
5.	Lights	Headlights, tail/stoplight, or turn signals won't work.
6.	Tools & emergency equipment	
7.	Exhaust system	Leaks.

	Under the Hood	Faults to look for
1.	Fluid levels:	
	Oil	Below ADD; water or fuel in oil.
	Transmission	Below ADD.
	Coolant	Coolant low, oil in coolant.
	Power steering	Fluid low.
2.	Hoses & Belts	Belts broken, missing; Class III leaks.
3.	Radiator	Class III leaks.
4.	Battery	Won't start vehicle; damaged.

	Interior	Faults to look for
1.	Gages/warning lights	Temperature, oil pressure, or alternator gages/lights not working or giving wrong reading.
2.	Seat belts	Belts frayed, buckles won't work. Not enough for passengers and driver.
3.	Windshield wiper/washer	Won't work, blade missing.
4.	Heater/air conditioner	
5.	Horn	
6.	Mirrors	
7.	Cleanliness	
8.	Paperwork (manuals, forms, records)	

IF YOU FIND ANY OF THESE FAULTS, GET 'EM CHECKED OUT BEFORE YOU MOVE OUT!

DURING OPERATION & AT HALTS

	Things to check	Faults to look for
1.	Brakes	Pulling, grabbing. Brakes don't operate properly.
2.	Steering	Steering loose or binding.
3.	Transmission & clutch	Transmission doesn't work; clutch won't work, grabs or slips.
4.	Engine	Lacks power, unusual noises, won't work.
5.	Wheels & Tires	
6.	Instruments	
7.	Leaks	Class III.
8.	Exhaust system	Leaks.

HOLD ONE, BONNIE...

HERE COMES RUDOLPH!!

?

LOOK! HE'S GOT A NEW HARNESS... WONDER WHERE HE GOT IT...

AFTER OPERATION

	Things to check & do
1.	Vehicle clean, inside & out
2.	Damage (body or glass)
3.	Fluid levels:
	Oil
	Coolant
	Power steering
	Windshield washer
	Transmission
	Fuel
4.	Hoses & Belts
5.	Radiator
6.	Battery
7.	Wheels & Tires
8.	Lights
9.	Tools & Emergency Equipment
10.	Paperwork
11.	Secure vehicle & report in.

SGT. HALF-MAST FOUND IT IN THE BOTTOM OF HIS FOOT LOCKER!

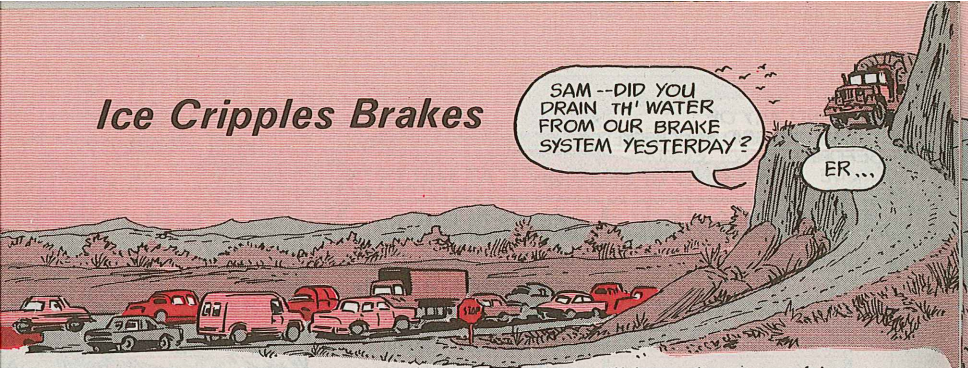
SANTA-- THIS MEANS YOU CAN MAKE YOUR ROUNDS TONITE IN THE USUAL MANNER!!

THAT'S WONDERFUL, BONNIE!! THANKS FOR TRYING TO GET THIS ARMY VEHICLE FOR ME, BUT I COULDN'T HAVE USED IT ANYWAYS...

?

...MY SF-46'S EXPIRED!

Ice Cripples Brakes



Warm weather may get you into a bad habit—neglecting to drain the water from your truck's air or air-hydraulic brake system.

You're asking for trouble if you don't drain your air reservoir tanks even in warm weather. Water can damage your air-hydraulic cylinder and other parts.

But frozen water—ice—in your brake system is a double threat!

First, it plugs up your brake compressed air system. If air can't get thru, you've got no brakes!

Worse, tho, that water expands—gets bigger—when it turns to ice. The pressure will bust almost anything—so your brake air system's got no chance! You not only lose your brakes, but your truck's out of action for repair or replacement of those busted parts.

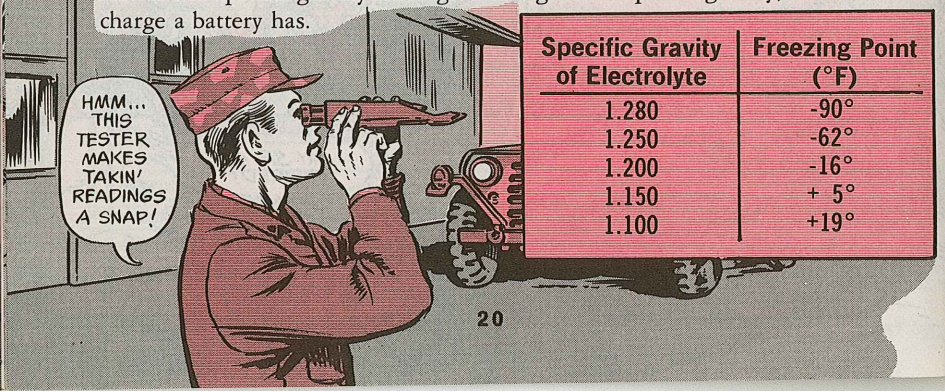
...always drain air reservoir tanks after operation

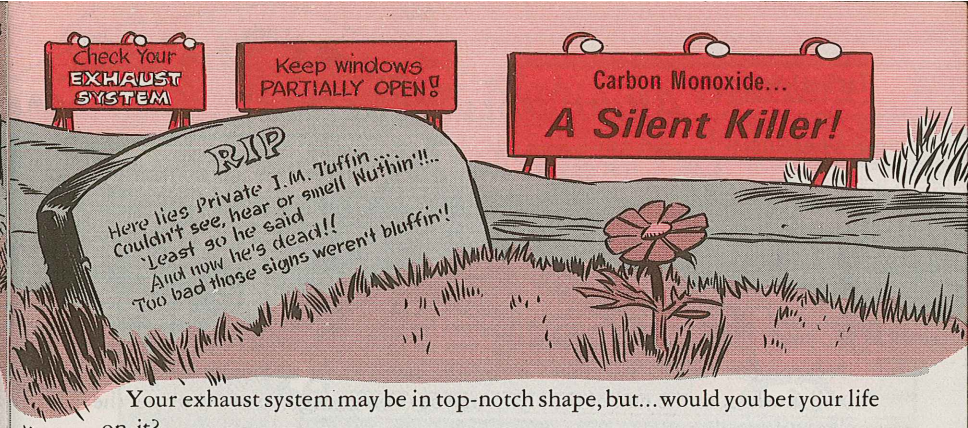
Battery Freeze Protection

When the temperature drops, your batteries can end up frozen solid if you don't keep 'em charged!

A fully-charged battery is safe to -90° F. This chart shows the freezing point for various specific gravity readings. The higher the specific gravity, the more charge a battery has.

Specific Gravity of Electrolyte	Freezing Point (°F)
1.280	-90°
1.250	-62°
1.200	-16°
1.150	+ 5°
1.100	+19°





Your exhaust system may be in top-notch shape, but...would you bet your life on it?

You're doing just that if you stay in a closed vehicle with the engine idling. Engines produce carbon monoxide—and carbon monoxide kills!

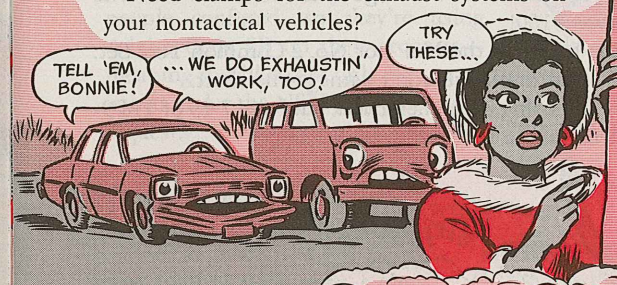
You can't smell it and you can't see it. Your only protection is plenty of fresh air.

Make sure nothing is blocking the tailpipe.

Keep the windows partially open. It's better to be chilled than killed.

Exhaust Clamp NSN's

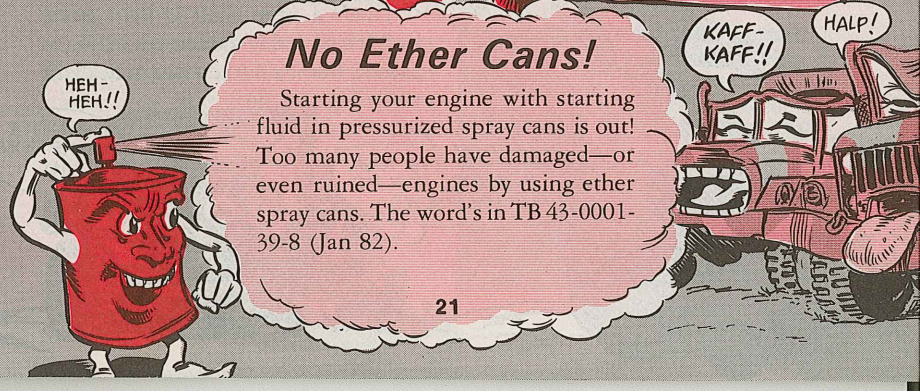
Need clamps for the exhaust systems on your nontactical vehicles?



Diameter (inches)	NSN 5340 -
1⅜	00-097-2804
1⅝	00-773-1243
1¾	01-013-3907
1⅞	00-761-8959
2	00-619-3343
2¼	00-304-7393
2½	00-358-5711
2¾	01-082-2126

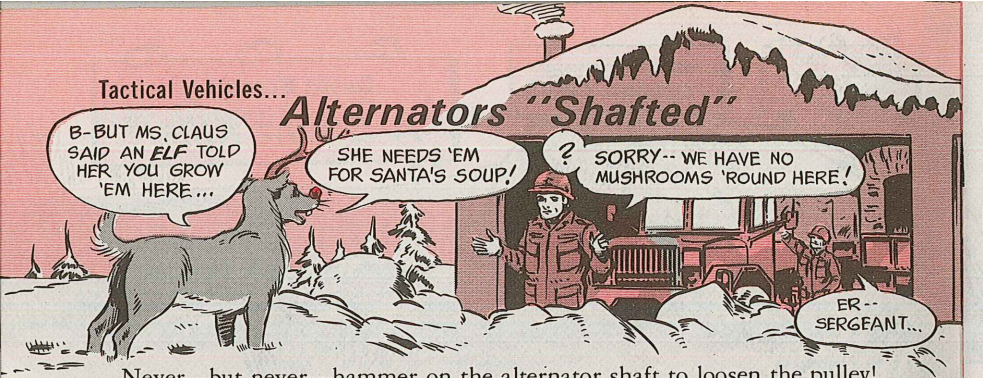
No Ether Cans!

Starting your engine with starting fluid in pressurized spray cans is out! Too many people have damaged—or even ruined—engines by using ether spray cans. The word's in TB 43-0001-39-8 (Jan 82).

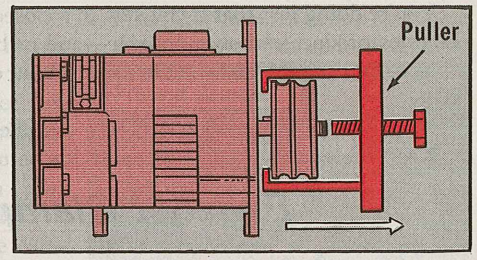


Tactical Vehicles...

Alternators "Shafted"



Never—but never—hammer on the alternator shaft to loosen the pulley! You'll mushroom the end of the shaft, maybe even enough so you can't get the pulley off at all.

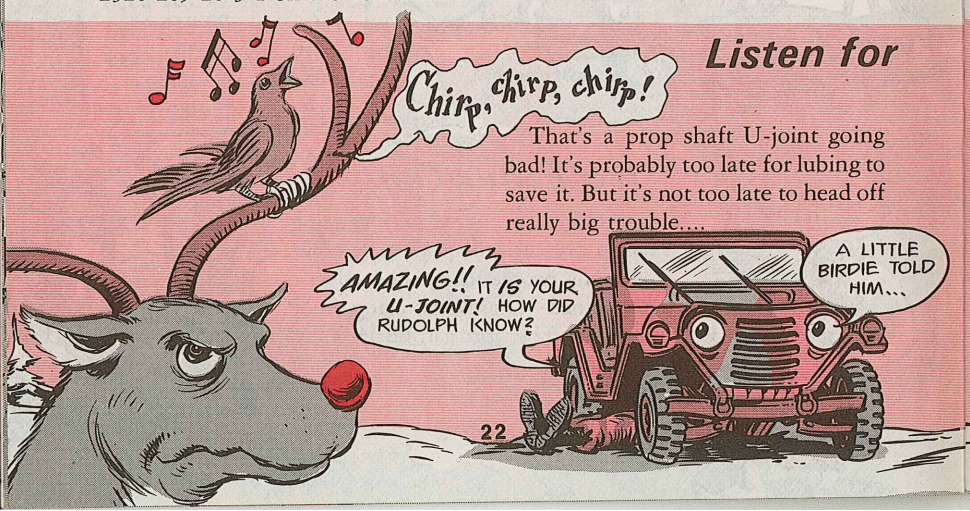


If the shaft is damaged, your alternator has to go to DS for a new one. The shaft and rotor goes for over $100!

Play it smart and use the puller in the No. 1 or No. 2 Common Tool Set. It's quick, it's easy, and—best of all—it won't damage the shaft.

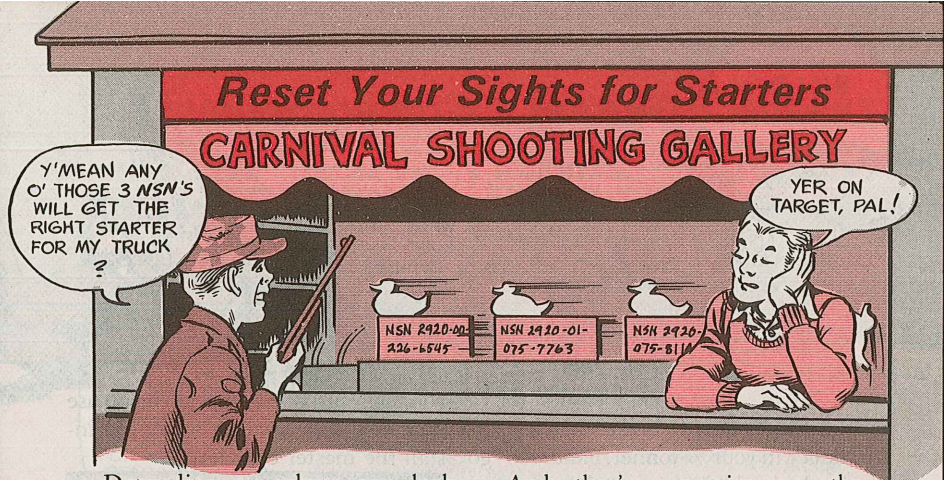
If your TM does not explain using the puller, check out Page 7-19 of TM 9-2320-209-20-3-1 on the deuce-and-a-half.

Listen for the Birdie!



That's a prop shaft U-joint going bad! It's probably too late for lubing to save it. But it's not too late to head off really big trouble....

Reset Your Sights for Starters



Depending on where you look, you'll find 9 different NSN's for engine starters used in all multifuel engine trucks and also in the Goer vehicles.

These are now narrowed down to 3 NSN's for starters made by 3 different manufacturers—but all 3 are interchangeable. This's got some people confused, so they're using Advice Code 2B on their requests—meaning they'll accept only the starter issued under the NSN they put on the request.

And they're screwing up the works—for themselves.

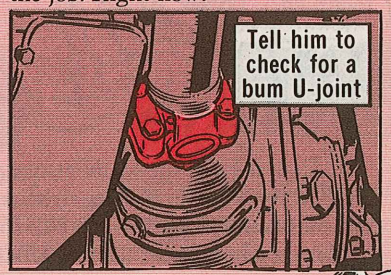
Make a note of these NSN's for your parts manual—TM 9-2320-209-20P, TM 9-2320-211-20P, TM 9-2320-230-20P, TM 9-2320-233-20P.

THUMP, THUMP, THUMP!

That's a prop shaft U-joint just before it gives out! You've waited too long. You may find yourself sitting alongside the trail out in the boonies waiting for help to come along.

Got the message?

When you hear the birdie—chirp, chirp, chirp—get your mechanic on the job. Right now!

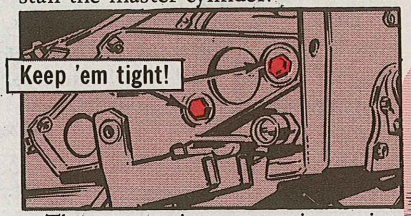


Getting a Grip on Brakes

There's no good reason for a loosely-mounted brake master cylinder in your ¼-tonner. Failure to "go by the book" is a reason, but it's not a good reason.

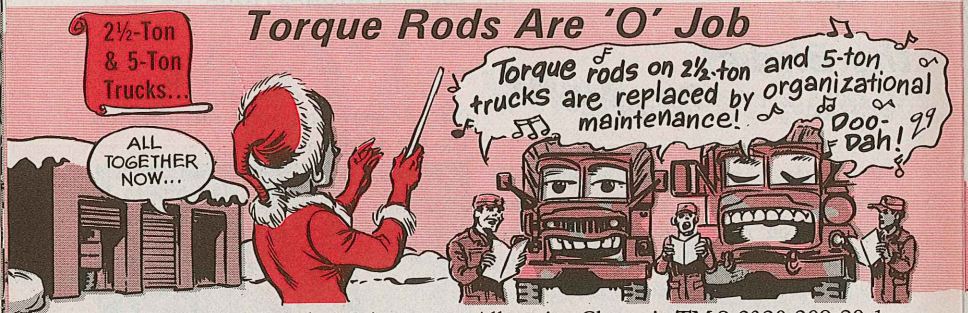
It's all spelled out in fine detail in your TM 9-2320-218-20-1-2, Para 8-15, Master Cylinder Maintenance, Pages 8-34 thru 8-37. And there're some other helpful views of the mounting hardware on Pages 8-43, 8-47, 8-50 and 8-54. The TM's dated May 82.

Mighty important is getting all of the right hardware back in the right place—especially lock washers. Fact is, you'll be sure of a better job if you use only new lock washers when you install the master cylinder.



Then, most important, is putting the right torque on the mounting bolts—17 to 18.5 lb-ft—as specified in Para 8-15b11.

All of this puts a good, tight grip on the master cylinder.



Torque Rods Are 'O' Job

This means that the Maintenance Allocation Charts in TM 9-2320-209-20-1 and TM 9-2320-260-20-1 are right. And the SMR Code PAOZZ in TM 9-2320-209-20P and TM 9-2320-260-20P for the torque rods is right.

Make a note in your TM 9-2320-211-20 MAC. It's wrong.

M915-Series Trucks...

Wheel-Bearing Socket Wrenches

Having trouble using Section III, Special Tools List, of TM 9-2320-273-20P?

NSN 5120-01-089-9068, 2¼ inches, M915 front-axle outer-bearing nut.

NSN 5120-01-112-0593, 2⅝ inches, M915 front-axle inner-bearing nut.

NSN 5120-01-090-9319, 4 inches, M915-M920 tandem-axle inner-and outer-bearing nuts.

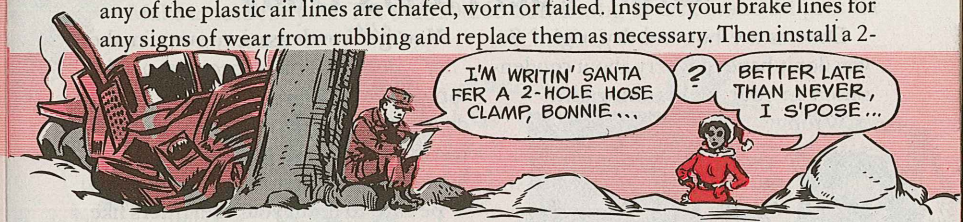
PN 1919, FSCM 45225, 4⅞ inches, (part of wrench set NSN 5120-00-169-4586 in No. 1 Common tool set) M916-M920 front-axle inner- and outer-bearing nuts.

PN 1909, FSCM 45525, 3¼ inches, (part of wrench set NSN 5120-00-169-4586 in No. 1 Common tool set), M917, M919, or M920 pusher-axle outer-bearing nuts.

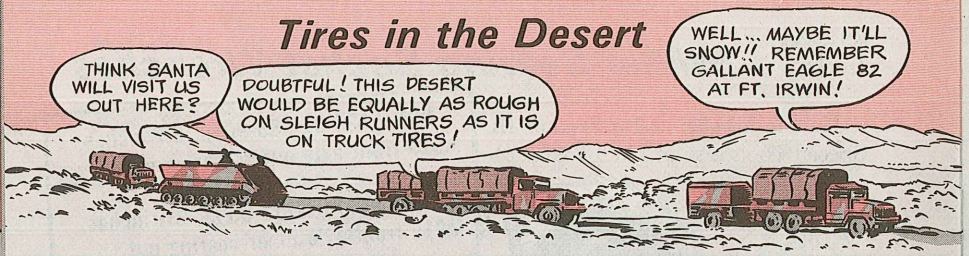
NSN 4910-01-097-6949, $3\frac{13}{16}$ inches, M917, M919, M920 pusher-axle inner-bearing nut.

M915 Brake Hazard

Plastic air lines on your M915-series truck may rub against one another and wear through—causing loss of air and brake failure. Your truck is deadlined if any of the plastic air lines are chafed, worn or failed. Inspect your brake lines for any signs of wear from rubbing and replace them as necessary. Then install a 2-hole hose clamp, NSN 4730-01-062-5762, to permanently separate the lines. Other details are in TACOM Msg DRSTA-M (NMP) 241800Z Jun 82.



Tires in the Desert



Desert heat, cacti and rocks are murder on tires.

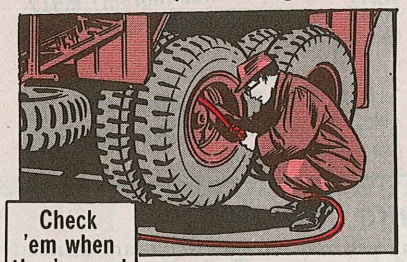
Big cacti are easy to dodge, but the low-growing kind is hard to see. Some of 'em have spines 2 inches long. Get a few of those in a tire and you're in trouble!

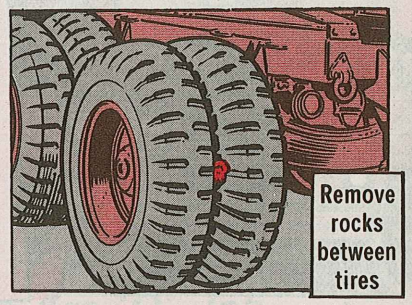
Check your tires for cuts or damage every chance you get. High temperatures weaken the rubber and that means rocks can cut your tires real easy.

Check air pressure when the tires are cool—early morning or late evening. Never check 'em right after operation. They'll be hot and show a high pressure reading.

Use the tire pressure your TM says. You can let some air out if you get bogged down in sand, but bring them back to specs the first chance you get.

If pressure is low, your tires run hot and will fail sooner!





Check for rocks between dual tires. A rock stuck between the tires can cut the sidewalls.

Drain Fuel Filters Daily

Deserts are hot and dry, right? So, you don't have to worry about condensation in your fuel tanks, right?

Wrong!

You get condensation even in the "dry" desert. That's because of the range of temperatures. It may be hot during the day, but the temp drops off fast when the sun goes down. That's when you get water in your fuel tanks.

Be sure to drain your fuel filters like it says in your TM's. While you're at it, drain your air tanks, too.

M887 Safety Chain Hookup

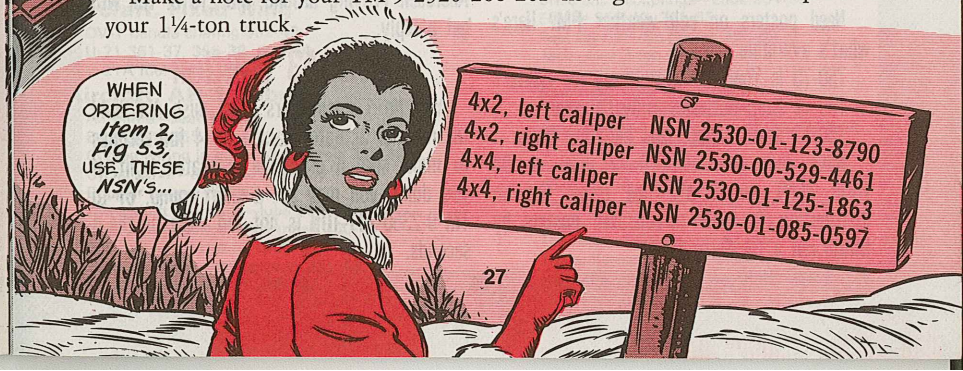
Trailer-pulling with your M887 1¼-ton contact maintenance truck requires that you use the trailer safety chains. So you need a safety chain plate, NSN 4940-01-102-1482, between the tow pintle and rear bumper. To install the plate, use this hardware (4 of each): Screw, NSN 5305-00-071-1769 or NSN 5305-00-964-0589; flat washer, NSN 5310-00-809-5998; lock washer, NSN 5310-00-582-5965; nut, NSN 5310-00-225-6993.

M880 Tow Hook Fix

Tow hook failure on your M880-series 1¼-ton truck can be headed off by installing reinforcement plates, PN 2977994, FSCM 86403. The plate (spacer) is Item 18, Fig 68, in TM 9-2320-266-20P.

M880 Brake Calipers

Make a note for your TM 9-2320-266-20P listing of disk brake calipers for your 1¼-ton truck.



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

Miscellaneous

FM 23-34-1 Jun Improved TOW M901
LO 5-2805-261-12 Aug Outboard motor gas OMC Mod AM-40A
Pam 340-5 Apr Manual microform storage eqpt
SC 4940-95-CL-A58-HR Apr Shop eqpt battery servicing shelter mtd
SC 5180-95-CL-A13-HR Jun Tool kit field artillery mechanics: 155-MM gun
TB 5-6350-264 Jun J-SIIDS
TB 9-2300-378-14 Sep M48 M60-series veh air induction system maint

Technical Manuals

TM 3-6665-311-10 Apr Paper chemical agent detector: M9
TM 3-9905-001-10 Aug Marking set contamination NBC
TM 5-804-2 Aug Solar energy systems
TM 5-2330-631-24P Aug Chassis semitrailer container transporter
TM 5-2805-261-23P Oct Outboard motor gas OMC Mod AM-40A
TM 5-3610-249-24P Jun Photomechanical process section topo sys semitrailer mtd
TM 5-3610-250-24P Aug Map layout section topo sys semitrailer mtd
TM 5-3610-251-24P Aug Plate process sect topo sys semitrailer mtd
TM 5-4320-200-14&P Sep Pump centrif 1½-in gas eng less engine Barnes Mod 17570, electric driven Schleyer Mod 4M-SE2000 and Barnes Mod US4CCE
TM 5-4320-208-12&P Sep Pump centrif gasoline eng 2-in 125-GPM 50-ft head Mil design Mod 2-125-50-G
TM 6115-598-12 Oct Generator gas turbine eng skid mtd 150-KW AC tactical Mod D424A precise class 400-Hz
TM 5-6115-599-14&P Jun Electric power unit AN/MJQ-21
TM 5-6115-600-12 Feb Gen DED tactical skid mtd 100-KW 3-ph 4-wire 120/208 and 240/416-V Mod MEP-008B
TM 5-6115-600-24P Feb Gen DED 100-KW 3-ph 4-wire 120/208 and 240/416-V Mod MEP-0078
TM 5-6115-602-14P Jun Electric power plant II AN/MJQ-24
TM 5-6350-264-14&P-2 Aug Transceiver ultrasonic motion signal RT-1161/FSS-9(V), processor MX-9444/FSS-9(V)
TM 5-6350-264-14&P-3 Aug Receiver passive signal ultrasonic R-1860/FSS-9(V), processor MX-9943/FSS-9(V)
TM 5-6350-264-14&P-4 Aug Detector vibration signal DT-546/FSS-9(V), processor MX-9443/FSS-9(V)
TM 5-6350-264-14&P-5 Sep Switch, balanced magnetic SA-1955/FSS-9(V)
TM 5-6350-264-14&P-6 Aug Sensor grid wire DT-545/FSS-9(V)
TM 5-6350-264-14&P-8 Aug Switch alarm latching SA-1954/FSS-9(V)
TM 5-6350-264-14&P-9 Sep Alarm audible BZ-204/FSS-9(V)
TM 5-6350-264-14&P-10 Oct Alarm set C-9412/FSS-9(V)
TM 5-6350-264-14&P-12 Aug Receiver data R-1861/FSS-9 (V) transmitter data T-1257/FSS-9(V)
TM 5-6350-264-14&P-13 Jun Sensor magnetic weapon DT-547/FSS-9(V)
TM 5-6675-238-24P Sep Test set position and azimuth AN/USM-427
TM 5-6675-308-24P Sep Position and azimuth sys AN/USQ-70
TM 5-6675-309-24P Sep Test set power supply AN/USM-428
TM 5-6675-311-14 Oct Surveying instru distance measuring Electronic Microwave Mod DM-20A
TM 9-1290-262-24 Jun Aiming circle M2 M2A2
TM 2320-272 10 Sep Truck 5-ton M939-series diesel
TM 9-2320-272-10-HR Oct Truck 5-ton M939-series diesel
TM 9-2320-272-20-1 Sep Truck 5-ton M939-series diesel
TM 9-2320-272-20-2 Oct Truck 5-ton 6X6 M939 series diesel
TM 9-2330-363-14&P Jun Semitrailer van XM991 XM995
TM 9-2330-363-14&P-HR Jun Semitrailer van XM991 XM995
TM 9-2350-255-20-2-1 Aug M1 Tank, turret
TM 9-3405-216-14&P Aug Saw band W. F. Wells & Sons Inc Mod L-9
TM 9-4940-451-13 Oct Semitrailer MTD Southwest truck body Mod Ser
TM 9-6920-374-12&P Jun Mount gun training device cal .50 MG M179
TM 9-6920-441-12&P Jun Mount gun training device Brewster Mods M180 and M181
TM 11-5805-312-14 Aug Terminal telegraph AN/MSC-9A
TM 11-5820-540-20P-4 Sep Radio set AN/GRC-103(V)4
TM 11-5820-769-10-HR Sep Radio repeater set, AN/TRC-152(V)
TM 11-5820-769-14 Aug Radio repeater set AN/TRC-152(V)
TM 11-5820-887-10 Aug Digital message device gp OA-8990/P
TM 11-5840-360-24P Oct Radar set AN/SPS-64(V)5
TM 11-5855-247-24 Aug Night vision sight infrared AN/TAS-4 AN/TAS-6
TM 11-6130-245-24P-2 Jun Power supply PP-2309C/U
TM 11-6130-351-24P Sep Battery Charger PP-6241/U
TM 55-1510-218-CL Oct C12A/C/D
TM 55-1520-240-MTF Sep CH-47D
TM 55-1520-240-PMS Sep 7-Day inspection CH-47D
TM 55-1730-224-13&P Sep Trailer aircraft Airmobile Part No. 23142
TM 55-1905-203-14-2 Apr Landing craft utility LCU-1466

2½-Ton Safety Strap

You won't get a long enough safety strap for your 2½-ton cargo truck if you order NSN 5340-00-536-0186, Page 348, Fig 166, Item 5, TM 9-2320-209-20P. To get the 85-in strap you need, order NSN 5340-00-594-8032. Jot this down in your 20P.

Cold-Weather Help

Need posters on cold-weather PM? Here's what's available:

750-70 Is Your Radiator Ready for Winter?
750-72 Keep Batteries Fully Charged
750-73 Drain Engine Fuel Moisture Daily.

Have your pubs clerk order them on DA Form 4569 for a one-time issue. Get on distribution for new or updated posters by filling out a DA Form 12-4.

TM 3-250 Revision

TM 3-250, Storage, Shipment, Handling and Disposal of Chemical Agents and Hazardous Chemicals (Mar 69), is being revised. If you have any suggestions or changes you feel should be in the revision, send them to Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS-C, Aberdeen Proving Ground, MD 21010. You will get a reply.

M109A3 Caution

You No 1 cannoneers must push and hold the rammer actuator handle for 4 full seconds to make sure a projectile is seated right. If you don't, you may get a short round. C1 to TM 9-2350-217-10N is not too clear on the 4 seconds.

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A

The 'Eyes' Have It...

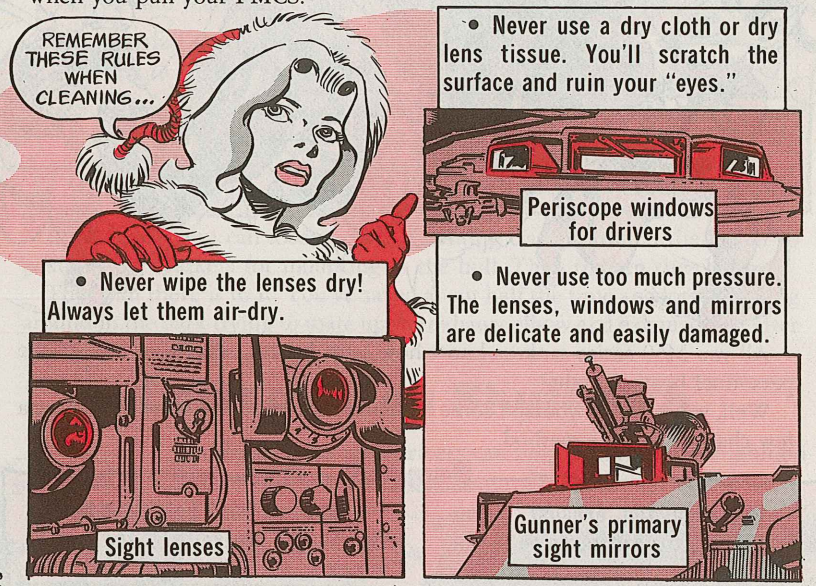
Keep 'em Clean

Your eyes and the "eyes" of your M1 tank must work together.

To keep your tank's "eyes" ready, you need to keep 'em clean.

Tank "eyes" include the fire sensor lenses, muzzle reference sensor, periscope sight lenses, periscope windows and mirrors, and the thermal imaging system germanium window.

Follow the procedures in TM 9-2350-255-10-3, Pages 3-105 thru 3-111, when you pull your PMCS.



Everything you need for cleaning is listed in Appendix D of the -10 TM, including lens cleaning solution, camel's hair brush and lens cleaning tissue.

Personnel Heaters...

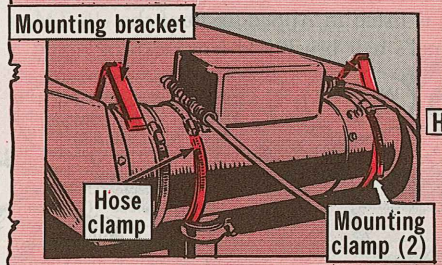
Quicker Removal, Installation

All you M60-series tankers know how hard it is to remove or replace the personnel heaters, right?

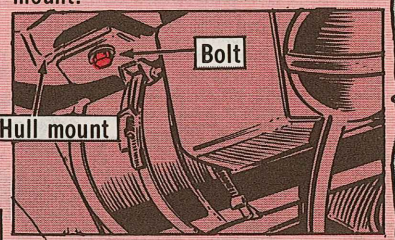
Well, you can save yourself some time and back-breaking labor by making a few changes in your method.

Removal

- Loosen the exhaust clamp that holds the exhaust pipe to the heater exhaust elbow.



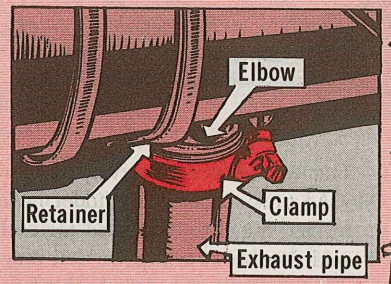
- Push the clamp off the elbow and leave it on the pipe.
- Remove the 2 bolts that hold the heater brackets to the hull mount.



- Remove the heater by carefully pulling it away from the exhaust pipe.

Installation

- Make sure the exhaust clamp and vent sleeve are on the exhaust pipe. Also make sure the heater exhaust tube retainer is in place.
- Insert the heater exhaust elbow into the exhaust pipe.
- Install the 2 mounting bolts loosely to support the heater.
- Position the exhaust clamp so that it attaches the exhaust pipe to the heater exhaust elbow, trapping the vent sleeve between them.



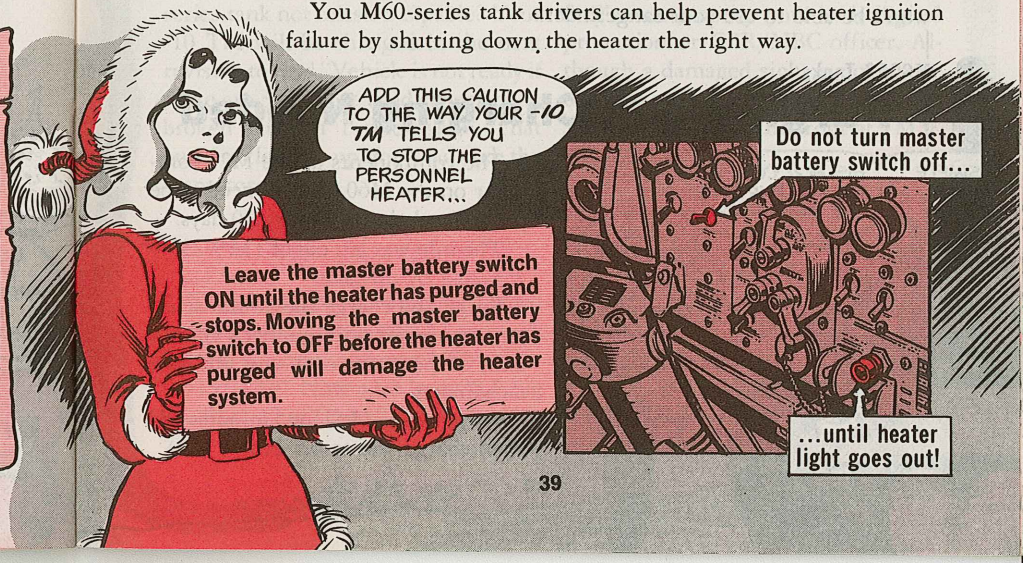
- Tighten the clamp.
- Tighten the mounting bolts.

If necessary, you can loosen the 2 mounting clamps around the heater to position the brackets for mounting to the hull. Then tighten the clamps.

That's all there is to it. You've saved about half the time and lots of poking around in the dark trying to mate up the exhaust elbow and exhaust pipe after the heater is bolted in place.

Lowdown on Shutdown

You M60-series tank drivers can help prevent heater ignition failure by shutting down the heater the right way.

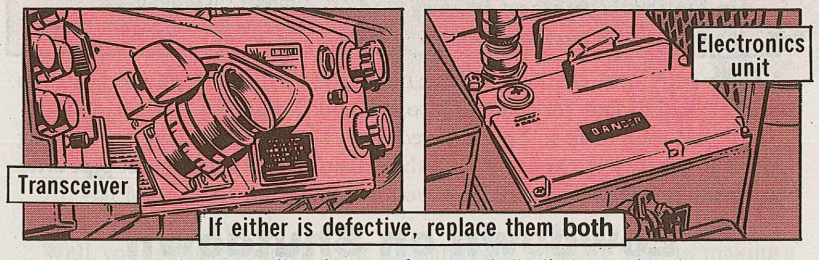


Calibrated Compatibility...

They're Made for Each Other

The transceiver (receiver/transmitter) and the electronics unit on your M60A3 tank's laser rangefinder have a lot in common.

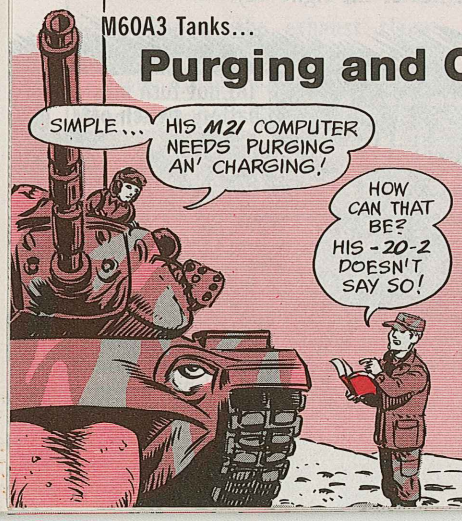
In fact, they are calibrated for each other, sorta like a matched pair. So, it shouldn't come as a surprise that they must be replaced in pairs. If either of the items is defective, replace both of them.



Otherwise, like quarreling lovers, they won't "talk" to each other, and you won't be able to use your rangefinder.

M60A3 Tanks...

Purging and Charging Needed



The components of the M21 computer on the M60A3 tank need to be purged and charged every 90 days.

The info was left out of TM 9-2350-253-20-2 by mistake.

Purge and charge the ammo select unit, computer unit, gunner's control unit, output unit, cant unit and rate tachometer.

Purge 'em at 1 PSI for 5 minutes and then charge 'em to 0.5 PSI.

Hole's Right

NSN 5315-01-129-0335 will get you an improved skirt pin for your M1 tank. It has a hole in it big enough to take the retaining pin without redrilling. The new NSN will replace NSN 5315-01-073-7805 in your TM 9-2350-255-20P.

Tow Cable Care

The M113 FOV TM's and LO's are a little shy of PM info on the tow cable.

- What you do is clean the cable with a wire brush after each use. There's no need to brush the cable till it shines.
- After cleaning, oil the cable with OE/HDO or OEA.

Track Shoes

Confused about just how many dead track shoes will make your M48/M60-series tank not mission capable? Your -10 TM will be changed in the next revision to read "Vehicle is not ready if there are 3 or more dead shoes or any broken pins on 1 track side". That oughta clear it up for you and the inspectors.

Packing NSN

The air cleaner housing performed packing used on the M88A1 recovery vehicle has been assigned NSN 5330-01-131-2279. Note it for Item 28.2, Fig 17, Page 37 of C2 to TM 9-2350-256-20P.

M113A2 Engine

The remote control lever for the M113A2 FOV's engine disconnect is not shown in TM 9-2300-257-20P, but it's available. Use NSN 2520-01-061-5569.

M1 Track

Can't install an end connector on your M1 tank because the track fixture won't close enough? Could be you've got one of a bad bunch of fixtures. Take it to your DS unit for modification. Details on the modification are in TB 43-0001-39-3.

M224 Mortar

Here's a quick check to see if the M64 sight unit of your M224 mortar is damaged. Take it into a dark area, wait a coupla' minutes, then eyeball the scales and dials to see if they're lit. If they're not, notify your radiological protection or CBR/NBC officer. Although a damaged sight is not a serious hazard, it needs special handling. See instructions in the front of TM 9-1010-223-10.

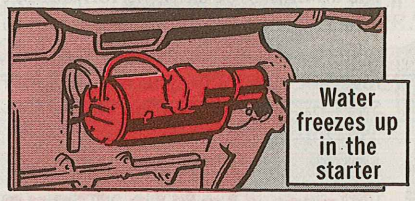
Rescinded Pubs

You'll find the latest rescinded Army publications in Sect I, Paragraph 36, DA Pam 310-1 fiche. Printed DA circulars listing rescinded pubs are fading out. You still check DA Pam 310-99 for all historical poop about superseded, rescinded, expired and replaced forms and pubs.

Add Gasket to Starter

Starters on vehicles with 6V53-series diesel engines can freeze during cold weather if they're missing a gasket.

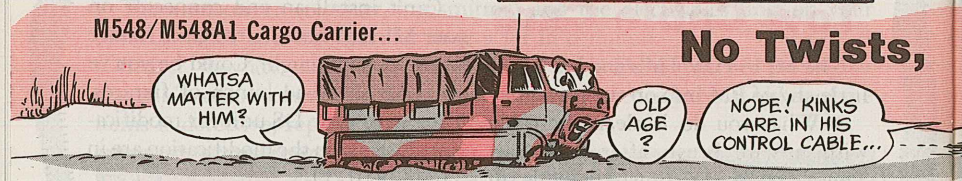
Water gets inside the starter and freezes when the temperature drops.



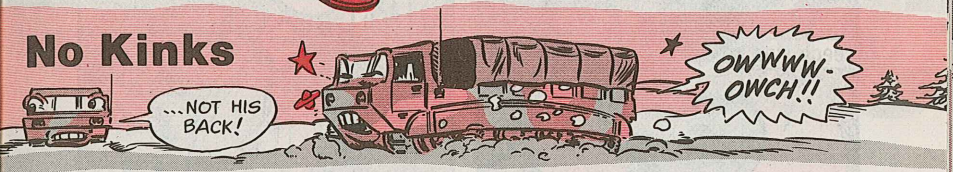
When you pull the power pack next time, make sure the starter has gasket, NSN 5330-00-980-1546. It's the same gasket used on the 8V71T diesel starter.

Gasket

Making sure the gasket is in place now can save pulling the pack later when the starter fails because it's frozen.



No Twists, No Kinks



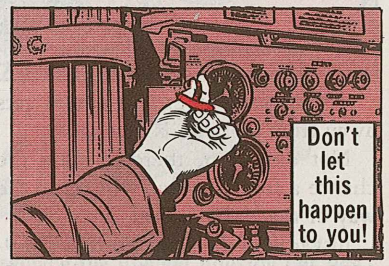
Your vehicle's fuel cutoff hand control gets a lot of use—and abuse.

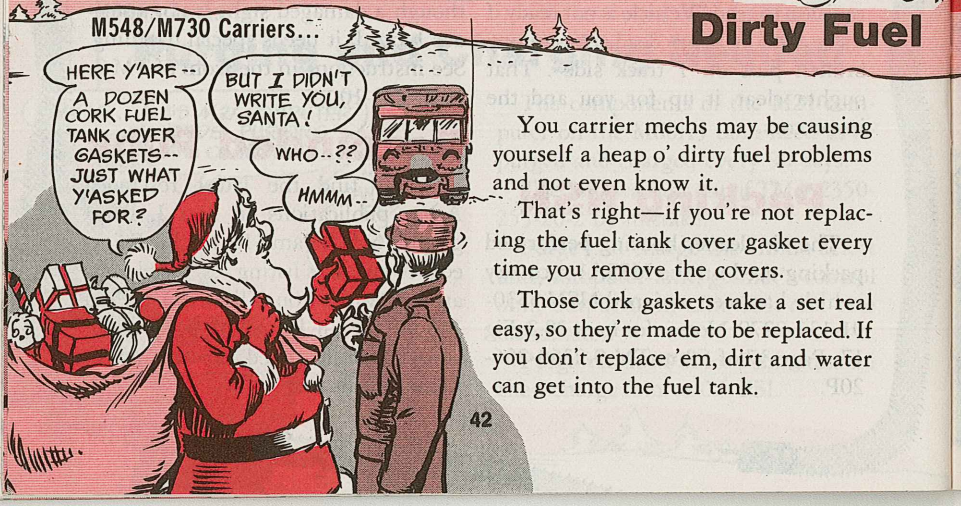
Take what happens to the control cable when you pull the engine, for example. It's sorta left dangling. Unless you're careful, the cable can get bent, twisted, kinked or otherwise mangled.

Then you jerk, kick, pound and man-handle the control when it won't work smoothly. What happens? The control breaks or the instrument panel connection comes apart.

All that is unnecessary. Pay attention to TM 9-2350-247-20 and remove/install the control by the numbers.

- Make sure you don't twist, bend or kink the cable during engine removal/installation.
- If the control won't operate smoothly, find out why before you tear up something. A kink or bend may be the problem. Or, you may just need a little oil at the ends of the control to get it moving.





Dirty Fuel Miseries

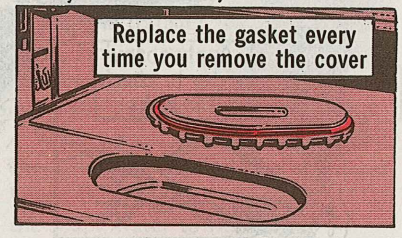
You carrier mechs may be causing yourself a heap o' dirty fuel problems and not even know it.

That's right—if you're not replacing the fuel tank cover gasket every time you remove the covers.

Those cork gaskets take a set real easy, so they're made to be replaced. If you don't replace 'em, dirt and water can get into the fuel tank.

That'll clog the fuel filters and could foul up the engine.

Pay attention to your vehicle's -20 TM.



Check the cover for nicks, cracks or warping. Replace the cover if needed.

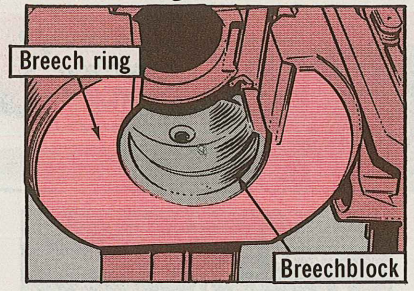
Check the screws and washers and replace them if they're damaged or worn.

Finally, make sure you don't overtighten the screws. The torque you use is 45-50 lb-in and no more. You could cause more leaks if you overtighten the screws.

Macho's Cool, But...

Tools Are Better!

Far too many of you crewmen think it's easier to muscle the M102 towed howitzer's breechblock in and out of the breech ring.

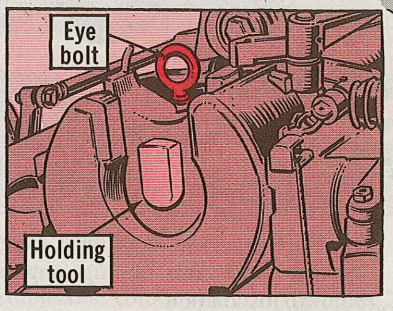


Then you discover how easy it gets away from you and is damaged.

Not only that, there's always the chance a finger or two will get in the way of that falling steel.

Just follow the good word in TM 9-1015-234-10 on removing and installing the breechblock.

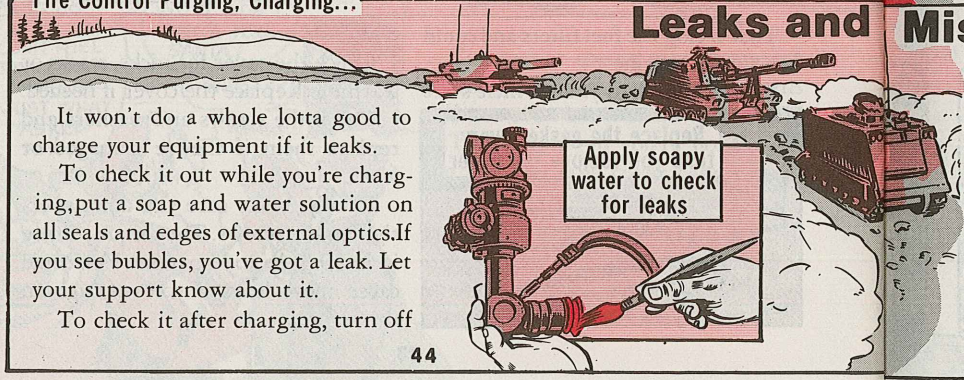
Use the eye bolt and the holding tool. They save wear and tear on the equipment and you.



Wanna make the work easier still? Use a piece of rope through the eye bolt, like it suggests in the TM.

Fire Control Purging, Charging...

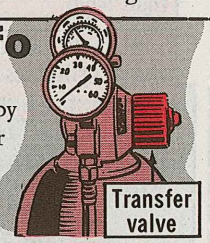
Leaks and Missing Info



It won't do a whole lotta good to charge your equipment if it leaks.

To check it out while you're charging, put a soap and water solution on all seals and edges of external optics. If you see bubbles, you've got a leak. Let your support know about it.

To check it after charging, turn off the nitrogen flow by closing the transfer valve, look at the gage and write down the reading.



Wait about 10-30 minutes and check the gage again. If the reading is lower, there's a leak somewhere. Use the soapy water to find it.

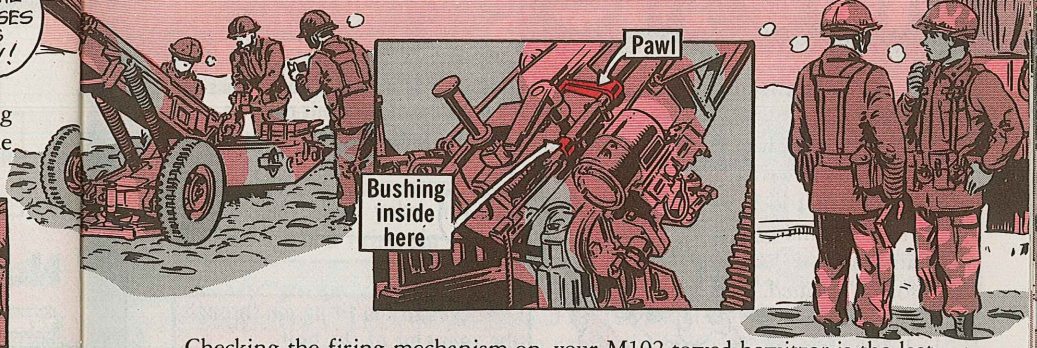
Any liquid soap will do for the checks. NSN 8520-00-228-0598 gets you a gallon.

If you come across a piece of fire control equipment that has no purging procedure, either in TM 750-116 or in the equipment's -20 TM, send in a DA Form 2028.

You'll get an answer and set the wheels in motion so the info will get to other soldiers who need it also.

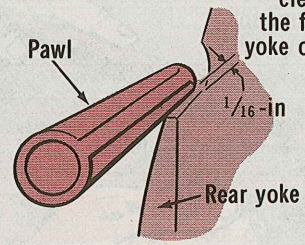
Last, But Not Least...

Check the Clearance



Checking the firing mechanism on your M102 towed howitzer is the last of your PMCS checks in TM 9-1015-234-10, but it's certainly not the last.

If there's less than 1/16-in clearance between the pawl of the firing mechanism and the rear yoke of the M37 recoil mechanism...



...get your direct support to replace the plunger housing bushing

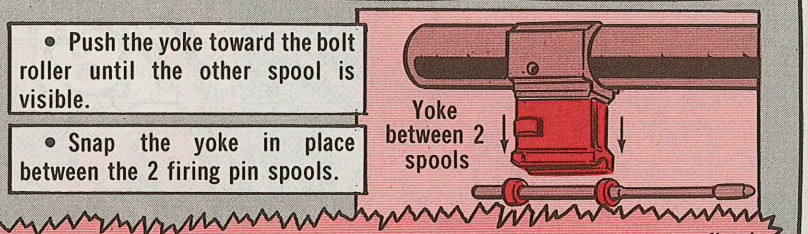
If you fire the howitzer before this is done, the pawl will hang up on the recoil mechanism and break the firing mechanism assembly.

M60 MG Bolt Jolt

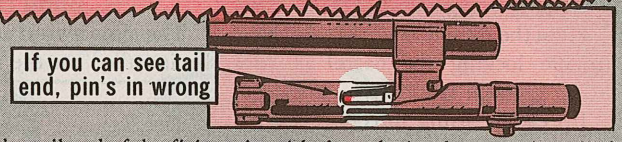
Assembling the operating rod to the bolt of your M60 machine gun is some big deal.

When you do it right, the bolt locks and the gun fires safely.

If you do it wrong, the bolt won't lock all the way and a round fires before it's seated. That could be bad news for the gun or someone on the ejection port side.



BIG CAUTION: If you lock the yoke behind the rear spool only, you'll have a fixed firing pin. That means a round can fire before the bolt's seated and locked.



If you can see the tail end of the firing pin with the yoke in place, you installed the yoke wrong, or the firing pin's in backwards.

Bunches Create Crunches

If you stockpile weapons that need repair and turn them in in big bunches, the weapons won't be ready when you need them.

DS doesn't have the people to handle them fast. Enough repair parts may not be on hand.

No matter what your reason may be—inconvenience, beating an upcoming inspection, concern over not getting a weapon back for training—it's not good enough to offset the fact that dumping bunches of weapons on direct support will mean a long wait in getting them back to your unit.

Turn in a weapon as it needs repair. You'll get it and others back faster ... and have them when your unit needs them.

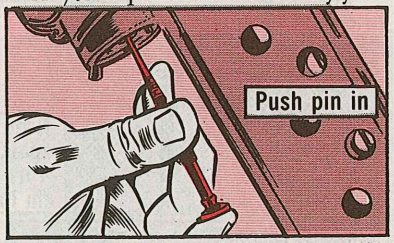
M203 Barrel Lock

Hold the muscle next time you have trouble locking the barrel of your M203 grenade launcher!

Instead of using force, eyeball the firing pin. If it's sticking out of the

breech insert in the uncocked position, that's your problem (most likely).

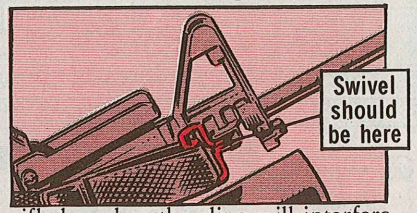
A $^{3}/_{32}$-in punch can be used by your



armorer to push the firing pin in till it clicks. Then, the barrel should lock.

Sling Ding

The sling swivel and mount should be installed on the right side of the

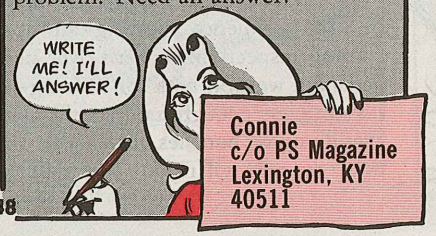


rifle barrel or the sling will interfere with weapon operation.

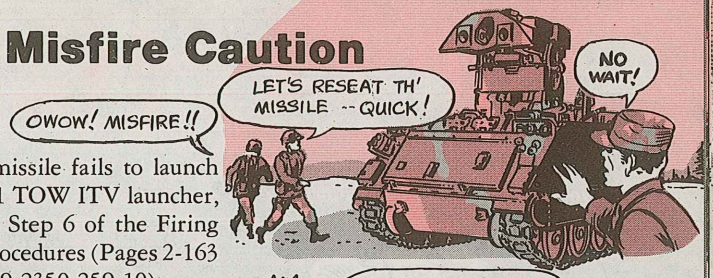
If your sling's on the left side, have your armorer turn your rifle in to support for the correct installation.

Connie Will Answer

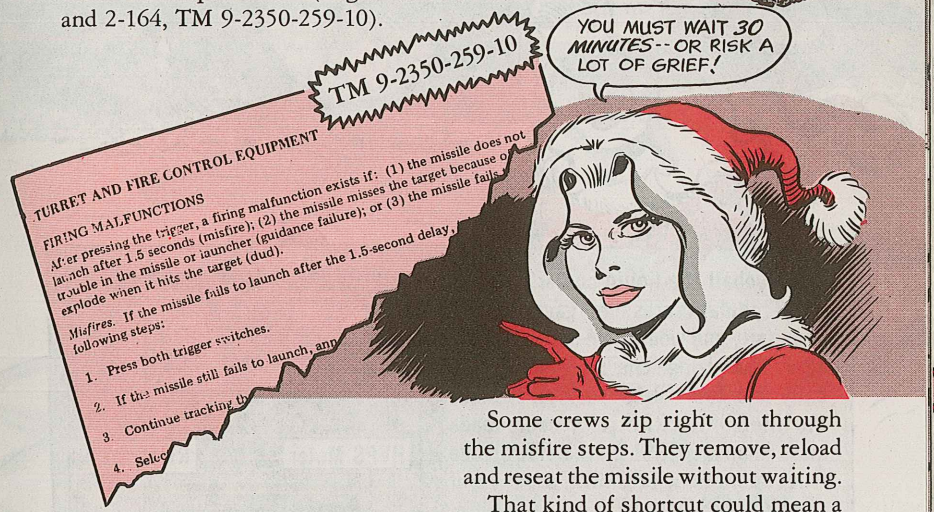
What's your maintenance or supply problem? Need an answer?



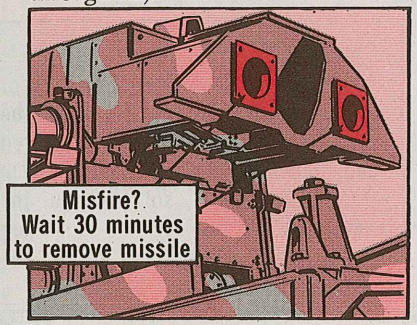
TOW Misfire Caution



When your missile fails to launch from your M901 TOW ITV launcher, you go through Step 6 of the Firing Malfunctions procedures (Pages 2-163 and 2-164, TM 9-2350-259-10).



Then you wait 30 minutes before you attempt to remove the misfired missile from the launcher (Steps 7 through 12).



Some crews zip right on through the misfire steps. They remove, reload and reseat the missile without waiting.

That kind of shortcut could mean a whopping maintenance job on the ITV ...or the crews themselves.

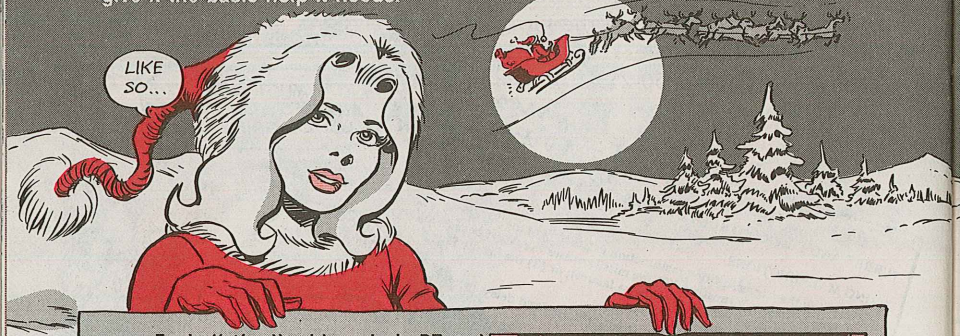
Some ITV's have indicated misfires because missiles are not seated right in the launch tubes. The missiles fail to launch.

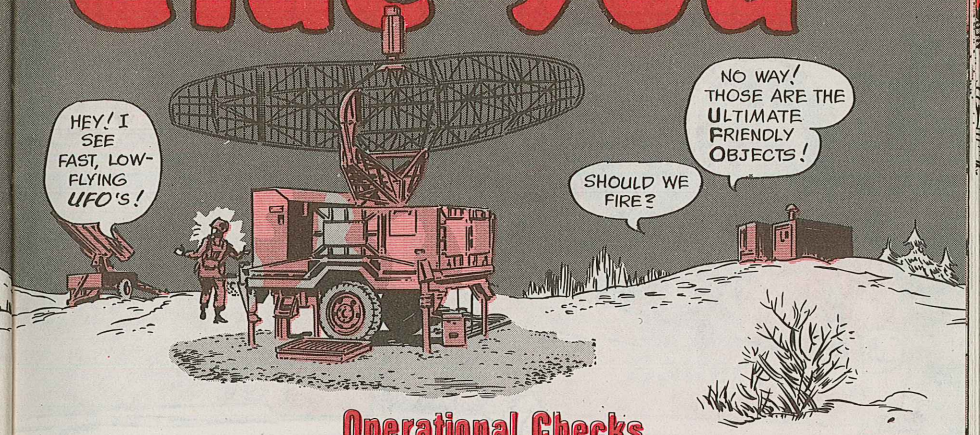
You shouldn't take it for granted that yours just needs reseating. You could have a hangfire, and removing the missile before that 30-min wait could cause a lot of grief.

Follow the misfire procedures, including the wait. If it turns out your missiles are not seating or mating right, contact your support quick-like.

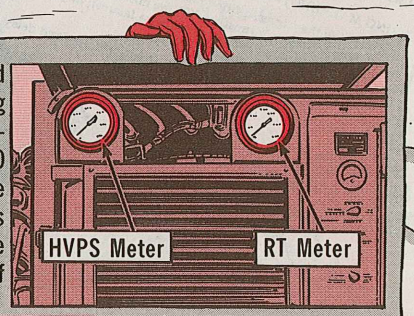
The GAGES Clue You

The IPAR of your IHAWK missile system will kick out the cool juice longer for its receiver-transmitter (RT) and high-voltage power supply (HVPS) if you give it the basic help it needs.





• Eyeball the liquid cooler's RT and HVPS coolant pressure gages during your daily and weekly TM 9-1430-1534-12-1 energizing checks (Table 3-10 daily and Table 3-15 weekly). Replace the filters if the RT gage pressure reads more than 160 PSI or the HVPS gage reads more than 120 PSI. Para 4-11 of the TM tells you how.

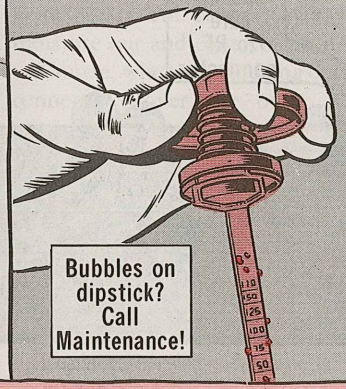


• If either gage needle is 20 PSI or more over the desired gage reading, check the coolant level (Table 3-15). If it's low, add **only** OS45 Type II, MIL-C-47220 coolant fluid.

• Sight in on this: Overheating or failure of the RT or HVPS could be caused by a faulty or contaminated coolant system. The fault may not be in those components, so check out the liquid cooler.

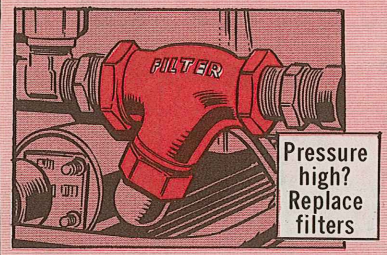
Operational Checks

• In operational checks, suspect water contamination if the coolant looks milky colored. Same deal if you see bubbles on the dipstick. Contact your support. The cooler may have to be purged.



• Support changes the filters and purges the system annually. You change filters after 6 months use.

• Monitor the RT and HVPS gages during operation. If pressures rise above 160 or 120 PSI, the fluid may be contaminated. Change filters.



If the gages fluctuate (don't stay on 160 or 120 PSI), the fluid may be low. Check and add OS45 as necessary.

COMMO

AN/PRC-77, -25 Radio Set...

NO Doubt With RIGHT Route!

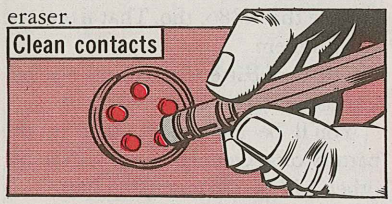
First stop is the RT-841 or RT-505. Make sure the knobs and switches are snug and in good shape.

Easy! When you feel 'em stop, stop twisting. Turning any further can twist them off or break the inside wiring.

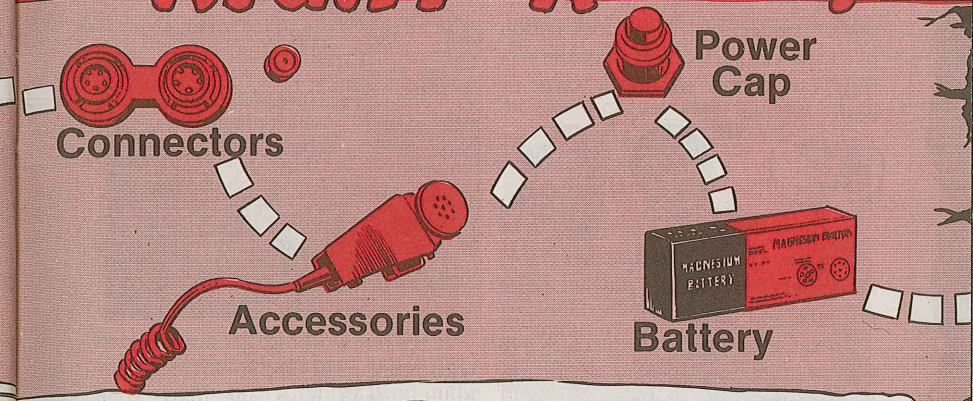
F'rinstance, it doesn't take much muscle to twist the RF antenna connector too far. Easy does it when hooking up the cable or protective cap.

Audio connectors covered when not being used? The rubber covers keep moisture out and contacts clean.

'Course, when you're using only one connector, cover the other. Clean tarnished contacts with a soft rubber eraser.

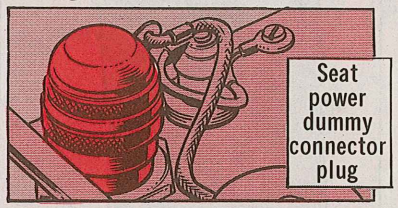


Replace missing "dumbbells" covers with NSN 5340-00-973-1732. Until they arrive, tho, use a bit of waterproof tape to protect connectors.



When there's an accessory hooked to a connector, be careful taking the radio from your back. The mike or handset's connector sticks up over the front panel's guard. If the connector hits something on the way to the ground, the panel suffers—maybe a fatal crack.

If you think you've got a bum radio, make a couple of quick checks before turning it in.



Be sure the power connector cap's in place. The set won't operate if it's missing or loose.

Then, sub a good battery for the one in your set. A weak power pack might be your only problem.

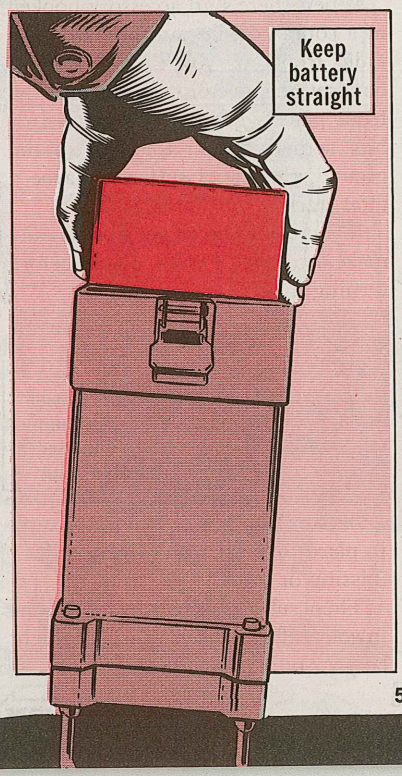
PS MORE

Battery Box

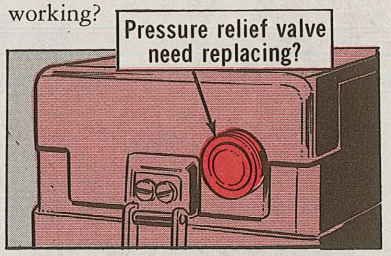
Stop No. 2 on your PM route is the power connection. Sloppy installation of the power pack can damage the battery, the radio's connector pins, or both.

Set the radio on its handles. Hold the battery parallel with the case. Mate the pins and receptacle.

Lower the battery into place. When you feel it's flush, seat it firmly. Replace the cover and go.



You org repairmen should take a look at the battery box cover. Does it have a pressure relief valve? Is it working?



If it's not working, get a new valve with NSN 4820-00-296-9677. If your radio doesn't have one, have your support apply MWO 11-5800-211-30-1 (Sep 72).

The MWO has been rescinded, but the kit is still available under NSN 5820-00-110-0714. That brings fixin's to modify 5 sets.

Without the valve, hydrogen gas from the BA-4386 battery builds up and can lead to a small blast. That can damage the radio—and maybe you.

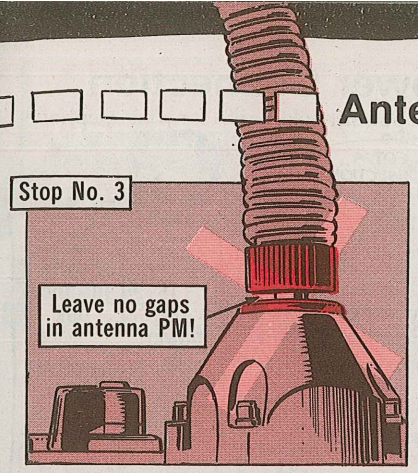
A BA-5598 lithium battery, NSN 6135-01-034-2239, is on the way to replace the -4386, tho. That'll end the gas problem.

The new battery is half the size but just as powerful as the old one.

You'll be able to carry 2 in the battery case. One'll power your set, the other will be a convenient spare.

Be sure to remove the battery if the set won't be in use for a spell, or if your RT is going into a vehicle installation. Otherwise, it can corrode and gum up the works.

Antennas



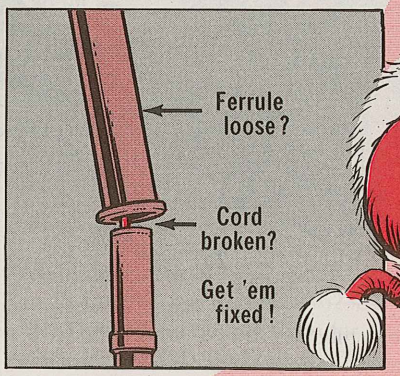
Taking care of the whip starts with screwing it tightly into its mount.

If it wobbles, use a little bit of eraser rubber or part of a rubber band in the threads to snug it up. Just a little, tho.

If that doesn't tighten things up, better replace the whip.

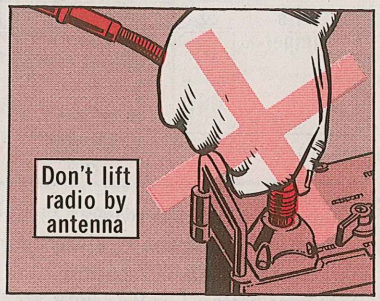
A quick word about putting away your AT-892 antenna. Watch how you fold it. Always bend it toward the concave (scooped) side. Going the other way can break it or leave it too limp to do the job.

A broken AT-271 is no good either. Your org shop can do some fixing, tho.



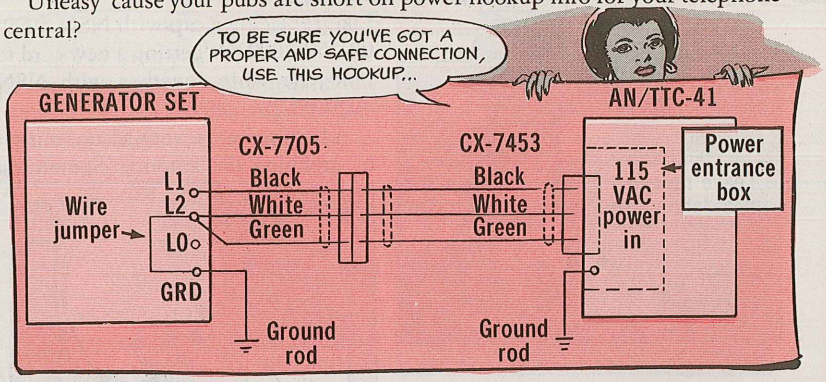
Like replacing a cap with NSN 5999-00-259-5009. Or getting a new cord to hold the whip together with NSN 4020-00-281-8439.

A final word: Never pick up your set by grabbing the antenna. Something will give, and it'll probably mean a repair job.



AN/TTC-41 Power Connection

Uneasy 'cause your pubs are short on power hookup info for your telephone central?



The wire jumper between L2 and GRD should be at least #6 AWG wire.

Then, to be sure you've always got a reserve of power on hand, keep a float charge on your BB-297 battery.

Set your battery box BATTERY 1 and BATTERY 2 switches ON. Adjust the PP-6224 power supply's OUTPUT METER to between 25 and 27 volts.

If water is pooling up in your AN/GRC-142B or -122B radio teletypewriter set's roof rack, drain it.

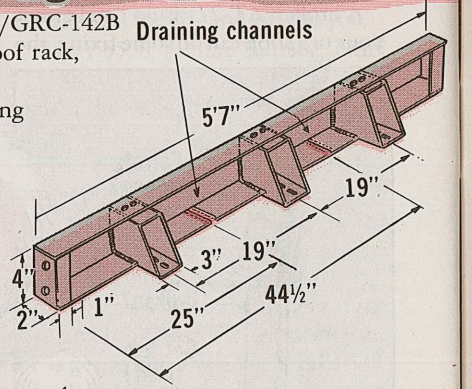
You get a good rain drain by cutting a pair of ½-in channels in both the roadside and curbside brackets.

Center your cuts between the 1st and 2nd, and 2nd and 3rd braces.

The drain-making tools you need are in your unit's No. 1 and, No. 2 Common shop sets.

When removing the rack, take out the corner bolts first.

Then, when replacing your rack, remember to snug up the corners before tightening the roof bolts.



CX-7453 Power Cable...

Operating Standards

Dear Macon,

When are our power cables OK to use? We need a ruling.

During inspections, we've been gigged for cracked plastic on U-237 and U-238 connector inserts. In fact, we've taken to deadlining our own gear to avoid gigs.

But I feel the gear is still safe and mission capable even with cracked inserts. As long as the hocks mate tightly and are moisture tight, I say they're OK. What do you say?

By the way, I've heard there's a repair kit coming with inserts and O-rings for the connectors. Such a kit would save a lot of money now spent replacing the whole hock. Is there such a kit?

SFC J. I. C.

Dear Sergeant J. I. C.,

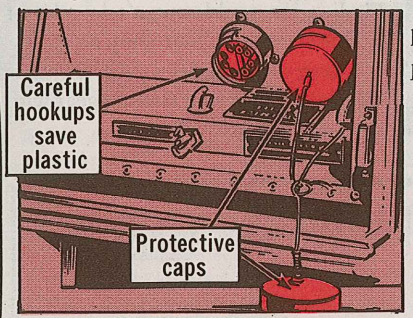
Last things first.

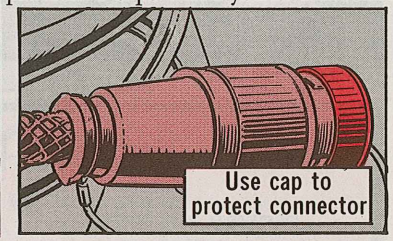
The kit you mention is in the system. But, like replacing the connectors, it's a DS operation. You might pass 'em the NSN, tho. It's 5935-01-120-0934.

The headshed agrees with you on connector inspections. Cracked plastic doesn't deadline your cable.

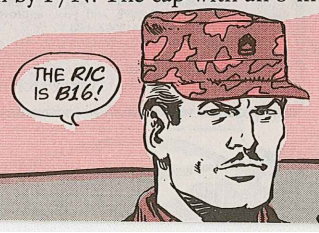
As long as cables mate tightly and the metal pins protected by the inserts are OK, go with it. There is no safety hazard.

You can head off cracks with careful hookups, of course. And always use the protective caps when you're unhooked.

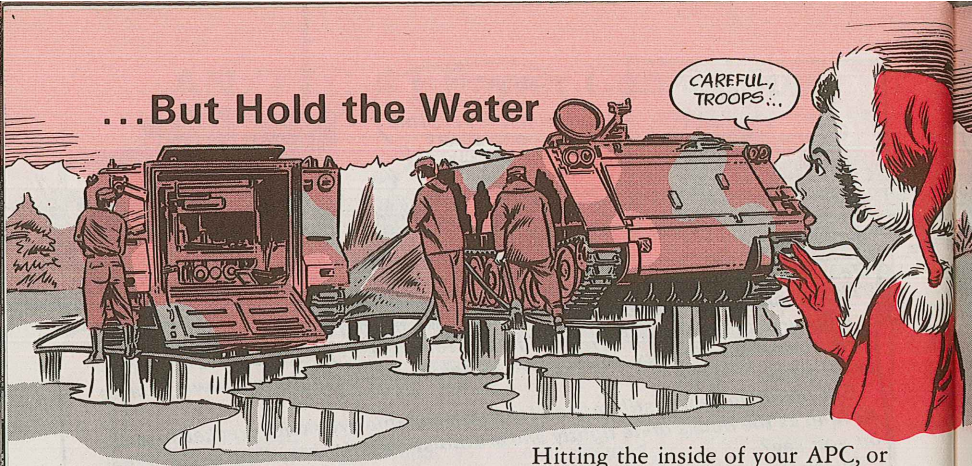




If your caps are missing, you can order 'em by P/N. The cap with an 8-in retaining wire is SCC162382GRP1. For an 18-in wire, use P/N SCC162382GR-PII. The Federal Supply Code for Manufacturer (FSCM) for both is 80063.



...But Hold the Water



Just back from the field and you've got mud all over your vehicle? A quick blast from a high-pressure water hose'll take care of that, right?

Right! It'll also likely take care of any commo component on or in the vehicle.

Hitting the inside of your APC, or any side of an M151-series utility truck, is an open invitation to shorts and other water damage to your commo gear.

The hard jet of water—even the spray from that jet—can mess up a receiver-transmitter, an intercom system or an antenna and its cables. A tracked vehicle's wiring harness is another potential victim.

A little moisture goes a long way toward screwing up electrical circuits. Finding the problem can take a lot of time—yours and your shop's.

Using water to clean your vehicle is OK. Just lay off your commo gear with the fire-hose treatment.

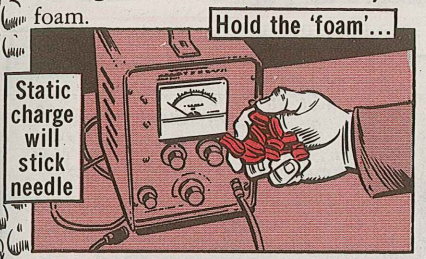
Aviation Messages

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

UH-60A-82-11 Maint Mandatory—Inspect UH-60A Black Hawk main rotor servo screws 041315Z Aug 82
UH-60A-82-12 Maint Mandatory—Boost servos, collective and yaw, improved crank spline 041330Z Aug 82
UH-60A-82-13 Emergency Tech—Inspect main rotor servo input link bearings 150025Z Aug 82
UH-60A-82-13 Amend Emergency Technical—Inspect main rotor servo input link bearings 241330Z Aug 82
UH-1-82-04 Technical—Inspect all UH-1B/H/V, EH-1H, and EH-1X scissors and sleeve assy for possible defective bolt P/N NAS 464P8-90 281400Z Aug 82
T42-82-01 Correct Maint Mandatory T42-82-01 transm 202030Z Jul 82 121800Z Aug 82

Getting Static?

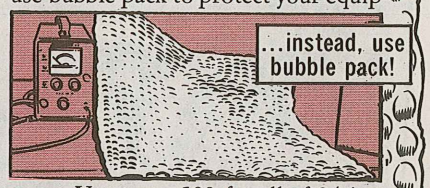
When it's time to ship test equipment, or any piece of gear with an electromagnetic meter, hold the styrofoam.



It cushions the bumps, all right. It also rubs against the meter's plastic window, building up static electricity. That static freezes the meter's needle to the plastic.

Once that happens, your support shop will be replacing the meter, along with any other work you asked 'em to do.

To keep from pegging the needle, use bubble pack to protect your equipment. You get a 500-ft roll of 24-in x $^{3}/_{16}$-in material with NSN 8135-00-142-9016. A 250-ft roll, 24-in x ½-in comes with NSN 8135-00-926-8991.



New Wire, Old Message

Dear Macon,
We're getting in the new WD-1A field wire. How do we splice and care for it? Do we need any new info?
SP4 C.G.

Dear Specialist C.G.,

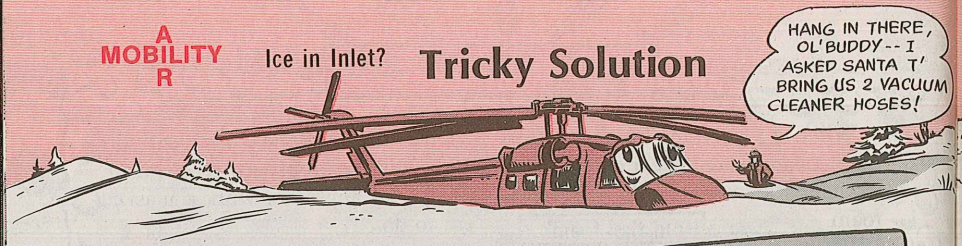
Nope. All the good info on WD-1 in FM 24-20 goes for your new wire, too.

The only real difference between the two is construction. Where the plain wire is a twisted pair, the new has both conductors molded as one piece.

A MOBILITY R

Ice in Inlet?

Tricky Solution



Dear Editor,

Here's a handy way to remove ice that may form in the engine inlet of Black Hawk aircraft.

Tape 2 vacuum cleaner hoses together, making one long hose. Any similar hose, 1½-in OD and 15 feet long, will do the trick.

Start the auxiliary power unit in the aircraft and close all heater vents in the cockpit.

Turn on the heater and open the heat vent above the gunner's window.

Hold one end of the hose flush to the heat vent while your buddy routes the other end thru the gunner's open window to the engine inlet.

The heat will melt the ice in a matter of minutes. Then all you have to do is mop up the water.

SSG K. Trickey
Sikorsky Aircraft
Stratford, CT

(Ed Note—Good solution, Sarge!)

Kiowa Parts Kit

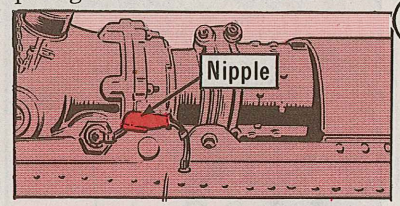
Got a bum particle separator on your OH-58? Fix it with repair kit, NSN 2945-01-018-2486. The kit includes instructions for repair of the separator and will show up in a change to TM 55-1520-228-23P. Eyeball Para 4-46 of TM 55-1520-228-23-1 for some good info on the kit.

Saves Downtime

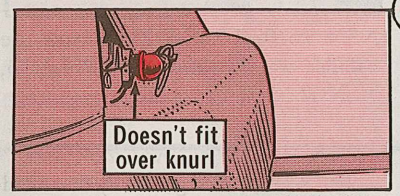
Special inspections for your OH-58A/C may now be pulled within plus-or-minus 10 percent of the flight-hour figures listed in Para 1-49 of TM 55-1520-228-23.

No More Slips

The nipple, NSN 5975-00-553-6995, on the chip detector of a Huey intermediate or tail rotor gear box, slips down the electrical wire, exposing the connection to the weather.

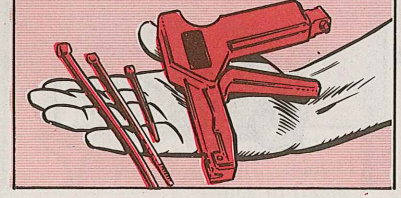


The big end of the nipple is not large enough to fit over the chip detector knurl, which would hold it in place.

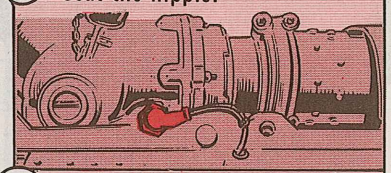


So what's the solution? Try this for size:

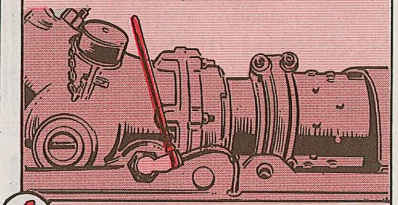
1. Latch on to hand tool, NSN 5120-00-781-7891 or 5120-00-937-5438, and plastic tiedown strap, NSN 5975-00-074-2072.



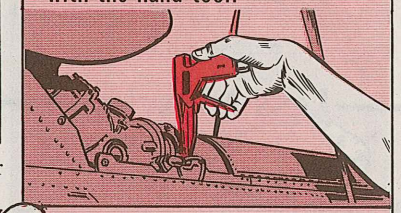
2. Seat the nipple.



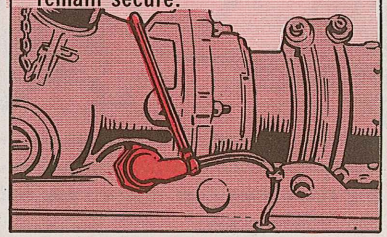
3. Use a tiedown strap at the small end of the nipple to secure it to the electrical wire.



4. Put some tension on the strap with the hand tool.



5. Trim off the excess part of the tiedown strap and the nipple will remain secure.



Take the Fast Track!

There are 2 ways you can use your Vibrex equipment for dynamic tracking and balancing your UH-1 tail rotor blades.

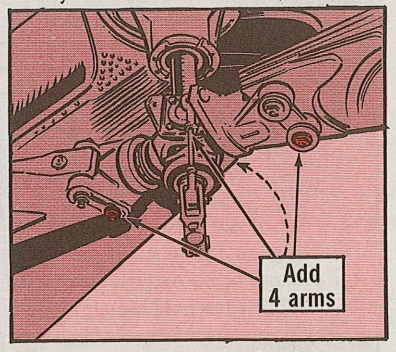
1. Temporarily add the required weight to the 4 blade bolts.

2. Permanently install balance arm kit, NSN 1615-01-079-6378.

Adding 2 cord-wise arms to the trunnion cap bolts and 2 span-wise arms to the blade bolts is the best deal. They remain in place, except during a static balance job, to save you time and elbow grease.

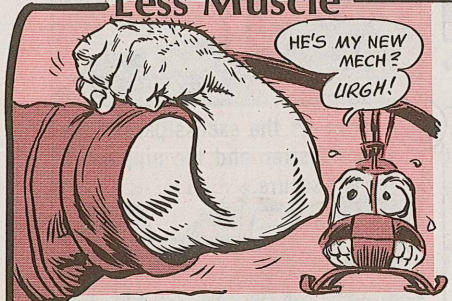
Installing the arms in the field is a breeze. Just follow the installation poop that comes with the kit.

When using the balance arms, be sure you use balance chart, PN 4020,



NSN 7610-01-123-3223. If you use balance weights, use chart, PN 3413, NSN 7610-01-123-3222.

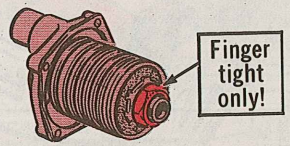
Less Muscle



When you assemble the Huey transmission internal oil filter after a cleaning chore, easy does it when you add the retaining nut.

The screens will get badly distorted and have to be replaced if you use a wrench on the nut.

So, when you follow the assembly poop in Para 6-48 of TM 55-1520-210-23, just tighten the nut **finger** tight to prevent the screens from turning.



Low Profile Jack

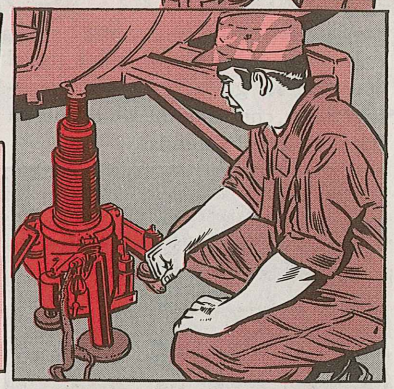
Dear Windy,
Do we need a special jack to fit under the UH-1 fuselage? A jack is required in Para 3-3b(2) of TM 55-1520-210-23 to inspect the landing gear.
SP4 R.O.D.

Dear Specialist R. O. D.,

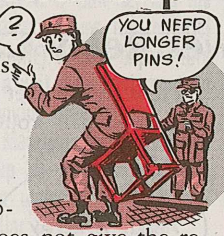
No!

The 3-ton tripod hydraulic jack authorized in TOE 55-424HO, LIN L10532, for example, will do the job. It's NSN 1730-00-734-9382.

Windy



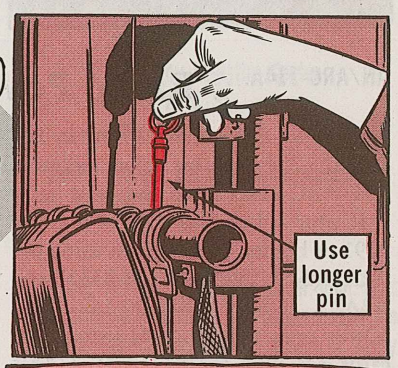
For a Better Grip

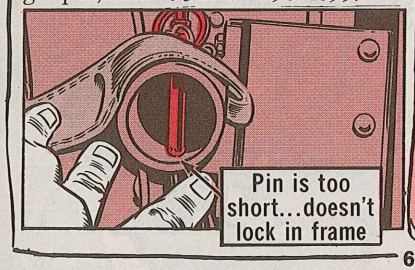


The 2 upper quick-release pins on the UH-1 passenger seats are too short.

Pin, Item 11A in Fig 39, TM 55-1520-210-23P, does not give the required grip length of ⅝ inch in the seat frame.

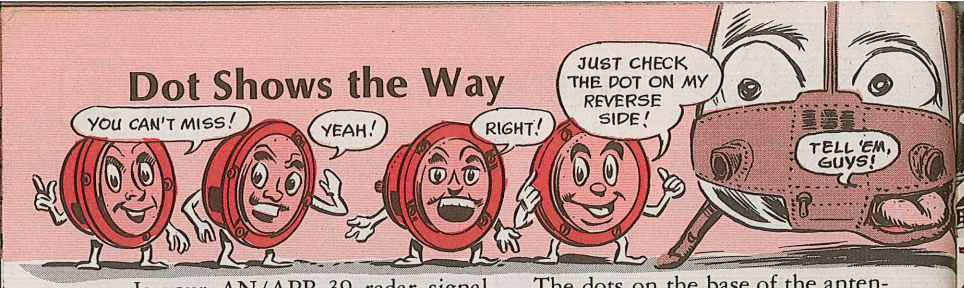
For a longer pin that'll do the job, get pin, NSN 5340-00-290-4695.



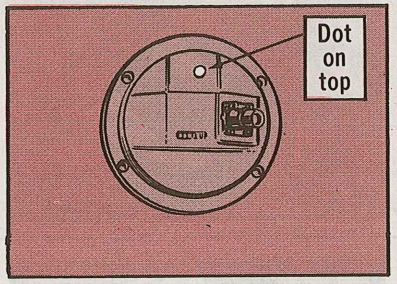


Hot Entry

Any time a T-53 engine oil temperature goes too high, record it on the DA Form 2408-13. The oil temperature should not exceed 93°C at a free air temperature below 30°C. Aircraft mechs need the info to pull a special inspection listed in Para 1-65 of TM 55-2840-229-23.



Is your AN/APR-39 radar signal detecting set giving you a bum reading? Then, check out the white dots on the set's spiral antennas.



The dots on the base of the antennas are there to help you orient the antennas. You install 'em with the dots on top. Keep the dots in the same position on all 4 antennas.

Some of the antennas, however, were manufactured without white dots. Position those by the L-shaped coaxial connectors. Make sure all connectors are pointing in the same direction.

Always install right and left antennas alternately around the aircraft, so the pilot gets the correct info.

AN/ARC-114A... Radio Power Relay Cards

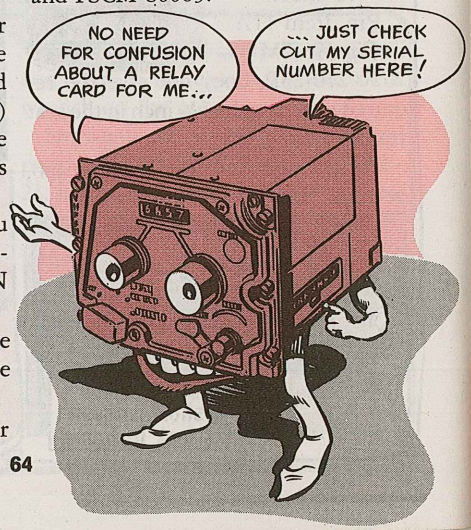
Avionics types, make a note in TM 11-5821-259-24P on your aircraft's AN/ARC-114A radio set:

If your -114A has a serial number 5291 or higher, forget about using the A2A1 (NSN 5821-00-148-8335) and A2A2 (NSN 5821-00-142-5520) power relay supply cards listed. The cards are only for AN/ARC-114A's with serial numbers 5290 or lower.

For the later model -114A's, you need A2A1 relay card, PN SMB-726814, and A2A2 relay card, PN SMB726821.

You can use these new cards in the earlier sets, but only if you replace both. You can't mix new and old.

No NSN's have been assigned for these items yet. Get them through the exception data route, using the PN and FSCM 80063.



Actuator Repairable

Hold one! You no longer scrap the actuator, NSN 2990-00-405-6146, in your 15-, 30- and 60-KW 400HZ generators. The recoverability code has been changed from Z to H. Your support can now repair 'em!

Repair $$$ Limits

Be sure you have the current market values for the equipment you're about to repair. F'instance, TB 43-0001-42-5 (Jan 82) has the current projected market values for materiel handling equipment (MHE). Higher expenditure limits often will let a unit keep equipment on hand longer. Saves buying new items.

TB 43-0002-24 Maintenance Expenditure Limits for FSC Group 39, FSC Classes 3910, 3930, 3950, 3990 is under revision. It will include the latest dollar limits for MHE.

EIR Number

We goofed in telling you how to make a report control number for an SF 368 Equipment Improvement Recommendation (EIR). Make a note on Page 34 of PS 357. Your first and last initials, the Julian date and a /1 for the first report of the day, /2 for the second, etc., go in Block 3.

Get S M A R T !*

The SMART! ideas have been rolling in. During the last few months, more than 375 ideas to improve maintenance and supply have hit Fort Lee. The Army "wheels" are looking them over. Some are already in operation. Others are being studied. Some didn't hack it even tho they looked real good at first. What's your SMART! idea? Get it down on some kind of paper and send it direct to:

SMART !
US Army Logistics Center
ATTN: ATCL-ST
Fort Lee, VA 23801

*SMART! = Supply and Maintenance Assessment and Review Team.

Pub Tracker

Trying to find what pubs cover your gear really eats up your time and patience. But the DA Pam 310-1, Consolidated Index of Army Pubs and Forms, solves that problem! Get the Line Item Number (LIN) and NSN for your end item and turn to Cross Reference by SB 700-20 LIN. You'll find all the TM's, LO's, TB's, SB's, MWO's, SC's and SM's that apply to your model—and its components!

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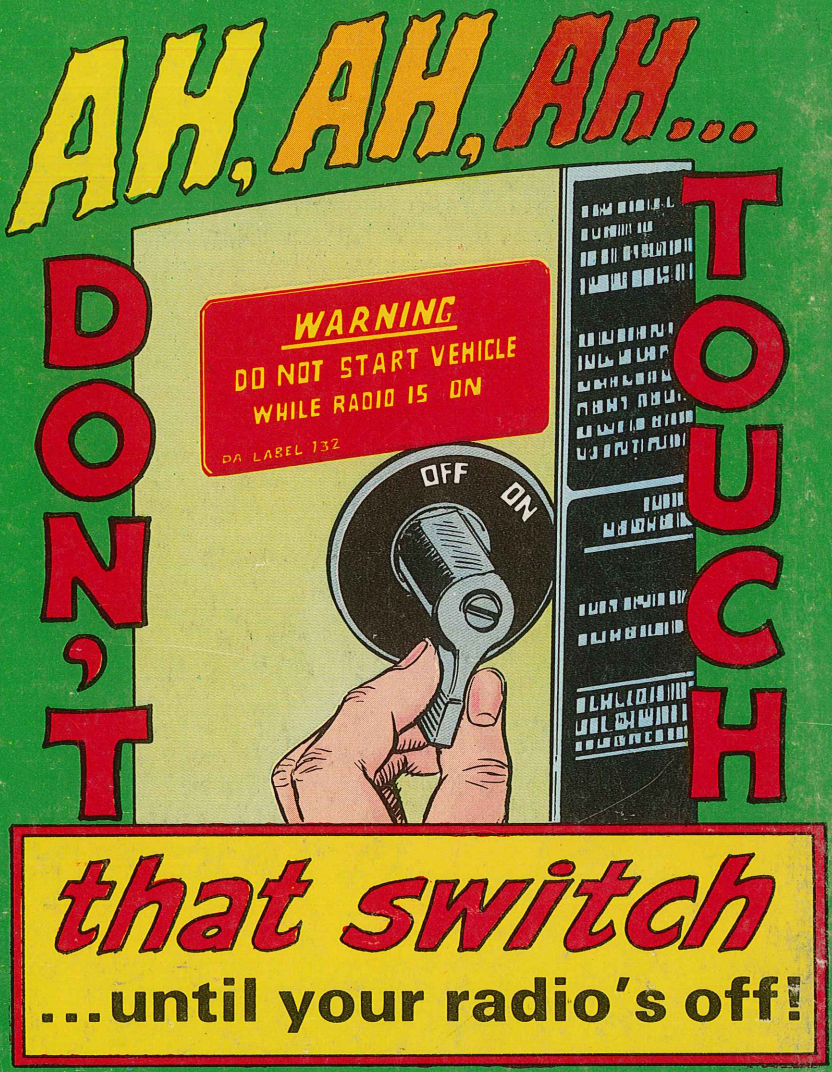
Would You Stake Your Life tonight, now on the Condition of Your Equipment?



that switch

...until your radio's off!

Power surges from starting or stopping your engine can burn a turned-on set!