

Issue 302

PS

January
1978

THE PREVENTIVE MAINTENANCE MONTHLY

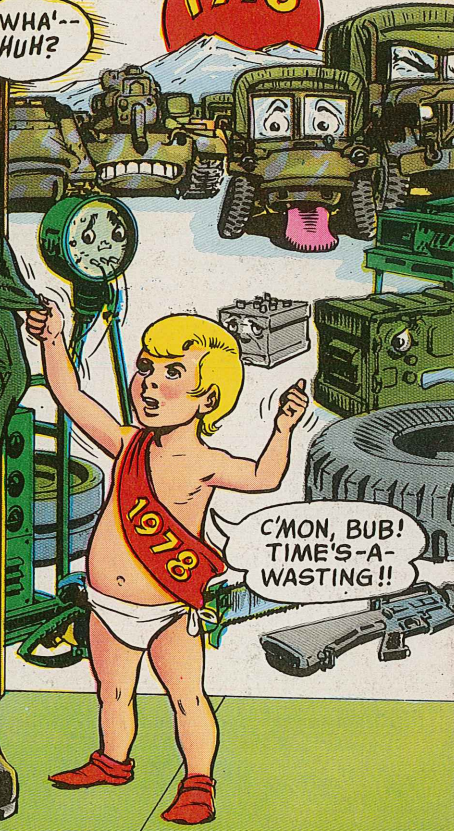
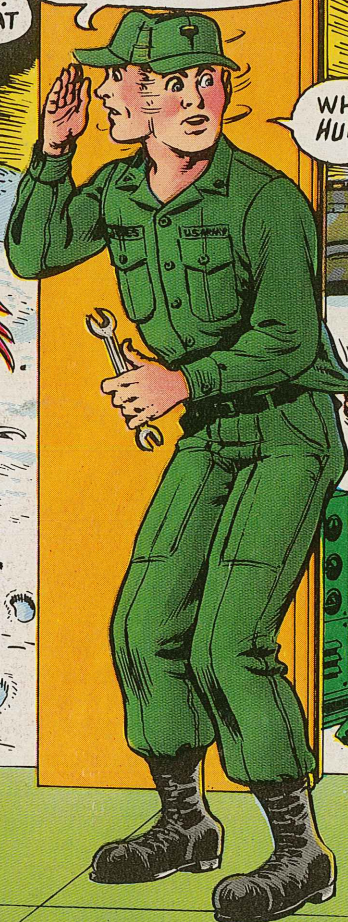


'BYE, SOLDIER!
WE HAD A GREAT
PM YEAR!

S'LONG, OLD TIMER!

WHA'--
HUH?

1978



C'MON, BUB!
TIME'S-A-
WASTING!!

MURPHY
ANDERSON

Published by the Department of the Army for the information of all soldiers assigned to combat and combat support units, and all soldiers with organizational maintenance and supply duties. Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Maintenance Management Center, Lexington, KY 40511.

ISSUE No. 302 JANUARY 1978

FIREPOWER 2-17

Weapon Exercising	2-3	M73/M219 MG	8-9
M50/M51 Periscopes	4-5	Tool Box	9
M106A1 Mortar	5	M16A1 Rifle	10-11
M32 Periscopes	6	M85 MG	12-13
Sheridan	7	TOW Missile	14-17
CP-223C/UM Computer7			

GROUND MOBILITY 18-27

Fuel System PM	18-24	2½, 5-Ton Trucks	26
Clean Brake Shoes	25	Battery Hookups	27
Tach Tip	25	Goat Lamp NSN	27

AIR MOBILITY 37-57

M35 Subsystem	37	BYOI AH-1S (Mod)	38-57
---------------	----	------------------	-------

COMMUNICATIONS 58-61

MX-6707	58-59	AN/GRC-142, -122	61
AN/VRC-46	60	AN/VRC-12	61

TROOP SUPPORT

New Publications	28	1978 Calendar	29-36
		MAD Report	62-64

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to: Or call: AUTOVON 745-3355.

MSG Half-Mast PS Magazine Lexington, KY 40511

Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 23 December 1975 in accordance with AR 310-1. DISTRIBUTION: In accordance with requirements submitted on DA Form 12-5.

For Expendable Supplies . . .
Go to the SOURCE



Stop knocking yourself out looking for an authority to order expendable supplies—like a lot of those mentioned in PS, for example.

Items like waterproof covers, silicone compound, paint, cleaners, small tools, bolts and nuts are all authorized as required by one pub:

CTA 50-970, Expendable Items (Except Medical, Ammo, Repair Parts and Heraldic Items) (July 74.)

Many items are listed individually, but no book's big enough to list them all. So other items are covered by Appendix A. That's one appendix you want out and handy at all times.

Appendix A gives the OK on requests for tons of items, listing them by their Federal Supply Class (FSC)—the first 4 numbers in an NSN. Go through Appendix A. If the FSC for the item you want shows up with Note 1 or 2—you're in! (Be sure you have Change 1 and 2; they reworded Note 1 to say some items in this FSC are listed in Section II. Expendable items in this FSC which are not shown in Section II are

APPENDIX A

FEDERAL SUPPLY CLASSES WITH AUTHORIZATION REMARKS

This chapter provides guidance pertaining to authorization of expendable items in instances where it is impractical to compile meaningful bases of issue or items are authorized by other regulatory media.

FSC	NOTE	FSC	NOTE	FSC	NOTE	FSC	NOTE
1005	1	1950	2	3419	2	3915	2
1010	2	1955	2	3422	2	3920	2
1015	2	1990	2	3424	2	3930	2
1020	2	2010	2	3426	2	3940	1
1025	2	2020	2	3431	2	3950	1

IF YOUR EXPENDABLE ITEM ISN'T LISTED IN THE CTA 50-970. TURN TO APPENDIX A. THE FSC SHOULD BE IN APPENDIX A. THEN READ THE INSTRUCTIONS FOR THE FOOTNOTE NUMBER BY YOUR FSC

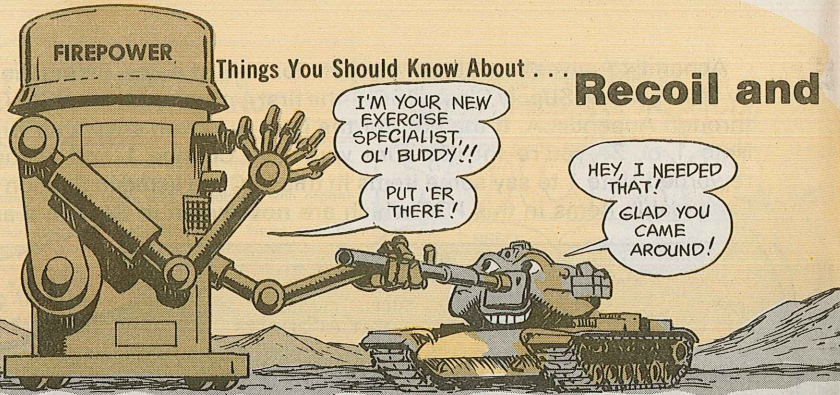
NOTES:

- 1 Some items in this FSC are listed in Section II. Expendable items in this FSC which are not shown in Section II are authorized as required.
- 2 No items in this FSC are listed in Section II. Therefore, all expendable items in this FSC are authorized as required.
- 3 Heraldic items in this FSC are authorized in accordance with AR 840-10. Nonheraldic expendable items in this FSC are authorized as shown in Section II or, if not listed, as required.
- 4 Expendable items in this FSC are authorized in accordance with AR 670-5, AR 670-30 and AR 672-5-1.
- 5 Expendable items in this FSC, applicable to targets and target equipment, are authorized by CTA 23 and TM 9-6920-210-24P.
- 6 The policy for acquisition and retention of operational rations, in this FSC, is outlined in AR 31-60.

authorized as required.) Change 2 did not supercede Change 1. Ignore that note on the Change 2 cover sheet.

Just make sure the item is on the Army Master Data File (AMDF) as an expendable item (X) and costs less than \$25. Then, pass your request to support, citing the CTA as the publication reference.

If the item has a footnote of 3, 4, 5 or 6, another pub is your authorization—and the CTA tells you which one.



Things You Should Know About . . .

Recoil and Equilibrator Exercising

HOW IS THE EXERCISING DONE?

Very carefully, the way it says in the TM for your particular weapon. Also read TB 9-1000-234-35 with Changes 3 and 6. It's the main pub on exercising.

HOW IS IT SCHEDULED?

On the weapon's DD Form 314. If the weapon is fired before the next exercise is due, reschedule from the date it was fired. Send a DA Form 2407, Maintenance Request to support when it's time for them to exercise or supervise the exercising.

Some artillery weapons and tank guns have equilibrators and recoil mechanisms that must be exercised. Some do not.

Even when they need exercising, you troops in the firing units don't always do all the work. Still, you must make sure that the job gets done on schedule.

These questions and answers will help keep you straight:

WHY IS EXERCISING NEEDED?

To make sure the seals on floating pistons get the lube they need to stay flexible. Without lube they take a "set" and start to leak and the weapon won't recoil the way it should.

DO ALL WEAPONS NEED IT?

No—only those with non-Teflon seals. The M101, M102, and M114A1 towed howitzers have Teflon seals that do not need exercising.

WHEN ARE THE WEAPONS EXERCISED?

Whenever they have not been fired. Firing gives the recoil mechanism a workout and lubes the seals, so it counts as an exercise period. Weapons that have not been fired get exercised as follows . . .

Weapon	Exercise Every	Work Done By
M551/M551A1 Sheridans	30 days	Organizational Maintenance
M60A2 tank	180 days	Same
M60/M60A1/M48 tank families	180 days	Same but supervised by direct support which makes the log book entries
M109/M109A1 Howitzers	180 days	Crew supervised by DSU
M107/M110/M110A1 with M158 gun mount	180 days	Crew supervised by Organizational Maintenance
Same but with M174 mount with Product Improvement Kit 2	180 days	Crew exercises using retract control valve handle

DD FORM 314 (REV. 1-78) RECEIVED DATE AND TIME OF DAY

REGISTRATION NUMBER: USA 5321
 ADMINISTRATION NO.: A 10
 NOMENCLATURE: HOWITZER 155 GAK 57667
 MODEL: M109A1
 ASSIGNED TO: B/167

R = RECOIL EXERCISE

If you make the entry in the vehicle log book, put it in column e. of DA Form 2408-4. (If the exercise is by firing, enter it in column a.)

DA FORM 2408-4, 1 APR 62 WEAPON RECORD DATA (TM 38-750)

1. CANNON TUBE SERIAL NUMBER
 2. TYPE
 3. UIC

DATE: a. CHARGE OR ZONE: b. PROJECTILE TYPE AND ROUNDS FIRED: c. ACCUMULATIVE ROUNDS FIRED: d. RECOIL EXERCISE: e. GAGE OR VELOCITY MEASURE: f. ESTIMATED REMAINING LIFE (EFC Rounds): g. REMARKS: h. SIGNATURE: i.

WRITE IN DATE HERE IF EXERCISING IS DONE BY FIRING
 DATE GOES HERE IF EXERCISING IS DONE MANUALLY

1. PREVIOUS PAGE TOTAL (Rounds)
 2. THIS PAGE TOTAL (Rounds)
 3. ACCUMULATIVE TOTAL (Rounds)

THREE M50/M51

Periscope Connectors

BLAST! CAN'T SEE A THING... AND SPEC TWISTER JUST CHECKED OUT MY PERISCOPE!

SPEC TWISTER, TWO OF THOSE 'SCOPE CONNECTORS ON BOTH THE M50 AND THE M51 ARE PUSH-PULL TYPES!!

SONUVAGUN! NO WONDER I HAD TO USE MY VICE-GRIPS TO TWIST 'EM OPEN...

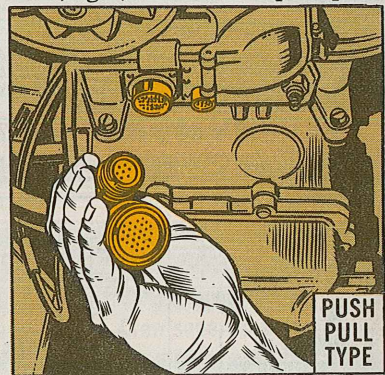
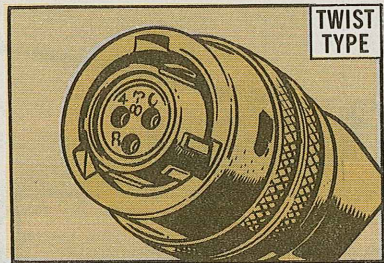


Most electrical connectors on Army equipment are opened by twisting. However, if you try to twist open a push-pull type connector you'll break it every time.

That's what's happening to some M50 gunner's and M51 commander's periscopes in M60A2 tanks.

The small connector you can see from the gunner's seat is a twist type.

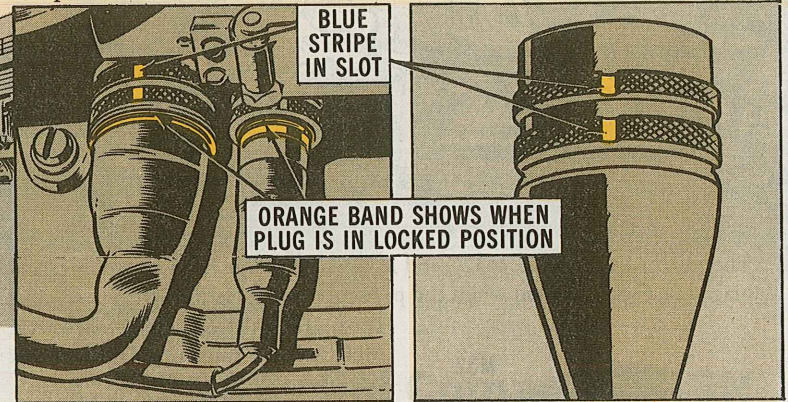
The 2 connectors on the "back" of the M50 and the large connector on the front, right, of the M51 are push-pulls.



If you try to twist them apart with pliers, you'll ruin 'em. Never use any tool on them: Just your fingers.

On the push-pulls the 1/8-in wide blue stripe on the plug coupling ring has got to be lined up with the keyway on the plug shell. If it's not, 4 small coil springs under the coupling ring may have been damaged.

Line up the blue stripe and keyway by rotating the coupling ring on the plug shell. You need at least 32 pounds of push force to lock the plug to the receptacle.



You'll have it together right if you heard a "snap" and you can see an orange band at the base of the coupling ring. You'll be able to see this band only when the coupling ring is in the forward (locking) position.

After you have the connector together, give about a 10-lb pull on the plug back shell. A properly mated connector will stay together. If it separates, you can figure it's broken. Get a new cable assembly.

You can get at the back of the M50 periscope, where the push-pull connectors are, through the opening between the driver's compartment and the turret. Just traverse the turret to about 5900 mils.

M106A1 Mortar Bearings

NSN 3110-00-100-6158 gets you the ball bearings listed as Item 5 on page 194 of your TM 9-2300-257-20P (Aug 75). They're \$2.25 each.

5

Farewell to (Swinging) Arms

COME ON, 'SCOPE, OL' BUDDY-- IT'S SHIPPING TIME!

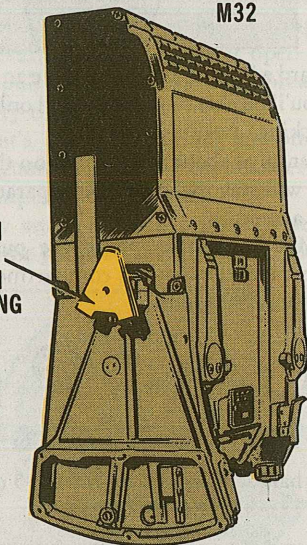
FINE, SPECIALIST-- BUT MAKE SURE YOU TIE MY ARM DOWN CAREFULLY!



The mirror in the M32, M32C and M32E1 periscope head assembly can be damaged or even smashed when the periscope is not resting safely in its snug spot in either your M48A5, M60/M60A1 tank or M728 combat engineer vehicle.

M32

TIE DOWN ARM WHEN SHIPPING



The damage comes when the periscope coupling arm assembly is allowed to swing free—either during or after packing for a move.

If it's not handled or packed right, the coupling arm assembly gets to swinging so much that it bangs into the head assembly arm. The arm, in turn, zaps the mirror.

To keep the mirror safe, tie the coupling arm assembly down carefully. Use a strong piece of tape or a rubber band or two. Then pack it up.

The same careful treatment also goes for unpacking. Untie the coupling arm assembly carefully and put the periscope carefully back into your vehicle.

Sheridan Needs Power

HEY, NORM! BATTERIES WON'T CUT IT!

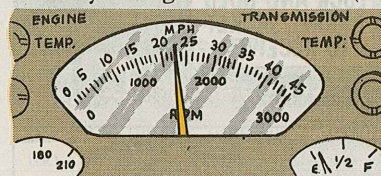
THANKS, PAL!

You can't make it with batteries alone.



Your M551/M551A1 Sheridan turret pulls so much current that you have to keep the engine running to get enough power.

Run your engine at 1,500 RPM (not



1,200, which is just a fast idle) whenever your turret's using power.

If you run your turret on battery power alone with the engine shut off, you'll get less than 24 volts and that can damage some or all of these parts:

Relay points in accessory box
Turret relay box
Turret power supply
Magnetic brakes for gun elevation and traverse
Vehicle batteries

So that's the scoop: Keep your engine running and turret power won't droop.

CP-223C/UM Computer NSN

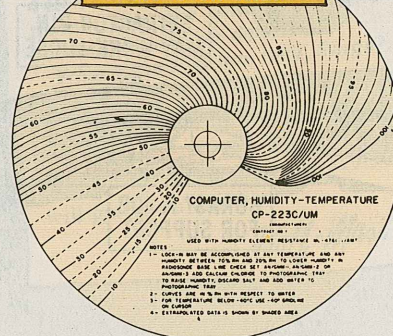
If you need the whole thing, just a part won't do.

Page 1-2.1 of Ch 3 to TM 11-6660-204-10 (Oct 69) lists the CP-223C/UM temperature humidity computer, part of the AN/TMQ-5 series of radiosonde recorders, as NSN 6660-00-179-5846.

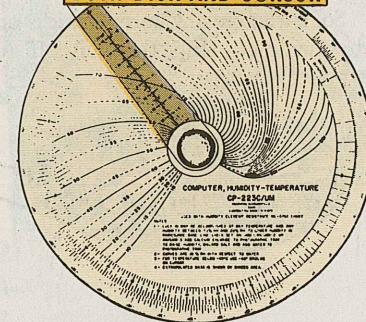
But this NSN gets you only the top disk.

To get the whole thing with both disks and the cursor, ask for NSN 6660-00-752-7794.

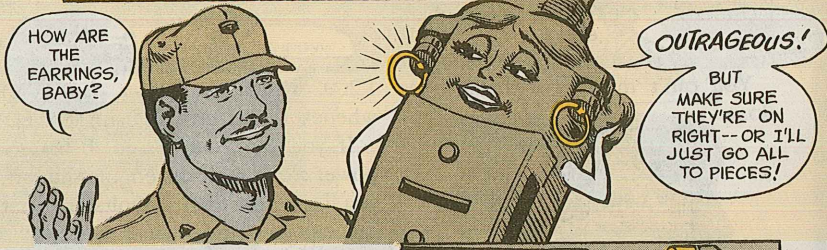
NSN 6660-00-179-5846
TOP DISK ONLY



NSN 6660-00-752-7794
BOTH DISK AND CURSOR



M73/M219 Rings & Things



The disconnectors and their rings on your M73, M73A1 and M219 machine guns are clever little gadgets that lock . . . and hold . . . the barrel jacket to the receiver.

They're quick and easy to use when you remove or install the barrel jacket.

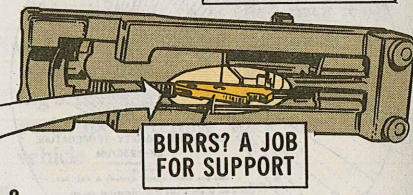
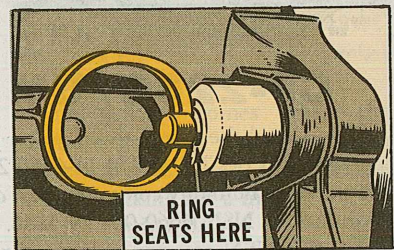
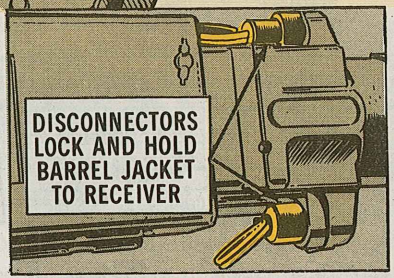
OK. But . . . when you do install the barrel, the disconnectors must be all the way in the holes on the barrel jacket. If not, the barrel and jacket can fall off the gun.

Best bet is to eyeball the disconnector ring after you've let it slide home. The ring should be against the base of the disconnector housing.

Armorers and gunners should eyeball the hammer of the guns for damage before and after use.

The extractor pin can work out of its hole in the rammer assembly. When that happens, the hammer gets damaged.

So, if you see any burrs or nicks on the hammer, ship the gun off to support for repair.



Charged Up M219?

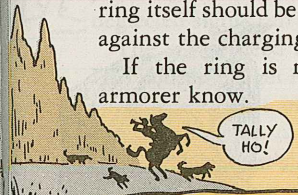


There are times when your M219 machine gun should be all charged up . . . and then there are times when the charging system should hang loose.

When the gun's stored or not in use, the barrel extension should be in the forward position, with the safety on Fire (F) setting. That takes the pressure (and wear) off the driving and hammer springs.

A little PM and eyeballing of the charging handle housing is helpful, too. The large screw by the retaining ring must be tight . . . and the retaining ring itself should be fully seated (snug against the charging mount stud).

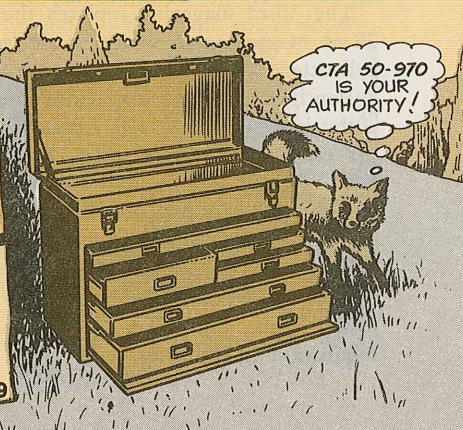
If the ring is missing, let your armorer know.



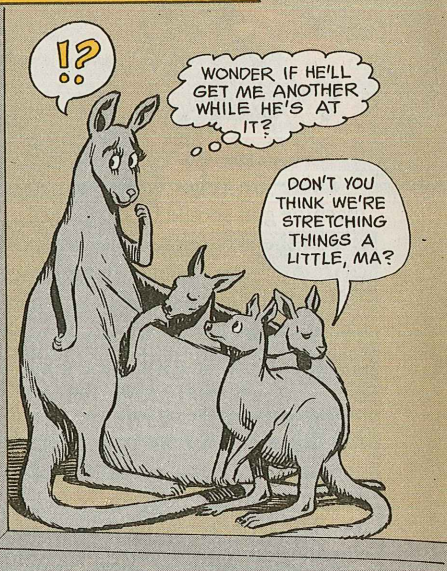
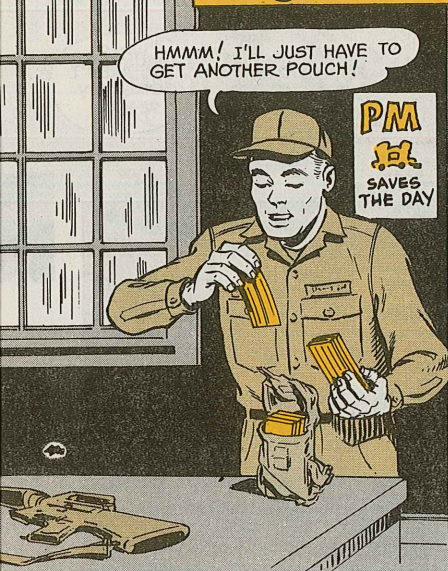
Tool Box Tally

Dear Half-Mast,
My Small Arms Repairman's Tool Kit calls for a tool box—NSN 5140-00-449-6856—as the main storage container. But the AMDF microfiche shows this number deleted. What's the tool box tally, Sarge?
A.L.D.

Dear A.L.D.,
Tally ho! NSN 5140-00-319-5079 will get you a tool box.
Half-Mast



Magazines 'N' Pouches



Here's the poop on rifle pouches and magazines.

A 30-rd magazine—and only 1—is authorized as initial issue item with the M16A1. Your CO can authorize additional magazines.

The 30-rd magazine replaces the 20-rd magazine, of which stock is exhausted.

Pouches for 30-rd magazines are authorized in CTA 50-900, 2 pouches for each rifle. Each pouch—NSN 8465-00-001-6482—holds 3 magazines. The extra pouch will come in handy whenever your CO authorizes extra magazines.

Pouches and magazines are expendable items. Use CTA 50-900 as requisitioning authority.

POUCH HOLDS THREE 30-RD MAGAZINES



Front . . . Rear . . . and Foresight



During the course of human events, a rifleman will lightly dab and heavily lube just about every part on his M16A1 rifle.

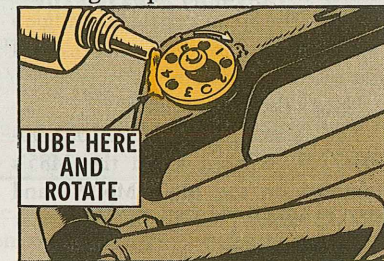
Mostly, though, he forgets or neglects to either drown or dab his sights with lube. Not good.

'Tis bad, real bad, for in the course of future events he may not be able to adjust said sights to efficiently do the job he must do. In other words, the neglected sights can freeze up on you!

The sights need a light lube with LSA and should get it about as often as you lube the rest of the rifle—after firing and such.

The front sight's no problem . . . a drop of lube where it can seep into the threads, with you depressing the sight detent so the lube can get into the spring.

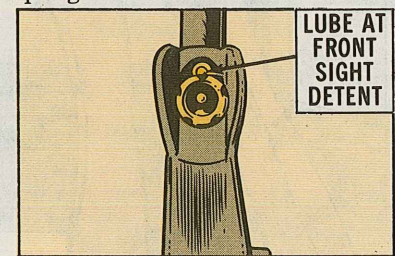
On the rear sight, put a stingy drop of oil down behind the windage drum. Mark the position of the drum ("1," "4" or whatever), rotate it (with detent pressed) and bring it back to the original position.



Then, put a small drop of lube on each side of the rear sight, lift the sight up and down . . . and you're done.



It sounds like it might take time, but a minute or 2 at most gets the job done.



Murphy
Strikes
Again—

M85 DE FLECTOR

You've gotta know what's up when you install the spent cartridge deflector plate on your M85 machine gun.

If you hang it on your gun downside up or on the upper side of the feed and ejector assembly lugs, you've got trouble. The spent cartridges hang up (ugh!), and you're done shooting till you cure the problem.

Here's the background:

The deflector plate, NSN 1005-00-863-7797, is used when the M85's mounted on the M60, M60A1 and M60A3 tanks, plus the M728 combat engineer vehicle.

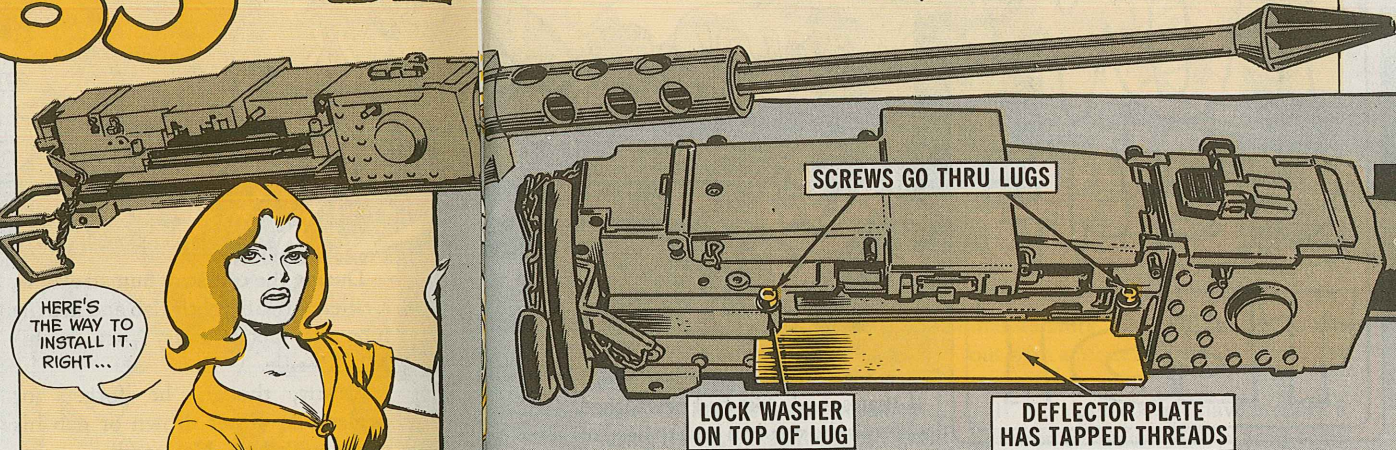


PLATE MOUNTED ON SIDE
OPPOSITE FEED AND EJECTOR

The plate's mounted on the side of the receiver assembly—the opposite side from where the feed and ejector is mounted. It uses the same lugs as the feed and ejector rig, but on the opposite side of the receiver.



HERE'S
THE WAY TO
INSTALL IT.
RIGHT...

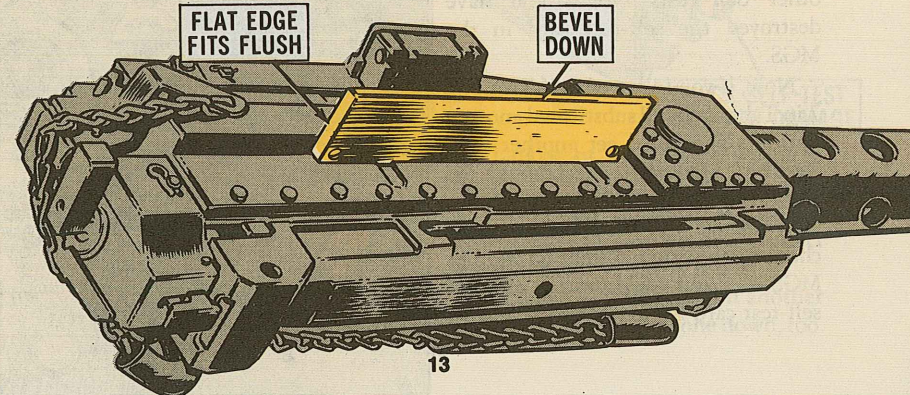


1. The plate goes underneath the mounting lugs . . . not on top. The plate has tapped threads, and the screws must go through the lugs to pull the plate tight against the lug bottoms.

If you run the screws through the plate and then install it on top of the lugs, the plate will bounce off.

2. When you mount the plate on the bottom of the lugs, the plate's bevelled edge must be down. Lock washers go on top of the lugs . . . not between the lug and the plate.

Tack this in your head, since you've gotta switch the plate from one side to the other for right or left hand feed: bevel down, plate on bottom of lugs.



TOW SELF TEST

Lucky Seven can turn into a gruesome twosome for the optical sight and missile guidance set of your TOW missile system.

To avoid that snake-eye problem when you're doing Self-Test No. 7 on the optical sight (Table 2-6, TM 9-1425-470-12), remember this:

A couple of capacitors (C1 and C2) in the sight have shorted to the boresight modulator return during other Self-Tests No. 7 and have destroyed the self-test card in the MGS.

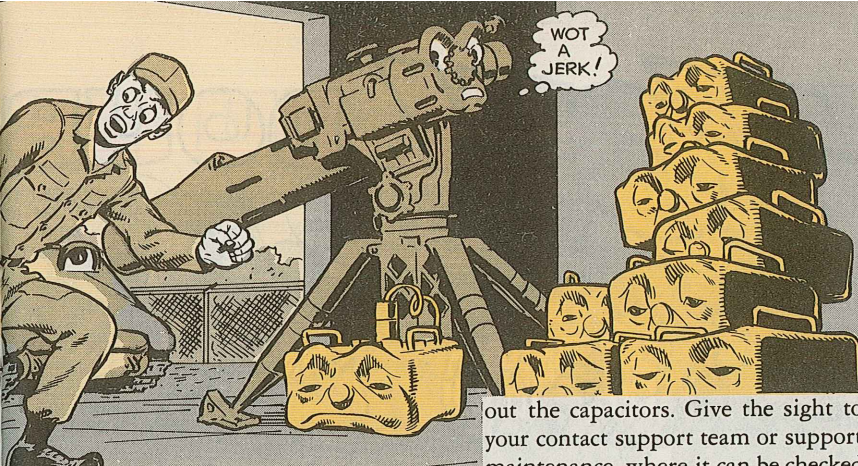
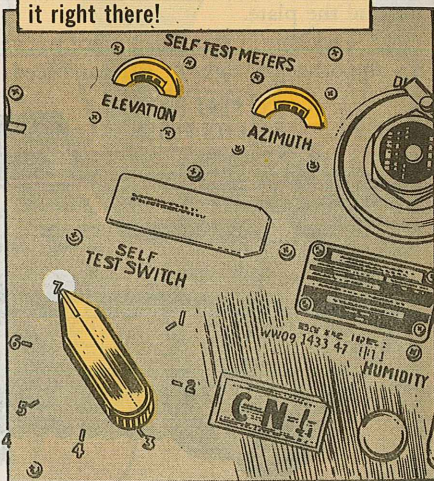
Now, if you followed Self-Test No. 7 in Table 2-6, and substituted another optical sight, you'd get another Self-Test No. 7 failure ... even though the substitute sight may have been OK.

Worse yet, you'd follow through by checking the original sight on another MGS ... and you'd destroy another self-test card in that MGS.

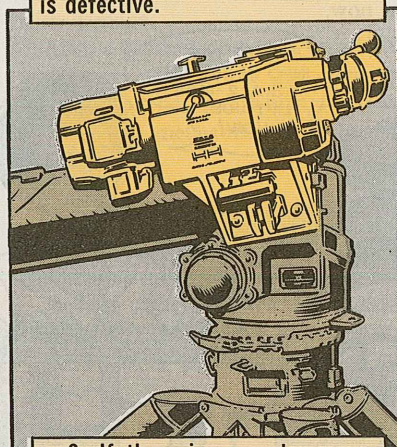


If that sounds like bad news, cheer up. Here's the word on how to head off the problem:

1. Tracker motor is running during Test 7. If there is no self-test meter movement on the AZ or EL meter, and there is no meter movement when you make boresight knob adjustments, suspect the capacitors ... and hold it right there!



2. Get an optical sight that you know is good, and do the test again. If there is meter movement during the test, then the first sight is defective.



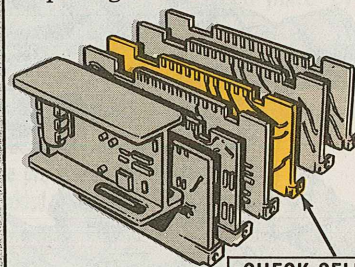
3. If there is no meter movement during the test, replace the MGS (it probably was damaged by the first sight).

Whatever, don't hook up the first optical sight to anything until it gets checked out ... and don't try to check

out the capacitors. Give the sight to your contact support team or support maintenance, where it can be checked out with a Model 8000A-01 (Fluke) or equivalent meter.

If the sight doesn't have a short it can then be mated with a good MGS for a Self-Test No. 7 check out.

Finally, maintenance types can check out the MGS you had to replace (Item 3, no meter movement) by inspecting the self-test card. If the



CHECK SELF-TEST CARD FOR DAMAGE

CR21 diode or the printed wiring is damaged, then you know the first sight was faulty. In which case, tag the sight until you can get the Contact Support Team to check it out.

Just don't use the sight on another MGS, or you'll put that one down, too.

TOW DOUBLE-UP

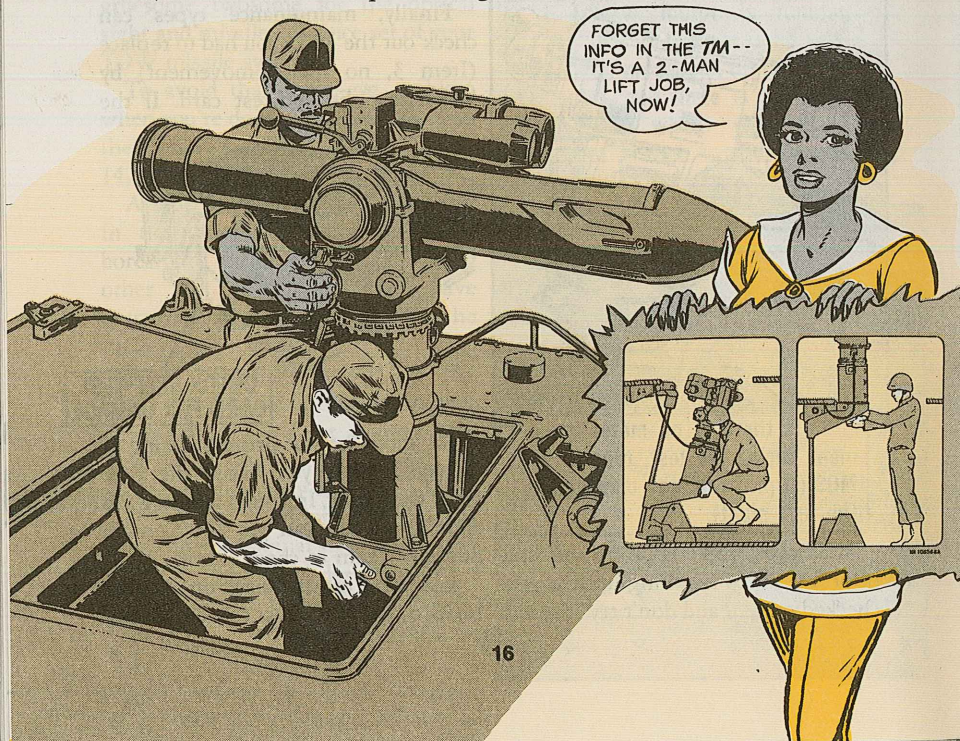


SARGE... I FOUND THE RIGHT MAN TO LIFT TH' DEPLOYMENT MECHANISM!

ER--FORGET IT, SAM! TH' TM IS BEING CHANGED!

Low back pain and strained muscles are things of the past in lifting the deployment mechanism of your TOW missile system.

The chore is easier for TOW types whose weapon is mounted in the M113A1 carrier. TM 9-1425-470-12 will be changed to make the lifting of the deployment mechanism a 2-man job. Meanwhile, the advice from the headshed is to switch to a 2-man operation right now.



FORGET THIS INFO IN THE TM-- IT'S A 2-MAN LIFT JOB, NOW!

The job is too heavy for one man to do with safety, so forget the words and pictures in Sect III, Chap 2 of the TM which show the 1-man operation. They could lead to damage to you ... and the equipment.

Couple of things to remember in deployment operation:

When you get the mechanism upright, keep forward pressure on the pedestal while your buddy turns the locking wheel until the locking pins are in position. If you don't hold the pressure until the pedestal's locked in the UP position, it can slam down ... with damage.

Also, a caution note will be added after para 2-18i of the TM advising you to hold pressure on the mechanism when you're bringing it to the DOWN or stowage position.

When the mechanism is down, be sure that it is locked in place by the locking wheel.



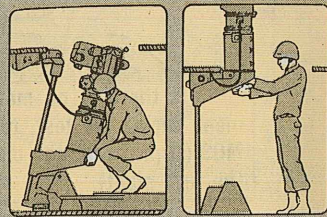
KEEP FORWARD PRESSURE ON UNTIL LOCKED!

Dragon Shim

Next time you're operating your Dragon M54 launch effects trainer and it begins misfiring on you (say 1 misfire out of every 4 or 5 times), consider this:

The firing mechanism/breech block headspace probably is out of adjustment. In that case, a shim has to be removed or added.

That's a job for your direct support, so you have to turn in the trainer.



d. Install the launch over the downward (rst) through the to tr
15. Perform
When the T he APC system se rmed in aned in

Next Month In LS

CALIBRATION STORY



HUBER GRADER

MAP OUT YOUR CAREER

GROUND MOBILITY

No Go With H₂O . . .

FUEL SYSTEM

Water in your fuel tank will give your engine a bad case of indigestion—if you're lucky enough to get it started at all.

And frozen water—ice—in your fuel system will stop you cold! Everybody knows this.

COLD WEATHER CAN CAUSE LOTS O' PROBLEMS... UNLESS YOU STAY ON TOP OF YOUR PM!

C'MON, DARN YA... START!

YOU'D THINK HE'D TRY TO FIND OUT WHAT THE TROUBLE IS...

HE'LL THINK OF THAT--

AFTER HE'S BURNED OUT HIS STARTER!

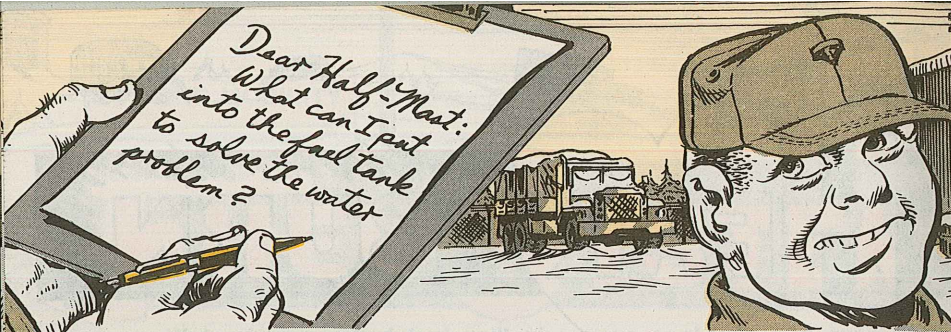
AWRIGHT-- WHO'S TH' WISE GUY?

NAW-- SOMEBODY'S JUST TRYING TO GET THE MESSAGE ACROSS TO HIM!

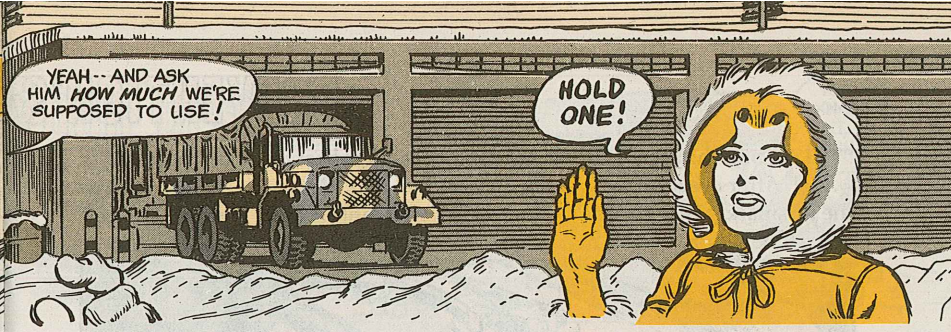
A FROZEN FISH WAS THE TROUBLE?

HIS FUEL FILTERS ARE FROZEN-- HE DIDN'T DRAIN THE WATER OUT OF 'EM!

But what's giving a lot of people heartburn is:
"What can I put into the fuel tank to solve the water problem?"
"How much of whatever-it-is should I put into the fuel tank?"



You may be going at this like somebody who doesn't know when to quit eating and drinking—and winds up gulping antacid tablets to solve his

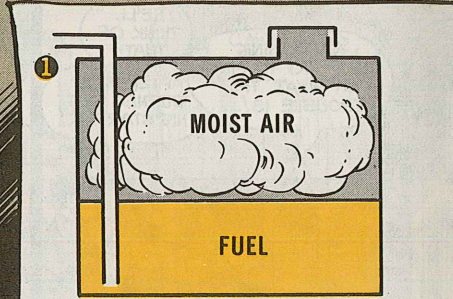


problem. He wouldn't have the problem if he'd been a little more careful to begin with.

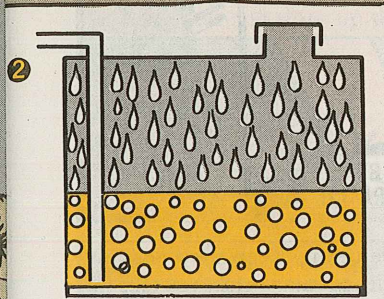
HOW IT ALL BEGINS

Water builds up in your fuel tank because you let it.

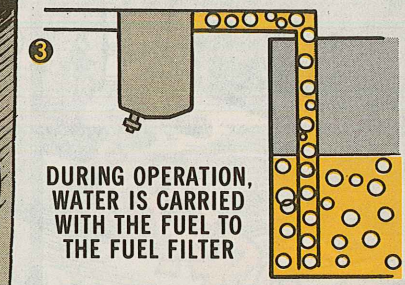
Maybe you let the tank sit nearly empty—instead of "topping off" after every operation. Damp air will fill this empty space and then condense—turn into water. This happens over and over, day after day. Water keeps building in the tank. It builds up to where it gets sucked into the fuel line.



1 LOW FUEL LEVEL, MORE SPACE FOR MOIST AIR



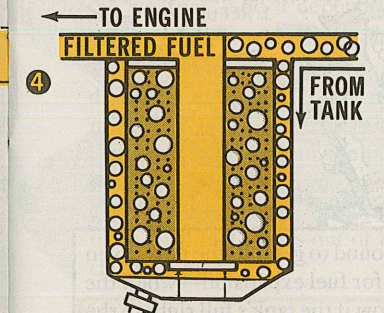
2 CONDENSATION (WATER) SETTLES TO BOTTOM OF TANK



3 DURING OPERATION, WATER IS CARRIED WITH THE FUEL TO THE FUEL FILTER

ICE BUILDUP . . .

- STOPS FUEL FLOW FROM TANK
- STOPS FUEL FLOW THRU LINES
- STOPS FUEL FLOW THRU FILTER



4 TINY HOLES IN FUEL FILTER ELEMENT STOP WATER—AND DIRT—BUT LET FUEL PASS THRU



Or maybe you fail to drain your fuel filters every day. Water sucked up from the tank freezes in your filters and in low spots in the fuel lines. It might as well be concrete; fuel can't get by that ice!

PREVENTION'S YOUR BEST BET

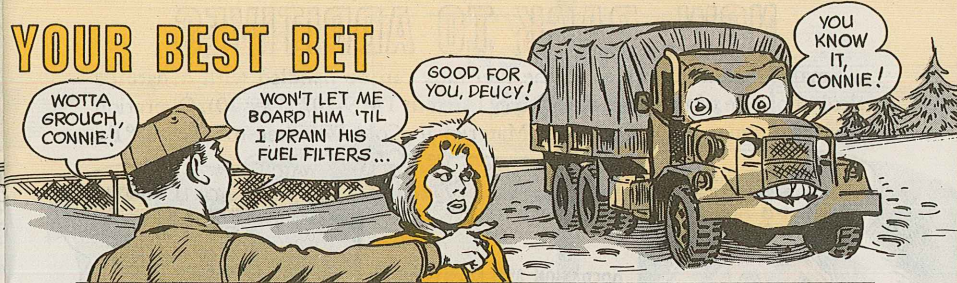
So the best thing you can put into your fuel tank to beat the water problem is ...fuel. After every operation, top off your fuel tank. Bring the level back up to the full mark. Keep the empty space inside your tank as small as possible. Then there'll be less room for that damp air—and less condensation.



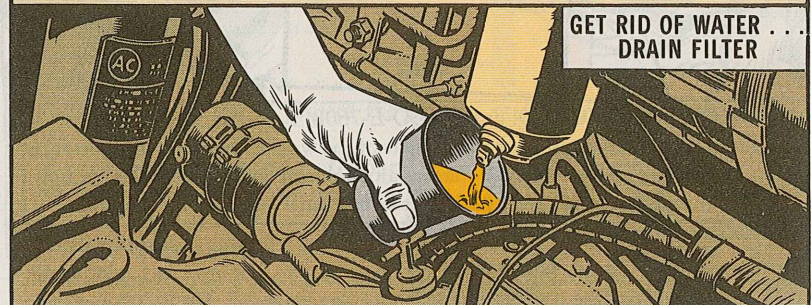
RAIN, SNOW OUT—Careful when you're refueling! Keep snow and rain from getting in. Brush snow from around the filler opening before you take the cap off. If rain's pouring down, shield the opening.



SPACE TO EXPAND—Sure, some water's bound to get into the tank. Even when you fill up, you have to leave a little room for fuel expansion—when the tank gets warm, the fuel expands and can overflow if the tank's full right to the top. So there's always some empty space in your tank for damp air to get in and condense.



DRAIN FILTERS—Besides trapping dirt, fuel filters catch any water sucked out of the fuel tank. Water's heavier than fuel, so the water settles to the bottom of the fuel filter. You get rid of this water by draining the filter—before the water builds up in the filter and gets carried on to your engine—and before the water freezes and stops up the filter.



Draining your filters even more than daily may be a good idea. It depends on the weather. And it depends on how hot 'n' heavy you're operating.

You're the one who can judge best. When you drain a filter, catch the drainings in a glass jar. Let it sit for a minute or so. If any water came out of the filter, it'll settle to the bottom of the jar. Did you get some water? If so, drain the filter again and check. Keep it up until fuel comes out of the filter clean 'n' pure.

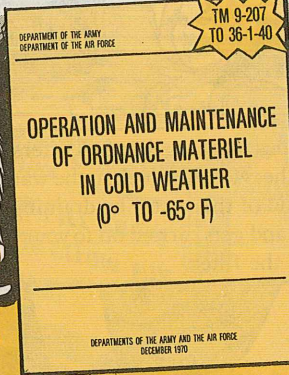


CLEAN START—If you get some water from your filter every day, you can bet there's quite a lot in the fuel tank. A real bad case can be cured only by draining the tank and starting all over again.

NOW, BACK TO ADDITIVES

Small amounts of water in the fuel tank can be handled with denatured alcohol or one of the special additives listed in TM 9-207 (Dec 70), Operation And Maintenance Of Ordnance Materiel in Cold Weather (0° To -65° F).

THEY'RE ALL LISTED WITH NSN'S ON PAGES I-8 AND I-9 IN THIS TM!



TM 9-207 TO 36-1-40

WATCH IT!

YOU'LL WIND UP WITH TOO MUCH ADDITIVE IN YOUR FUEL IF YOU PUT IN A FULL DOSE EVERY TIME YOU TOP OFF YOUR TANK!

ALCOHOL, DENATURED: grade III, O-E-760B. Add this only to gasoline—not diesel fuel. And it's only for those parts of the world where the temperature doesn't go below about -10° F. A quart of alcohol to 50 gallons of fuel is enough. Too much will screw up your fuel so it won't burn right in the engine.

METHANOL, Technical (MOGAS Fuel Additive). Add this to gasoline where the temperature ranges from 0° on down to -65° F. The mix is 1 pint to 40 gallons of gasoline, like it says in para 2-3d(2)(a), page 2-7, TM 9-207. And see the other instructions there.

FUEL SYSTEM ICING INHIBITOR, MIL-I-27686 (ethylene glycol monomethyl ether). This's the only anti-icing additive for diesel fuel. Alcohol was once authorized, but no more. The mix is 1 pint to 40 gallons of diesel fuel. There's more poop on this in para 2-3d(2)(a) of TM 9-207.

On all of these fuel de-icers, keep in mind—just because a little is good does not mean a lot is better. The main job of these additives is to keep water in your fuel from freezing. The additive does this by mixing with the water and lowering its freezing point. If the mix is not too heavy on the water side, it may even burn up along with the fuel in the engine.

But overloading with alcohol or one of the other de-icers makes bum fuel for your engine.

There's no way to tell—right to the ounce—how much water you've got in your fuel tank. So there's no way to tell exactly how much additive you need. Just figure it as close as you can—and hope for the best.

No Solvent on Brake Shoes

Dear Half-Mast,
Is it OK to clean brake shoes with drycleaning solvent?
If not, what is recommended?
SFC M. H. F.

Dear Sergeant M. H. F.,
Never clean brake shoes with drycleaning solvent. That stuff brake linings are made of won't stand up to some chemicals.

Besides, if there's grease or oil on the lining, you've got to replace the brake shoes.

For cleaning dirt or mud off your brake shoes, use only compressed air, water and a brush.

The Gama Goat book—TM 9-2320-242-20 (Sep 76), para 2-151b—offers some good poop that can be applied to all vehicles.

Half-Mast

USE AIR, WATER AND BRUSH FOR CLEANING!

YOU TELL 'EM, OLD SHOE!

ATTA BOY!

Wow! LOOKIT THAT TACH! WE'RE ON THE...

Edge of Danger

YER TELLIN' ME?

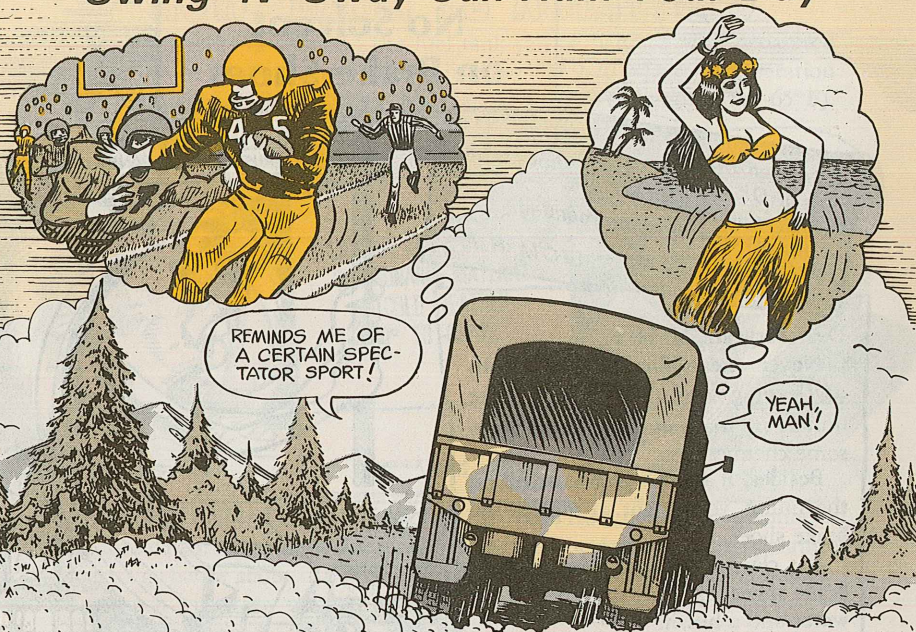


The danger of overspeeding your engine and causing engine damage starts at the tail of that "Danger" arrow on your tachometer.

Keep a sharp eye on that tach. Never let the tach needle go past the tail of the arrow. If you need an arrow decal, order NSN 7690-00-924-4318.

2½-Ton & 5-Ton Trucks . . .

Swing 'N' Sway Can Ruin Your Day



Ol' "Swivel Hips" saves the day on the gridiron. And a hula dancer with lots of hip action can brighten your day.

But it's a dark day when your 2½-ton or 5-ton truck's rear undercarriage starts shifting from side to side.

It probably means your truck's springseat bearings are loose and going to pot—or are already shot.

And this usually comes from lack o' lube. Or bum bearing adjustment. Or both.

So get your mechanic on it—to see if adjustment or repair is needed.

Almost for sure, he'll find a sad state of lubrication.

That LO for your truck allows for plenty of rear spring-seat servicing. But the printed word alone is not enough. You've got to unlimber your ol' grease gun and do the job.

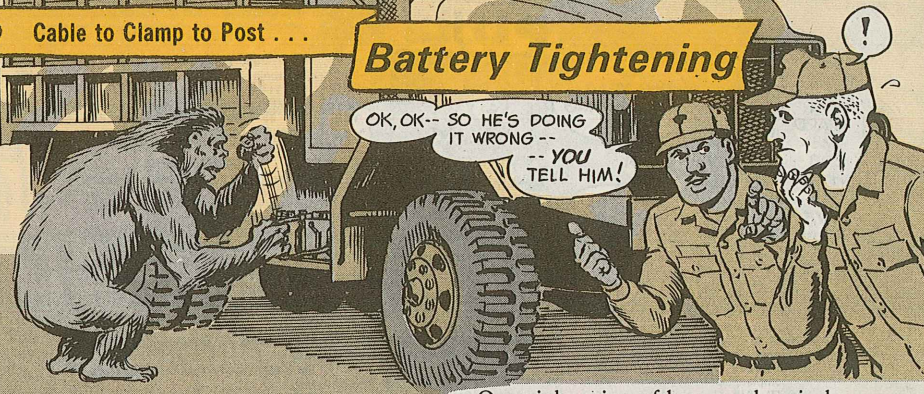


LO 9-2320-209-12 (Oct 71), Note 7
 LO 9-2320-209-12/1 (Sep 76), Note 8
 LO 9-2320-211-12 (Nov 76), Note 12
 LO 9-2320-260-12 (May 76), Note 11

If your old deuce-and-a-half doesn't have lube fittings for the rear spring seat bearings, get 'em put in—like it says in TM 9-2320-209-20 (Apr 65), Change 4, page 294.4, para 191.2.

Cable to Clamp to Post . . .

Battery Tightening

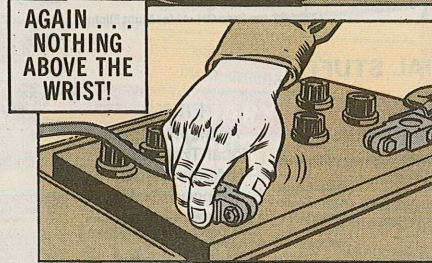
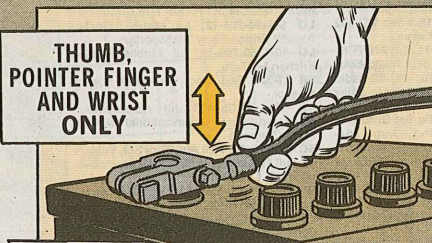


Overtightening of battery electrical connections costs Uncle a bundle in the form of ruined batteries, cables and clamps.

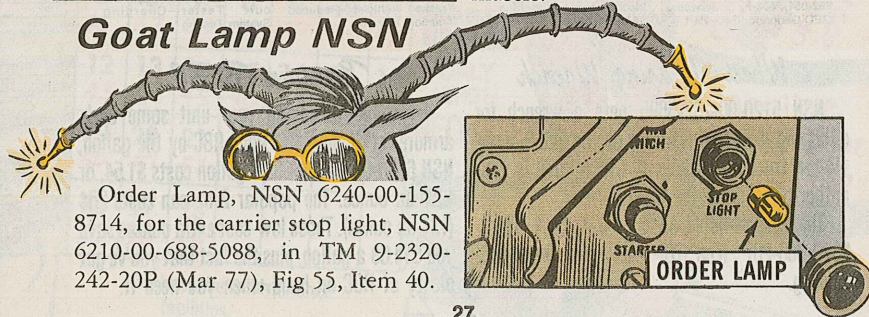
Tighten the hookups a little at a time like it says in para 3-4, TM 9-6140-200-12 (Sep 73). And hold your elbow tight against your body when you use your fingers to try to move the cable and clamp. Trick is to use only the muscles below your elbow to check for tightness. If the clamp's loose, tighten another ¼ to ½ turn and check again.

Just about any adult could pull a post out of a battery by using upper arm, shoulder and back muscles.

So it's really a matter of head muscle.

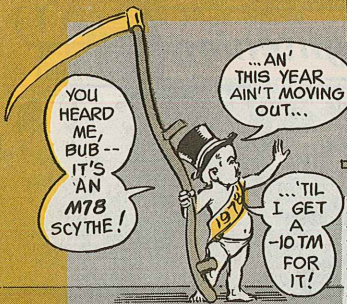


Goat Lamp NSN



Order Lamp, NSN 6240-00-155-8714, for the carrier stop light, NSN 6210-00-688-5088, in TM 9-2320-242-20P (Mar 77), Fig 55, Item 40.

PUBS



PM BY THE TM

...AN!
THIS YEAR
AIN'T MOVING
OUT...

...TIL
I GET
A
-JOTM
FOR IT!

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Oct 77), TM's, TB's, etc.; DA Pam 310-6 (Jul 77), SC's and SM's and DA Pam (O) 310-9 (Aug 74), COMSEC pubs.

TECHNICAL MANUALS
Ch 1, TM 5-2805-259-24P Aug Engine, Gasoline, 1½ HP, Mil Std
Ch 6, TM 5-2805-259-24P Aug Engine, Gasoline, 20 HP, Mil Std Models
Ch 6, TM 5-4320-237-15 Jul Pump, Centrifugal: GED 50 GPM, 100-Ft Head Flammable Liquid
TM 5-6115-584-12 Jul Gen Set, DED Tact Skid Mid 5KW
TM 5-6115-585-12 Jul Gen Set DED 10-KW, MEP-003A
TM 9-1005-249-10 Apr M16A1 Rifle
TM 9-1005-286-L Aug Vulcan, M167A1
Ch 1, TM 9-1290-200-14&P Jul M1A1/M1A2 Gunner's Quadrant
Ch 1 TM 9-1300-250 Jul Ammo Maint

TM 11-6625-2724-20P Jul ME-202C/U Electronic Volt Meter
TM 11-7450-204-24P Jul AN/TNH-17 Sound Recorder-Reproducer Set
TM 55-1730-218-20P Aug Jack, Hydraulic, Tripod 12-Ton

MISCELLANEOUS
DA Cir 750-52 Jul Equipment Op Ready Standards
DA Pam 1-2 Oct Guide for Bn & Co Level Admin, Logistic Procedures
DA Pam 621-82 Jul Apprenticeship Hydraulic-Equipment Mech
DA Pam 621-83 Jul Apprenticeship Electronics Tech (Radar)
FM 6-1501/2 Apr Lance Crewman
FM 6-15D3 Apr Lance Crewman
FM 6-93F/CM Apr FA Meteorological Crewman
FM 6-93F1/2 FA Meteorological Crewman
FM 6-93F4 Apr FA Meteorological Crewman
FM 9-44E/CM Apr Machinist
FM 44-16D/CM Jul HAWK Missile
FM 44-16E/CM Jul HAWK Fire Control LO 5-5420-204-12 Jul Mobile Float Assault Bridge-Ferry Transporter
LO 10-7360-206-12 Jul Mobile Field Kitchen MKT-75
SB 11-638 Sep Elect Transient Suppressor
SC 4910-95-CL-A74 Jul Automotive Maint and Repair: Organizational Maint, No. 1 Common
SC 4940-95-CL-A08 Aug Tool Set, Vehicle Full Tracked: Org Maint, Supplemental No. 2, Less Power
SC 6210-97-CL-E03 Jul Light Set, Aircraft: 1½ KW; Airfield Runway
TB 43-0166 Aug Color, Marking, Camouflage Pattern Painting, Improved HAWK Ground Ept
TC 1-32 Jun Prep CH-47 for Night Flight

AUDIO-VISUAL STUFF

TEC LESSONS

Available at battalion or post Learning Center

020-171-1134-F M73/M219 Coaxial Machinegun: Mounting, Loading, Dismounting (M60-Series and M551 AR/AAV)
510-091-8478-F Preparing, Maintaining, Using DA Form 2408-5
662-051-7602-F Servicing GED Generator Set—Part 1

662-051-7607-F Starting, Stopping GED Generator Set
662-051-7611-F Expedient Repair Low-Voltage Distr Cables
910-171-0014-F Preventive Maint Optical Equipment
941-071-0081-F M60 Machinegun, Functioning
944-441-0010-F Wheeled

Vehicles: Starting with Weak Batteries
945-171-0051-F Before-op Maint Checks M113/M577-Series Vehicles
945-171-0053-F Driving Tracked Vehicles—Reduced Traction, Hazards

FILMS

Available at your local Training and Audio-Visual Support Center

TF 9-4926 Low-Voltage Circuit Tester—Starting System Testing
TF 9-4934 Low-Voltage Circuit Tester—Charging System Testing

Wheel Bearing Wrench

NSN 5120-00-232-5685 gets a wrench for adjusting the wheel bearings on the M880-series 1½-ton trucks. Appendix A, CTA 50-970 is your authority to order the wrench.

The wrench listed on page 3-1, Ch 1, TM 9-2320-266-20P (Feb 76) won't fit the wheel bearing.

Bargain RBC

Interested in saving your unit some cash, armorer ol' buddy? Get your RBC by the gallon, NSN 6850-00-224-6663. A gallon costs \$1.54, or 1.2¢ an ounce. The popular 2-oz can costs 26¢ (13¢ an ounce). Those low-cost extra ounces save you \$14.63 a gallon, plus the fact that you've got plenty of RBC on hand when you need it.

Connie/Bonnie 1978 PM DATES

Assure command support at all levels.

JANUARY 1978						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Update Maintenance/Supply SOP (FM 29-2).

Give ENOUGH time for maintenance.

FEBRUARY 1978						
S	M	T	W	T	F	S
			1	2	3	4
			32	33	34	35
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

Improve maintenance facilities.

GENTLY... WHEN TURNING COMMO DIALS!

LOW Batteries FREEZE



SMILE DIPSTICKS FOR FUEL SMELL

COOLANT LEVEL UP?

DUB GOT A GOOF? FIRE OFF A ROSS!

Gasoline is NOT for CLEANING

IDLE ONLY WHEN NECESSARY

Assign trained personnel to right job.

MARCH 1978

S	M	T	W	T	F	S
			1	2	3	4
			60	61	62	63
5	6	7	8	9	10	11
64	65	66	67	68	69	70
12	13	14	15	16	17	18
71	72	73	74	75	76	77
19	20	21	22	23	24	25
78	79	80	81	82	83	84
26	27	28	29	30	31	
85	86	87	88	89	90	

Send people to available schools.

TIGHTEN THOSE LUG NUTS

TURN OFF RADIOS BEFORE STARTING OR STOPPING VEHICLE ENGINE

DIRTY air cleaners CHOKE ENGINES ...and POLLUTE

TIRES INFLATED RIGHT? SPARES, TOO?

KEEP STEAM and WATER HOSES OFF ELECTRONIC GEAR

Plan and supervise OJT.

APRIL 1978

S	M	T	W	T	F	S
						1
						91
2	3	4	5	6	7	8
92	93	94	95	96	97	98
9	10	11	12	13	14	15
99	100	101	102	103	104	105
16	17	18	19	20	21	22
106	107	108	109	110	111	112
23	24	25	26	27	28	29
113	114	115	116	117	118	119
30						
120						

Emphasize use of test equipment.

HOARDERS HURT

Assign operator and alternate for every item.

JUNE 1978

S	M	T	W	T	F	S
				1	2	3
				152	153	154
4	5	6	7	8	9	10
155	156	157	158	159	160	161
11	12	13	14	15	16	17
162	163	164	165	166	167	168
18	19	20	21	22	23	24
169	170	171	172	173	174	175
25	26	27	28	29	30	
176	177	178	179	180	181	

Make sure pubs are available.

Filling a FUEL TANK? GROUND Your BIRD or VEHICLE!

BREATHERS NEED CLEANING TOO

PM

See that PM services are actually pullec.

MAY 1978

S	M	T	W	T	F	S
	1	2	3	4	5	6
	121	122	123	124	125	126
7	8	9	10	11	12	13
127	128	129	130	131	132	133
14	15	16	17	18	19	20
134	135	136	137	138	139	140
21	22	23	24	25	26	27
141	142	143	144	145	146	147
28	29	30	31			
148	149	150	151			

Inventory and identify tools.

SET TORQUE WRENCHES at LOWEST SETTING AFTER USE

PACK and SHIP with CARE IT'S YOUR BEST MOVE

DRAIN WATER
FROM FILTERS
FREQUENTLY

TORQUE
LIKE ^{the TM}
SAYS

TEST
EQUIPMENT
USED

RIGHT?
CHECK YOUR
SMALL ARMS
CLEAN
AND
RID LUBED?

DAILY  **PM** IS THE **KEY**

RIGHT
FUSE
FOR
COMMO
GEAR

GROUND
YOUR
OR IT CAN
POWER
GROUND YOU!

RADIO
CONNECTORS
of **CORROSION**

FUEL

is **DANGEROUS!**
CHECK for **LEAKS!**

BREATHERS
NEED
CLEANING
TOO!

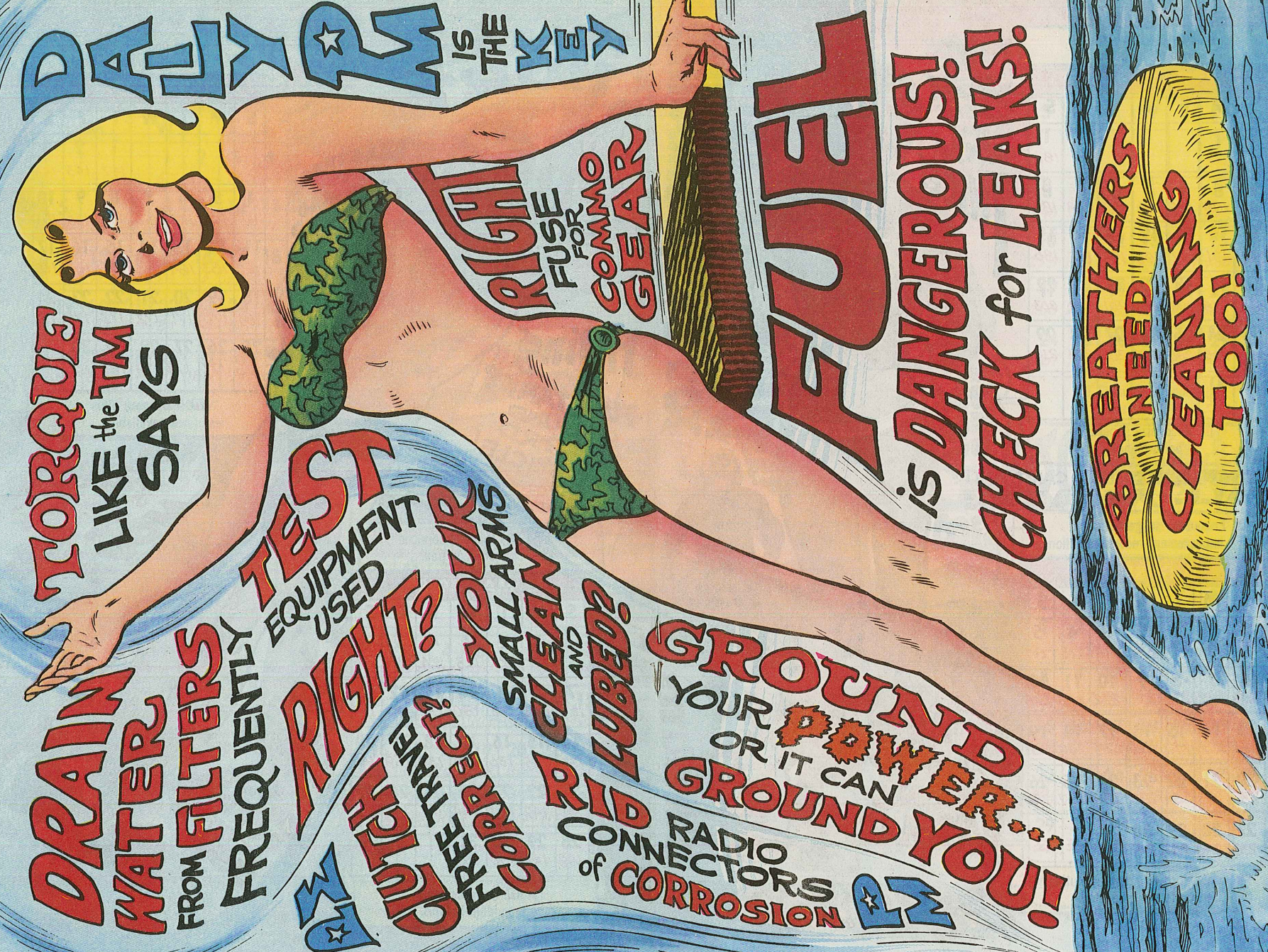


Illustration by [unclear]

See that everybody follows the book.

JULY 1978						
S	M	T	W	T	F	S
						1 182
2 183	3 184	4 185	5 186	6 187	7 188	8 189
9 190	10 191	11 192	12 193	13 194	14 195	15 196
16 197	17 198	18 199	19 200	20 201	21 202	22 203
23 204	24 205	25 206	26 207	27 208	28 209	29 210
30 211	31 212					

Recognize superior performance.

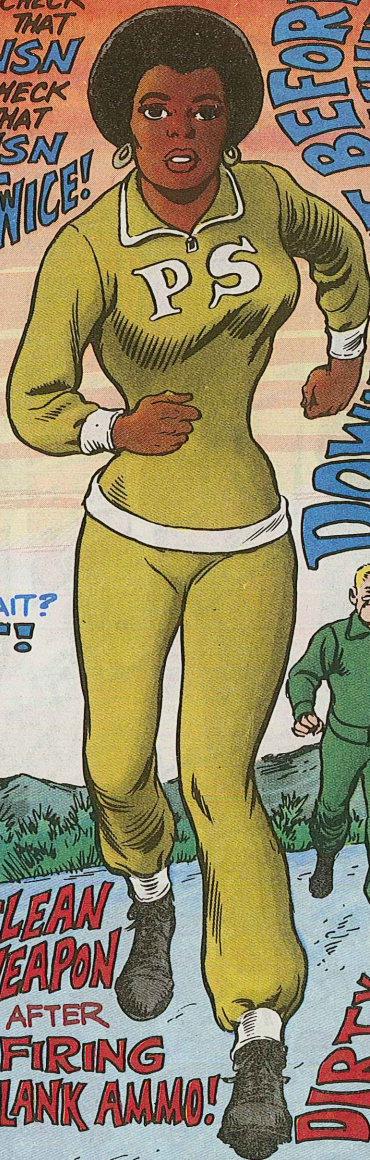
CONFUSED BUT CAN'T WAIT? CALL MAIT!

Encourage suggestions and improvement recommendations.

AUGUST 1978						
S	M	T	W	T	F	S
		1 213	2 214	3 215	4 216	5 217
6 218	7 219	8 220	9 221	10 222	11 223	12 224
13 225	14 226	15 227	16 228	17 229	18 230	19 231
20 232	21 233	22 234	23 235	24 236	25 237	26 238
27 239	28 240	29 241	30 242	31 243		

Make sure only needed authorized parts are requested.

CHECK THAT NSN CHECK THAT NSN TWICE!



ENGINE BEFORE DOWNSHIFT BEFORE YOU START DOWNHILL!

CLEAN WEAPON AFTER FIRING BLANK AMMO!

DIRTY AIR FILTERS CAUSE EXHAUST POLLUTION

34 DON'T BLOW THE WARRANTY!!

ENGINE GOT A TURBOCHARGER? LET THE TURBO SLOW DOWN!

CAUSE EXHAUST POLLUTION

35 FILE DA FORM 2407 NOW!



JACKRABBIT JACKBOFFS KILL KICKCLUTCHES!

BLACK EXHAUST IS SOY!! CHECK YOUR AIR CLEANER!

RADIO NOT IN USE? REMOVE DRY-CELL BATTERIES!

Turn in unneeded repair parts.

SEPTEMBER 1978						
S	M	T	W	T	F	S
					1 244	2 245
3 246	4 247	5 248	6 249	7 250	8 251	9 252
10 253	11 254	12 255	13 256	14 257	15 258	16 259
17 260	18 261	19 262	20 263	21 264	22 265	23 266
24 267	25 268	26 269	27 270	28 271	29 272	30 273

Eliminate "moonlight" requisitioning.

Utilize MAIT and DS as training resources.

OCTOBER 1978						
S	M	T	W	T	F	S
1 274	2 275	3 276	4 277	5 278	6 279	7 280
8 281	9 282	10 283	11 284	12 285	13 286	14 287
15 288	16 289	17 290	18 291	19 292	20 293	21 294
22 295	23 296	24 297	25 298	26 299	27 300	28 301
29 302	30 303	31 304				

See that items are calibrated on time.

KEEP YOUR COOL
SPECIALLY ON ICE



READ EIR DIGESTS

PUB INDEXES DA PAMS 301, 2, 3, 4, 5, 6, 7 ON HAND?

PUBS CHANGES POSTED?

KEEP BATTERY FLUID LEVEL UP!

RIGHT LUBE?

SEE THE **LO TEMPERATURE CHART!**

DON'T SKID AROUND

STAMP OUT TOOL ABUSE!

Make sure equipment records are complete and up to date.

NOVEMBER 1978						
S	M	T	W	T	F	S
			1	2	3	4
			305	306	307	308
5	6	7	8	9	10	11
309	310	311	312	313	314	315
12	13	14	15	16	17	18
316	317	318	319	320	321	322
19	20	21	22	23	24	25
323	324	325	326	327	328	329
26	27	28	29	30		
330	331	332	333	334		

Personally look over PM operations.

Promote fuel conservation.

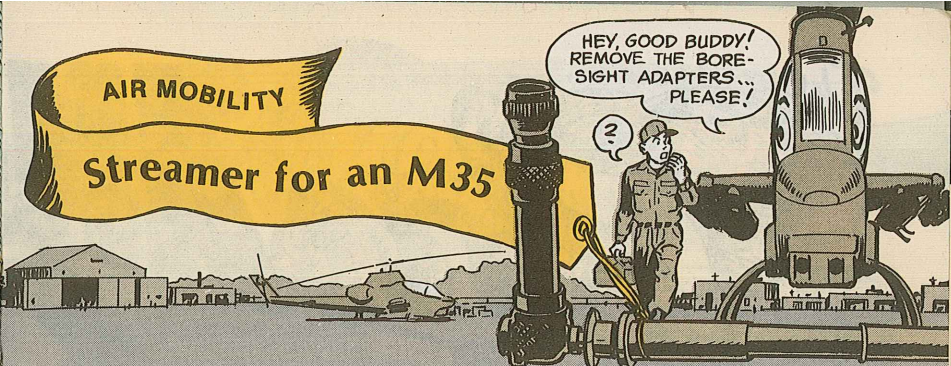
DECEMBER 1978						
S	M	T	W	T	F	S
					1	2
					335	336
3	4	5	6	7	8	9
337	338	339	340	341	342	343
10	11	12	13	14	15	16
344	345	346	347	348	349	350
17	18	19	20	21	22	23
351	352	353	354	355	356	357
24	25	26	27	28	29	30
358	359	360	361	362	363	364
31						
365						

Emphasize safety program.

AIR MOBILITY

Streamer for an M35

HEY, GOOD BUDDY!
REMOVE THE BORE-SIGHT ADAPTERS... PLEASE!



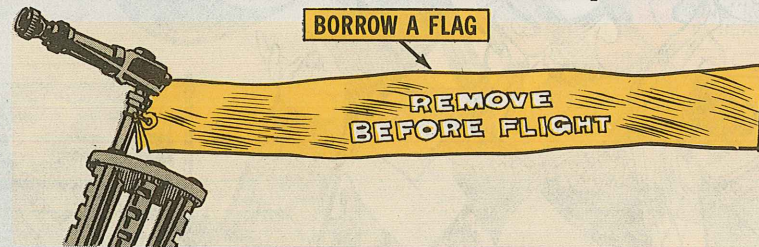
Looking for a way to remind yourself that the 20-mm boresight adapter is still in a barrel of your M35 armament subsystem?

Fly a flag.

If that's a "what?" and a "where do I get it?" you're asking, hang in there.

Since the M28A1 subsystem rides shotgun with the M35, next time you're ready to boresight the M35, borrow a flag or streamer from either boresight kit used with the M28A1. Since you've got to borrow a telescope from the M28A1

BORROW A FLAG



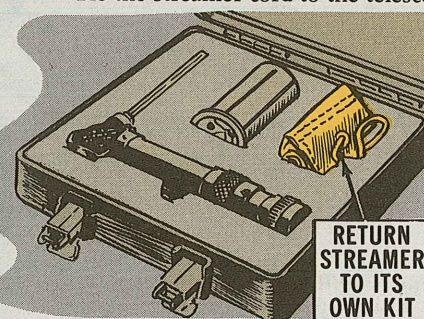
kits anyway, pick up the streamer at the same time.

Tie the streamer cord to the telescope or to one of the barrels of the M35's gun.

Presto. You've got an instant reminder that the boresight kit's in place.

When you finish the boresight bit, return the streamer to its own kit.

A separate streamer won't be authorized for the M35 . . . because there's no pocket in the M35 boresight adapter kit for it and there are 2 streamers available in the M28A1 kits.



RETURN STREAMER TO ITS OWN KIT

A change to TM 9-1005-299-12 will authorize use of the boresight telescope and a streamer from either M28A1 kit for the M35.

The **Cobra** AH-1S (MODIFIED)

Be-
Your-
Own-
Inspector

GATHER 'ROUND,
COBRA
TYPES...

... HERE'S THE PM WORD
ON YOUR MODIFIED COBRA--
THE AH-1S!!

OL' SNAKE IS
DEADLIER THAN EVER
AND NEEDS EVEN
MORE TLC!!

RIGHT ON,
CONNIE...
... AND TELL
THE CREWCHIEFS
TO GIVE SPECIAL
ATTENTION TO
BOLD TYPE
ITEMS!

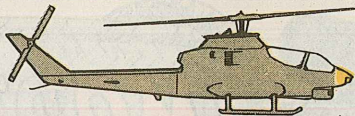
HEY, GUYS!!
OUR FAVORITE
SNAKE CHARMER,
CONNIE RODD,
IS HERE!

An improved engine and main transmission, plus new gear boxes, are among the goodies giving your Cobra improved performance.

With a variety of armament sub-systems, including the TOW missile, your Snake is deadlier than ever. Maintain that potency, crewchiefs, by pulling thorough preventive maintenance services.

The daily check is very important since you can spot defects and correct them before they become serious problems. Safety-of-flight items are in bold type and deserve your best effort. Fact is, all areas should get your undivided attention.

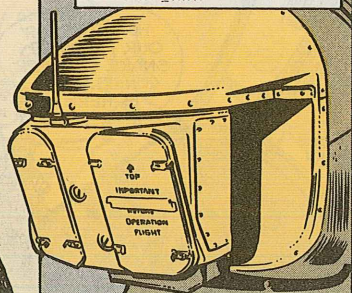
NOSE



FORMS—Deficiencies listed in the log book not corrected. (NOTE: Focus-in on the DA Form 2408-12, -13, -14 and -18. Correct all squawks unless they're transcribed for future action.)

NOSE—Fairing cracked, dented.

TELESCOPIC SIGHT UNIT—Dents in skin.



...TO PICK UP INFO ON MY FAVORITE GULL!

WHERE YOU FLAPPING TO, JONATHAN?

HEY, LOOK-- CONNIE'S GIVING BYOI TIPS ON THE AH-IS!...

SET DOWN-- QUICK!

WHY? YOU'RE NOT A COBRA TYPE!



I'LL TRANSFER--

I'LL TRANSFER!

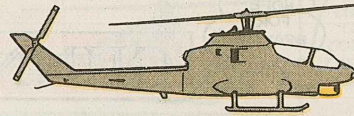
LOGBOOK FIRST, TROOPS... CHECK EACH FORM FOR DEFICIENCIES--

IT'S CONNIE!

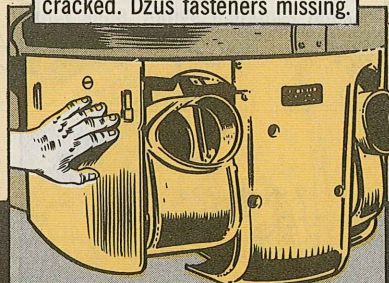
HURRY! DON'T PUSH!

I'M CHECKIN'!... NOTHING DEFICIENT-- AT ALL!

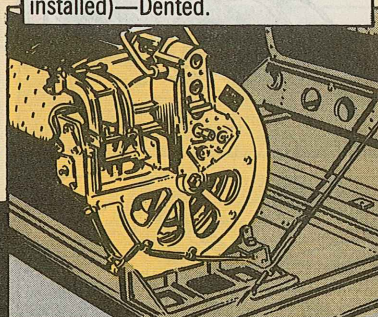
TURRET



EXTERNAL SURFACES—Fairing cracked. Dzus fasteners missing.



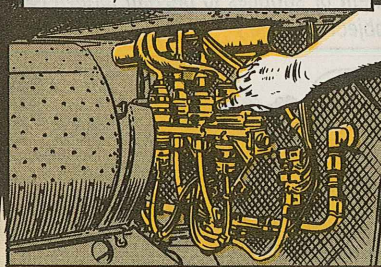
AMMO CHUTE, DRIVE CABLE (when installed)—Dented.



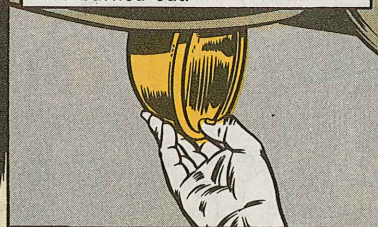
HYDRAULIC COMPONENTS, LINES, HOSES—Leaking, chafing. Lock wire missing from connections. (NOTE: Vibrations during firing missions can really move lines around, causing them to chafe on the airframe or other hoses.)



AMMUNITION COMPARTMENT—Doors dented, paint chipped. Interior dirty. Electrical cables loose, corroded, wires broken.



SEARCHLIGHT—Glass broken, dirty. Bulb burned out.



ER, CONNIE...

...WE JUST DISCOVERED...

...EVEN WITHOUT FIRING...

WE'RE ALL GETTING VIBRATIONS!



PARDON ME -- IS THIS FORT BELLCAM?

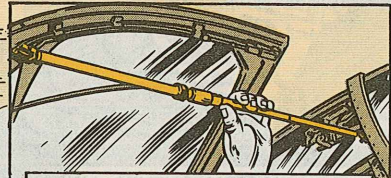
NOPE -- FORT BRAXTON!

GUNNER, PILOT

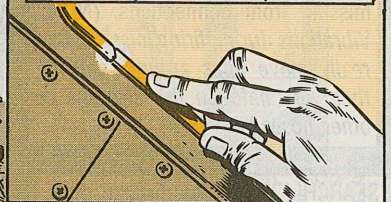
WINDOWS—Dirty, scratched.



FIRE EXTINGUISHER—Inspection tag out-of-date. Seal broken. Bracket loose.



PILOT, CO-PILOT DOORS—Struts loose. Break in linear explosive.



COCKPIT INTERIOR—Dirty. Loose hardware, tools. (NOTE: Any loose equipment can jam controls. Remove or secure personnel equipment or supplies to prevent foreign object damage.)

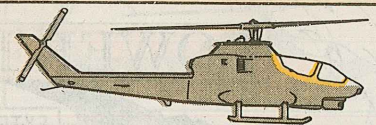
WATCH FOR FOD CAUSERS!!

OH, HI-- WINDY!

I'M READY, CONNIE!



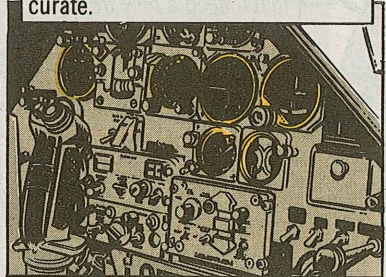
COCKPITS



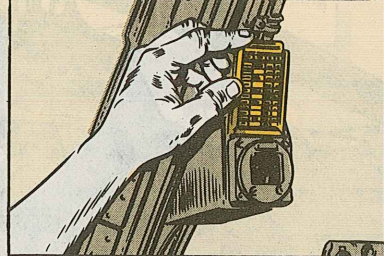
NEEDS T' CHECK HIS COMPASS CORRECTION CARD, EH?

WAY TO GO!

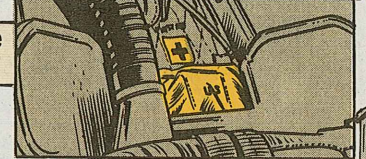
INSTRUMENTS—Gage glasses dirty, cracked, loose. Slippage marks do not align. Range markings not accurate.



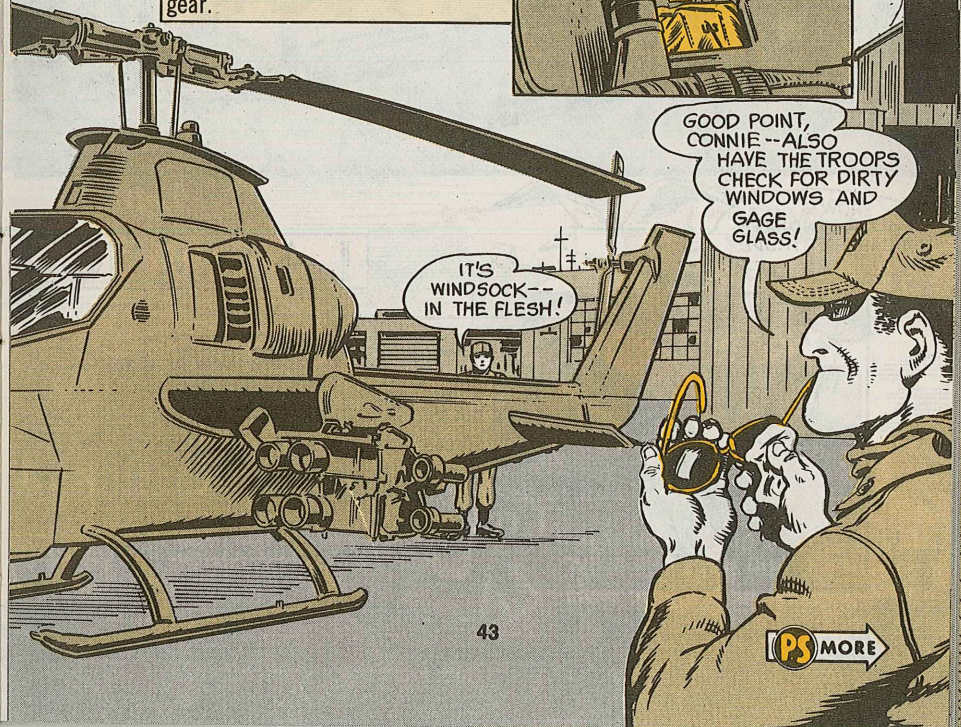
MAGNETIC COMPASS—Correction card not current.



FIRST AID KIT—Inspection tag not current. Seal broken. Kit loose.



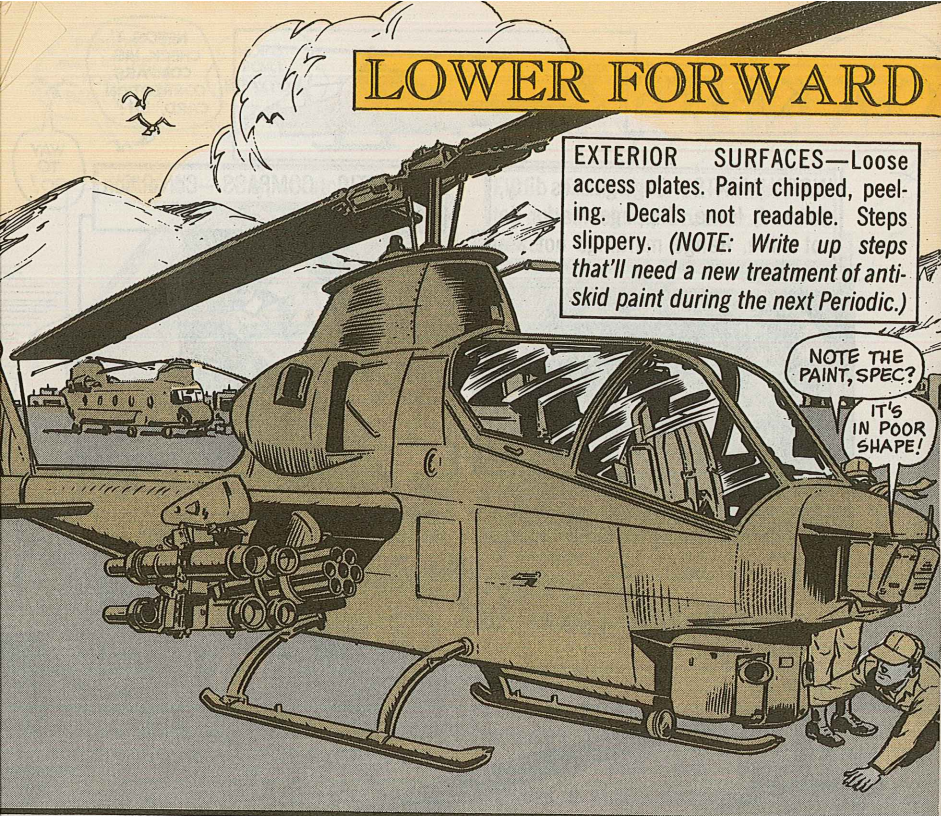
STORAGE COMPARTMENT—Loose gear.



IT'S WINDSOCK-- IN THE FLESH!

GOOD POINT, CONNIE -- ALSO HAVE THE TROOPS CHECK FOR DIRTY WINDOWS AND GAGE GLASS!

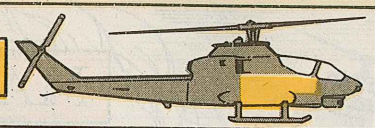
LOWER FORWARD FUSELAGE



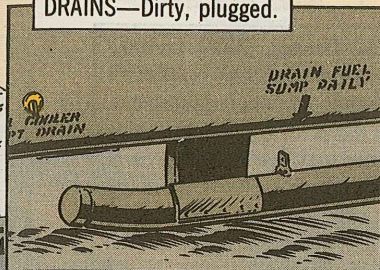
EXTERIOR SURFACES—Loose access plates. Paint chipped, peeling. Decals not readable. Steps slippery. (NOTE: Write up steps that'll need a new treatment of anti-skid paint during the next Periodic.)

NOTE THE PAINT, SPEC?

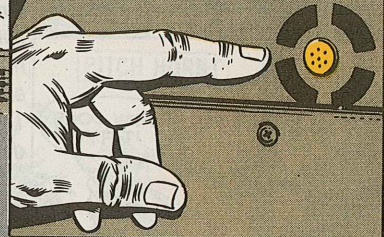
IT'S IN POOR SHAPE!



DRAINS—Dirty, plugged.



STATIC PORT—Dirty. Painted over. (NOTE: Remember the port has to be clean to keep instruments working right.)

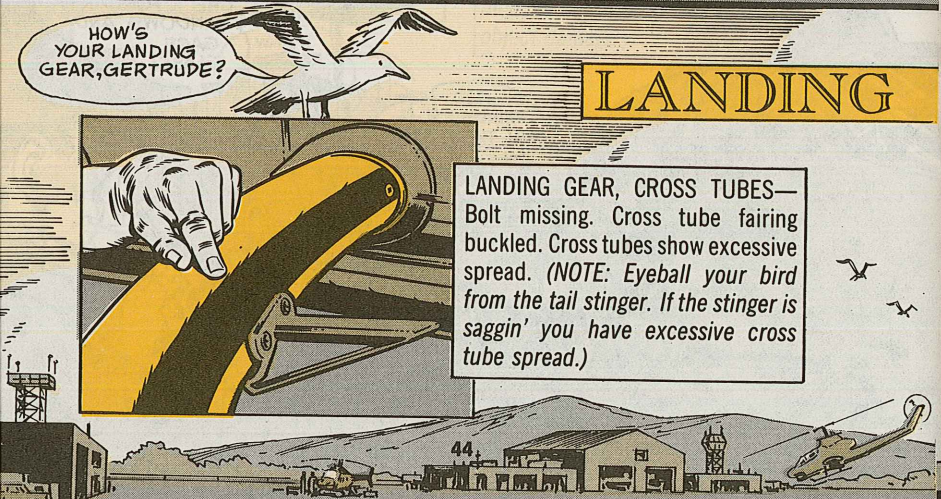


BETTER HAVE HIM WRITE IT UP, WINDY!

HUH?

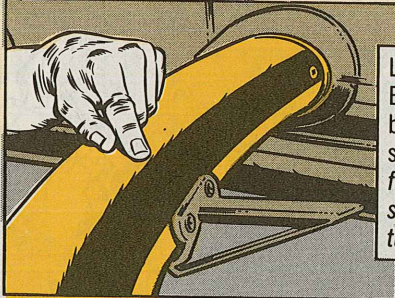
ER...

...I UNPLUGGED A DRAIN CONNIE!

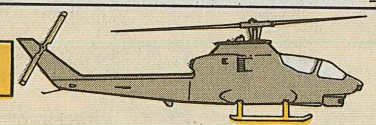


HOW'S YOUR LANDING GEAR, GERTRUDE?

LANDING GEAR



LANDING GEAR, CROSS TUBES—Bolt missing. Cross tube fairing buckled. Cross tubes show excessive spread. (NOTE: Eyeball your bird from the tail stinger. If the stinger is saggin' you have excessive cross tube spread.)



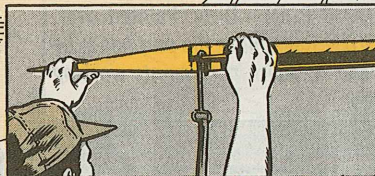
I COULD USE A MANICURE, JONATHAN!

SKID SHOES—Baby needs new shoes!!



SHOES ON BOTTOM OF SKID

MAIN ROTOR

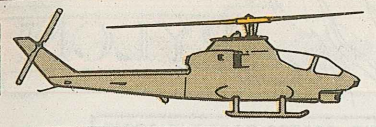
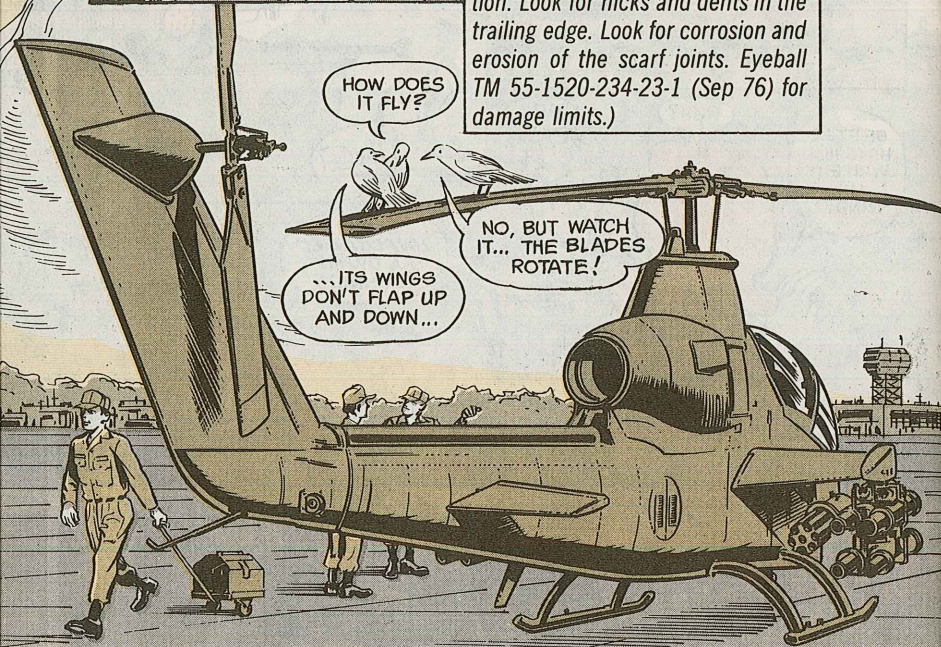


BLADES—Damage. (NOTE: Pull up a maintenance stand and wipe down the upper and lower blade surfaces. Eyeball the blades, and tips, looking for cracks, voids and bond separation. Look for nicks and dents in the trailing edge. Look for corrosion and erosion of the scarf joints. Eyeball TM 55-1520-234-23-1 (Sep 76) for damage limits.)

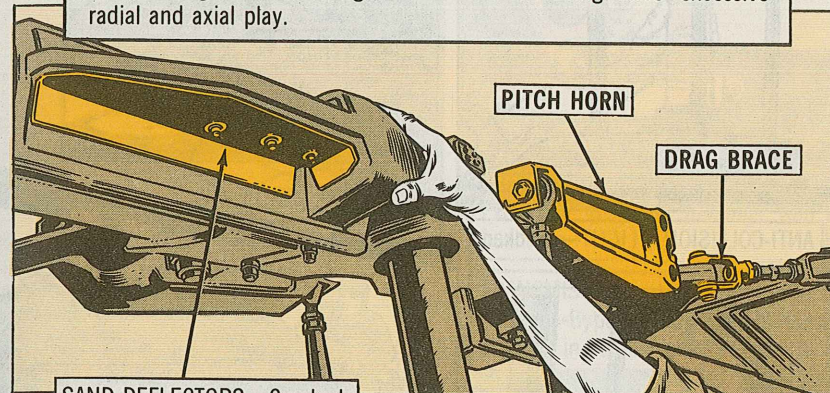
HOW DOES IT FLY?

... ITS WINGS DON'T FLAP UP AND DOWN ...

NO, BUT WATCH IT... THE BLADES ROTATE!

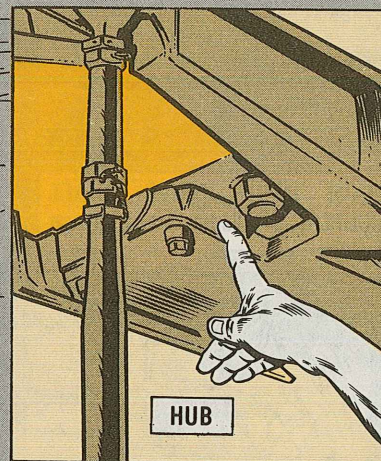


HUB, BLADE GRIPS, PITCH HORNS, DRAG BRACES—Damaged, loose. Pitch change tube bearings and trunnion housing have excessive radial and axial play.

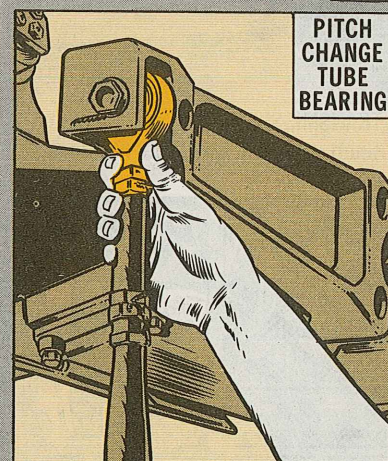


SAND DEFLECTORS—Cracked.

Save Natural Resources
 Use NSN 9150-00-180-6266 to get a pint can of MIL-L-23699 lubricating oil for your aircraft turboshaft engines. Any lube left over from quart cans has to be tossed away. Don't waste, make haste—get the smaller size can.



HUB



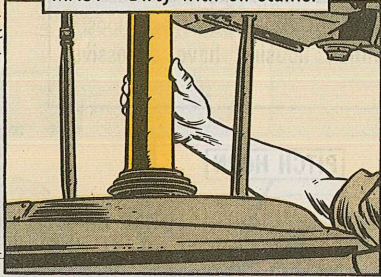
PITCH CHANGE TUBE BEARING

WHAT'S A PYLON, HERMAN?

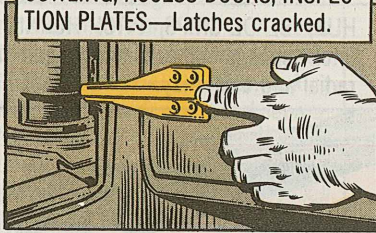
AIR RACING TERM, I THINK...

PYLON

MAST—Dirty with oil stains.

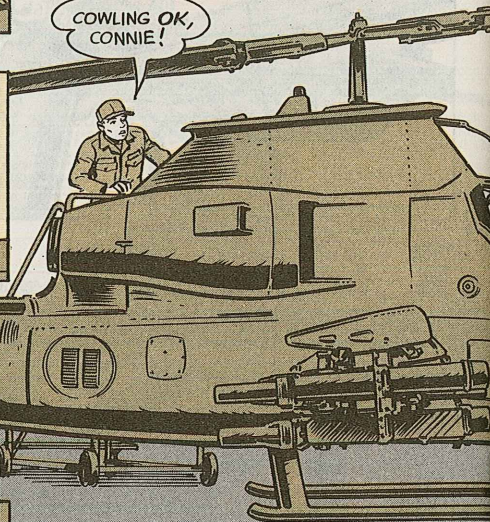
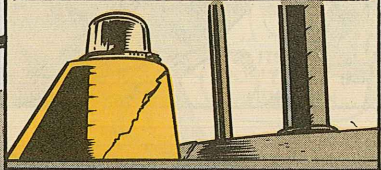


COWLING, ACCESS DOORS, INSPECTION PLATES—Latches cracked.

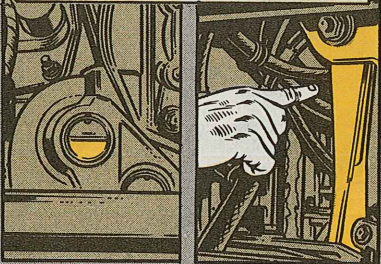


COWLING OK, CONNIE!

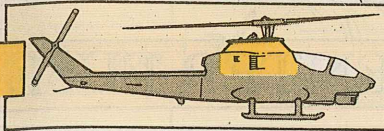
ANTI-COLLISION LIGHT—Cracked fairing.



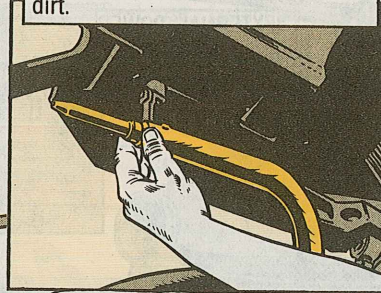
TRANSMISSION—Oil leaks. Water in sump oil level gage. Lift link lugs cracked.



MAIN INPUT DRIVE SHAFT COUPLINGS—Clamps loose, grease leaking.

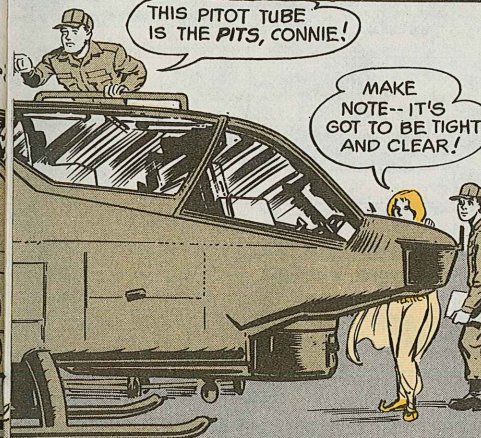


PITOT TUBE—Loose, plugged with dirt.



THIS PITOT TUBE IS THE PITS, CONNIE!

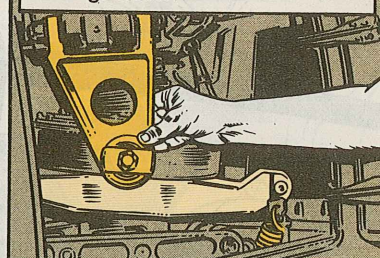
MAKE NOTE-- IT'S GOT TO BE TIGHT AND CLEAR!



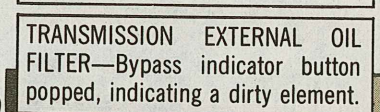
HYDRAULIC MODULES, LINES, HOSES—Lines loose, leaking. Hoses chafing.



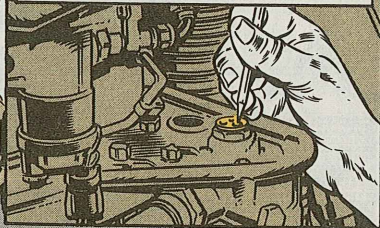
SWASHPLATE, SCISSORS, SLEEVE—Loose. Scissors drive link bearings loose.



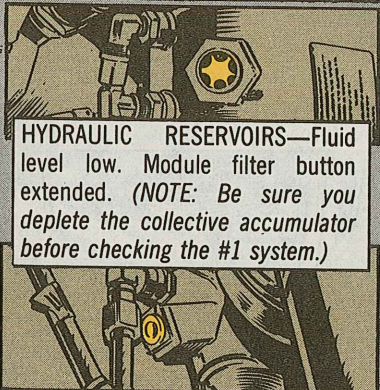
CONTROL LINKAGE—Bolt worn. Excessive play in bearings and bushings.



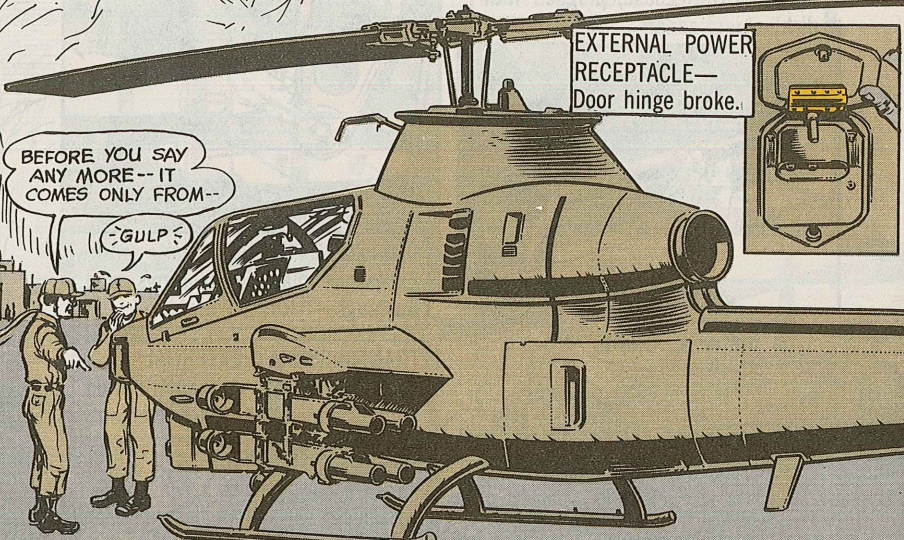
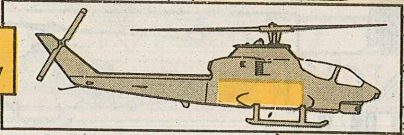
TRANSMISSION EXTERNAL OIL FILTER—Bypass indicator button popped, indicating a dirty element.



HYDRAULIC RESERVOIRS—Fluid level low. Module filter button extended. (NOTE: Be sure you deplete the collective accumulator before checking the #1 system.)

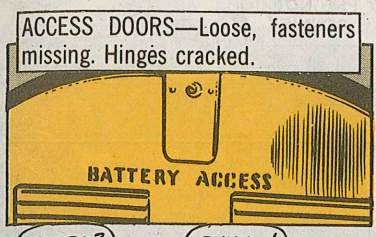


CENTER FUSE LAGE



EXTERNAL POWER RECEPTACLE—Door hinge broke.

BEFORE YOU SAY ANY MORE--IT COMES ONLY FROM--
GULP

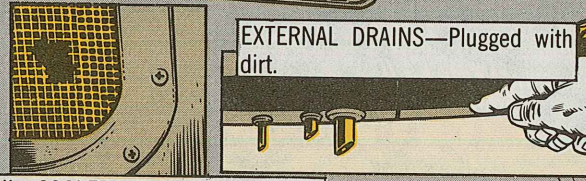


ACCESS DOORS—Loose, fasteners missing. Hinges cracked.

BATTERY ACCESS

COBRA?
DUNNO!

BROMLEY'S TRYING TO SNOW WINDY, CONNIE!



EXTERNAL DRAINS—Plugged with dirt.

OIL COOLER—Screen punctured. Blower leaking grease. Turbine binds when turned by hand.

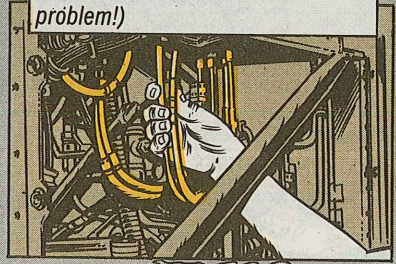


FUEL TANK SUMP DRAINS—Water, sediment in fuel sample. Fuel supply lines leaking.



EXTERIOR SURFACES—Paint chipped. Decals not readable.

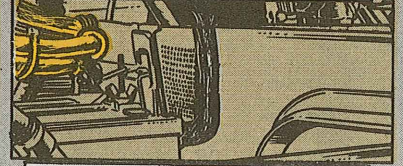
HYDRAULIC CYLINDERS, LINES—Lines chafing, leaking. (NOTE: Reposition any line that is about to chafe—before it becomes a problem!)



HYDRAULIC ACCUMULATOR—Not in the "green" . . . needs charging!



ELECTRICAL COMPARTMENT—Wiring frayed. Additional clamps needed. Battery vent loose.



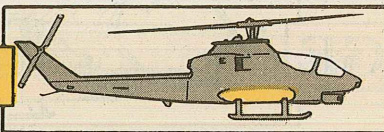
TAIL ROTOR BOOST CYLINDER—Lines loose, chafing, leaking.



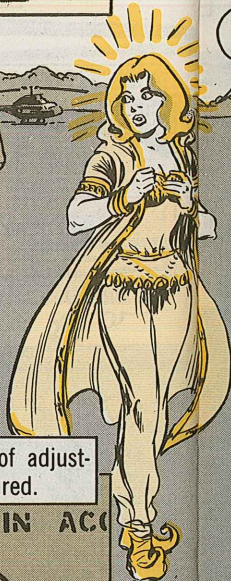
HISS-SS-SS

I'VE BEEN LOCKED UP IN THAT ELECTRICAL COMPARTMENT SINCE I WUZ A 12" BABY!

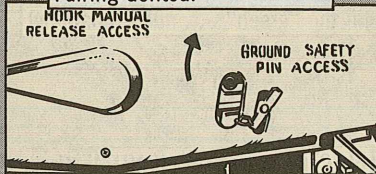
WING



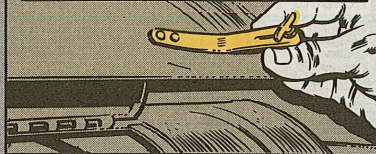
STORES EJECTOR SAFETY PIN NOT SECURE, CONNIE!



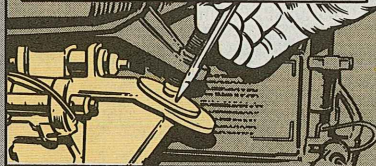
EXTERIOR SURFACES—Paint chipped. Decals not readable. Fairing dented.



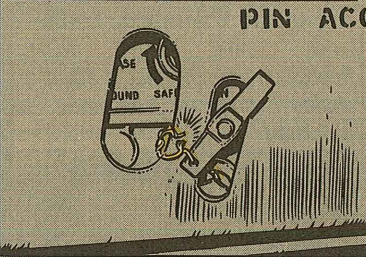
ACCESS DOORS—Fastener broken.



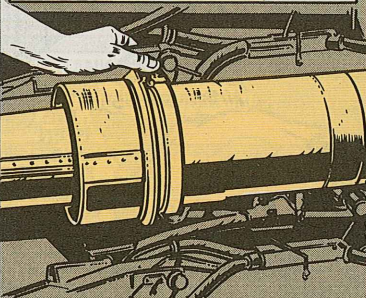
STORES EJECTOR RACKS—Loose, corroded.



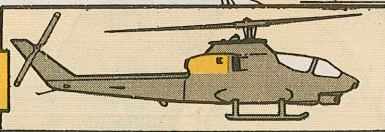
STORES EJECTOR—Out of adjustment. Safety pin not secured.



EXTERNAL STORES—Loose in rack.



ENGINE

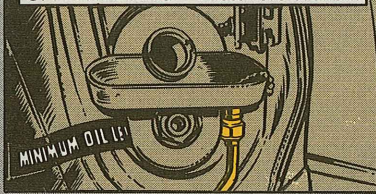


WHA--? OH--

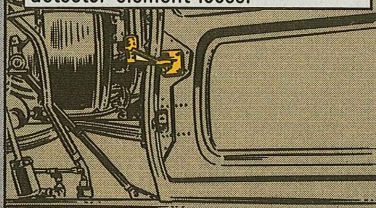
OK, NOW CHECK OUT THE ENGINE AREA!

RIGHT ON, WINDY!

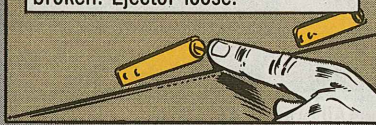
OIL TANK LINES—Chafing, leaking. UPPER FAIRING—Fasteners broken.



COWLING—Latches broken. Fire detector element loose.



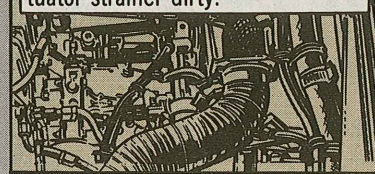
TAILPIPE FAIRING—Fasteners broken. Ejector loose.



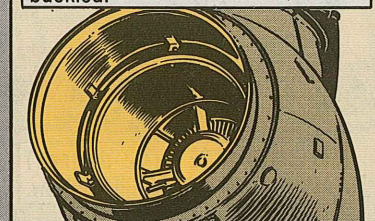
ENGINE ACCESSORIES—Loose. Connections not tight.



ENGINE COMPRESSOR HOUSING—Scratched, corroded. Airbleed actuator strainer dirty.



ENGINE COMBUSTION CHAMBER HOUSING—Cracks in exhaust diffuser, support cone, fireshield. Tailpipe cracked, dented, burned, buckled.



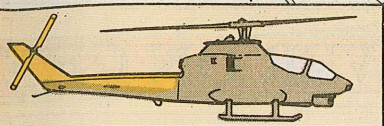
ENGINE MOUNTS—Loose. Cracks in trunnions.



ENGINE CONTROL LINKAGES—Actuator and cambox loose.



TAILBOOM



IF YOU WANT YOUR GUNNER TO SCORE--

... THEN YOU MUST SCORE **BIG** WITH YOUR BOOM **PM**-- TAILBOOM, THAT IS!

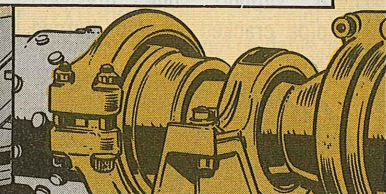
TAIL ROTOR HUB, BLADE—Loose. Cotter pins missing.



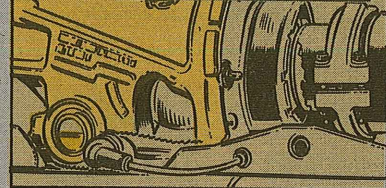
OIL LEVEL'S LOW IN THE TAIL ROTOR GEAR BOX, WINDY!

MARK IT DOWN--HOW 'BOUT THOSE BOLTS?

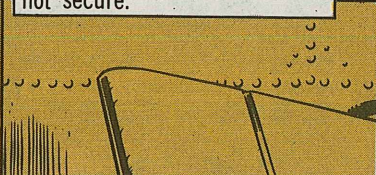
TAIL ROTOR DRIVE SHAFT—Shafts, hangers, couplings and clamps loose. Clamps cracked. Bearing operation is not smooth. Grease leaking from couplings. Seals protruding.



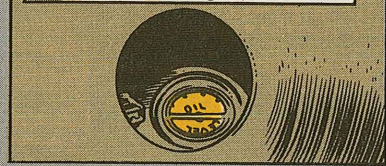
INTERMEDIATE (42-degree) GEARBOX—Oil leaking. Oil level low.



TAILBOOM EXTERIOR—Paint chipped. Elevator loose. Tail skid not secure.



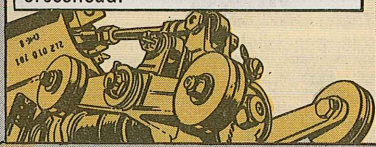
TAIL ROTOR (90-degree) GEARBOX—Leaking. Oil level low.



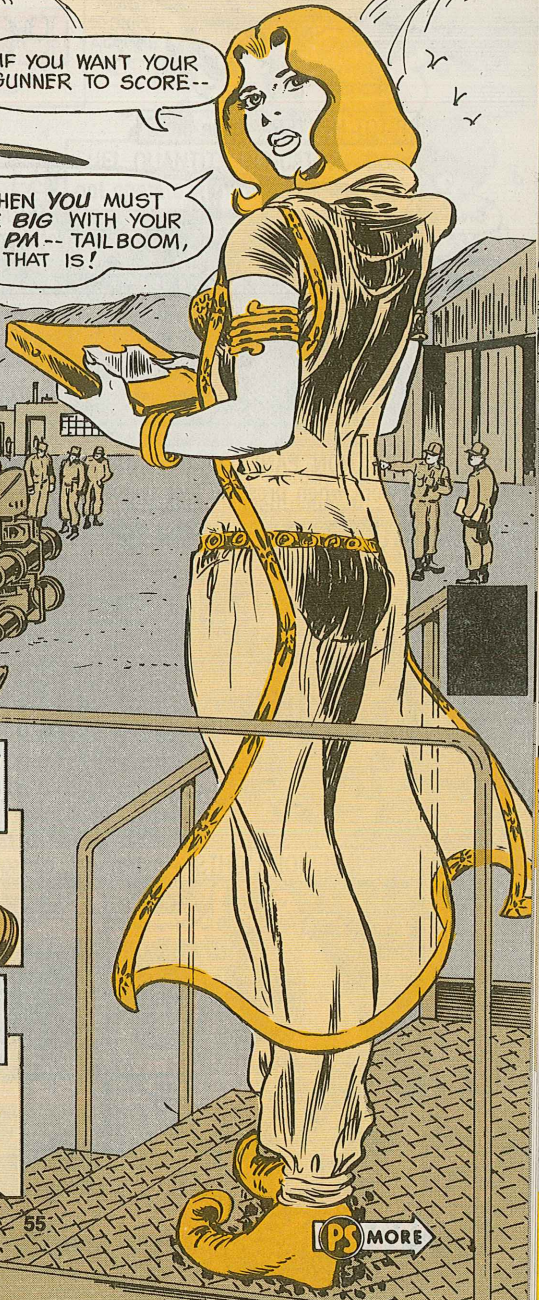
TAILBOOM ATTACHING FITTINGS, BOLTS—Bolts loose . . . slippage marks do not align.



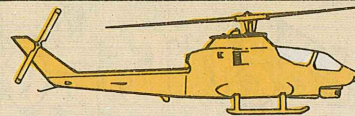
TAIL ROTOR CONTROL—Excess play in pitch link rod-ends and control crosshead.



TAIL ROTOR GEARBOX SUPPORT—Casting chafed excessively by vertical fin door.



POWER ON CHECKS



GASP!
S-SURE,
CONNIE!

DIDN'T WE
MEET
BEFORE,
SNAKE?

PITOT HEATER—Tube cold.

SNAKE!

HALP!

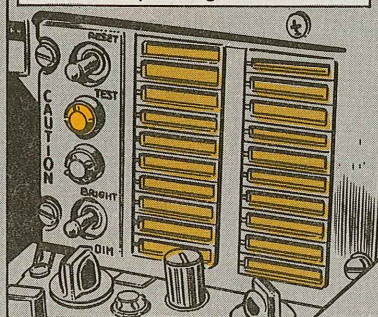
EXTERIOR LIGHTS—
Not working.

LET'S GET
OUTTA
HERE!

HISsss-sss-ss

HOLD ONE,
TROOPS-ss-ss...

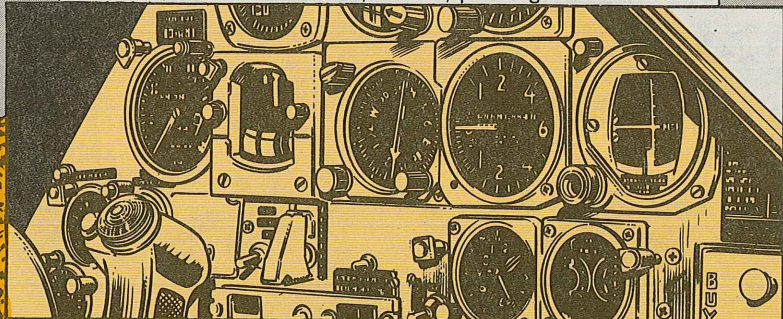
CAUTION PANEL LIGHTS—Do not
work when pressing test switch.



WHERE'RE
THEY GOIN'??
IT'S TIME
FOR MY
BYOI!!

ENGINE CONTROLS—Do not
operate freely thru full range. Idle
stop release and governor RPM
actuator not functional.

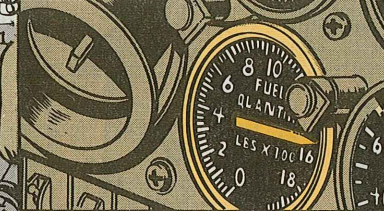
INTERIOR LIGHTS—Instrument, console, panel lights do not work.



SHAME ON YOU,
OLLIE! YOU'VE
SCARED EVERY-
ONE OFF!

GOOD THING
WE FINISHED
INSTRUCTION,
HUH, WINDY?

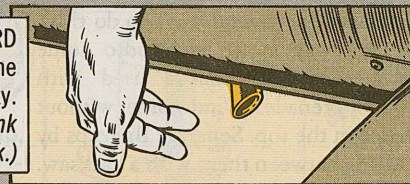
FUEL QUANTITY INDICATOR—Does
not operate with test switch.



MAIN FUEL FILTER—Caution panel
light indicates clogged element.



PARTICLE SEPARATOR OVERBOARD
VENT—No air flow at vent with the
engine operating . . . line dirty.
(NOTE: Your favorite pilot can crank
up the bird for a functional check.)



AVIONICS, ARMAMENT CHECKS

As long as these systems are operating, crewchiefs, you won't have to call on your flightline avionics or armament repairmen. All their checks are outlined in the TM 11-series and TM 9-series pubs.

SERVICE YOUR BIRD

All that remains to get your bird into the blue is to service it and do any lube chores spelled out in Chap 1 of TM 55-1520-234-23-1 (Sep 76).

Finally, go over the log book to make sure all the forms are up to snuff.

For MX-6707

Protect Top Contact and Bowl

HEY!

WHO STOLE THE CAP TO MY PAINT CAN!



HEH-HEH!



Whenever the antenna elements are off your MX-6707 matching unit, the matching unit is exposed to dirt and moisture.

The contact on top of the unit's spring section is one of the parts that needs protecting the most.

There are several ways to do this. One way is to latch onto some protective cups that're used with M203 grenades. Find some without holes in the top. Separate the cups by cutting between them with a hacksaw.

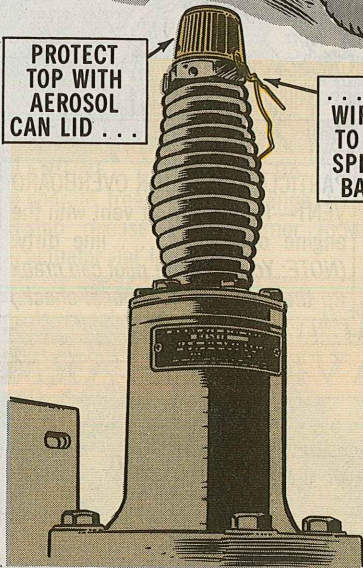
Then, drill a hole through the extended section. You can put a string through the hole and tie the string to the vehicle. You might use an extra piece of rope from an antenna tiedown kit.

Another way to protect the MX-6707 contact is to cover it with an aerosol paint can lid.

Punch a couple of holes in the lid and wire it to the spring base. Then, when you're ready to reinstall your antenna sections you already have your safety wire handy.

PROTECT TOP WITH AEROSOL CAN LID . . .

. . . AND WIRE IT TO THE SPRING BASE.



Since the tape might leave a residue on the contacts, be sure to clean the contact with a pencil eraser so there's better contact with the AS-1730 antenna element.

While you're taking care of your MX-6707 eye the plastic bowl for cracks. To keep the bowl from cracking and leaking, poke out the drive-out bushings.

Or, you can get a protective dust cap NSN 5340-00-342-5577 and snug it onto the top of your matching unit for keeping out dust and moisture.

NSN 5340-00-342-5577 WILL GET YOU A DUST CAP.

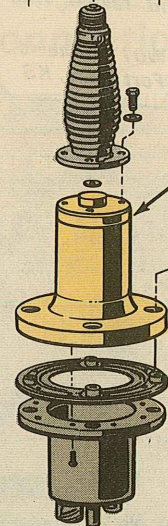


You can also use the plastic cap, called the closing plug, from a 105-MM HE M-1 round. Discarded when a fuse is inserted, the closing plug is a hat-shaped plastic cap used to protect the fuse well of the round during shipment. Just snug down the cap over the connector when the antenna element is removed.

If cups and caps are out of your reach, you can protect the MX-6707 contact top with tape, like it says in para 2-8d(2) of Change 1 to TM 11-5820-401-12 (Aug 72).



STEEL RING NSN 5985-01-012-5425



TO KEEP PLASTIC BOWL FROM CRACKING . . . POKE OUT DRIVE BUSHING AND FIT STEEL RING ON WITH 4 HEX BOLTS

Then, fit the steel reinforcing ring NSN 5985-01-012-5425 over the bowl and lock the ring in place with the 4 hex bolts that fasten the base to the antenna mounting bracket.

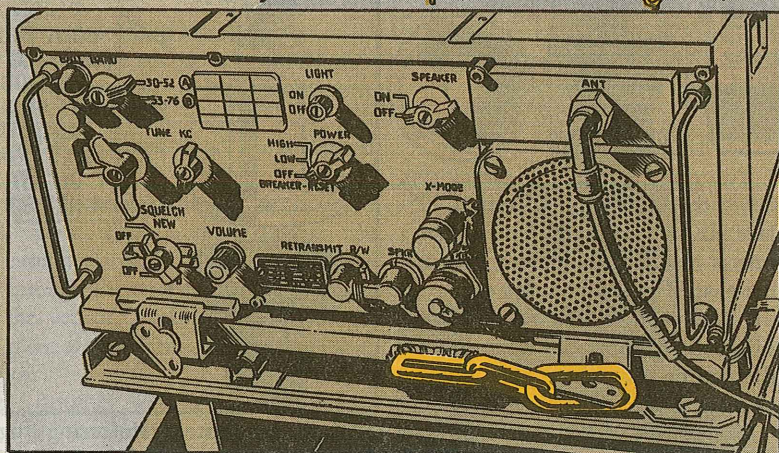
Radio Set is Safely Secure

Dear Editor,
We have solved the problem of getting our AN/VRC-46 radio set ripped off our M151 vehicle. Here's how we did it:
Latch onto a 3-link section of 1/4-in chain with 2-in links.
Weld 1 of the links to the MT-1029 mounting.
Then, drill a 5/16-in hole through the nearest wing bolt.
Place the last link of the chain over the wing bolt and fasten with a padlock.

W01 Mathews
Fort Riley, KS

THERE!
NOW LET'S SEE
ANYBODY RIP OFF
MY RADIO SET?

PRETTY GOOD,
SOLDIER... BUT
THESE THREE
LINKS OF CHAIN
ARE ALL YOU
REALLY NEED!



(Ed Note: Sounds good! This also applies to other AN/VRC-12 series radio sets. However, it's not recommended for use in training or tactical units. You use it only with the local commander's authorization.)

Long and Short
of it . . .

RATT Rig Cables



Nine feet of power cable is all you need when you're operating an AN/GRC-142() or -122() radio teletypewriter set in the M884 vehicle.

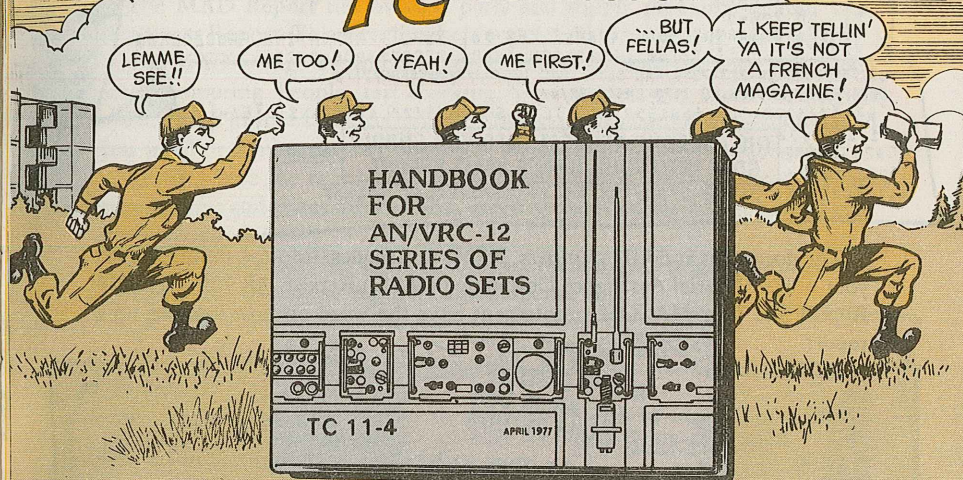
You get the CX-10463 with NSN 6150-00-935-0257. This should be the 9-ft cable. If the 15-footer arrives instead, just cut it to the length you need.

If your RATT Rig is on the M715 or a Gama Goat, you need the full 15-ft



CX-10463. Get it with NSN 5995-01-012-3629.

The TC Connection



Training Circular 11-4 (Apr 77) has hit the field, showing components and connections for the whole AN/VRC-12 series of radio sets. You can order copies by sending a DA Form 17 to the Army Publications Center at Baltimore.

WORKING

Next time you're asked for information on some of your RICC I or NORS requests over 30 days old, don't get mad—get with MAD.

First, choose your most overdue (over 30 days old) RICC I or NORS requests—depending on which ones you're asked to provide. Call your support unit and make sure you have the latest status on them. Then, pass the info on.

UNCLASSIFIED **EFTO**

8217

BTTEZYNA RUFTSKA4463 3291536#EEEE#RUFLOKA!

SUBJ: MAD REPORT (RCS CSGLD-1713)

A: AR 700-98
 UR 700-5
 C: DINGUSAREUR MSG 040600Z FEB 76 SUBJ: REPORTING PROCEDURES
 MATERIAL ASSISTANCE DESIGNATED (MAD) REPORT

Q32756/5820-00-223-7548/RAD SET: GRC 106/4/14/0WK4F8W/7170

0024/02/4/(AK9120 NO 7170-0034)/02/4/

002530/00-00-165-1557/RAD TERM SET/3/3/0/LAT TRANS/ IEA-1/

41/1/01/01/

092000/0002

7021/02/1/

X41017/2320-00-0003/IRK 5T 8X8/3/3/9/LAT TRANS/

THE OVERDUE REQUEST INFO YOU SUPPLY GOES INTO YOUR UNIT'S MAD REPORT.

The document and LIN numbers, NSN's and request info you supply go into your unit's Materiel Assistance Designated (MAD) Report. AR 700-98, MAD Report and your MACOM supplement have the word on how to make up a report.

A NEW EDITION OF THE AR IS DUE OUT EARLY IN 1978

ARMY REGULATION

No. 700-98

*AR 700-98

LOGISTICS

MATERIEL ASSISTANCE DESIGNATED REPORT

RCS CSGLD-1713

(Short Title: MAD Report)

HEADQUARTERS
 DEPARTMENT OF THE ARMY
 WASHINGTON, DC

This revision is a concise and definitive update of AR 700-98. Local limited supplementation of this regulation is permitted but is not required. If supplements are issued, major Army commands will furnish one copy of each supplement to HQDA (DALO-RDR) WASH DC 20310; other commands will furnish one copy of each to the next higher command.

MAD



*!!@*M#!!
 WHERE'S THAT INFO ON MY NORS REQUEST!

HOLD ON, SOLDIER-- DON'T GET MAD-- GET WITH MAD!

The MAD Report ties overdue parts and supply problems to your Unit Readiness Report. This is really where supply and maintenance come together.

The MAD swings the whole supply chain behind your requests. Computers start computing. People start checking. Your requests get super service.

Each stop in your support chain—all the way to the headsheds—should send you word or a message with the latest status they have on each request.

That's where the report makes it for you. Those MAD responses update your request and status information, speed up parts and help keep tabs on your supply support.

As the MAD responses come in, compare them to your original information. Pull out your document registers and suspense file.

Routine UNCLASSIFIED

PAGE TWO RUFTFDC0990 UNCLAS
 ITEM 2- LIN NO 032756, DOCU NO WK4EYL (NOT WK4F8W)-6170-0024,
 NGR REJ, 4EA, WITH BF ADVICE ON 0325 AND WK4EYL-7170-0034, CONUS
 REJ, 2EA, WITH CA ADVICE ON 7344;
 ITEM 31 LIN NO 092803, DOCU NO WK4ELH (NOT WK4F8W)-6170-0026,
 NGR REJ, 2 EA, WITH BF ADVICE ON 0325;
 ITEM 4- LIN NO 052804, DOCU NO WK4EYL (NOT WK4F8W)-6280-0001,
 CONUS REJ, 1 EA, WITH BF ADVICE ON 0325;
 ITEM 5- LIN NO 052804, DOCU NO WK4EYL (NOT WK4F8W)-6170-0022;
 CONUS REJ, 1 EA, WITH BF ADVICE ON 0325;
 ITEM 7- THE BELOW LISTED DOCUMENTS WERE NOT IDENTIFIABLE AT THIS CENTER,
 DOCU NO/STY/PHI
 A: WK4EYL-6170-0743/1 EA/02
 A: WK4EYL-6170-0749/9 EA/02

WHEN YOU GET A REPLY, PULL OUT YOUR DOCUMENT NUMBERS AND COMPARE THAT STATUS WITH THE ONE YOU HAVE.

RECOMMEND YOU CONTACT YOUR SUPPORTING SUPPLY SUPPORT ACTIVITY DETERMINING THE RESULTS OF THE NOV RECONCILIATION FOR THESE DOQU



Does the latest status card in the suspense file and the status code and Julian date on the document register match the message info?

Yes? You're even with that level of your support. Check off the item and go to the next one.

No? Then, is your Julian date later than support's? If so, you're one up on that level. Check off the item and go on. If not, it's bonanza time! Erase the status and Julian date on the document register and write in the new status code and Julian date from the message.

Make sure you check off each item on each MAD response and update the codes and dates on your document registers.

Treat your MAD responses like 100 per cent guaranteed status cards. Hold onto them until you close out each request or you get a newer status card or MAD response. Then tuck them into file 14-26, General Logistics Files.

CHECK OFF EACH ITEM ON EACH MAD RESPONSE AND UPDATE YOUR DOCUMENT REGISTER--



DOCUMENT REGISTER FOR SUPPLY ACTIONS (AR 70-2)		IDENTIFICATION	DATE	
PRIORITY AND DATE	DOCUMENT SERIAL NO.	REQ. NO.	REQ. DATE	ACT. DATE
		5820-00-223-7548	RADIO SET	GAS 2
02/17/70	0034			

DA FORM 2064

YOUR MAD RESPONSES ARE JUST LIKE STATUS CARDS. PUT THE STATUS CODES AND JULIAN DATES ON YOUR DOCUMENT REGISTER.

GET IT ON WITH MAD-- THE REPORT THAT ANSWERS TO YOU!

OK, SMILEY?

ONLY WAY TO GO, CONNIE!



Connie's Mini Minis



Home-Made Brake Holder

You say you need a brake-holding device for your M60 (early) tank with mechanical brakes but don't like the \$1,277 price tag... and it takes you an hour to install that turkey? Well, lift your head up high, take a walk in the sun, and check out a locally-fabricated rig that costs about \$125 and installs in 5 minutes. Details and drawings are on Pages 3-2 through 3-8 in TARCUM EIR Digest, TB 43-0001-39-3 (Oct 77).

Use Your WSDC's

Getting ready to order a part for an item that has an assigned weapons system designator code (WSDC)? Remember: the WSDC goes on every request you put in for repair parts, components or end items that are part of the item or system assigned a WSDC. Write the 2-part WSDC in the last 2 places of Block 18 of your DA Form 2765. Course, you know that code is a must for all high priority NORS/ANORS requests. But, you need the WSDC on regular low priority requests supporting that end item, too. See Appendix H of AR 710-2 or Appendix P of AR 725-50 for a full list of items with WSDC's.

OK, Once More

Order the epoxy cement used with the fiberglass repair kit for the Gama Goat with NSN 8040-00-900-6296. The NSN in PS 300, page 65, won't do the job.

*U. S. GOVERNMENT PRINTING OFFICE: 1977-757-081/3

Goer Tire Chains

Chains for 18.00 x 33 tires—like those on Goer 8/10-ton vehicles—can be ordered by P/N 1920711632607. This number was left out of the tire chain list in PS 300, page 16.

Fiberglass Repair Warning!

If you work with a fiberglass repair kit, watch it! Take absolutely no chances; the stuff can blow your eyes out.

The catalyst is MEK Peroxide, and getting it in your eyes is disastrous. If not washed out in 4 seconds or so, it can blind you. At best, you'll lose some of your sight, lose it forever.

Best idea: safety goggles or face shields every time you work on fiberglass... and use adequate ventilation... with a bucket of cold water right handy.

JK-101/G Update


Use these 2 NSN's to bring your Electronic Equipment Tool Kit NSN 5180-00-064-5178 in PS 298 up to snuff:

NSN 5970-00-419-4291 replaces 5970-00-284-8410 for Insulation Tape; NSN 5140-00-315-2747 replaces 5140-00-678-4805 for the Tool Chest.

Cite SC 5180-91-CL-R13 (Jan 77) on your request to get Torque Wrench 5120-00-720-1975. Use RIC A35 for the wrench.

Would You Stake Your Life ^{right now} on the Condition of Your Equipment?

NEVER POP YOUR CLUTCH

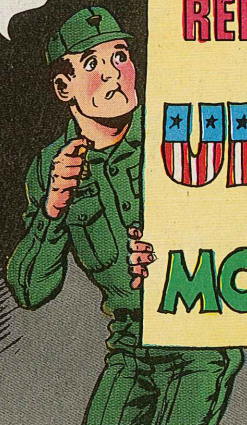


TO MOVE OUT—OR TO STOP THE ENGINE!

YOU'VE
ZONKED
YOUR CLUTCH
AND DRIVE
SYSTEM!



=:GULP:=



A
REPAIR JOB
COSTS
UNCLE
MUCH
MOOLA!

