Issue 189

P.S

1968 Series

THE PREVENTIVE MAINTENANCE MONTHLY

LIKE CLEAN, MAN!

Dirt chokes up filters, and the equipment overheats from a lack of that cool air. Or the equipment gets all gooped up from the dirt that didn't get filtered out.

Dirt gets on parts that work together and causes wear and damage.

Dirt gets in fuel and can ruin the parts of your fuel system . . . Like fuel pumps, carburetors and injector nozzles.

Dirt chokes up breathers, gets under seals, works into bearings.

Dirt gets into oil and grease and grinds up the innards of things like engines.

Dirt gets on ammo and in your weapon and keeps it from firing.

PS

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THE PREVENTIVE MAINTENANCE MONTHLY
Issue No. 189 1968 Series

IN THIS ISSUE

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

Sgt. Half-Mast,
PS Magazine,
Fort Knox, Ky.
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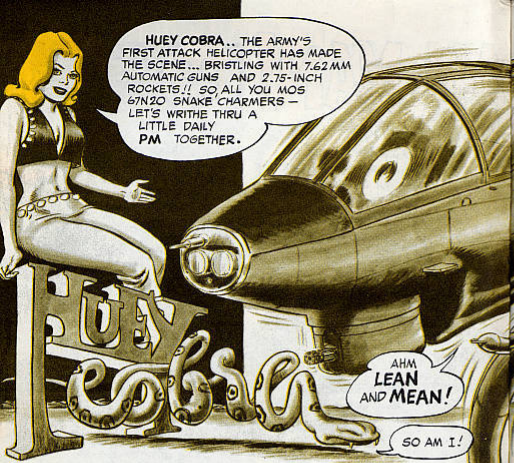


A T53-L-13 gas turbine powers this baby. The 1400 shaft horsepower, flat rated to 1100, produces roughly 300 SHP more than the T53-L-11B engine. With a slim, trim design she wades into the fracus at up to 190 knots.

There're several "firsts" in this latest model in the Huey-series. The big feature is the stability augmentation system (SAS) which provides a stable weapons delivery platform. The latest armor plating for critical parts of the bird is included.

Self-sealing fuel and oil tanks, plus duplicate hydraulic control systems, are just part of her rugged make-up. She can take it — as well as dish it out.

With only a 2-man crew — a co-pilot/gunner firing the TAT-102A and the pilot/gunner firing the wing guns and rockets (as well as the TAT-102A in the fixed position) — there's no flying crewchief.

So-o-o-o, it's mighty important that pilots freely discuss deficiencies, during pre-flight inspections and following missions with the mechanics . . . helps work off log book writeups. Speaking of the log book—page through its forms for any recorded deficiencies.

Eye Nose

Eyeball the area for skin cracks and dents.

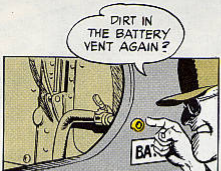
MAKE SURE . . .

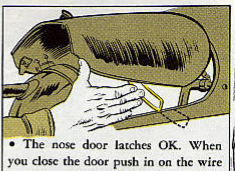
- The nose compartment is clean, with no corrosion around the battery, and the battery and landing light connections are tight; check the wing stores jettison and transmission oil level circuit breakers for proper setting.

- All the screws are in the landing light cover and there're no cracks or gaps in the transparent plastic around the pitot tube.

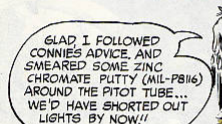
- The pitot tube's not dented, or jammed with dirt.

PS MORE



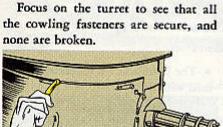


• The nose door latches OK. When you close the door push in on the wire guides so they don't get broken off.



Turret Area

Focus on the turret to see that all the cowling fasteners are secure, and none are broken.



Be sure the turret ammunition doors latch properly. Eye the electrical receptacles in the ammunition bay for damage and corrosion.

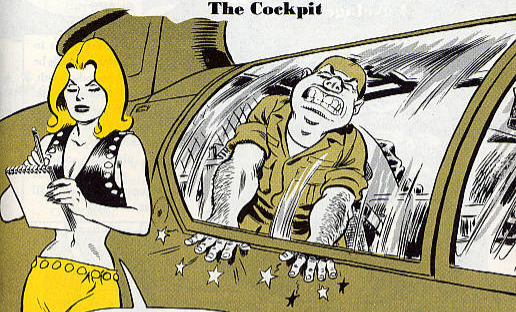
Make sure the ammo chute and turret drive cable are not damaged and that they're connected.

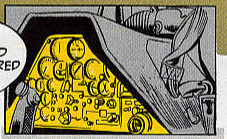
Co-pilot tip—Make sure your TAT-102A is stowed and the sight elevation lock engaged when the bird comes in to roost.

The automatic gun will hit the ground in the straight-down position. There's a ground safety lever on the right side of the TAT-102A sighting station. Lever engagement restricts the turret from depressing more than 20 degrees.

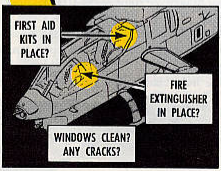
Look for turret hydraulic leakage which will show up in the ammunition bay. See if the searchlight is damaged.

The Cockpit

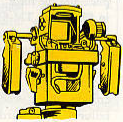




Instruments clean? Range markings in the right place? Loose or broken glass?



Eyeball the pilot and co-pilot gun sights to see that moisture has not caused lens fogging.



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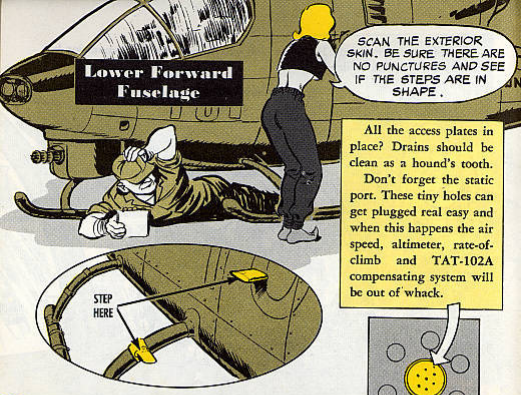
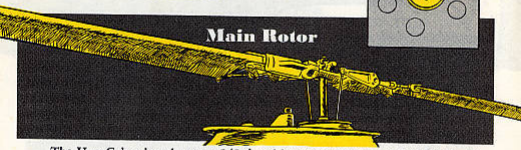
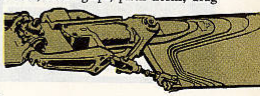




The HueyCobra has the same 540 door hinge-type rotor as the UH-1C Model —with one exception.

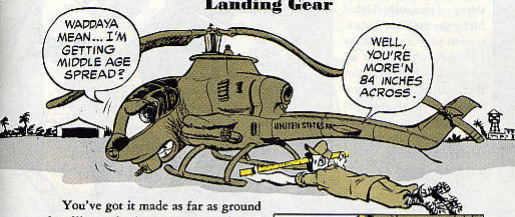
The pitch horns are altered to permit direct connection between the swash-plate and the rotor . . . simplifies the control system. You'll find the repair limits in Chap 8 of TM 55-1520-221-20 (13 Nov 67).

Mount your charge and focus on the hub, blade grips, pitch horns, drag braces and sand deflector. Look for visible cracks and check for tightness.



Any obvious scratches, nicks, dents, erosion of the leading edge or bond failures bear further looking into.

Landing Gear



You've got it made as far as ground handling wheels are concerned. All the other Huey wheels fit the Huey-Cobra skids.

Cross tube fairings—Check for cracked skin. When you mount your bird be sure you use the steps.

The skid shoes must be secure.

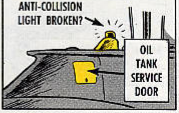
Pylon

Cowling, access doors and inspection plates have any broken fasteners or latches?

All the cowling latch receptacles can be adjusted to give you added clearance for the right fit . . . adjust 'em.

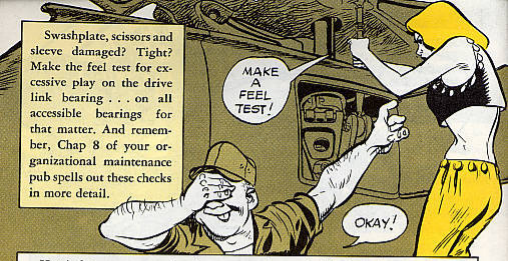
The exposed part of the mast should be clean. Look for possible damage.

Open the pylon access door and check the oil level. Look for oil tank and line leakage.



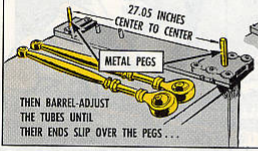
PS MORE

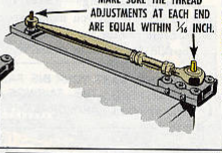
Swashplate, scissors and sleeve damaged? Tight? Make the feel test for excessive play on the drive link bearing . . . on all accessible bearings for that matter. And remember, Chap 8 of your organizational maintenance pub spells out these checks in more detail.



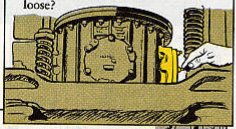
Here's how you can take the guess-work out of adjusting the pitch change tubes and save yourself a lot of rotor tracking after a main rotor replacement.

FIRST . . . MAKE A FIXTURE LIKE THIS:



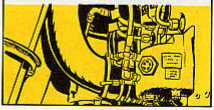


Main drive shaft couplings — Grease leak? Clamps damaged or loose?



Make sure there's no water in the transmission sump and that the oil level is up-to-snuff.

Hydraulic compartment — damaged? Secure? No leaks around the reservoirs, modules and lines?



Fluid level in the reservoirs OK? Deplete the collective accumulator for a check of the No. 1 system.

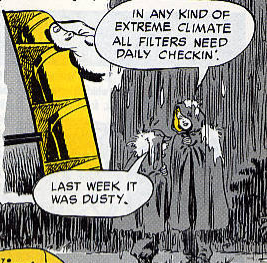
Plant your mitts on the engine inlet sand and dust separator to make sure it's tight.

Also, are the hydraulic module filter bypass indicators popped?

An extended indicator means that the filter needs inspecting.

Transmission external filter bypass indicator popped?

Transmission and connections damaged? Oil leaks?

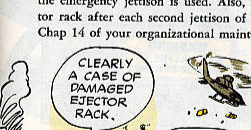


Wing

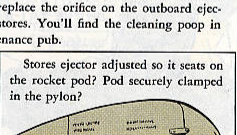
Something new has been added to an Army chopper—those "shorty" wings on the HueyCobra give additional lift and provide mounting points for the weapon's pylons. Here's what you should look for on the Daily.

Look for dents in the skin and chipped paint. Make sure the decals are readable and that the safety pins are installed so the external stores can't be accidentally jettisoned.

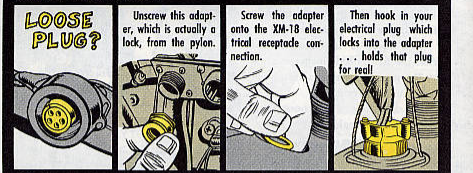
Remember—clean the ejector rack at the end of each firing day in which the emergency jettison is used. Also, replace the orifice on the outboard ejector rack after each second jettison of stores. You'll find the cleaning poop in Chap 14 of your organizational maintenance pub.



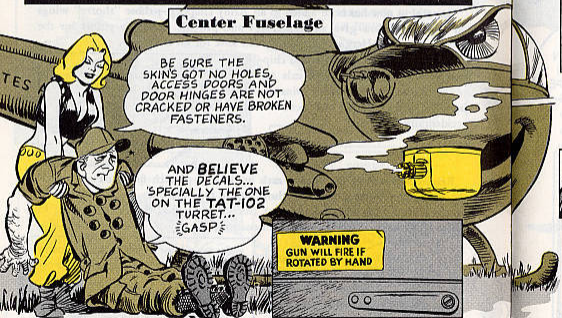
Stores ejector adjusted so it seats on the rocket pod? Pod securely clamped in the pylon?



Here's another tip. The electrical connection to XM-18 armament subsystem will pop out due to vibration (which means the weapon can't be fired) unless you take this action:



Remember, tho, when the pod is jettisoned for any reason, the adapter goes right along with it. So, it might pay you to have a couple of those locking adapters, P/N ODR-145, FSN 5935-062-4643 on hand.



This weapon will clear all ammunition from the 6 barrels after the trigger is released but you can't see that this operation has been accomplished for sure. So, never rotate that weapon because if there should be a round in the chamber it will fire.

Heeding the poop on decals can also keep your bird from taking it on the chin.

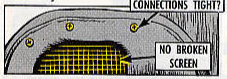
Take the aft fuel tank stress panel. You can take it off for inspections but just be sure you have some support under the tail boom.

The support is only a precaution in case somebody should try to bear down on the tail boom to install ground handling wheels while the panel is off . . . would buckle some of the airframe structural members for real!!

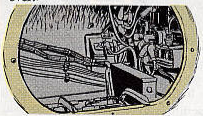
External drains clogged? Remember that water, being heavier than JP-4, will settle to the bottom of the fuel tanks. So, every day, get rid of that water contamination in the tanks by draining it into a sampling jar. Drain the fuel filter on the left side of the engine daily (battery must be on).

Fuel line or fuel cell leaks?

Next, check the oil cooler air inlet screen for broken wire. Give the oil cooler the once-over for security.

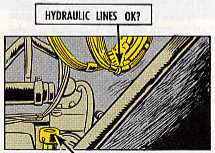


Unlatch the panel to the electrical compartment and give the wiring and components the once-over.



Tail rotor boost cylinder leaking? Cylinder support loose?

Hydraulic cylinders and lines leaking? Tight? Hydraulic accumulator precharged in the green? 'Tis mighty important that this standby emergency hydraulic system is ready to go if needed.

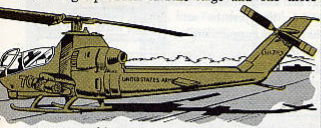


Engine

The increased horsepower T53-L-13 weighs about 40 pounds more than the T53-L-11B. One more gas producer turbine stage and one more power turbine stage in the combustor section accounts for most of the weight.

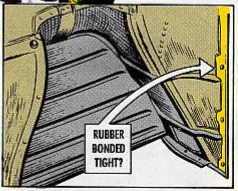
With the added stages the turbine inlet temperature is reduced and since the turbine blades are more lightly loaded, you get more reliability. You'll probably get longer life on hot section components due to the lower temperatures.

Upper fairing and cowling—Holes or cracks? If you see a hairline scratch . . . make the sound test!



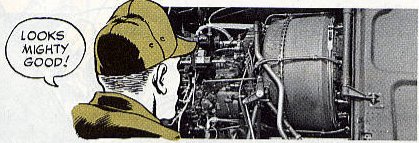
Tailpipe fairing—Hose or cracks? Go over the rubber insulation on the fairing to make doubly sure it's securely bonded. Here's why.

There's a transmission and engine oil-cooling blower mounted on the second section of the tail rotor drive shaft. This baby has no controls or clutches and draws cooling air thru a screened duct in the left side of your HueyCobra.



This blower runs all the time the engine is running. The only problem is that any hunk of rubber or a loose rivet in the doghouse can be sucked into the fan. You know what happens when it hits the fan — the blower coupling on the shaft is sheared in seconds and your bird is grounded for a blower change.

Look over the blower for damage and a possible grease seal leak and, above all, make doubly sure the doghouse is clean as a whistle. A rise in engine oil or transmission oil temperature will tip you off that the blower is kaput.

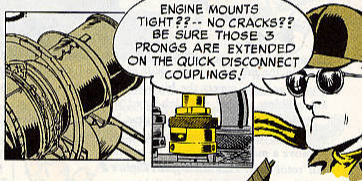


Engine accessories and connections secure? Not damaged?

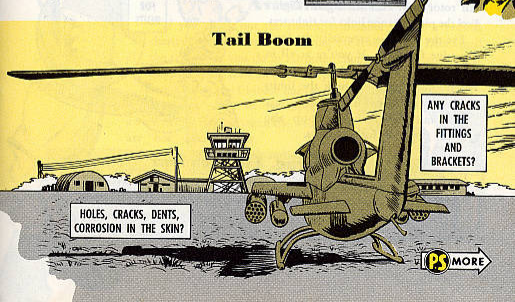
Control linkages actuator and cambox secure?

Run your eyeballs over the engine compressor housing, combustion chamber housing, exhaust diffuser, support cone, tailpipe heat shield and ejector for cracks, dents and burned or buckled spots.

Be sure you read Chap 5 in TM 55-1520-221-20 for damage limits. For example, shallow dents and scratches in the tail pipe, ejector and heat shield can usually be disregarded.

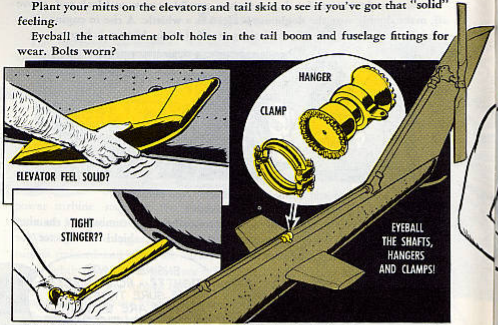


Tail Boom



Plant your mitts on the elevators and tail skid to see if you've got that "solid" feeling.

Eyeball the attachment bolt holes in the tail boom and fuselage fittings for wear. Bolts worn?



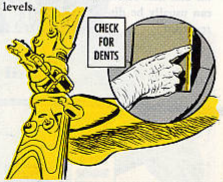
Open the tail rotor drive shaft covers and give the shafts, hangers, coupling clamps and the covers the big look. Make sure no wires (or anything else) are rubbing against the high-speed shafts.

Any leaks at the 42-degree gear box or at the 90-degree gear box? Leaks will show up on the skin. Check the oil levels.

Move a maintenance stand up to the tail rotor hub. Hub damaged? Tight? Feel the pitch change links for tightness.

Eye the blade — especially the leading edge for dents. If you're at all in doubt about whether the damage is repairable be sure to check the limits in the organizational maintenance pub.

The tail rotor control set-up also gets the big look for tightness.

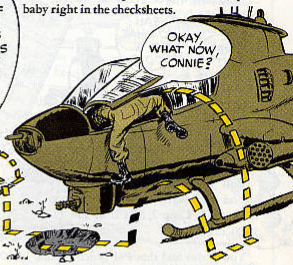


Servicing, Lubrication

Service the fuel tanks, oil tanks, hydraulic reservoirs and what-not according to the servicing diagram in the maintenance pub. The lube requirements are also in the pub . . . Chap 2.

Power Checks

You'll find the power-on checks for your baby right in the checksheets.



When you step into the pilot's seat and check the controls for free action, watch your left foot at the left tail rotor pedal. Don't boot the electronic control amplifier or you'll knock out the navigation equipment.

Turn on just the switches called for in the checksheets to complete your power-on checks.

Avionics Tests

If you check out the radios, remember there's a radical change in this chopper for keying the transmitter. Don't pull the trigger as you do in all other choppers — or you might start spraying lead all over the place!

Instead, push the Chinese hat on the cyclic. Pilots want to be especially aware of this change when the weapons are "hot" during flight.

For you MOS 35K20 radio repairmen, the "wedding" books for all your avionics inspections are TM 11-1520-221-20 and TM 11-1520-221-35.

The PM check intervals on electronic equipment are in agreement with the

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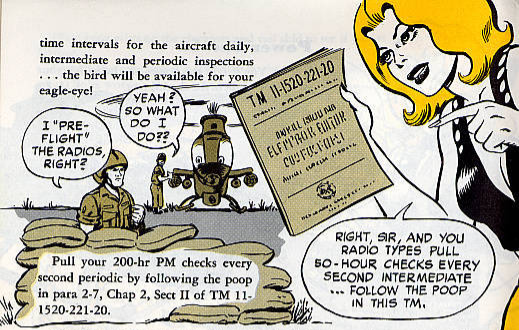
time intervals for the aircraft daily, intermediate and periodic inspections . . . the bird will be available for your eagle-eye!



Pull your 200-hr PM checks every second periodic by following the poop in para 2-7, Chap 2, Sect II of TM 11-1520-221-20.

You'll also find that PM bench checks, in 100-hr intervals, are required for certain equipment . . . para 2-6, sure 'nuff.

LIVE WIRE TIPS ON ELECTRONICS . . .

Nickel-cadmium battery — Keep it free of corrosion. Electrolyte overflow will cause a short and loss of power, not to mention the mess.

Your best bet is to be sure the electrolyte level is not too high. Eyeball para 3-4 of TM 11-6140-203-12 (2 Sep 60).

Don't — NEVER put a nickel-cadmium and a lead-acid cell battery side-by-side. This type of togetherness will ruin the nickel-cadmium job. The same goes for hydrometers and other battery tools. Use separate tools for each type of battery to prevent contamination.

Headset, microphone cords — Frayed? Broken? A bum wire will give nothing but silence!!

Electrical connections — Dented? Cracked? Connections mate properly?

Antennas—Damaged? Insulation free of cracks? Clean 'em up with cleaning compound, FSN 4930-395-9542.

The ADF loop antenna on the pilot's overhead canopy can be broken by vigorous cleaning of the canopy or by the pilot's helmet scraping against it.

Access panels—When you replace the Phillips head screws use the proper screwdriver or you'll strip the works.

FM homing antenna, UHF/HF antenna—These babies are in the main pylon; don't use them for tool holders or lean against them. Treat all antennas with kindness or the pilots may be up the creek without a paddle.

Radios—Eye the metal housings for rust, corrosion and bare spots. Clean and touch-up where needed.

NOTE—THE AN/ARC-134 MAY NOT OPERATE ABOVE 140 MC DUE TO MISSING WIRES. A FIX IS IN THE WORKS!!

Electronic Equipment—Securely mounted?

SWITCHES OR KNOBS WORN OUT?

Remember, you've got new equipment on this baby, so report all your ideas and problems on the EIR portion of the DA Form 2407 or on a DA Form 2028.

Armament

Maintenance of the armament subsystems is done by aircraft armament repairmen, MOS 45J20. TM 55-1520-221-20, Chap 14 has the scoop on the weapons pylons, backed up by the various TM 9-series pubs on the TAT-102A, XM-18 and XM-159 subsystems.

Keep Up-To-Date Log Book

TAT-102A SUBSYSTEM:

THE FANG OF THE COBRA

DEADLY

That's the TAT-102A High-Rate M134 Minnie Gun subsystem, which provides most of the venom for your AH-1G HueyCobra.

ONE THING'S FOR SURE... YOU'VE GOT TO PLAY IT SAFE AROUND THIS BABY. SO, BEFORE YOU GO MESSING WITH IT, TAKE THESE PRECAUTIONS!

OOPS! PARDON ME!

MAKE SURE MASTER ARMED switch on the pilot's control panel is OFF and

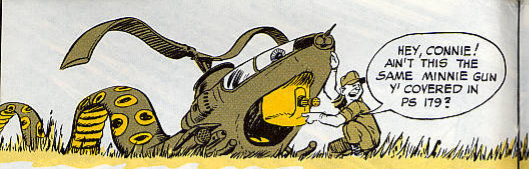
...DISCONNECT GUN DRIVE ASSEMBLY

ESPECIALLY WHEN YOU'RE LOADING OR UNLOADING HER

And make sure the aircraft battery is disconnected. Disconnecting the battery and putting the MASTER ARMED switch in the OFF position must also be done every time you connect or disconnect any external power source to the Cobra.

Lastly, if there're any armaments hanging on the ship—like podded XM18 Minnies or rocket launchers, or anything else — you'd be smart to clear and safety 'em before walking by them to get to the TAT-102A.

MORE



THE TURRET

Here're some things to watch out for and either fix or get fixed — pronto!

TURRET COWLING SHROUD — Fasteners loose, missing, broken; screw slots rounded out; cowling dented, cracked, dirty, paint peeling.

PROTECTIVE COVER — Damaged, sticks. (Put your hand under it and lift. It should move. If you don't have movement of this spring-loaded top cover, she could tear up the turret and nose collar and make Minnie a no-go gal.)

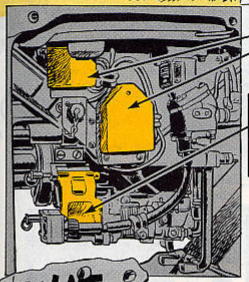
ACCESS COVERS — Dented, bent, loose; cam-lock fasteners not pushed in and tightened. (Left and right covers are not interchangeable.)

GUN FAIRING — Loose, cracked around nose collar; mounting holes worn too big.

HYDRAULIC AND ELECTRICAL PARTS — Oil leaks, lines cut, badly frayed; electrical connectors loose, damaged; wiring badly frayed. (The electrical harness inside the turret is plastic coated. Try to keep oil from staying on it. Oil's no good for plastic.)

RECOIL ADAPTERS — Not mounted right; release pins loose; mounting holes in adapter and gun cradle elongated.

MANUAL STOW LOCK RELEASE — Be mighty sure it's locked (in down position) before starting ground operations. You won't have to unlock it by hand, though, when you're through 'cause there's also an electrical stow lock release in the system.



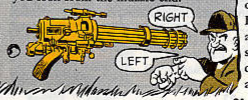
RESOLVER COVERS — Loose, badly bent, missing. (Keep these covers in shape — they protect two of the most important parts of the turret.)

GUN DRIVE ASSEMBLY — Mounting release pins loose, defective; ammo drive shaft not plugged in right; hydraulic connector loose, leaks, hose badly frayed, cut; electrical plug loose, wiring badly frayed.

The LO says the drive gear assembly and the delinking feeder require cleaning and lubing with LSA-T after every 20,000 rounds. This could mean every day in Vietnam!

WATCH THIS

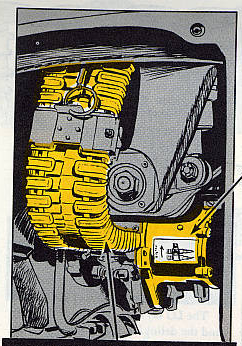
Before you install the gun, make sure the pins on the safing sector and cover assembly head the right way or you won't be able to insert the recoil adapters to the rear support in the turret. The heads should be on your right as you look from the muzzle end.



Harmonization Tip: When you're adjusting the azimuth and elevation resolvers...

And don't turn 'em more than half a screwdriver turn at a time if the power's off. If you do and somebody suddenly puts the power on, the turret could whip around and clobber you. Best bet: Half a turn, then power, then another half a turn, more power, and so on. Or, if you harmonize with power on, turn these resolvers very slowly... and use an insulated screwdriver.

PS MORE



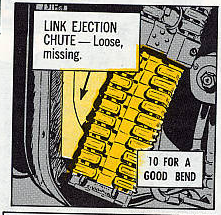
AMMO CHUTE — Clogged, dirty; clamp loose, bent; interlocking tangs bent, twisted; ring support missing; wrong number of links; adapter bent, mounting or locking pins burred; won't close tight.

Incidentally, make sure you lock the ammo chute at the delinking feeder end after loading or you'll find yourself between the devil and the deep. If it comes loose from the gun, Minnie will continue to feed, but whiplash could cause a link to separate. This'd cause either a jam or firing out of the remaining rounds. If the system jams, it becomes unsafe because of unfired rounds left in the gun. And if it doesn't jam then you'll fill the turret with live rounds. Anyhow, always remember this: Any live rounds left in the gun will fire!

DELINKING FEEDER — Not timed; release pins dirty, bent, busted; clearing guide stop pins don't stick out far enough (say, 5/16ths of an inch. Minnie will jam if these 2 pins are in too far.)

Always check that the gears and sprockets are tight. If they're loose, either replace the roll (spring) pins or get support to fix 'em. Bent or squeezed spring pins in this area can hurt the delinker feeder real bad.

You need 10 links between the clamp and the adapter to get a good bend radius when the chute's attached to the delinking feeder. And you should have 107 links from the adapter back to the crossover assembly, though a couple more or less here won't make much difference.



SOLENOID — Dirty, not hooked in right.

THE AMMO COMPARTMENT

This is your TAT-102A's arsenal . . . feeds up to 8000 rounds direct to the delinking feeder by way of 4 ammo boxes, the crossover assembly, the flexible chute and the synchronized cartridge drive. Heads-up operation in this area can shortcut most of your firing problems.

COMPARTMENT — Access door won't open easily; tray assembly won't slide in and out; supports loose, bent.

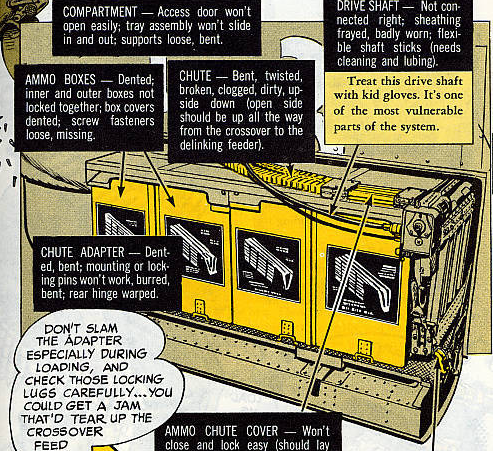
DRIVE SHAFT — Not connected right; sheathing frayed, badly worn; flexible shaft sticks (needs cleaning and lubing).

Treat this drive shaft with kid gloves. It's one of the most vulnerable parts of the system.

AMMO BOXES — Dented; inner and outer boxes not locked together; box covers dented; screw fasteners loose, missing.

CHUTE — Bent, twisted, broken, clogged, dirty, upside down (open side should be up all the way from the crossover to the delinking feeder).

CHUTE ADAPTER — Dented, bent; mounting or locking pins won't work, burred, bent; rear hinge warped.



AMMO CHUTE COVER — Won't close and lock easy (should lay right down without forcing); rear hinge bent; pins busted; fasteners missing.

If the cover's not closed right, it could fly up in flight. The lid of the box must fit down evenly to feed properly.

ELECTRICAL CONNECTOR — Plug banged up; not plugged in tight; wiring cut, badly frayed.

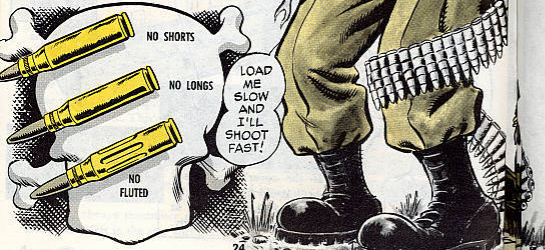
CROSSOVER ASSEMBLY—Screws, nuts, spring pins and the like loose or missing; teeth on sprockets and spur and bevel gears chipped or busted; idler rollers out of shape, don't work easy; shafts bent, threads burred, crossed.

COCKING LEVER—Bent, loose, needs adjusting (Fig. 3-24 in your -12 TM tells how).

SNEAKY WAY TO GET LOADED

Considering the lightning speed and tricky gyrations the linked ammo must go through, you can see why loading is so important.

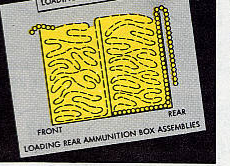
The ammo and links have to be perfect—no long or short rounds (and no fluted rounds); no twisted links—and the belts have to be laid in there with the greatest of care.



There's a special trick to loading TAT-102A ammo boxes. These boxes, y'know, are about a third higher than those used on the M16 and M21 subsystems. So, if you load these the same way you load those,the ammo belts are likely to tip over when the Cobra goes into a turn.

Here's a method—called "Random Loading"—that you might not find in your pubs, but which has solved this problem. It goes like this:

Load the boxes just the way Fig 2-23 in your -12 TM says—with the open links up and 2 rounds draped over the rear of the box and about 25 rounds over the front. BUT, instead of making neat full-length back-and-forth tiers, do this:



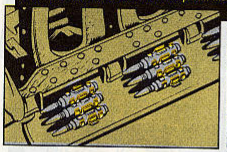
Lay one tier across the bottom of the box. Then build up 3 tiers in the center. Next fill in the 2 sides. Now build up the center tiers again, and fill in both sides—and keep doing this till you reach the top, with the final tier running completely across the top of the box.

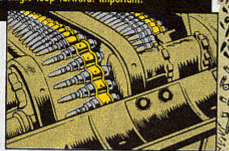
This method spreads the weight of the ammo, prevents tipping—and besides, lessens the chance of links snagging when Minnie starts to gulp. The ammo feeds smoother.

It's nigh impossible to avoid some belt twisting when you're loading, but you can watch for it and correct it when it does happen. Be especially careful when you connect the ammo belts between the forward and rear box assemblies and at the idler rollers on the crossover assembly that you don't twist the belt or get a round located wrong in a link.

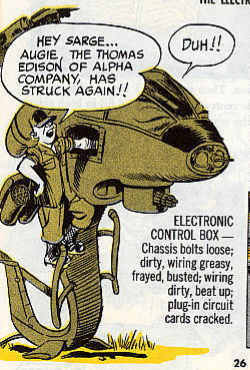
'Nother thing: Make sure you uncock the lever to disengage the sprockets while you're feeding the ammo belts through the inner channels of the crossover feeder. But, after this is done, be mighty sure you cock it or your ammo will spill all over the place.

When the belts are folded in the ammo boxes and run through the inner channels of the crossover, double check that the open links are up with the double loop forward. And where they fold back through the outer channel of the crossover and through the adapter to the gun, make sure the closed links are up with the single loop forward. Important!



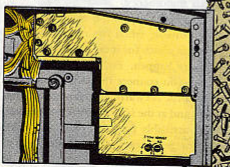


THE ELECTRONIC BOX



This is the brain and nerve center of your system . . . contains the azimuth and elevation amplifiers, power supplies, dither and coincidence circuits and such-like delicate stuff that operate the TAT-102A. You want to be sure the access cover's buttoned up—same for the circuit card access panel. Can't protect these innards enough! And when they are open, no bull-in-the-china-shop stuff, hear?

ELECTRONIC CONTROL BOX — Chassis bolts loose; dirty, wiring greasy, frayed, busted; wiring dirty, beat up; plug-in circuit cards cracked.

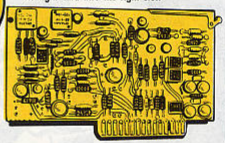


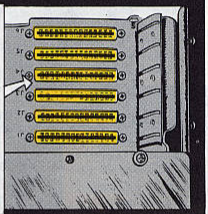
Here're a couple of tips for the 2 big jobs you have in this area:

Adjusting the Stow Pots — Be careful with your screwdriver that you don't snap the screw heads off while you're adjusting the elevation and azimuth stow potentiometers when you're harmonizing the turret assembly with the sighting station. These parts can only be replaced at support, which means your whole system would be out of commission for a spell.

Replacing Amplifier Cards — Take it easy and seat the replacements just right or the turret won't move or elevate or Minnie won't fire. Here're the real important things to remember in this area:

1. **None** of these cards are interchangeable. There are guide pins or keys in the connector part of the electronic subassembly to guide the right card into the right slot.

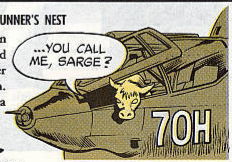


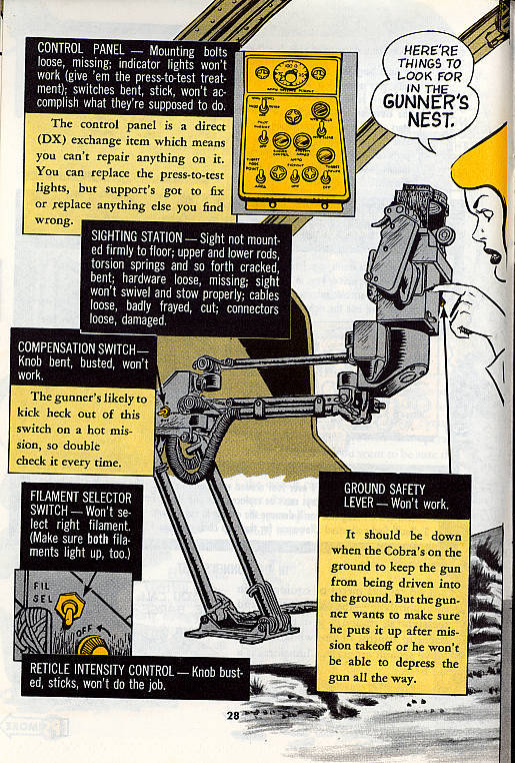


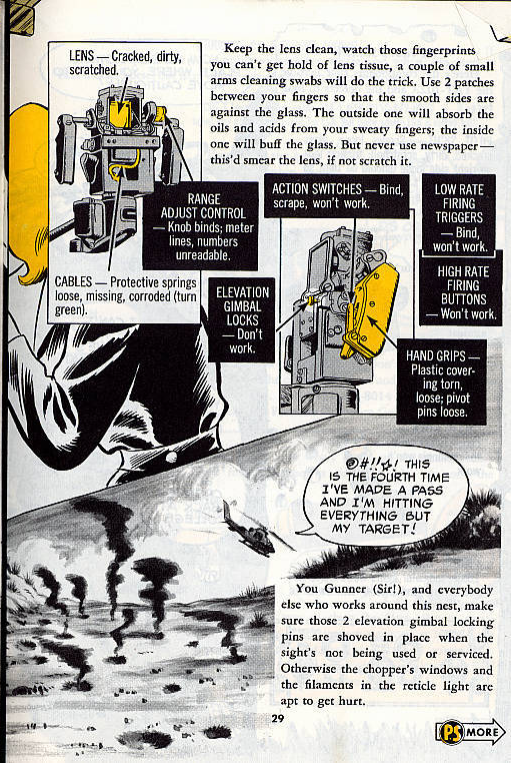
2. Whatever you do, **don't** ever fool around with these keys . . . like removing 'em to get a card in there. These keys can't be replaced, for one thing. For another, if you get the card in the wrong slot you'll damage the circuits in the system.
3. You'll find authorized allowances for the amp cards on page 12 of your -20P TM.

IN THE GUNNER'S NEST

Two critical pieces of equipment in this cubbyhole—the control panel and the sighting station—give the gunner fingertip control of the whole system. Move around gingerly. Clumsiness is a sin here.




CONTROL PANEL — Mounting bolts loose, missing; indicator lights won't work (give 'em the press-to-test treatment); switches bent, stick, won't accomplish what they're supposed to do.
The control panel is a direct (DX) exchange item which means you can't repair anything on it. You can replace the press-to-test lights, but support's got to fix or replace anything else you find wrong.
HERE'RE THINGS TO LOOK FOR IN THE GUNNER'S NEST.
SIGHTING STATION — Sight not mounted firmly to floor; upper and lower rods, torsion springs and so forth cracked, bent; hardware loose, missing; sight won't swivel and stow properly; cables loose, badly frayed, cut; connectors loose, damaged.
COMPENSATION SWITCH — Knob bent, busted, won't work.
The gunner's likely to kick heck out of this switch on a hot mission, so double check it every time.
FILAMENT SELECTOR SWITCH — Won't select right filament. (Make sure both filaments light up, too.)
FIL SEL
OFF
GROUND SAFETY LEVER — Won't work.
It should be down when the Cobra's on the ground to keep the gun from being driven into the ground. But the gunner wants to make sure he puts it up after mission takeoff or he won't be able to depress the gun all the way.
RETICLE INTENSITY CONTROL — Knob busted, sticks, won't do the job.


LENS — Cracked, dirty, scratched.
Keep the lens clean, watch those fingerprints you can't get hold of lens tissue, a couple of small arms cleaning swabs will do the trick. Use 2 patches between your fingers so that the smooth sides are against the glass. The outside one will absorb the oils and acids from your sweaty fingers; the inside one will buff the glass. But never use newspaper — this'd smear the lens, if not scratch it.
RANGE ADJUST CONTROL — Knob binds; meter lines, numbers unreadable.
ACTION SWITCHES — Bind, scrape, won't work.
LOW RATE FIRING TRIGGERS — Bind, won't work.
HIGH RATE FIRING BUTTONS — Won't work.
CABLES — Protective springs loose, missing, corroded (turn green).
ELEVATION GIMBAL LOCKS — Don't work.
HAND GRIPS — Plastic covering torn, loose; pivot pins loose.
@#!!&! THIS IS THE FOURTH TIME I'VE MADE A PASS AND I'M HITTING EVERYTHING BUT MY TARGET!
You Gunner (Sir!), and everybody else who works around this nest, make sure those 2 elevation gimbal locking pins are shoved in place when the sight's not being used or serviced. Otherwise the chopper's windows and the filaments in the reticle light are apt to get hurt.

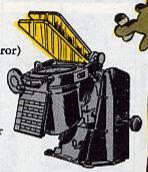
MORE

THE PILOT'S STATION

Here's the components that involve the TAT-102A and the defects to look for:

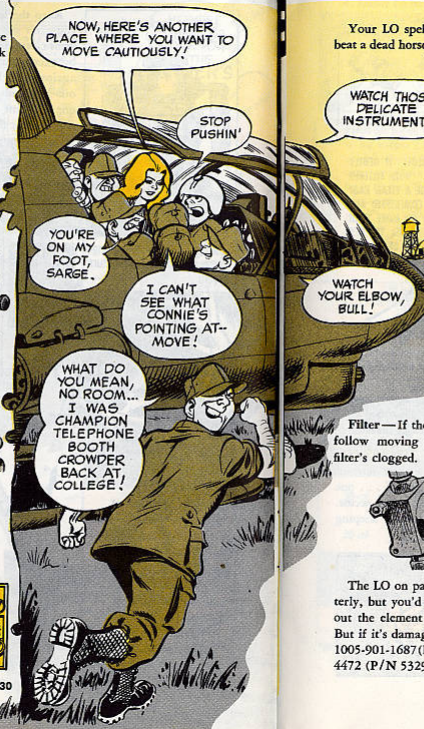
PILOT SIGHT — Screws loose, glass cracked, dirty, scratched; friction lock on right side loose (should be tight so the sight won't vibrate and ruin the filaments in the light bulb).

The lens is coated on the reflector (mirror) side. Warn pilots and mechanics against fingering it or scraping it in any way.



CYCLIC STICK — Loose; turret switch to fire Minnie won't work.

PILOT'S TURRET CONTROL PANEL — Loose; indicator lights won't work; turret control and master arm switches won't work.

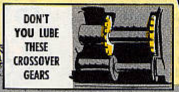


THOUGHTS ON CLEANING, LUBING

Your LO spells out who applies what lubes where and when. No need to beat a dead horse, but here're some reminders worth considering:

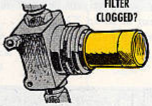
LSA-T Lasts Longer — Use LSA-T (FSN 9150-949-0323 . . . 8-oz tube) any place the LO calls for LSA. But **only** where LSA is called for!

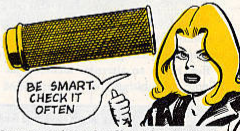
Hands Off the gears in the crossover assembly, turret assembly and the sighting station resolvers:



Ammo Drive Shaft — Don't neglect it. Remove it from the casing and clean and lube it at least once a month. FSN 9150-209-8014 buys a 4-oz can of Extreme Pressure Ordnance Grease.

Filter — If the turret chatters or the gun won't rotate or the turret won't follow moving orders, look for the cause in the hydraulic system — the filter's clogged.



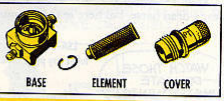


The LO on page 3-4 of your -12 TM says to clean the filter element quarterly, but you'd be smart in Vietnam to check it once a month at least. Take out the element and inspect it. If it's clogged, get your armorer to clean it. But if it's damaged or badly worn, get support to replace it. The filter takes FSN 1005-901-1687(P/N 532964-1) while the element comes under FSN 1005-062-4472 (P/N 532964-3).

P3 MORE

There's only one way to take the element out and put it back.

Coming off: First unscrew the cover from the base or body of the filter. Then use your snap-ring pliers to take off the snap ring, and lastly pull out the element. . . all very, very carefully, of course.



DUNK THE ELEMENT IN A CONTAINER OF SD CLEANING SOLVENT, FSN 6850-281-1985, 1 GAL CAN . . . SHAKE IT REAL GOOD WHILE SUBMERGED

THEN "BLOW" IT GENTLY WITH FILTERED (USE A CLEAN RAG) COMPRESSED AIR, NO MORE THAN 10 PSI, TILL IT'S DRY — AND WEAR GOGGLES.

Putting it back: Be sure you just screw the cover in hand-tight — don't use a tool. And, remember, you don't need an O-ring here.

TIP: Use a rag to catch the hydraulic fluid that comes out when you remove the filter element — and mop up good after you're through. Else the oil will catch dust and you'll catch trouble.

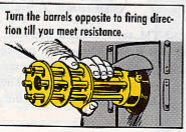
PLAY REAL SAFE WITH MINNIE

Minnie in a turret is no Juliet on a balcony. She's likely to be even more of a spitfire than the Minnie in an M21 subsystem or in an XM18 pod . . . one reason being that you can't get inside the turret to pull out the safing sector.

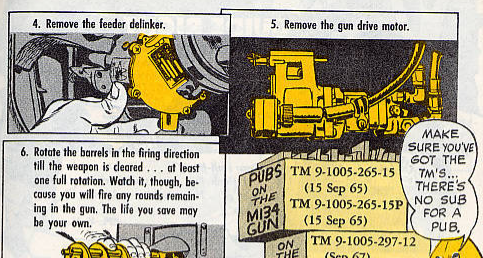
But, here's an alternate method that will go a long way toward keeping Minnie from biting you:

1. Clear the down range area. And you stand clear of the line of fire.

2. Turn the barrels opposite to firing direction till you meet resistance.



3. Remove the fairings.



MACHINE GUN GUIDE

If you are a machine gunner by trade, paste this in your helmet. It gives you the link type and direction of feed for every kind of machine gun.

SIZE	MODEL	LINK TYPE	SET FOR LEFT FEED	SET FOR RIGHT FEED
7.62-MM	M60	Open	Double loop first	Can't happen*
7.62-MM	M73	Open	Double loop first	Single loop first**
7.62-MM	M134	Open	Can't happen*	Single loop first**
.30-cal	M37	Closed	Double loop first	Double loop first
.30-cal	M1919A4 M1919A6	Closed	Double loop first	Can't happen*
.50-cal	M2HB	Closed	Double loop first	Double loop first
.50-cal	M85	Open	Double loop first	Single loop first**
20-MM	M139	Open	Can't happen*	Double loop first

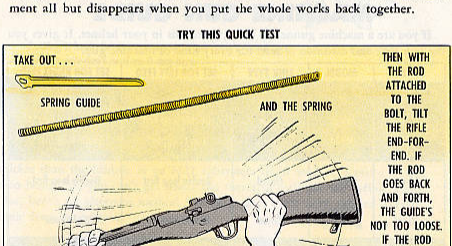
*Built to feed from one direction. Cannot be reversed. **Could be set to feed this way but never is.

Dear Corporal Y. M.,

Maybe you do . . . and then again maybe you don't have trouble.

One thing is sure with an M14 series rifle. When the barrel and receiver group is out of the stock you can have some misalinement between the operating rod and piston. And that can make you wonder about the guide. But the misalinement all but disappears when you put the whole works back together.

TRY THIS QUICK TEST

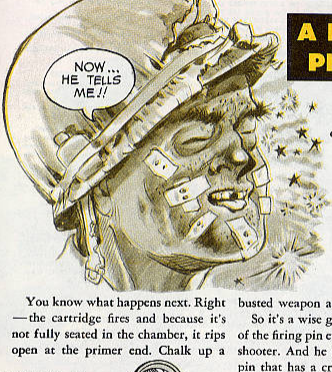


One reason the guide loosens . . . the way some guys make with the muscles as they pull and twist the operating rod out of the guide in disassembling the rifle.

Something else . . . there's metal-to-metal contact between the rod and piston — plain and simple. A little rifle grease or PL Special (LAW below 0°F) on the inside of the guide and the part of the rod that goes through the guide will cut down on the friction.

Half-Mast

A FIRING PIN TIP



It can happen . . . and has — the tip of the firing pin for the M14 rifle breaks and gets hung up in its hole in the bolt. The tip sticks out of the hole a bit and hits the primer as the cartridge is being chambered.

You know what happens next. Right — the cartridge fires and because it's not fully seated in the chamber, it rips open at the primer end. Chalk up a busted weapon and maybe a you, too.

So it's a wise guy who checks the tip of the firing pin every time he cleans his shooter. And he should get rid of any pin that has a cracked or chipped tip, no matter if the pin is old or new.

When you need a replacement, latch onto the latest design pin. It's on page C-10 of TM 9-1005-223-20 (May 67), under FSN 1005-921-5248. It can be spotted in a flash. The tip is shiny chrome-plated and the rest of the pin has a dull chrome finish. The old pin, of course, is blackish.

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, Ch 4 (Dec 67), TM's, TB's, etc DA Pam 310-6, Ch 3 (Apr 68), SC's and SM's; DA Pam 310-7 (Dec 67), MWO's.

TECHNICAL MANUALS

TM 5-4240-258-14 Mar M17A1 CBR Field Mask Accessories.

TM 5-2805-254-13 C1 Apr 25 HP Outboard Motors.

TM 5-3431-200-15 C4 Apr Welding Equip.

TM 5-2820-239-15 Jan Pneum Drill Driller Boom-Type Crawler-Mtd SP.

TM 5-3895-221-15 C3 Apr Concrete Mixer.

TM 5-3895-328-12 Apr Bituminous Concrete Pavers.

TM 5-4310-212-25/P Mar Five Fighting Truck Pumper Foam and Water Set Agent 500-GPM Cent Pump PTO 2½ Ton 6X6 Dsl (Multifuel) 230 BAH 520 BAWM.

TM 5-4310-203-10 C2 Apr High Press 80 CFM Air Comp.

TM 5-4310-220-10 C5 Apr 250-CFM Air Comp.

TM 5-4320-342-15 C1 Apr Cent Petroleum Pumps.

TM 5-4320-304-25/P C1 Apr Space Heater 50,000 BTU/H.

TM 5-4320-208-15 C1 Apr Water Heaters.

TM 5-4320-227-14 Feb Space Heater 60,000 BTU.

TM 5-4320-232-14 Mar Space Heater Multi-Fuel W/Blower 15,000 BTU/Hour.

TM 5-6115-233-20 C2 Apr Gen Sets 150 KW and Up.

TM 5-6115-241-10 C1 Apr Gen Sets 15-KW 60 Cyc.

TM 5-6115-313-15 C1 Apr 45 KW Gen Sets 60 Cyc.

TM 5-6115-327-20/P Mar 3 KW Gen Set Gas Eng DC 28V Skid Mtd.

TM 5-6115-331-15 C1 Apr 15.0 KW Generator Hal-Gar CE-836-PA/WK.

TM 5-6115-344-15 C1 Apr 2 KW Gen Sets 12V.

TM 5-6665-201-12 C3 Apr Land Mine Detecting Equip.

TM 5-6673-233-15 C2 Apr Theodolite.

TM 5-6673-273-15 Feb Theodolite.

TM 9-1135-360-15/P 2 Feb AN/TSQ-51.

TM 9-2320-216-65C/2 C1 Mar M107 SP Gun.

TM 9-2320-209-10 C4 Mar G742-Series 2½-Ton Trucks.

TM 9-2320-209-65C/4 C1 Mar M48 M273 2½-Ton Tractor Truck.

TM 9-2320-209-65C/7 C1 Mar M50 2½-Ton Water Tank Truck.

TM 9-2320-210-65C/5 C1 Apr M105 Truck Mtd Repair Shop M220 Van Shop Truck.

TM 9-2320-211-10 C7 Apr G744-Series 5-Ton Trucks.

TM 9-2320-211-65C/1 C1 Mar M41 M54 M55 5-Ton Cargo Truck.

TM 9-2320-211-65C/3 C1 Mar M52 5-Ton Tractor Truck.

TM 9-2320-211-65C/8 C1 Mar M54A2 M55A2 5-Ton Cargo Truck.

TM 9-2320-215-65C/1 C1 Mar M274 M274A1 Light Weapons Carrier.

TM 9-2320-218-65C/1 C1 Mar M151 ¼-Ton Truck.

TM 9-2350-217-20 C3 Feb M108/M109 SP Howitzers.

TM 9-2350-224-20 C3 Mar M48A3 Tank.

TM 9-6920-375-15P/2 Mar Pershing.

TM 10-1670-206-23 C1 Apr Parachute Recovery Sys.

TM 10-1670-213-20/1 May Harness Quick Release Assy T-10 Pers Parachute.

TM 10-1670-225-23 C1 Apr Pers Parachute.

TM 10-3530-202-24P Mar Clothing Textile Repair.

TM 10-8340-212-13 Feb Mob Spt Equip Tents.

TM 11-5805-378-14/1 Jan AN/FTC-31(V) Central Off Dial Tel.

TM 11-5820-270-10 Mar AN/GRT-3 Radio Trans Set.

TM 11-5895-518-25P Mar AN/MSQ-73 Comno Tech Contr Ctr.

LUBRICATION ORDERS

LO 5-2320-211-12 Mar 2½-Ton Trailer Chassis Drop Axle 2 Whl ENG DWG D111831-1 thru D111831-14.

LO 5-2410-229-12-2 Mar Diesel Full Tracked Tractor Air Drop W/Eng.

MODIFICATION WORK ORDERS

3-1040-202-45/1 Apr M3 Smoke Generator Modification of Mount (Comp of ABC-M3A3 Pulse Jet Mech Smoke Generator)

3-1040-255-45/2 Apr M3 Fog Oil Drum Modification of Mount (Comp of ABC-M3A3 Pulse Jet Mech Smoke Generator).

9-1440-375-30/68 Apr Pershing.

9-2350-217-30/10 Apr M109 Howitzer.

SUPPLY CATALOGS

SC 3830-97-CL-E01 Mar Road Sweeper Mounts.

SC 4610-97-CL-E10 Mar Water Purification Equipment Set 400 GPH.

SC 5180-97-CL-E31 Mar LARC LX Amphibious Lighter Tool Kit.

SC 5420-97-CL-E77 Mar Fixed Bridge Conversion Set Unit Construction 85 Ft Girder Deck Span.

TECHNICAL BULLETINS

TB 10-7400-201-15 Apr Svc Number Listing for Office Mach.

TB 750-923-2 Apr Sergeant EIR and Maint Digest.

TB 750-923-3 Apr Pershing EIR and Maint Digest.

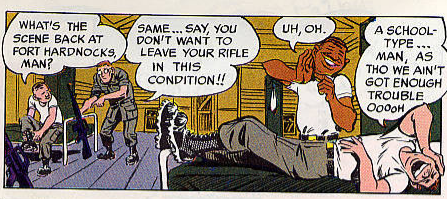
Light Bulbs

Here're the latest FSN's for Lamp, Incandescent, that goes in the extension light in your common tool kits. FSN 6240-222-0276 will get you a 12-volt, 25-watt and FSN 6240-153-6094 is for the 25-volt, 25-watt. The new numbers are in SC 4910-95-CL-A74 (May 67).

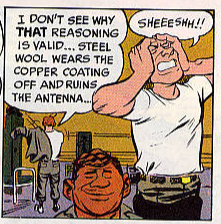
Chemical Items

For identification and supply and publications info on chemical equipment see TM 750-5-15 (Feb 67), Chemical Weapons And Defense Equipment. The TM is loaded with pictures, too. It supersedes TM 3-500 (Apr 61).

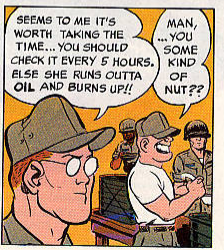

JOE'S DOPE
THE REPLACEMENT
GREEN, MAN, GREEN.
HEY, CHAZ, DIG THE NEW REPLACEMENT!
COMPANY A
THE NO SHOTS
SLOSH
SPLOSH


WHAT'S THE SCENE BACK AT FORT HARDNOCKS, MAN?
SAME... SAY, YOU DON'T WANT TO LEAVE YOUR RIFLE IN THIS CONDITION!!
UH, OH.
A SCHOOL-TYPE... MAN, AS THO WE AIN'T GOT ENOUGH TROUBLE OOOOH


I SAY, YOU SHOULDN'T CLEAN YOUR ANTENNA WITH STEEL WOOL...
NO?? WELL, I GOT A HOT FLASH FOR YOU, JUNIOR— OUT HERE WE MAKE DO....


I DON'T SEE WHY THAT REASONING IS VALID... STEEL WOOL WEARS THE COPPER COATING OFF AND RUINS THE ANTENNA...
SHEEESHH!!


HMM... WHAT'S LOCAL SOP FOR CHECKING THAT GENERATOR'S OIL SUPPLY?
NONE!!! ...WHO'S GOT TIME??


SEEMS TO ME IT'S WORTH TAKING THE TIME... YOU SHOULD CHECK IT EVERY 5 HOURS. ELSE SHE RUNS OUTTA OIL AND BURNS UP!!
MAN, ...YOU SOME KIND OF NUT??

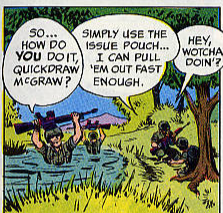

DON'T WASH THOSE FILTERS IN SOLVENT!!
?
...YOU SOME KINDA SPY FROM THE ESTABLISHMENT OR SOMETHING? ...THIS WAY SAVES TIME!!
ANYBODY KNOWS THAT A SHORT-CUT OF THAT TYPE WILL RUIN THE FILTER!! IT'S BETTER TO GO BY THE TM!
MAN, YOU JUST DON'T DIG THE SCENE!! OUT HERE, WE IMPROVISE!
NOTHING WRONG WITH THAT... BUT, IT SEEMS TO ME YOU GOT TO BE SELECTIVE ABOUT IT!!
FOR EXAMPLE, YOU'RE USING THIS STREAM TO QUICK-WASH YOUR TRUCK... VERY SLICK, EXCEPT MUD AND GRIME'S GETTING INTO YOUR BRAKES AND POSSIBLY THE WHEEL BEARINGS, TOO.
... BUT, WE'RE IN COMBAT, WE CAN'T FOOL AROUND.
EXACTLY... ALL THE MORE REASON TO USE THE SURE, TRIED-AND-PROVED METHOD... OUT HERE YOU CAN'T AFFORD TO GUESS!

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.


MAN...YOU ARE SOMETHING ELSE... WHAT'S WRONG WITH FIELD FIXIN' AND IMPROVISING ON MAINTENANCE IN THE FIELD?
IT'S NOT SMART...'CAUSE MAINTENANCE RULES ARE A RESULT OF TESTING AND PROVING... SURE YOU CAN IMPROVISE BUT YOU GOTTA BE CAREFUL... THE ODDS ARE WITH THE TM!
HEY, YOU GUYS...SADDLE UP! YOU'RE ON A PATROL!
I SUGGEST YOU STOW THESE IN THEIR PROPER RACKS...THEY'LL RATTLE AROUND IN FLIGHT AND CAUSE F.O.D.
?!
HE'S GUNG HO FOR DOING THINGS PROPERLY!
A HALF HOUR LATER...
OK, HERE YOU ARE... I'LL PICK YOU UP TONIGHT!
FAN OUT!


HEY, DON'T TAPE THOSE M16 MAGAZINES TOGETHER!
WHY NOT!? ON A PATROL LIKE THIS I LIKE TO HAVE LOTSA EXTRA FIREPOWER!


BUT THE WEIGHT OF THE TWO EXTRA MAGAZINES WILL CAUSE YOU TROUBLE... THE ADDED WEIGHT'LL DAMAGE THE MAGAZINE CATCH... ALSO, IT'LL MAKE FOR TOO MUCH SPACE 'TWIXT BOLT AND CARTRIDGE...

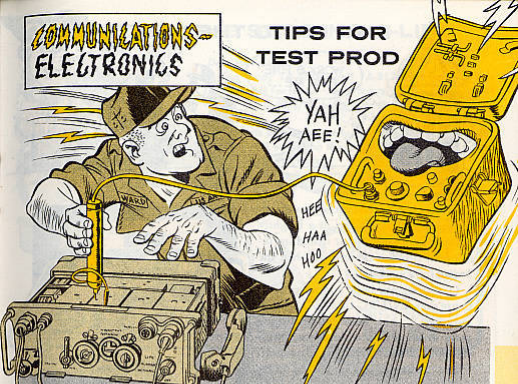

SO... HOW DO YOU DO IT, QUICKDRAW McGRAW?
SIMPLY USE THE ISSUE POUCH... I CAN PULL 'EM OUT FAST ENOUGH.
HEY, WOTCHA DOIN'?


LUBIN' MY PIECE, WHY?
DON'T USE YOUR BUG JUICE BOTTLE TO CARRY LUBE... SOME LEFT OVER BUG JUICE MAY GET IN THE LUBE AND ITS ACID WILL RUIN YOUR WEAPON!


SAME GOES FOR CLEANING AND LUBING YOUR WEAPON WITH ANY UNAUTHORIZED STUFF. STICK TO CR BORE CLEANER AND LSA -- YOU CAN'T GO WRONG THE TM WAY!
SHHH, WE'VE MADE CONTACT!!


@%+#!! m THIS ANTENNA AIN'T PICKING UP SO GOOD.
I TOLD YOU... THAT STEEL WOOL RUINED...
SHHH.


LATER... BACK AT THE MAIN BASE...
WHADDA YA MEAN-- DON'T TRY UNTESTED TECHNIQUES?
OK-- I'LL ASK CONNIE!
WHEN'S THAT PATROL DUE BACK?
SHOULD BE SOON... THEY RAN INTO VC... HAD A SHOOT-OUT.
HERE COMES THE CHOPPER NOW.
WHAT HAPPENED TO THEM?
EQUIPMENT FAILED... NO SURVIVORS EXCEPT ONE!
... AND I SUGGEST YOU GO BY THE TM ON PROPER STOWAGE PROCEDURE!
NOW, CONNIE, CAN YOU GIVE ME ONE GOOD REASON WHY I SHOULDN'T USE SOME MAINTENANCE SHORT-CUTS TO SAVE A LOT OF SWEAT?
WELL FOR OPENERS... THERE'S ONE!
?



You say you're tackling a maintenance problem in a radio set?

Fine . . . but don't double your trouble by goofing up your test set, like the AN/GRM-55( ), by pushing the MX-4622 test prod into unexplored test points.

Like, before making tests in the A-1 module in a RT-505/PRC-25 receiver-transmitter, make sure J2 and J3 jacks have correct DC polarities . . . +100 volts for J2 and –35 volts for J3 when checked on 100-volt range of the AN/URM-105 multimeter.

'Cause, if there's a whopping big difference in these voltages or in the polarity, your GRM-55's probe diodes will be damaged. Small voltage variations due to input power may exist, but polarities must be correct.

So, if this voltage polarity differs or if the voltages are much higher — replace the A-1 module with a good one.

And, see to it the function switch is in C position before touching the test set's probe to the RT's A-1, A-9, A-11, A-16 or A-17 module.

High voltage applied while the GRM-55 switch is set on A or B position could damage the test probe diodes, and knock the whole tester's calibration out of kelter.

If you wind up having to replace the prod, return the test set to higher echelon for repair.

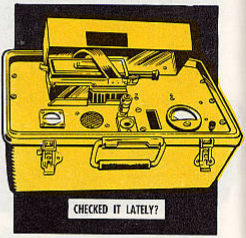
PUT 'ER TO THE TEST

An unchecked emergency radio set can be just about as bad as a brightly painted fire hydrant that rusted up inside and couldn't be opened when the fire alarm sounded.

O' course, you hope you never have to use that AN/URC-10 or ACR RT-10 radio set . . . but, when it's needed it's good to know you're in contact with rescuers and not just talking to yourself.

So . . . like it says in TM 11-5820-640-15 (May 67), put it to the periodic AN/URM-172 test set test.

The test set procedures are covered in TM 11-6625-1698-15 (Oct 67).



LUBE LOOSELY, NOT LIBERALLY

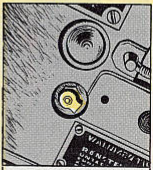
Seeing blotches on a movie screen and they turn out to be dripping oil in your AQ-2A(1), (2) motion picture projector set can raise the ire when you're trying to make the scene.

Sure . . . that AQ-2A(1) needs lubing, like it says in TM 11-6730-201-10 and -20, but not a bath.

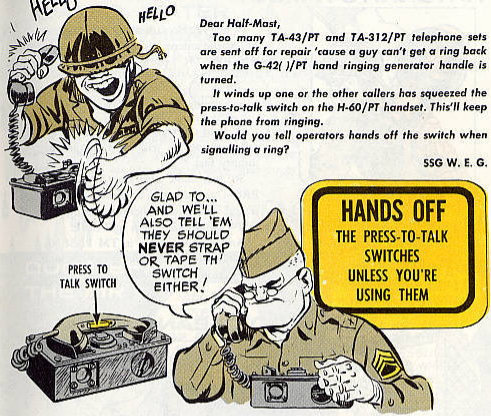
Like in the central oil cup, you put a couple or three drops . . . and then, only when it's needed. The felt will stay soaked and that's all you need.

Too much oil can make for a real dust catcher as well as ruin the insides of the projector, especially the motor.

So, oil when needed . . . never overdo it.



TELEPHONE SET DING-A-LING



Dear Half-Mast,

Too many TA-43/PT and TA-312/PT telephone sets are sent off for repair 'cause a guy can't get a ring back when the G-42( )/PT hand ringing generator handle is turned.

It winds up one or the other callers has squeezed the press-to-talk switch on the H-60/PT handset. This'll keep the phone from ringing.

Would you tell operators hands off the switch when signalling a ring?

SSG W. E. G.

JOINT EFFORT

In case you haven't heard, it sure pays to take apart the sections of your whip antenna — such as the AT-912 and AS-1729 — now and again to keep them from acting like they're welded at the joints.

But there's more to it than just taking the sections apart and putting them back together. What you want to do is put some silicone compound on the threads before you join the sections. You'll find an 8-oz tube of the stuff on page 4. 79 of Fed Cat C6800-IL (Jul 67). It comes under FSN 6850-063-1858.

If you're in a wet place, it doesn't hurt any to pull this kind of maintenance every day. Otherwise, once a week is a good deal.

ANTENNA'S A MUST

Whoa . . . Don't hit that mike button unless the antenna is connected to your AN/PRC-74( ) radio set.

A fired-up transmitter without an antenna hookup will burn things out mighty fast.

So, just make sure your AS-1887( ) PRC-47, slant wire or dipole antenna is tied into your set before turning the OFF-ON-TUNE switch to TUNE.

And, do like it says in TM 11-5820-590-12 or -12-1 for making the antenna connection.

MEAN TO CLEAN

Dear Editor,

We had trouble getting dirt and corrosion out of the upper end of the AB-15/GR antenna base . . . that is, until we latched onto a .30-cal brush.

Using an old small arms bore cleaning brush (FSN 1005-556-4174), we ran it around inside the antenna section to get 'er clean. The brush works well by hand or on an electric motor, and really puts dirt on the run.

SFC DALE SHIVERDECKER
FT KNOX, KY

(Ed Note — Sounds good . . . and it takes only a couple or three spin-arounds of the brush to get the job done.)

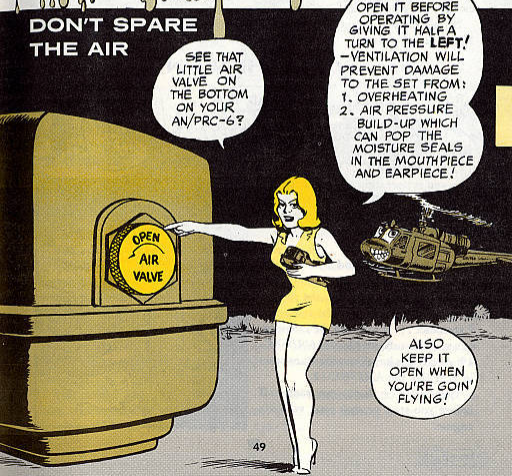
WATER, WATER EVERYWHERE

And if the wet stuff is in the AT-803/VR antenna for your AN/VRC-24 radio set, it's in the wrong place.

True . . . looking at the antenna, you might not think water could get inside. But it does.

So take out the drain plug every so often — every other day if you get lots of rain or humidity in your part of the world — and empty whatever water's inside.

DON'T SPARE THE AIR



Power is mighty potent, and it sure comes in handy when you're operating electronic equipment . . .

Like, f'rinstance, that RT-524 or -246 receiver-transmitter . . . Make sure that input voltage is between 22-24 volts when there's a lot of talking to do.

A lotta transmitting at more than 24 volts will damage the set, and below 22 volts is not enough power.

Normally, the RT's geared for 25.5 volts, since it was designed with 9-to-1 receive-transmit ratio in mind. But, extra transmitting can put the heat on and damage the equipment.

No matter what your voltage rate is, never key the transmitter for more than 15 minutes at a time.

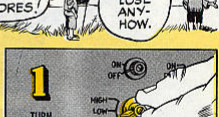
OFF, THEN ON

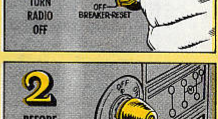
So you're operating your vehicle with its radio set on. But what do you do when your turn off the vehicle's ignition? Leave the radio on?

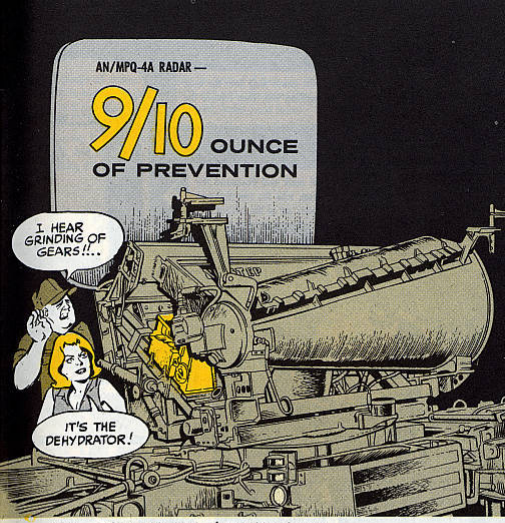
That's bad, real bad.

If you haven't found out already, when you leave the radio on and then turn the ignition off or on, the sudden surge of power can give the radio fits. F'rinstance . . . it can ruin the filaments in a vacuum tube set like the AN/GRC-19. And it can knock out the transistors in gear like the AN/VRC-12.

Remember — Turn your radio **off** before you start or stop your vehicle's engine.







You . . . there with the AN/MPQ-4A radar set.

You'd better lend an ear so you can learn how that HD-264 desiccant dehydrator might lower the boom on the beam of your radar set.

You know the dehydrator's mounted on the antenna group and it's there so the RF waveguide sections will get dry air under pressure. That's needed so you won't have arcing of those beams or no beams at all.

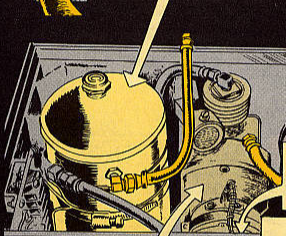
A sure way to put your dehydrator out of commission is to forget about the oil in the motor and compressor assembly. You've got to check that oil as well as change it.

You change the oil in the gear box every three months or 500 hours of operation, whichever comes first. But, if those gears start making more noise than usual, you'd better check the oil level right now.

MORE

Here's how: Make sure you pull the power plug from the back of the dehydrator before you do anything else. Then remove the dehydrator from the radar.

Now mark and disconnect the air hoses, take the two desiccant containers out of the cabinet.



Next remove the two wiring clamp loops that secure the motor wiring to the air intake filter bracket.

Remove the motor and compressor assembly from the cabinet. You won't have to disconnect the wires if you're careful.

There're four mounting bolts that hold motor and compressor assembly to bottom of cabinet. Remove them. It's easier if you take out the front ones first.

Shift compressor end of assembly to one side and lift up. Easy does it.

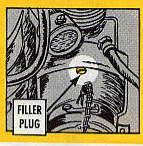
Set the assembly on something flat. Now take a look at the back of the gear box. You'll find three screws in the back arranged like a triangle. The top screw head's smaller than the two lower ones. The top screw's the oil level screw.

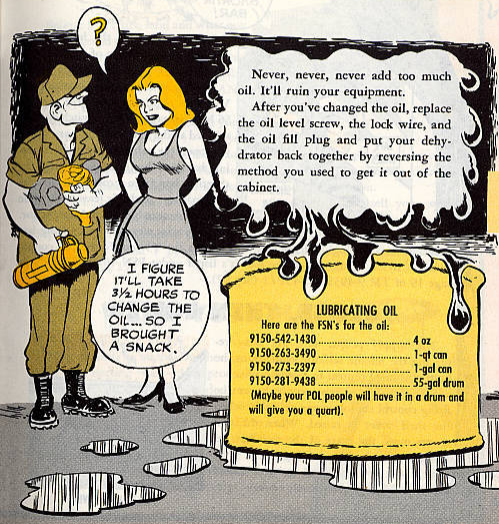
Take the lock wire off that goes through the screw head and remove the screw. The oil level should be up to this screw hole.

CHANGE OIL

To change oil remove 3/8-in plug on bottom of gear box. Use a 5/32-in hex head wrench, FSN 5120-198-5392. It's in both No. 1 and No. 2 Common Tool Kits. (It's Key Set, Socket Head Screw).

After draining, replace plug. To add new oil, remove the 3/8-in plug on top front of gear box (you can use the same hex head wrench). Add 26 cc or approximately 9/10 ounce of MIL-L-7870 Lubricating Oil, General Purpose, Low Temperature.





Never, never, never add too much oil. It'll ruin your equipment.

After you've changed the oil, replace the oil level screw, the lock wire, and the oil fill plug and put your dehydrator back together by reversing the method you used to get it out of the cabinet.

LUBRICATING OIL

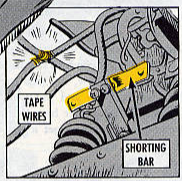
Here are the FSN's for the oil:

9150-542-1430	4 oz
9150-263-3490	1-qt can
9150-273-2397	1-gal can
9150-281-9438	55-gal drum

(Maybe your POL people will have it in a drum and will give you a quart).

END

SHOCKING TRUTH



It can happen in the high-voltage power supply section of your Hawk AN/MPQ-35 pulse acquisition radar.

The high-voltage wire between the V7 series regulator tube grid and the S6 high-voltage selector switch can get wedged under the shorting bar. When you open the cabinet doors, the shorting bar gets hung up—keeping the shorting bar from grounding out the C1 capacitor. And this leaves you wide open for a mean bite from the capacitor.

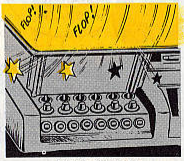
What you want to do is keep the high-voltage wire clear of the shorting bar by lacing it to the high-voltage lead running to the T3 transformer. A coupla inches of nylon twine will do the job. It's listed under FSN 4020-527-9089 on page 19 of TM 9-4935-501-15P/1 (Sep 67).

CLOSE, THEN LOWER

The supply people sure are busy replacing the missile selector switches in the battery control central in Hawk outfits.

Seems more'n a few people lower the firing control console cover assembly when the shelf cover is raised. When the two covers meet, the rears of the switches get in the way and take a beating.

So make sure the shelf cover is closed before you lower the console cover.



CLOSE SHELF COVER

CLEAN AND LUBE

Believe it . . . dirt, sand and what-not sure can get to the ring gear, 9085694, in the azimuth-range indicator assembly and the spur gear, 9084193, on the sector scan drive of your Hawk AN/MPQ-35 pulse acq radar.

What to do? There's nothing in your LO 9-1430-502-12 (Jun 67)—not yet—but it's still a good idea to clean and lube the gears quarterly. Dry cleaning solvent's a good cleaner, and aircraft and instrument grease is the lube to use. Both are in TM 9-4935-501-15P/1 (Sep 67)—with 1 gallon of the solvent on page 14 . . . and 1 pound of the grease on page 15.

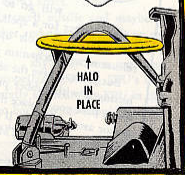
When you've got 'em clean and dry—put some grease on 'em right away to head off corrosion.

You might also tell your support people that you'd sure like them to take apart the sector scan drive once a year and use the same solvent and lube on the gears inside it.

WEAR YOUR HALO

They're back at support gathering dust instead of protecting you — those protective halos for your Hawk XM501E2 loader-transporter.

That's right . . . MWO 9-1450-500-30/7 (Aug 66) puts protective bars on the E2 to keep you in one piece in case the latching mechanism poops out while you're transporting missiles. But a lot of outfits haven't asked their support unit to drop by with the modification kit.



HAWK NOTES

ONE AT A TIME

Maybe you're good at doing two things at the same time, but forget it when it comes to moving the standby and designate switches on your Hawk launcher test set to ON—like when the missiles are on the launcher.

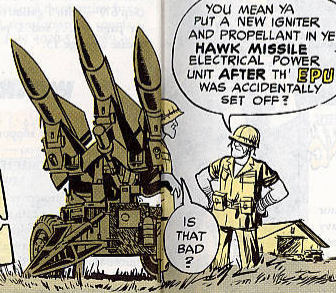
Seems that when you do this, the K40, K41 and K42 relays in the azimuth distribution box get energized at the same time with 208 VAC. This means arcing across the relay contacts and a chance of a short circuit that can give accidental missile electrical power unit and hydraulic arming.

So let the standby lamp come on before you flip the designate switch to ON—even though there's nothing in your publications that say you should.

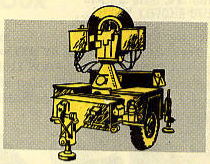
LONG LIVE THE SEALS

You're right . . . that rubber seal in each of the forward sector assemblies on your Hawk launcher probably will go to pot after being in the weather for a spell. And then water gets inside and fouls up things like the release sector mechanism assembly.

But you can give the seal a longer life by hitting it with rubber preservative coating every time you replace the shear pin in each sector assembly. You'll find 1 gallon of the stuff on page 14 of TM 9-4935-501-15P/1 (Sep 67).



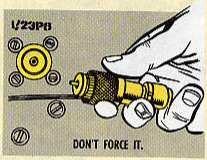
TAKES GOOD CONNECTIONS



Maybe they're shot and maybe they're not—the J2 connector for the magnetron power supply and J5 connector for the modulator power supply in your Hawk AN/MPQ-37 range only radar.

When they're made, bakelite sometimes runs into the center conductor clip. Then the male plug won't go into the connector. And you sure don't want to try to force it in.

The thing to do is check the connectors. If you can't pick out stuff that doesn't belong in the conductor clip, you can figure the connector is no good. If there's nothing in the connector and it takes the male plug with no sweat, you're home free.



NEEDS CLEANING

When the EPU went into action, the chances are darn good that the nozzle in the gas turbine got clogged . . . or has since become corroded. And then if the new propellant ignites—bam—as the turbine blows apart.

It would be farewell missile and maybe so long to the launcher and any other birds on the launcher.

In other words . . . shy away from replacing the igniter and propellant grain in EPU's that have been accidentally ignited. Any EPU in this shape wants to go back up the supply line for a good depot cleaning.

M107 SPG, M110 SPH AND
M578 RECOVERY VEHICLES...

GET THE MOST FROM YOUR ENGINE

Too many engines (Model 8V71T) have been shot down by OVERHEATING, POOR LUBRICATION and CONTAMINATED AIR. Most of these killer type abuses can be nipped-in-the-budding stage by using a little know-how.

OVERHEATING

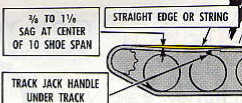
Faulty Operation

Overheating due to an inexperienced operator heads the list. An engine subjected to excessive heavy labor or made to run above 225°F is a sure loser. Here are the conditions under which an engine will overheat...

1. **Operating on steep grades or soft terrain in the wrong shift range.** In other words, lugging your engine. Get to know how to use your shift ranges; study and practice the method outlined in Change 5 to TM 9-2300-216-10 or Change 2 to TM 9-2320-238-10.

SPEED RANGE	MAX SPEED	GROUND SURFACE
1st	5 MPH	Mud, snow, deep sand, extreme grades, low obstructions and placing the vehicle in motion.
2nd	9 MPH	Semi-hard surface, steep grades, low obstructions or placing the vehicle in motion.
3rd	17 MPH	Hard surface, rolling country.
4th	34 MPH	Flat, hard surface highways.
Reverse R1	4 MPH	Use as required.
Reverse R2	7 MPH	Use as required.

PS MORE



2. Operating with tracks adjusted wrong. Tracks on M107, M110 and M578 should be adjusted like shown in Fig 63, Ch 2 to TM 9-2320-238-10.

3. Operating with brakes adjusted wrong. If you suspect your brakes are dragging or pulling to one side, have your unit mechanic readjust them like it says in MWO 9-2300-216-30/1 (Mar 64) and TM 9-2300-216-20, para 39a, or TM 9-2320-238-20, para 51a.

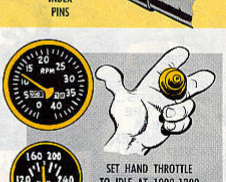
(1.) Check cable slack and tight adjustment as given in MWO.

(2.) With brakes released, index pins should line up at "release" mark.

(3.) With fully applied brakes, index pins should be between apply and adjust and still be alined.

(4.) If pins are not alined, or go to or beyond adjust mark — re-adjust brakes.

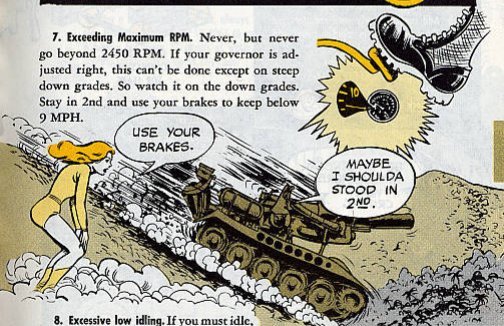
4. Moving out without a properly warmed engine. Always, but always, warm up your engine before moving out. When the engine catches good and runs smoothly, set the hand throttle control to run between 1000-1200 RPM. Run for about five minutes until the temperature gage begins to rise. Coolant temperature should level off between 170°-185°F. More details are covered in Ch 7, TM 9-2300-216-10 and para 16a, Ch 2, TM 9-2320-238-10.



5. Stopping without cooling engine. Before engine shutdown, make sure your coolant temperature is between 170° and 185°F. If it's higher, set your hand throttle and idle between 1000 and 1200 RPM. This should bring it down to the right temperature range. If it takes longer than five minutes to cool off, then you better check out the engine like it says in Table II, item 7, TM 9-2300-216-10 or item 7, Table I, TM 9-2320-238-10.

6. Exceeding 225°F while operating. When operating under a heavy load keep an eye peeled on that temperature gage. Even when you're driving in the "up" position through the open hatch, glance at that gage often.

7. Exceeding Maximum RPM. Never, but never go beyond 2450 RPM. If your governor is adjusted right, this can't be done except on steep down grades. So watch it on the down grades. Stay in 2nd and use your brakes to keep below 9 MPH.



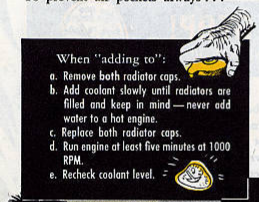
8. Excessive low idling. If you must idle, set your hand throttle to fast idle between 1000-1200. Never idle for long periods below 1000 RPM.

A faulty cooling system or low coolant level is the next biggest cause of overheating. Here's how the causes stack up.

1. Improper filling. Improper filling causes air to be trapped in the system. These air pockets become heat traps. To prevent air pockets always . . .

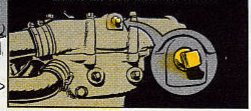
When "adding to":

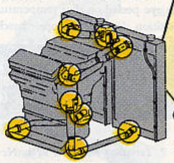
a. Remove **both** radiator caps.
b. Add coolant slowly until radiators are filled and keep in mind — never add water to a hot engine.
c. Replace both radiator caps.
d. Run engine at least five minutes at 1000 RPM.
e. Recheck coolant level.



When "refilling":

a. Remove **both** radiator caps.
b. Add coolant slowly.
c. When full, bleed any trapped air off by removing the vent plug from the vent hole in the thermostat housing. Tighten down the plug when water and no air comes out of the vent.
d. Refill the radiators and install the caps.
e. Run the engine at 1000 RPM for five minutes and recheck the coolant level.





2. Faulty radiator caps. Radiator caps should keep the cooling system pressurized to 14-17 PSI. If either one of yours is bad, replace it with a new one . . . FSN 2930-690-2701 (P/N 10866042). To discourage crew members from stepping on and damaging the caps, paint a "no step" caution on the deck nearby.

3. Leaks. Inspect the cooling system thoroughly. Place special emphasis on the radiator outlet hoses, manifold hoses and the water pump inlet hose. Keep the bolts and hose connections tight.

4. Clogged radiators. Flush or clean internally clogged radiators like it's spelled out in TB Ord 651 (Apr 64). This cleaning job is not a routine job; it's used only to clean rusted or clogged cooling systems. The cleaning compound used is FSN 6850-598-7328. A set of cleaning instructions come with the compound.

After a flush or cleaning job, always use Corrosion Inhibitor, FSN 6850-753-4967 (6-oz can). Use 6 ounces for every 12 quarts of water. A 22-gal cooling system takes about 7½ cans.

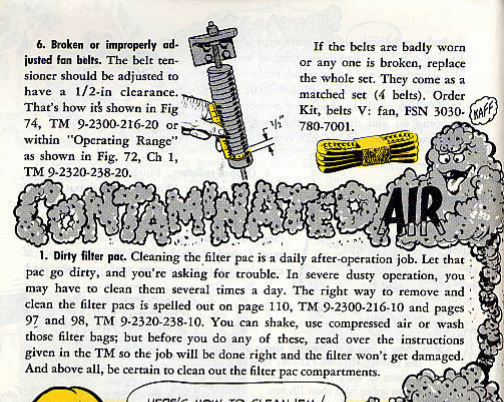
Don't pour the inhibitor into the radiator in its powder form. Dissolve the stuff in hot or warm water then pour it into the cooling system.

If your radiators are clogged externally, blow them out with hot water and air under pressure; or have your support steam them clean. To keep external clogging to a minimum, don't let junk accumulate in the fan compartment. Vehicles in Southeast Asia should have their radiators removed and cleaned at every Q-service when the power pack is out.

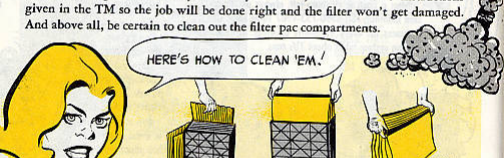
5. Defective Thermostats. The only thing to do is to replace them if you find yours are faulty. Use FSN 6620-846-9848 to get new ones. Your -20 TM shows how they're replaced.

6. Broken or improperly adjusted fan belts. The belt tensioner should be adjusted to have a 1/2-in clearance. That's how it's shown in Fig 74, TM 9-2300-216-20 or within "Operating Range" as shown in Fig. 72, Ch 1, TM 9-2320-238-20.

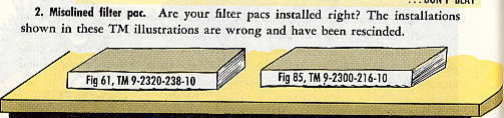
If the belts are badly worn or any one is broken, replace the whole set. They come as a matched set (4 belts). Order Kit, belts V: fan, FSN 3030-780-7001.



1. Dirty filter pac. Cleaning the filter pac is a daily after-operation job. Let that pac go dirty, and you're asking for trouble. In severe dusty operation, you may have to clean them several times a day. The right way to remove and clean the filter pacs is spelled out on page 110, TM 9-2300-216-10 and pages 97 and 98, TM 9-2320-238-10. You can shake, use compressed air or wash those filter bags; but before you do any of these, read over the instructions given in the TM so the job will be done right and the filter won't get damaged. And above all, be certain to clean out the filter pac compartments.



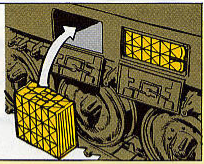
2. Misalined filter pac. Are your filter pacs installed right? The installations shown in these TM illustrations are wrong and have been rescinded.



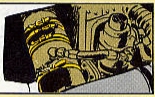
Check your pacs now. They should be installed as shown in these changes . . .

Change 7, TM 9-2300-216-10
Change 3, TM 9-2300-216-20
Change 2, TM 9-2320-238-10
Change 1, TM 9-2320-238-20

The correct installation method is to install the filter pac assembly so the basket "handles" face inboard. In other words, the "handle" end of the basket goes into the compartment first. In case you can't find the FSN for the filter pac, it's 2940-751-7090 (P18868).



3. Leaky intake air ducts. Look for loose clamps, misalined parts, holes or anything that looks like it'll let dirty air sneak into your engine's induction system. Dirty, unfiltered air can chew your engine to bits in a short time.

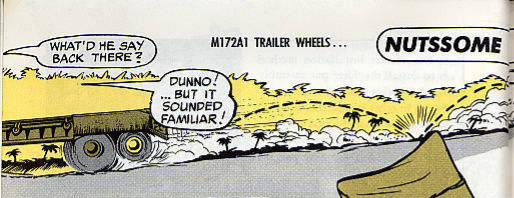


LUBRICATION

1. Low oil level. Check your engine oil before and after every operation. The level should not be below the FULL mark. After an overnight stand the level may creep up to 1-3/8 inches above the FULL mark; this is OK.

2. Clogged lubrication system. If this is the case, change the oil filter elements (FSN 2940-555-6348), clean out the filter shells, drain the contaminated engine oil, fill the engine with OE 10 and run from three to five hours. Repeat the flushing until all the sludge is washed out of the system. When it's cleared, again replace the oil filter elements and fill the engine with OE 30.

3. Wrong grade or diluted engine oil. LO 9-2300-216-12 and LO 9-2320-238-12 specify OE 30 for expected temperature above + 32°F and OE 10 between + 40°F and + 10°F. The use of a too light weight oil, either the wrong grade or the right grade diluted with fuel can cause engine overheating. A situation like this can be spotted by a low oil pressure reading on the instrument panel gage.



How's that? Try it slower.

N-u-t-s s-o-m-e

b-e-t-t-e-r

b-u-t...

Yeah, those new wheel nuts and studs on your M172A1 25-ton lowboy trailer are a lot better. Your trailer got 'em either under MWO 9-2330-211-30/3 (Jun 66) or in production.

They hold tighter'n the old setup.

But, just about anything you tighten can loosen—all by itself. Give those nuts long enough, forget to check 'em once in a while and you may find your trailer draggin' 'er tail behind 'er—leaving your wheels strung back along the road.

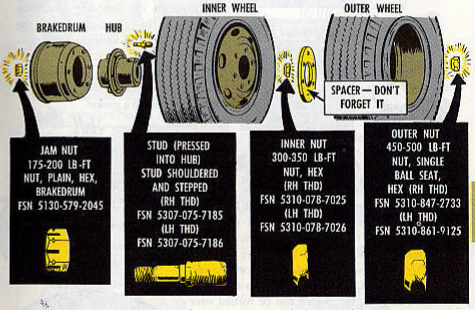
So hit those outer wheel nuts real often. Your tractor's OEM lug wrench ("stretched" like it says in PS 175) will do fine for checking and on-the-road tightening. Put plenty of muscle to it—with that 30-inch handle, you won't have to worry about over-torquing the nut.

Be sure your mechanic follows up on any loose ones you find. You snug 'em down good with your lug wrench, but get him to give 'em the full treatment with his torque wrench—450 to 500 lb-ft.

As you were! It's not quite that simple.

Loose outer wheel nuts could mean loose inner wheel nuts too. To do the job right, your mechanic should take the outer wheel off, check the inner nuts (300 to 350 lb-ft) and remount the outer wheel—with the trailer weight off the wheel while tightenin' the nuts back up, natch.

Those jam nuts on the inner ends of the studs won't likely loosen up. But they should be checked reg'lar too—like when brake drums are pulled for semiannual inspection and service. Any loose ones get the full torque—175-200 lb-ft.

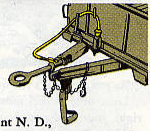


Whenever wheels are pulled is the time to look those studs over real close—for cracks and stripped or burred threads. Replace bum studs. Find a broken stud? Then get suspicious of the studs on either side—strain might have damaged them too.

What separates pro's from greenies is the way they install wheel nuts. So make sure nuts are centered in the wheel's ball seats. Then stagger-tighten 'em—top, then bottom, then right, then left and so on.

Here's totightwheelnuts!

YOU ASKED IT-- NO GASKET



Dear Half-Mast,

Is there supposed to be a gasket inside the cover on the intervehicular cable that sends electrical power from a truck to the trailer it's pulling?

SSG N. D.

Dear Sergeant N. D.,

You bet not. If you come across what looks like a gasket inside a trailer receptacle cover, it's a homemade job. With a gasket inside the cover, and the cover shut, water and stuff can get inside through the indexing slot. The spring keeps the cover tight against the connector, without adding a gasket—believe it.

The receptacle on the truck is another story. It's made in a different way . . . so the cover needs a gasket.

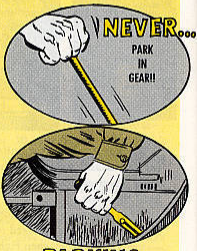
Half-Mast

BRAKE BETTER THAN BREAK

Never let it be said that you didn't know because here's the word now—when you park your multifuel or diesel truck, make sure the gearshift is in neutral and handbrake on.

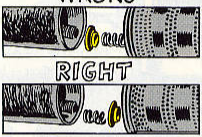
Why? Multifuel and diesels are compression ignition engines, that's why. So with the transmission in gear, the engine can be turned over and started by pushing the vehicle. And an accidental push could mean a repair job for anything that might get in the way of the vehicle—like people and things.

In other words, use your parking brake when you park your multifuel or diesel truck. Never . . . never . . . NEVER park with the transmission in gear.



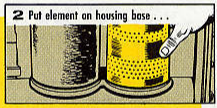
CUP AND SPRING NEEDED

Did you remember to put the spring and cup in the filter—along with the new element? Without the spring and cup, the element is loose in the filter. And this means it can't do its filtering job.



And remember, too, the small end of the cup points down.

Get the sequence right . . .



M11 DECON NOTES

USE LOCAL SOP FOR...

MOUNTING

Dear Half-Mast,

We've searched high and low for instructions on how and where to mount the M11 portable decontaminating apparatus on our equipment. Is there any DA directive on this?

SP4 N. R. A.

Dear Specialist N. R. A.,

Local SOP—established by your CO and, probably, your safety officer—is your only guide for mounting the M11 decon on your equipment.

Here're some important guide points:

1. Mount it vertically — as near heads-up as possible.
2. Locate it within easy reach of the operator when he's in the driver's seat. The handle shouldn't be in a corner or where it's hard to reach. The operator should be able to grab the handle quickly with one hand and, at the same time, hit the holding strap with the other hand.
3. Pick a spot where the decon won't get in the operator's way and where it won't hit, hide or crowd other equipment like fire extinguishers, radios, weapons, data plates, handles, dials, vents and so on.
4. The decon's instruction plate should face out so it's easy to see.
5. If drilling's needed to mount the decon bracket, make sure you aren't going to run into something on the other side of the place picked for drilling.

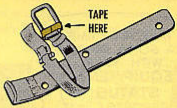
All this should be spelled out in SOP for mounting the M11 decon unit. For the protection of everybody concerned, it's best if the SOP describes specifically where and how the M11 is to be mounted on each type of equipment. Operation and maintenance of the M11 is covered by TM 3-4230-204-15 w/Ch 3 (Sep 66).

Half-Mast

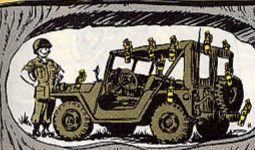
SLIPPERY HOOK

Dear Editor,

The wire locking-hook on the mounting bracket for the M11 portable decon pulls out easy with use, and very often ends up lost. You can head this off by winding the hinge-end of the hook real tight with a ¼-in wide strip of waterproof, tape, FSN 8135-269-8090.



(Ed Note — Good deal! Improved brackets are on their way.)



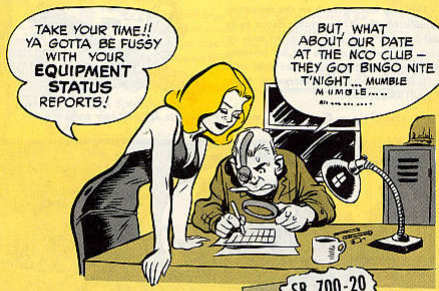
LOCK FIX

If your M11 portable decon has lost the E-ring holding the valve locking pin, try this lock on the pin. Loop a short piece of locking wire (FSN 9505-308-3978) around the pin's retainer ring groove, twist the ends into a pigtail, and fold the tail over the end of the locking pin. In a pinch you can use a common paper staple for the locking job.

SUPPLY

WHEN YOU CARE ENOUGH TO SEND THE VERY BEST...

WATCH YOUR REPORTABLES...



No if's, but's or maybe's, friend — equipment status reports must be accurate!

For one, your reports pack a big wallop when it comes to Uncle deciding how you and your buddies will be equipped tomorrow. For two, the reports call the signals on supply support plans for unit equipment. 'Nuff said, right . . . ?

The first things you have to latch onto are SB 700-20 (Apr 68), Adopted Items of Materiel and Reportable Items, and AR 711-5 (Dec 67), Army Equipment Status Reporting System (Materiel Readiness). You'll also need your local SOP on equipment status reports. All 3 pubs you should know real good.

And, right now here's some handy know-how to help you crank up a good report.

THE SCOOP ON REPORTABLES

Reportable items used to be reported in AR 711-140. You can forget about 711-140 now. It's been replaced by SB 700-20.

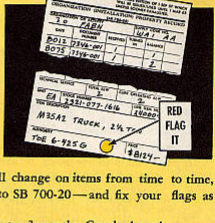
In SB 700-20 the reportables are tagged with a Reportable Item Control Code (RICC). And, an item's RICC tells you who reports it. For example:

RICC 1, 2 and 6 items are reported by both Active and Reserve outfits.

RICC 3 and 7 items are reported by Reserves only.

For a complete rundown on the RICC's, see para H-7, AR 711-5, or para 4-h, SB 700-20.

Your property book (PB) page for reportable items must be flagged with a 1/4-in red circle in the authority block, like it says in AR 735-35. The flag makes it easier to spot reportables when you're making out the report.

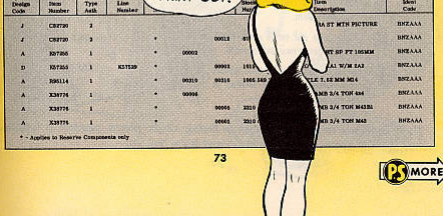


And, remember, reportable status will change on items from time to time, so keep a real close check on changes to SB 700-20—and fix your flags as needed.

SB 700-20 is being used quarterly—every 3 months. Get the latest!

THE REPORT

Normally, your support outfit will provide a machine print-out (P/O) of your unit's equipment status report. Then it's up to you to update the report as changes occur, and have a report ready to go whenever its cut-off date rolls around again.



PB MORE

CROSS-CHECK THE P/O

And, it's always best to double-check the print-out against your property book before you shoot in a new report. That'll help you to review the previous report for accuracy, and will protect you against any goofs that may befall the machined print-out, elsewhere. After all, once you turn your report loose, all your facts and figures are fed into automatic data processing machines. And, once a machine goof sneaks in, it can be repeated over and over and compound all kinds of problems . . . until it's caught and corrected by a human type.

READING THE P/O

The machine print-out, of course, talks mostly in codes and uses columns. The columns may line up differently on different print-outs, but the info recorded on all print-outs is pretty much the same. And, the column headings and coded info that concerns you the most read like this:

SPECIAL DESIGNATION CODE

COLUMN 1

This code tells what kind of equipment an entry is reporting. For example, a capital —

A — Means organizational property (It's in your organizational PB).

J — Identifies installation property (Items in your installation PB).

D — Says it's a substitute item.

R — Reports an old series radio that's subbing for a new series radio.

F — Is for Reserves only, and reports unit-owned equipment located in an equipment pool.

1
Spec Design Code
J
J
A
D
A

These codes are mighty important in fitting all the pieces together at topside, so bone up on Appendix H, AR 711-5 and learn 'em all.

COLUMN 2 **LIN** **(line item number).**

And, LIN's as you know, apply to either 1 item and 1 FSN, or they can cover several makes and models, each with a separate FSN. So, on a report you record the LIN the same way it's carried on your property book. That is, for a LIN covering only 1 FSN, all the info is reported on 1 line. And, for a multiple-line LIN you use a line for the LIN on the PB header page. (And, that line'll report your total authorized allowance for the item — like the item's header page does.)

Then you'll use a separate line to report the on-hand quantities for each separate make and model (FSN) you have under that LIN.

2 Line Item Number
C82720
C82720
K57255
K57255
R95114
X38776
X38776
X38776

MORE

AUTHORIZATION DOCUMENTS

COLUMN 3

And, they're coded like this —

1 — Means TOE/MTOE.
2 — Says TA, TDA/MTDA.
3 — Is for maintenance float items.
4 — This covers you when you're momentarily embarrassed for authorization for on-hand quantities. It says that previously authorized stuff is waiting to be turned in.

It's also important to the wheels concerned to know what authorization document gives what quantity of an item. So, if you have the same item authorized by TOE or MTOE, TA, TDA or MTDA, you make a separate line entry for each authorization.

TRAINING ALLOWANCE

COLUMN 5

This column is for Reserve units only.

TOE Reserve units — as currently organized and staffed, report the quantity of equipment needed to support all training needs.

TDA Reserve units list the quantity needed to carry out current mission assignment — but not over full TDA allowances for the assignment.

TOTAL AUTHORIZATION

COLUMN 6

Active units report total allowance authorized to be on hand or on order. The correct info for the modified allowance block on your PB page is the figure you must report in this column.

For Reserve TOE units the total allowance is the full TOE allowance or level which will apply when mobilized at full strength for full time intensive training — before heading for combat areas.

For Reserve TDA units the total authorized is the full TDA/MTDA allowance as the unit's currently organized.

ON-HAND QUANTITY

COLUMN 7

And, here's where you've really got to be on the ball. When you get right down to it, this figure is what the system is all about. To keep you properly equipped and supported, and to keep track of what's where, doing what, for who — the supply providers and other top-brass types must have an accurate on-hand count of reportable items from units and activities, worldwide.

So, please, sweet a little, if need be, to report exact on-hand info. And, remember, you get the on-hand figure from the balance column on the property book page. Therefore, every time you change a balance entry in your book, you have to update the on-hand figure on your next report.

FSN for the item on hand.

COLUMN 8

If you're setting up a line on your report for a multiple-line item, leave the FSN column blank — just like the FSN block on the PB header page for the item.

The separate lines for the separate makes and models will show the FSN's.

LIN for substitute items.

COLUMN 4

ITEM DESCRIPTION

COLUMN 9

UNIT IDENTIFICATION CODE (U.I.C.)

COLUMN 10

3 Type Auth	4 Sub Line Number	5 Trng Alw	6 Total Auth	7 On Hand	8 Federal Stock Number	9 Description	10 Unit Ident Code
2		*		00012	6710 408 5066	A ST MTN PICTURE	BNZAAA
		*				CAL	BNZAAA
2		*				PH	BNZAAA
		*	00002			GHT SP FT 105MM	
1		*		00002	1015 322 9752	M101A1 W/M 2A2	BNZAAA
1	K57529	*				HO	BNZAAA
1		*		00310	1005 589 1271	7.62 MM M14	
1		*	00006			AMB 3/4 TON 4x4	BNZAAA
1		*		00005	2310 542 4634	AMB 3/4 TON M43B1	BNZAAA
1		*		00001	2310 835 8516	AMB 3/4 TON M43	BNZAAA

MORE

THAT'S THE P/O

As you can see there's nothing mysterious about P/O code talk. After a few passes you should be able to translate the scoop in nothing flat.

The other columns you'll find in a print-out are self explanatory, or else they provide routine info for your supply support outfit.

ABOUT SUB ITEMS

It's possible to have 3 different situations when it comes to substitute items.

FOR EXAMPLE...

1. Normally you'll have a **reportable substitute** item in lieu of an **authorized reportable** item. In that case you simply report both items, on separate lines.

2. But you can also have a **non-reportable substitute** item in lieu of an **authorized reportable** item. When that happens you report info on the authorized reportable item only.

3. And, when you have a **reportable substitute** item in place of a **non-reportable authorized** item, you report the reportable substitute. The only info on your report reletng to the authorized item is its LIN, which you put in Column 2.

use the special designation code (D or R) in column 1, and check your local SOP for any special instructions on reporting sub items.

TECH REP HELP

If the publications leave you with questions, you can call on the U. S. Army Major Item Data Agency (USAMIDA), Chambersburg, Pennsylvania 17201. That outfit has tech reps visiting all commands and Army areas twice a year. Your outfit can shoot in a request, through its headquarters, for a visit by a tech rep. An AR 711-5 expert'll be around to help you check your print-out and property book, and he'll show you how to come up with an accurate report.

Keep those DA 2408-3 entries short—but specific. A single line entry on DA 2408-3 for the periodic PM service **includes** any inspection time required as a part of it. So the only extra lines you need for the PM service entry are for adjustments, repairs or replacements directed by the equipment TM as part of the service—and even for these actions, manhours are included with the manhours on the PM service line. Lubrication and antifreeze entries are made on DA 2408-1 only—not on DA 2408-3.

FLAME THROWER FEEDER

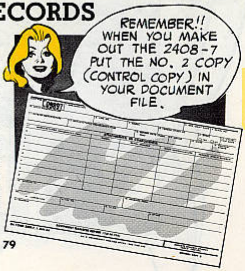
Maintenance records and gain, transfer and loss reports are lagging on the M4 and M4A2 flame thrower service unit (FSN 1040-740-1152 and FSN 1040-740-1150)—TAERS line No. 770630. So, start tattling, friend. See Appendices II, III and V, TM 38-750 for forms needed and the mailing addresses.

PB/TAERS RECORDS

Property Book Keepers note —

For items listed in App V, TM 38-750 (May 67), add the TAERS line number to the item description block on the property book page.

When any of those items are gained, lost, transferred, or their FSN is changed, you make out and submit a DA Form 2408-7, like it says in the TM's para 4-9. The form's control copy (No. 2 copy) goes in your document file.



Your military standard engine have a Connie decal telling you to keep that engine cool?

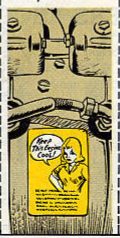
You can order 'em from the

U. S. Army Mobility Equipment Command,
ATTN: AMSME-MGI,
4300 Goodfellow Blvd.,
St. Louis, Mo. 63120.

HERE'S WHERE TO PUT 'EM

3-HP 2A016 series on power takeoff center cylinder head cover...

1½-HP 1A08 series on fly-wheel cover assembly...



6-HP 4A032 series on top cooling shroud; 10-HP 2A042 series on top shroud; and 20-HP 4A084 on top shroud.

Connie Rodd's BRIEFS

Clark 290M Hose

You order the front swivel and the tube-to-lift cylinder hoses for your 290M Clark tractor by manufacturer's code and part numbers. You'll find the hoses listed on page 32 of your TM 5-2420-206-20P (Jun 66). You have to match the numbers by the Line Numbers. Be sure to include Code 12603 with each part number. Line Number 4075, Part No. 565206; 4076, 565205; 4077, 565189; and 4082, 565146.

Administrative Storage

The new word on administrative storage of Army equipment is in TM 740-90-1 (12 Mar 68), Administrative Storage of Equipment. It supersedes TB Ord 1045 and TB 740-93-3.

Believe the Words

The right torque — but the wrong picture. That's the digging clutch adjustment story on Page 61, PS 185. The right parts to work on are like the words said: Numbers 6, 7, and 8 of Fig 39 from TM 5-3810-206-10 (Sep 63), and not the ones shown in the picture. If you torqued those setscrews 150 to 160 ft-lbs, you'd distort the shoes.

Yup, Don't Switch

In case any of you zapmen got confused by that item on switching M16A1 rifle bolts on page 39 of PS 187, let this set you straight. M16 bolts and bolt carriers can be switched at the direct and general support levels where they have gages and stuff to doublecheck fit and headspace, **but not** at the user level. For you, the wise word is still "Never switch bolts."

Multifuel Medicine

Leaky freeze plugs (even new ones) in your multifuel engine? Get your support to try sealing compound when installing. It makes 'em easier to install and then seals 'em. They'll want Sealing Compound, Type III, Mil-S-45180, FSN 8030-656-1426, 1 pint can, in Fed Cat C8000-IL-A (Jan 66).

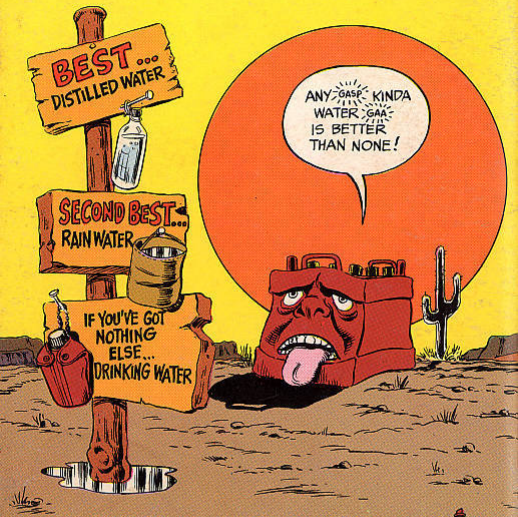
Multifuel Special

If you've got multifuel engine trucks on your ranch, you need to lasso a li'l critter branded as DA Pamphlet 750-11 (10 May 68). The Multifuel Engine Operator. Looks like it was lifted right out of PS! Copies are available from the AG Pubs Center, Baltimore.

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

Keep Your Powder Dry...

AND YOUR BATTERY WET



ALWAYS

Maintain the electrolyte Level Over the Plates