

Issue 257

PS

April
1974

THE PREVENTIVE MAINTENANCE MONTHLY

OH, GREAT...

THE
UMBILICAL'S
SNAPPED...

ONLY 5
MINUTES OF
OXYGEN LEFT...

SUIT TRANS-
MITTER'S ON
TH' BLINK...

NO FUEL IN
MY ROCKET-PACK...

DRIFTIN'
AWAY
FAST...

MURPHY
ANDERSON

WHY DIDN'T
SOMEBODY REMIND
ME TO DO SOME
SPACE-SUIT PM?

A FABLE FROM 2074 A.D.
See Page 29

U.S. ARMY
SPACE POST
MAXIMUS

LATCH ON TO THE AFFIRMATIVE...

MAINT MEANS

GO

THIS THE MAIT OFFICE? MY COMPANY HAS A PROBLEM ON ESC's...

RIGHT ON! BUT MY MEN WORRY ABOUT GIGS...

THAT INCLUDE SUPPLY, TOO?

SUPPLY AND PM. OF COURSE, YOU STILL GET SUPPLIES THRU YOUR SUPPORT, BUT MAIT CAN HELP WITH THE PAPERWORK. GIVE US A TRY.

THAT'S TODAY'S TUNE, EVEN THO WRITTEN LONG AGO-- ACCENTUATE THE POSITIVE!

SO ELIMINATE THE NEGATIVE... AND WHEN YOUR PM PUZZLE CALLS FOR A 4-LETTER WORD THAT MEANS "ASSISTANCE," CALL MAIT. MAIT MEANS "GO"-- NOT "NO-NO."

YOU'VE GOT THE RIGHT NUMBER- AND MAIT MEANS WE'RE READY TO JOIN YOU AND KEEP YOUR EQUIPMENT GREEN.

GIGS? MAIT NEVER DEALS IN THOSE. WE SPECIALIZE IN AID AND INFO. IN OFFICIAL TERMS THAT'S ASSISTANCE AND INSTRUCTION.

THE
PREVENTIVE
MAINTENANCE
MONTHLY

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

M S G Half-Mast
PS Magazine
Lexington, KY.
40507

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FIREPOWER

M102

TOWED

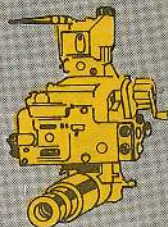
HOWITZER HELPER

HEY, CONNIE!
MY NAME'S
HOWIE
ZARR...
HOW 'BOUT
HELPIN' ME?

Sure, your M102 towed howitzer is light, but, handled right, it can also be accurate.

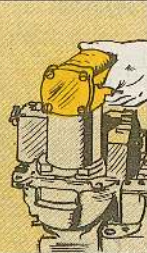
HERE'RE
SOME TIPS TO
GET YOU ON
TARGET.

M113 PANORAMIC TELESCOPE DRILL

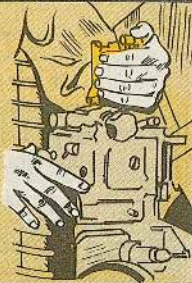


Before a day's firing, look over these 3 points:

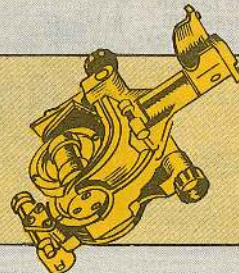
1. Take the head of the telescope in your hands and check for looseness by turning the head. If it's loose, your deflection could be off 1.5 to 3 mils, so give it to your support for retorquing of mounting screws.



2. See if there's play between the M113 telescope and the M134 sight mount. Fasten the wing nuts on the telescope mount securely to prevent this play. This can save you an error of 1 to 3 mils.



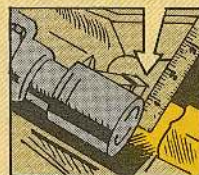
3. When you have the M113 pannel off the M134 sight mount, look for signs of wear on the locating pins of the mount and the alignment keyways of the pannel. If worn, turn in components to your support for replacement.



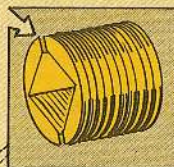
(Note: As the user you are not allowed to remove either the M134 sight mount for the M113 or the M14 fire control quadrant that the M114 direct fire telescope fits in.)

RECOIL MECHANISM

Make sure you have at least 1/16-in clearance between the pawl of the firing mechanism and the rear yoke of the M37 recoil mechanism.



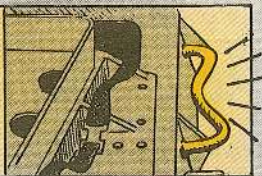
If there's less than 1/16-in clearance, get your direct support to replace the plunger housing bushing, FSN 5365-073-2064. If this isn't done, the pawl will hang up on the recoil mechanism during firing and break the firing mechanism assembly.



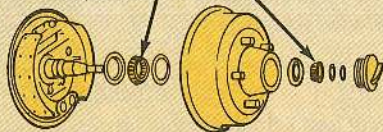
PS MORE

PRIME MOVER WARNING

If you have the M561 (Gama Goat) as your prime mover, you can mash one or other of the trail lifting handles when you make a tight turn. Be careful on the turns.



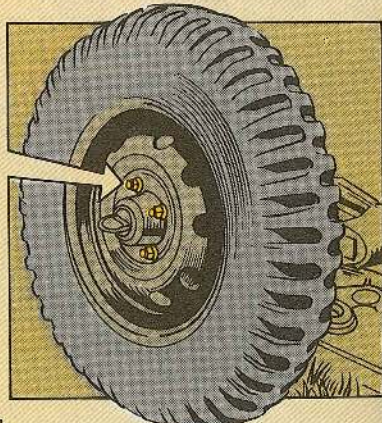
WHEEL BEARING HAZARD



Quite a few wheel bearings have been failing on M102's during road marches. There are 2 things you can do to cut down on this:

1. Pack and install the wheel bearings the way it says in para 61, page 60, of Ch 8 (Jun 73) to your TM 9-1015-234-12 (Mar 65). Give special attention to keeping the wheel stud-nuts tight. Torque to 50-55 ft-lbs.

2. Never tow the weapon faster than 35 MPH on improved roads or 10 MPH cross-country. This word is on page 8.2 of Ch 8 to your TM 9-1015-234-12.



4

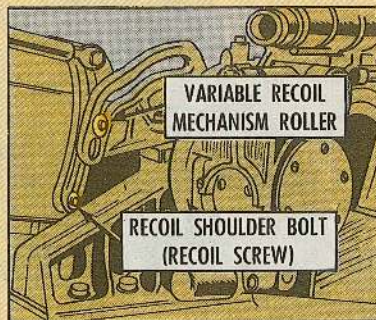
RECOIL SHOULDER BOLT

During normal firing the variable recoil shoulder bolt can vibrate loose and then shear off. To keep this from happening you:

1. Make sure your direct support tightens the bolt as necessary after periods of sustained firing. When the bolt has been tightened, make sure the rail support actuating arm moves free without binding.

2. Also, have your direct support check the timing of the variable recoil system if you think it may be off. This could also cause the bolt to shear off.

3. A bad solid film lube job on the variable recoil mechanism roller inside the cam track can cause the roller to seize. (Lubing this is a DS job.)

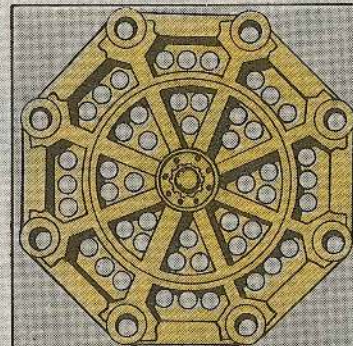


FIRING PLATFORM

The 8 retaining bolts on the firing platform might vibrate loose during normal firing. This can cause warping of the platform, especially if you're using the higher charges. In some cases the bolts are too short to seat right in the self-locking nuts. They are long enough if they go all the way through the nuts and stick out the other end.

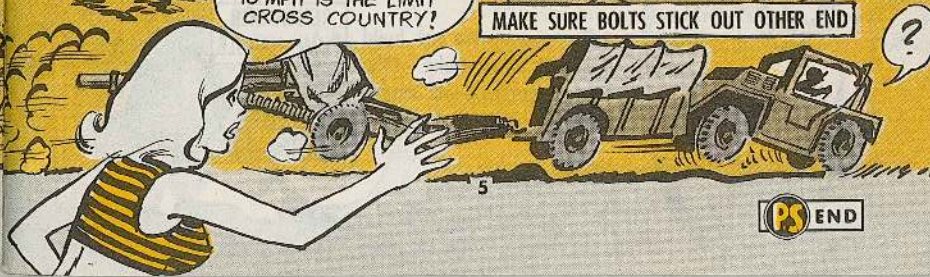
Take the firing platform off and look over the bolts. If they're too short, get your direct support to replace 'em with the long ones which are FSN 5305-958-5261.

Support will give the bolts the correct torque of 27-30 ft-lbs, so they won't loosen up on you.

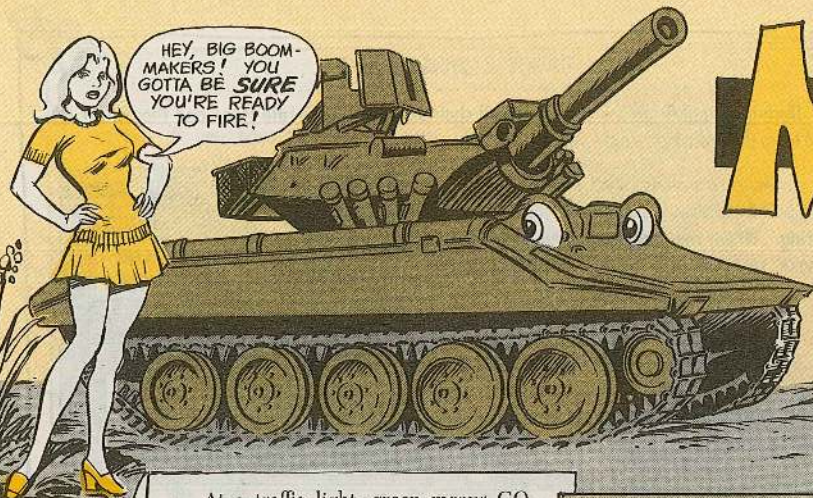


HEY, HOLD 'ER NEWT!
10 MPH IS THE LIMIT
CROSS COUNTRY!

MAKE SURE BOLTS STICK OUT OTHER END



5



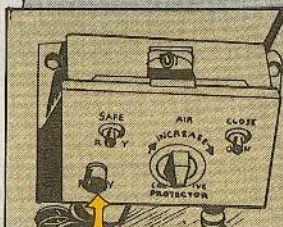
At a traffic light, green means GO, but your M551 Sheridan is not a traffic light.

The green "ready" light on the gunner's or loader's control box should not be used as a signal that you're ready to fire.

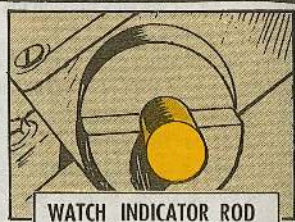
HERE'S THE RIGHT WAY TO DO IT...

1 Look at or feel the safe-to-fire indicator rod end. It must be within the operating range, neither sunk into the stepped bushing (high pressure) nor pushed past the end of the bushing (low pressure).

If pressure is too low, build it up with a few strokes of the hand replenisher pump handle. If it's too high, relief of pres-

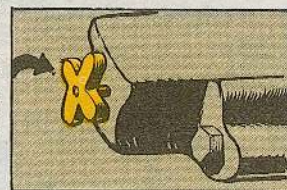


GREEN "READY" LIGHT IS NOT A SIGNAL TO FIRE

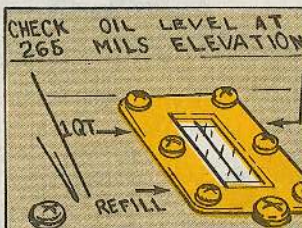


M551 SHERIDAN READY LIGHTS

sure should be automatic. If the relief valve does not work, open the pressure bleed valve just a little until you get the indicator rod in operating range.



2 Now, with the gun/launcher elevated to 265 mils, check the reservoir sight gage. Add or drain fluid as needed to get the level between REFILL and 1 QT.



3 Only after you have done the 2 things above is it time to flip your loader's SAFE/READY switch to see if the green READY light goes on. (Chances are almost 100 percent that it will unless you have electrical problems somewhere else in the circuit.)

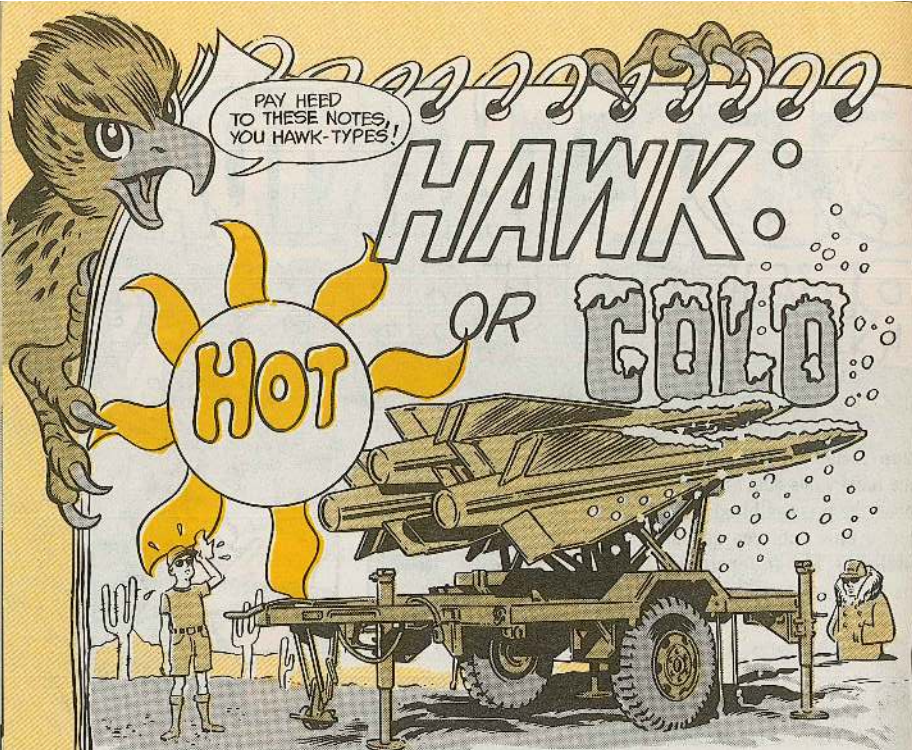
IF IT DOES, YOU ARE REALLY READY TO FIRE!

The reason you shouldn't take the evidence of the green READY light alone is that it can be burning when the safe-to-fire indicator shows that firing could be dangerous.

FOLLOW THESE 3 STEPS - NO PROBLEM!

3?



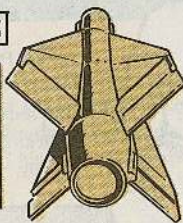


Makes no difference whether it's 90°F in the shade or below zero outside, the pedestal heater stays on in the AN/MPQ-34 and -37 radar sets of your Hawk missile system.

Prime function of the heater is to keep radar components dry . . . not warm. So, to guard against condensation in winter, humidity in summer, and moisture any time, keep the heater on.

Now, if it's rea-l-l-y cold outside, you can keep the missile latches working and the latch holes free of ice, snow and freezing rain by covering the holes with green adhesive tape.

LATCH HOLES



LAUNCHER

Here's a cleaning routine to go with the TM 9-1440-500-12/1 daily inspection of launcher air filters. The TM requires you to clean or replace the filters, as necessary.



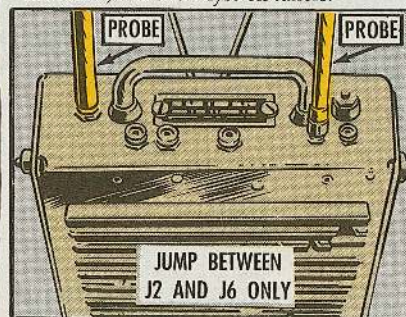
1. Dip filter in cleaning solvent and wash it thoroughly.
2. Place filter face downward until it dries.
3. Lightly coat filter with fresh OE-10 oil (the oil prevents sand and grit from getting through).
4. Replace filter.

KLYSTRON TUNERS

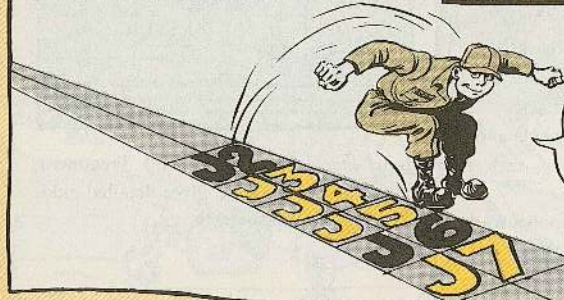
Follow the book, Table 3-2, Step 12, TM 9-1440-500-12/2 (particularly Step 12h), when charging the miniature missile simulator, launcher klystron tuners.

J3 and J7, as some "knowledgeable" types have tried. That shortcut burns out relays in the tuners.

When you get to Step 12j of Table 3-2, remember to release the 17W2 cable at the connector. Some Joes yank on the cable and that puts the cable down.



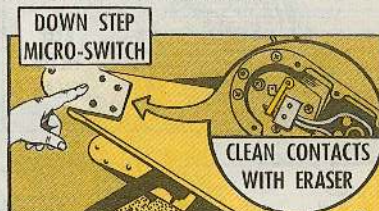
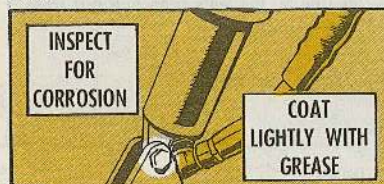
The TM says jump between pins J2 and J6 to charge the simulator. It doesn't say to hurry the process by jumpering between



REMEMBER--
YOU ONLY JUMP
BETWEEN J-2
AND J-6--OR YER
OUT!... NOT TO
MENTION YER
KLYSTRON TUNER!

HYDRAULICS

Inspect bare metal on launcher and other hydraulics systems regularly for corrosion. Guard against corrosion with silicone compound or light grease . . . and reclean and coat those bare metal surfaces as soon as you see a trace of rust or corrosion.



SALT AIR

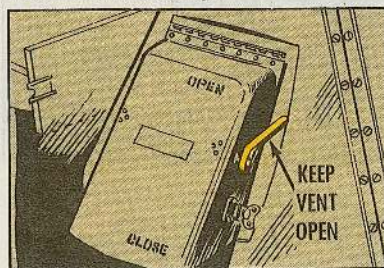
Fact is, if you're within wind distance of an ocean, corrosion is going to get to most of what you've got.

Generous applications of silicone com-

pound or light grease on bare metal, door and compartment gaskets is a must . . . as are constant checks of exterior or exposed electrical contacts.

HIPIR MPQ-39

An open vent in the antenna pedestal gives a cooling edge to the triple IF strip in the MPQ-39. Keep the vent open, and heat will do less damage.



Check the Q-39 cabinets, inside and out, for corrosion and leakage . . . especially glycol leakage.

A good way to prevent moisture dam-

age, too, is to be sure the O-rings are in place on the quick-disconnect cables on the 4 high-voltage power supply modules of the Q-39. Missing O-rings set up leaks.

TB 9-337 (Mar 61), Guided Missile Sys-



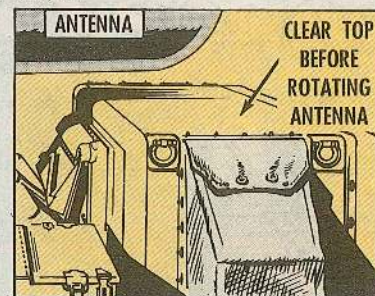
tems Corrosion Control and Treatment, with Changes 2 and 4, gives detailed guidance on corrosion PM.

CWAR MPQ-34

A final reminder for forgetful types:

Clear the top of the cabinet, just below the antenna, before you rotate the antenna of the MPQ-34.

There's not much room between cabinet and antenna, and a tool, can or whatever can punch a hole in the antenna.



PSM-6B PM



And, you need your PSM-6 for troubleshooting Hawk system and other electronics equipment, right?

So how, you say, does your test set need you?

It needs you to set it down gentle-like, instead of dropping it or giving it a toss.

It needs you to lift it by the case instead of by the test leads when you pick it up or lay it down.

ONLY THE BEST HANDLING IS GOOD ENOUGH FOR YOU, BABY!

It needs you to measure what you've got the controls set for . . . like, frinstance, if the meter's set for ohms, don't attempt to measure volts.

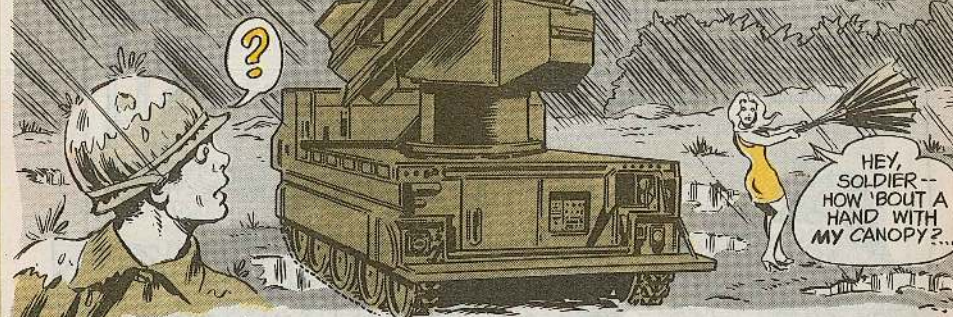


It needs you to pack it and cushion it if you send it off for repair or transport it from one place to another.

Add your own reasons . . . and save unnecessary damage.



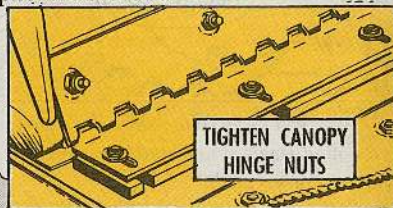
CANOPY CARE CALLED FOR



When your Chaparral jockey has got you where the action is, don't let poor PM and clumsy clodhoppers keep you away from a piece of that action.

Like, lettin' those canopy hinge nuts get loose causing you to lose the canopy's air-tight seal. Tighten 'em and hunker down in that gunner's compartment and make sure there's no daylight coming in.

'Cause if there is, there's a good chance you'll be facin' toxic fumes from a fired missile the next go-around... and bye, bye, Chappy-type.



Before gettin' ready to aim your missile, make sure you do some aiming with your feet. when you're mounting the saddle in the compartment.

CAREFUL WITH THOSE BOOTS



Bad banging with those boots, especially the left one, can bend or break the MOUNT CONDITIONING BREAKER and maybe go right down the panel, knocking out the LAMP TEST SWITCH and MOUNT DRIVE BREAKER.

So, mark DOUBLE CARE on your mind when you're mounting your mount.

While you're at it, get away from cramming the compartment with personal gear and equipment, such as rain gear and gas masks. A little pile leads to a bigger pile and before you know it there's no room for you to operate or perform PM.

And take care where you park your headsets. Keep 'em off the floor or they'll get stepped on or damaged for sure.

NUTS ON THE LOOSE



Check out your 1/4-tonners for loose nuts. And make sure you've got the right nuts in these places:

Front suspension (all models) —

— Nut, FSN 5310-176-6612, one on each side (goes with Screw, FSN 5305-719-5270).

— Nut, FSN 5310-935-3607, two on each side (goes with Screw, FSN 5305-709-8340).

Rear suspension (only M151A2, M825, M718A1) —

— Nut, FSN 5310-935-3607
6 on each side

Front differential (all models)

— Nut, FSN 5310-935-3607
3 needed

Rear differential (all models)

— Nut, FSN 5310-935-3607
3 needed

A self-locking nut is not just for fun. It's special. It holds where you really need a nut to hold.

But some M151A1's, M151A2's and other TM-218-series 1/4-ton vehicles are running around without certain self-locking nuts where they need 'em. They've got nuts that won't hold. They come loose.

Some of these bum nuts were installed during manufacture. And some of you mechanics may be putting on wrong nuts.



All of this hardware is listed in your TM 9-2320-218-20P (Jan 72).

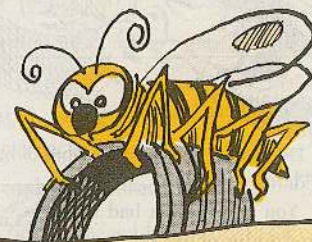
Give those nuts the torque called out in your TM 9-2320-218-20 (Sep 71) — para 2-131b for differentials, para 2-147b for front suspension, para 2-158b for rear suspension.



MULTIFUEL 2½-TON TRUCKS...

BAFFLED

BY BRAKE BUG?



There's a strange bug going around.

One of the signs is you break out in a cold sweat. Like when you mash down on the brake pedal of your 2½-ton multifuel truck, and... no brakes!

Or your brakes lock on and won't let loose.

ME? YOU LOOK A LITTLE ODD Y'R SELF!

SURE YER PARKING BRAKE'S OFF?

YUP! BUT IT STILL WON'T MOVE OUT!

A nagging headache is another sign — especially for you mechanics when you're trying to figure out what's wrong with the brakes.

HEADACHE NO. 2½!

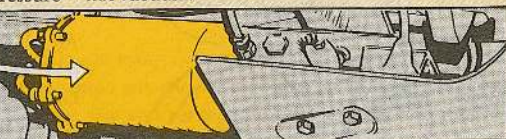
DETECTIVE WORK

Most of the time you can find the bug-killer right there in your TM 9-2320-209-20 (Apr 65) w/Ch 1 thru 5 — Table 4, Troubleshooting, Service Brakes.

But you're still just groping around if you don't know how your brake system works.

You wonder about some mechanics when you hear 'em call the air-hydraulic cylinder a "Hydrovac." That's wrong. "Hydrovac" is a trade name for a vacuum-hydraulic cylinder. Your air-hydraulic cylinder works by air pressure — not vacuum.

KNOW YOUR AIR HYDRAULIC CYLINDER



Those guys should dig out their good ol' TM 9-8000 (Jan 56), Principles of Automotive Vehicles, and soak up the poop in para 306, Air-Over-Hydraulic Brake System.

FOLLOW THE MAPS

Some of the brake trouble going around is from leaking, clogged or pinched lines.

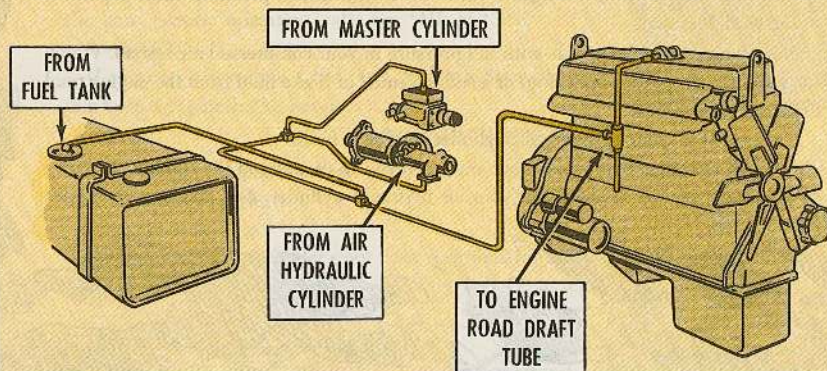
Wrong hookups in any of these lines can drive you buggy, too. Like, in one outfit, they finally figured out the air vent line was putting air pressure into the truck's fuel tank — because of a wrong hookup in the line.

Whenever you've got those lines apart, make sure every connection is put back where it's supposed to be. Here're the maps you need to trace those lines and to pinpoint connections:

— Hydraulic lines, Fig 213, page 289, Ch 4, TM 9-2320-209-20.

— Compressed air lines, pages 645 thru 650 (Fig 84 thru 89), TM 9-2320-209-20P (Oct 72).

— Vent lines, not yet in your TM's but here's the setup.





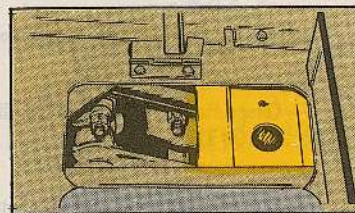
Do you get a real strong whiff of brake fluid when you push down hard on your brake pedal?

You may have a bad air-hydraulic cylinder. Brake fluid is being exhausted from your master cylinder through the engine road draft tube. When you lose your brake fluid, you lose your brakes!



Play it safe. Eyeball your master cylinder fluid level before operation. The fluid level should be at $\frac{3}{8}$ inch below the filler hole gasket surface. (Yep, it's $\frac{3}{8}$ inch now instead of $\frac{1}{2}$ inch.) If it's low, add brake fluid.

TO CHECK YOUR MASTER CYLINDER, LIFT THE FLOOR COVER IN FRONT OF THE DRIVER'S SEAT; THEN REMOVE THE FILL PLUG BELOW THIS HOLE IN THE FRAME CROSS MEMBER



Then check the fluid level after operation. If it's dropped in that short a time, you've got trouble. Don't worry, though, if it's a little high after operation. Heat expansion of the fluid does that.

Now pump the brake pedal—with full pressure in your compressed air system. Watch for spraying, dripping, vapor (fog) or a sudden smell of brake fluid from the engine road draft tube.

Get any? If so, your air-hydraulic cylinder may be at fault.

Hold it! Don't let that truck move out until you've pinpointed the trouble. You may have to get your DS to check out your air-hydraulic cylinder. And maybe your master cylinder, too.

MASTER CYLINDER TIPS

The smell of brake fluid can come, too, from a foul-up right in your master cylinder:

Wrong filler plug (no baffle);

Filler plug in poor shape (baffle missing or not doing its job);

Too much brake fluid in the cylinder (somebody overfilled it).

Or the cups are worn — or they've been damaged by contaminated brake fluid. If your brake pedal goes all the way to the floor, the cups may be guilty.

FILLER PLUG



GASKET OK?

Whenever you've got your filler plug out, look it over real close. You should have the double-baffle type. You get a new one only as part of a new master cylinder. But your supply people probably can find you a good one in the bone yard.

And how about the filler plug gasket? Broken? Chewed up? Get a new one, FSN 5340-737-3354, in your -20P TM.

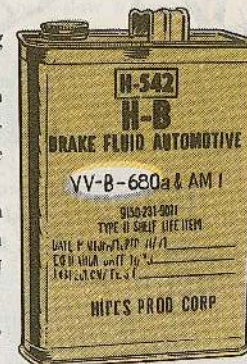
KNOW YOUR BRAKE FLUID

Just as bad as dirty or contaminated brake fluid is *wrong* brake fluid. It can sure gum up the works!

Never grab a can that says "Hydraulic fluid, non-petroleum base". That's as risky as Russian roulette. Use nothing — absolutely nothing — but the brake fluid specified for your brake system.

Now issued under FSN 9150-231-9071 is brake fluid with Military Symbol VV-B-680. This symbol is printed right on the can. (Arctic operation calls for MIL-H-13910 — FSN 9150-252-6375.)

If the can doesn't have the right Military Symbol on it, don't use it in your brake system.



NEW LO HAS ANSWER

Some people wonder what sort of lubrication service they're supposed to give their air-hydraulic cylinder.

The answer is, none.

Your air-hydraulic cylinder's not even mentioned in LO 9-2320-209-12 (Oct 71). Any lubing your cylinder needs will be done by your DS in repair or rebuild.

CRANKCASE

I SAY, OLD CHAP, 12 IS JUST RIGHT!

PICK A NUMBER... FROM 1 TO 100! ANY NUMBER, BUT MAKE IT 12!

You may find "9 QT" on your instrument panel "Servicing" data plate. That's wrong. Get your mechanic to scrape off the "9" and stamp "12" in that space. He'll use the metal stamping die set in the No. 2 Common Shop Equipment.

And don't get thrown by the poop in TM 9-2320-242-20 (Aug 70), para 2-39(7). Read it "12" quarts instead of "9" quarts. The "Note" you see there about adding a quart for a new filter element needs clearing up, too. You don't add a quart to the 12 quarts — the 12 quarts already includes the quart for the oil filter.

You won't go wrong by sticking to LO 9-2320-242-12 (Apr 72) and the Lubrication Chart in Ch 1 (Apr 71), TM 9-2320-242-10:

"Engine Crankcase with Filter Change — 12 QTS."

SERVICING	
TRUCK, CARGO-TON, 6x6, M5C1	
FUEL TANK CAPACITY	40 GAL
COOLING SYSTEM CAP	19 QT
CRANKCASE CAPACITY	9 QT
TEMPERATURE	ENGINE OIL
ABOVE 0° F	MIL-1-2104
BELOW 0° F	MIL-1-10234
BEFORE DRINKING COOLING SYSTEM	
PUBLICATIONS	
PARTS LIST	
OPERATORS	
MAINTENANCE	

"SERVICING" DATA PLATE THE "9 QT" BECOMES "12 QT"

CAPERS

RIGHT ON -- 9 QUARTS IS NO LONGER SUFFICIENT.

Got it now?

With 12 quarts of oil in your crankcase, the oil level should be at the FULL mark



on your dipstick. If you've got a dipstick that shows the oil level above or below the FULL mark — with 12 quarts in the crankcase — you've got the wrong dipstick. Get a new one — FSN 2815-079-8386 in Ch 2 (Jul 72), TM 9-2320-242-20P.

Give your oil a chance to drain down out of the engine before you check with your dipstick. The LO and the lube chart say to wait one minute after engine shut-

down, and the -20 TM says to "allow approximately 5 minutes." The right waiting time is 5 minutes.

Watch it! You don't just yank out that dipstick. It's got a rubber stopper at the top that'll pull a suction if you pull too fast. You'll suck oil up in the dipstick tube. You'll get a high reading on the dipstick. It may say FULL when it's really below FULL.

Here's the right way —

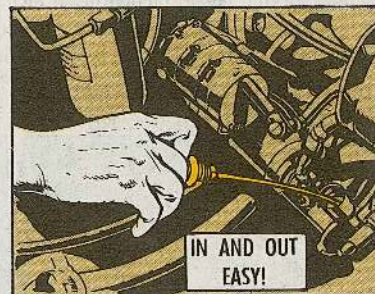
Unscrew the top on the dipstick to loosen the rubber stopper.

Pull out the dipstick.

Wipe it off with a rag.

Put the dipstick back in — all the way.

Pull it out again — slow 'n' easy.



Read the oil level — anywhere between ADD and FULL is OK. Add oil if it's below the ADD mark.

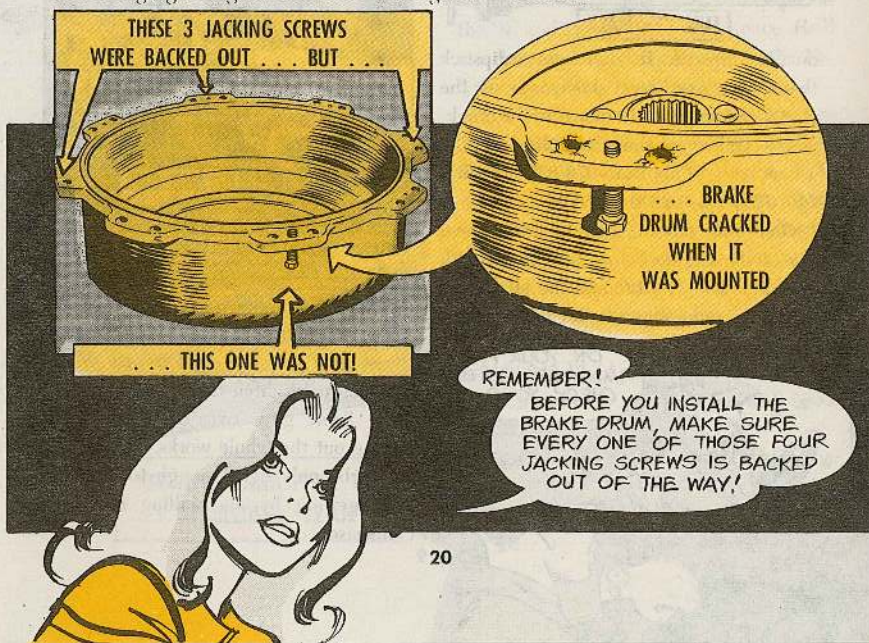
Put the dipstick back in and tighten the stopper . . . but take it easy on the muscle! Just tighten the stopper until it's snug. Some guys twist so hard they're tearing out the whole works. The stopper has to be only tight enough to keep dirt from getting by and falling into your crankcase.



BUSTED BRAKE



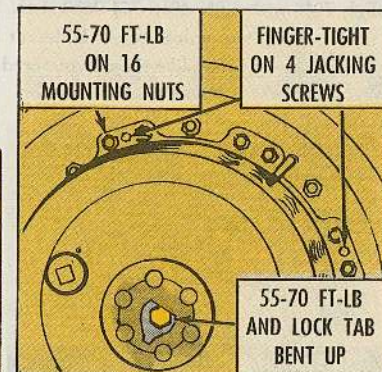
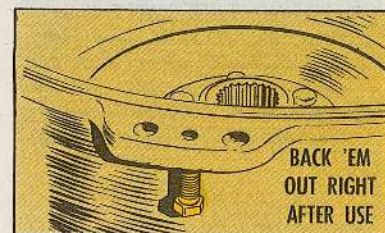
Just a twist of the wrist . . . and another Gama Goat brake drum is ruined. That's all it takes when you forget to back out the jacking screws. It only takes one screw, sticking out a fraction of an inch, to do the dirty work. When you tighten the drum-to-hub nuts on each side of that jacking screw, you're fighting the jacking screw. Something's got to give. The brake drum gives — it cracks.



DRUMS



The best bet is to back out the screws right after you use 'em to take off the brake drum. Then there's no chance they'll be in the way when you install the brake drum.



OK, so you've got the brake drum on. You've tightened all 16 mounting nuts (with lock washers) to 55-70 ft-lb torque. You've tightened that center hub-to-stub axle screw to 55-70 ft-lb — and you've bent the lock plate tab against the screw to keep it tight.

Now you're ready to turn the jacking screws back in — so they won't fall out from vibration. You've got 4 of 'em for each brake-drum.

Easy does it! Finger-tight is enough on those jacking screws. That's all you need to keep from losing 'em. No need to take a chance on stripping the threads — or busting the brake drum. That 35-40 lbs-ft in TM 9-2320-242-20 (Aug 70), para 2-162 f (26) is way too much!

SHOP EQUIPMENT, AUTOMOTIVE
MAINTENANCE AND REPAIR...

YOUR ENTHUSIASM
IS COMMENDABLE,
BUBENHEIM -- BUT
HEADQUARTERS IS
NOT EXACTLY THE
BEST PLACE TO
PROCLAIM IT!

HEADQUARTERS
2nd BATTALION
2nd ARMOR

NO. 1

SUPPLEMENTAL
*a Mech's
Best Pal*

If you're in a separate unit that's responsible for semi-annual preventive maintenance services, you're authorized the No. 1 Supplemental. It's listed in SC 4910-95-CL-A73 (Feb 70), with FSN 4910-754-0653, LIN W32867.

You get one tool unless noted. Different manufacturers make the tools, so if the one you have doesn't look like the one pictured here, don't sweat it — it should do just as good a job.

ADAPTER, SPINDLE, PORTABLE SANDER: for
¾-in dja spdl, 11 NC rht, w/wrench



FSN 5130-293-2330

CABLE ASSEMBLY, POWER, ELECTRICAL: no.
12 AWG, type SO, 3 cond stranded, 600 v
working voltage, 50 ft lg o/a, male fitting one
end, female fitting other end, w/3 wire to 2
prong adpt w/gnd wire



FSN 6150-682-3460

CLEANER AND TESTER, SPARK PLUG: bench
mtd, spark plug sizes 10-mm, 14-mm, 18-mm,
and ¾-in, 120 to 150 psi air pressure reqd,
¼-NPSH, var pressure, ac, 110 v, 60 c, sg/le-
ph, spark plug reflection observed in S mirror.
for replacement abrasive grain use FSN 6350-
222-0581

Pubs

Champion 600 & 800 series, TM 9-4910-389-
20P

Dijack B800M, TM 9-4910-471-10

Szemco 1129, TM 9-4910-438-10

Voss 601, TM 9-4910-465-10



FSN 4910-261-5868

CUP, PAINT, SPRAY GUN: 1 qt cap., clamp
type, w/al cover attachment



FSN 4940-190-5164

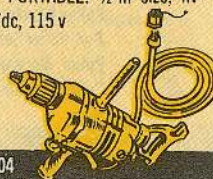
2

CUTTER, BOLT: rigid hd type, clipper cut,
5/16-in mild S rod cutting cap, 18-in lg o/a



FSN 5110-596-9162

DRILL, ELECTRIC, PORTABLE: ½-in size, hv-
duty, 650 rpm, ac/dc, 115 v



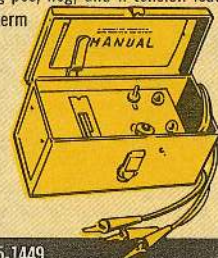
FSN 5130-889-9004

FILLER AND BLEEDER, HYDRAULIC SYSTEM:
caster or skid mtd, 2 to 5 gal cap., w/air and
fluid separator, 1 pressure type ga, 0 to 60
psi min scale range, 72-in min hose lg, manual
control valve, w/safety valve for releasing
excess air pressure, w/e TM 9-4910-481-15P



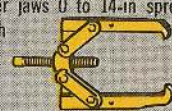
FSN 4910-273-3658

LIGHT, IGNITION TIMING: 3 lead type, 4½ v
btry reqd, neon bulb element, rect sh-mtl
case, 8½-in lg x 3½-in w x 4-in h o/a excl wire
leads, 48-in lg pos, neg, and h tension leads,
spg clip type term



FSN 4910-255-1449

PULLER, MECHANICAL: gear and brg, sg/le-
end grip, 2 exte jaws 0 to 14-in spread range,
14½-in reach

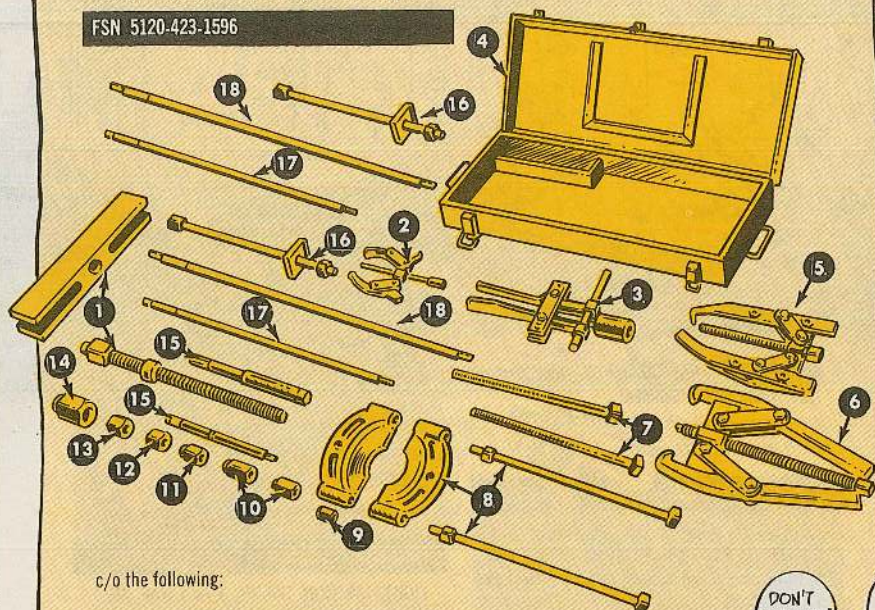


FSN 5120-378-4293



PULLER KIT, MECHANICAL: gear and brg; in mtl bx

FSN 5120-423-1596



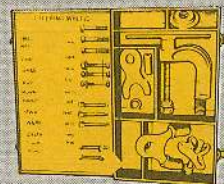
c/o the following:

Fig No.	FSN	Item
1	5120-490-4281	Puller and Pusher
2	5120-595-9304	Puller, Mechanical
3	5120-293-1430	Puller Attachment, Mechanical
4	5140-357-5463	Box, Puller Set
5	5120-030-7942	Puller, Mechanical
6	5120-288-7711	Puller, Mechanical
7	5306-055-5047	Bolt
8	5120-711-6753	Puller Attachment, Mechanical
9	5120-357-5180	Adapter, Mechanical Puller
10	5120-357-5181	Adapter, Mechanical Puller
11	5120-357-5182	Adapter, Mechanical Puller
12	5120-357-5183	Adapter, Mechanical Puller
13	5120-357-5184	Adapter, Mechanical Puller
14	5120-357-5186	Adapter, Mechanical Puller
15	5120-227-0633	Leg, Mechanical Puller
16	5120-227-0634	Leg, Mechanical Puller
17	5120-490-3749	Arm, Puller and Pusher
18	5120-227-0636	Leg, Mechanical Puller

DON'T FORGET!
TOOLS
NEED
PM
TOO!



PULLER, STEERING WHEEL: C shaped puller body, w/adpt



FSN 5120-620-0020

SANDER, DISK, ELECTRIC, PORTABLE: 7-in dia pad, hv-duty, ac/dc, 115 v, suppressed for radio interference and fungus resistance treated



FSN 5130-857-8526

SCREEN, HEADLIGHT BEAM ADJUSTMENT: unmt'd univ type, white cloth surface, 10-ft lg x 42 1/2-in h, adj reference lines



FSN 4910-240-7529

SEPARATOR, OIL AND WATER, SPRAY GUN: 1 regulator, corrosion resistant material, wall type mtg

Gray Co., TM 9-4940-461-15P



FSN 4940-242-4100

SPRAY GUN, PAINT: hand operated, non-bleeder type, ext'r mix air cap, 5 cfm air consumption at 50 to 60 lb pressure, al body, 1/4-18NPSH air connection, and 3/8-18NPSH fluid connection

Binks, TM 9-4940-205-20P
DeVilbiss, TM 9-4940-221-20P



FSN 4940-261-8414

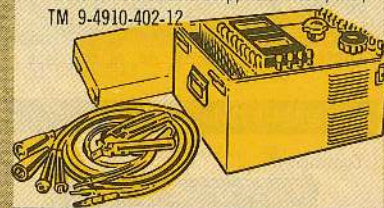
STUD REMOVER AND SETTER: wedge type, 1/4-in to 3/8-in stud dia range, 1/2-in female sq-drive



FSN 5120-596-0980

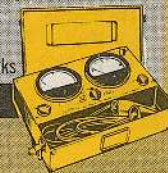
TEST SET, GENERATOR AND VOLTAGE REGULATOR, AUTOMOTIVE: measurements of voltage and cur. in the low tension circuits of 6/12/24 v test, ammeter 3 to 0 to 10 amp, 30 to 0 to 100 amp, and 150 to 0 to 500 amp ranges, voltmeter 0 to 1 v, 0 to 10 v, 0 to 20 v, and 0 to 50 v ranges, S, 15-in lg x 18-in w x 12-in h, for general purpose use, w/carrying case

Allen, TM 9-4910-456-10
Atomic Engineering, TM 9-4910-401-12, 20P
Auto Test Inc, TM 9-4910-401-12, 20P
Austin Continental Industries, Inc.,
Electro Mechanisms Corp; Ram Meter, Inc.,
TM 9-4910-402-12



FSN 4910-092-9136

TEST SET, TACHOMETER-DWELL: pitbl type, tachometer scale 0 to 1000 rpm range of numerical markings w/20 rpm smallest increment and 0 to 5000 rpm range of numerical markings w/100 rpm smallest increment, dwell meter scale 0 to 50 deg range of numerical markings w/1 deg smallest increment, nonluminiferous, 30 to 80 deg, range of numerical markings, w/2 deg smallest increment, nonluminiferous, 10 1/4-in lg x 8 1/4-in h o/a, 3 leads 108-in lg, btry, distributor, and tachometer leads, w/3 position manual selector, w/2 instruction books



FSN 4910-788-8549

TESTER, SPRING RESILIENCY: ptbl, tests tension type spg, weighing scale type, manually operated, hook load receiver, marked in oz, 0 to 80 oz range of grad, 1 oz smallest increment



FSN 6635-449-3750

THREADING SET, SCREW: rht, rd split type tap

FSN 5180-357-7510

c/o one each of the following:

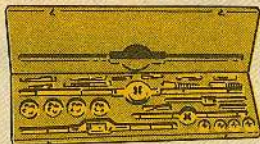
DIE, THREAD CUTTING:

	thd size
5136-239-2777	no. 6-32NC
5136-239-2778	no. 8-32NC
5136-239-2779	no. 10-24NC
5136-239-2769	no. 10-32NF
5136-239-2780	no. 12-24NC

THREADING SET, SCREW: rht, rd split type dies

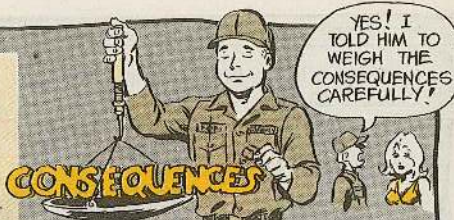
FSN 5180-448-2362

Consisting of:



DIE, THREAD CUTTING

	thd size
5136-224-1461	1/4-20NC
5136-189-3216	5/16-18NC
5136-189-3217	3/8-16NC
5136-189-3218	7/16-14NC
5136-189-3219	1/2-13NC
5136-189-3220	9/16-12NC
5136-189-3221	5/8-11NC
5136-189-3222	3/4-10NC
5136-189-3223	7/8-9NC
5136-189-3224	1.0-8NC



CONSEQUENCES

DIESTOCK: 6-in to 8-in lg o/a
5136-221-1236

TAP, THREAD CUTTING:

	thd size
5136-729-5695	no. 6-32NC
5136-729-5694	no. 8-32NC
5136-585-6760	no. 10-24NC
5136-228-1008	no. 10-32NF
5136-221-7874	

WRENCH, TAP AND REAMER, ADJUSTABLE:
straight type, double handle bolt tap holding
cap. no. 0 to 1/4-in
5120-277-4069

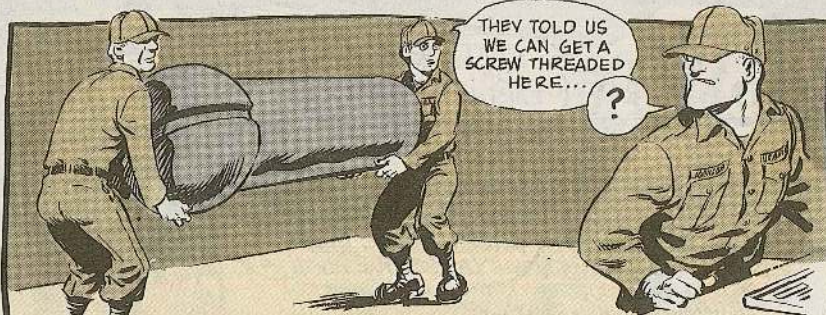
TAP, THREAD CUTTING: plug type

	thd size
5136-729-5693	1/4-20NC
5136-276-1031	5/16-18NC
5136-276-1032	3/8-16NC
5136-729-5691	7/16-14NC
5136-729-5692	1/2-13NC
5136-729-5690	9/16-12NC
5136-223-6228	5/8-11NC
5136-729-5702	3/4-10NC
5136-729-5701	7/8-9NC
5136-227-7260	1.0-8NC

DIESTOCK:

	od, in.	thk, in.	o/a lg, in.
5136-224-7113	1 1/2	1/2	12 to 18
5136-224-7114	2 1/2	3/4	22 to 32

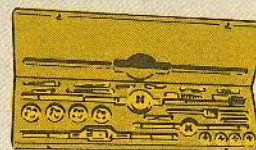
WRENCH, TAP AND REAMER, ADJUSTABLE:
straight type handle bolt tap holding cap., in.
5120-289-0537 1/4 to 1 1/2



THREADING SET, SCREW: rh, thd rd split type
dies w/case

FSN 5180-422-4975

Consisting of:



DIE, THREAD CUTTING

	thd size
5136-189-3194	1/4-28NF
5136-189-3195	5/16-24NF
5136-189-3196	3/8-24NF
5136-189-3197	7/16-20NF
5136-189-3198	1/2-20NF
5136-189-3199	9/16-18NF
5136-189-3200	5/8-18NF
5136-189-3201	3/4-16NF
5136-189-3238	7/8-14NF
5136-820-8090	1.0-12NF
5136-189-3239	1.0-14NS

TAP, THREAD CUTTING:

	thd size
5136-580-7360	1/4-28NF
5136-580-7359	5/16-24NF
5136-555-8910	3/8-24NF
5136-580-7182	7/16-20NF
5136-580-7184	1/2-20NF
5136-580-7186	9/16-18NF
5136-555-3177	5/8-18NF
5136-580-7342	3/4-16NF
5136-580-7188	7/8-14NF
5136-820-2998	1.0-12NF
5136-580-7343	1.0-14NS

WRENCH, TAP AND REAMER, ADJUSTABLE:
stg type hndle, tap holding cap., in.

5120-289-0539	no. 8 to 3/4
5120-289-0537	1/4 to 1 1/2

DIESTOCK:

	die dia, in	o/a lg, in
5136-224-7113	1 1/2	12 to 18
5136-224-7114	2 1/2	22 to 32

CASE, THREADING SET

5410-322-5976

WHEEL, ABRASIVE: sp, al-oxide, 24 gr, no. 14,
open gr spacing, resinoid bond, gr U, 7-in dia
o/a, 2 1/2-in dia recess, 7/16-in thk o/a, 1/8-in
dia arbor hole



FSN 5130-542-3313



PUBS

WHAT ON EARTH...? 20-205-20

DEPT OF THE ARMY TECHNICAL MANUAL

WAL... YOU ORDERED A TM FER TH' JOLLY GREEN GIANT, DIDN'T YA, CONNIE?

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 (Jun 72), and CH 4 (Apr 73), TM's T3's, etc.; DA Pam 310-6 (Jul 73), SC's and SM's; and DA Pam (C) 310-9 (Mar 73), COMSEC Pubs.

TECHNICAL MANUALS

TM 3-1040-204-14 Nov. Flamethrower, M2A1-7
TM 5-4320-260-20P Oct Pump, Centrifugal John Reiner MdI GP58
TM 5-6665-293-23P Nov Detecting Set, Mine, Model AN/PR57 and Model 4D6000
TM 9-1005-224-24 Ch 3 Nov Machine Gun, 7.62MM, M60
TM 9-1005-286-1 Nov Pubs for Towed 20-MM, M157
TM 9-1015-200-12 Ch2 Nov Mortars, 81-MM M29A1 and M29
TM 9-1015-215-12 C7 Sep. Mortars, 4-2 inch and 60-MM M31
TM 9-2300-216-20 Nov M107/M110 SP Artillery
TM 9-2300-257-10 Dec M113A1 Series APC
TM 9-2300-378-20P/2-2 Ch3 Nov M60, M60A1, M48A3 Tanks, M728 Cev.

TM 9-2320-233-20 Nov Truck, M520 M553 M559
TM 9-2320-245-10 C1 Nov Armored Car, XM706, XM706E2
TM 9-2320-260-10 Ch1 Oct Truck 5-Ton, M813A1 M813, M814, M815, M816, M817, M818, M819, M820, M820A1, M820A2, M821
TM 9-2350-217-20 Ch9 Dec M108, M109, M109A1 Howitzers
TM 9-2350-300-1 Nov Pubs for Gun, 20-MM, M163
TM 9-6920-428-12 C5 Oct Training Set M76 (REDEYE)
TM 10-7300-200-12 Dec Stove, Gasoline TM 11-2300-353-14-5 Nov MK-1240 Install Kit, in 2½-Ton Truck, for AN/VRC-46, -53, -64, AN/GRC-125, or -160 radio set
TM 11-2300-372-14-6 Dec MK-1253 Install Kit, in 1½-Ton Truck, M561 AN/VRC-47 Radio Set
TM 11-5805-223-14 Nov AN/TCC-3, AN/TCC-23 Telephone Terminals
TM 11-5815-204-10 Ch9 Dec AN/GRC-46() and AN/VRC-20, Radio Teletype-writer Sets
TM 11-5815-204-20P Dec Radio Teletypewriter Sets AN/GRC-46, AN/GRC-46A, AN/GRC-46B, AN/GRC-46C, AN/VRC-29
TM 11-5820-250-14P Dec CY-1221() G Electrical Equip Cabinets

TM 11-5825-202-20P Dec AN/GRN-6 Radio Beacon Set
TM 11-5840-298-55C Nov Radar Sets AN/PPS-5, AN/PPS-5A
TM 11-5895-482-20P Aug AN/TSC-26 Comm Control
TM 11-5965-215-15 Ch2 Dec H-101A/U Headset-Microphone
TM 11-6625-2631-14 Oct TS-2530/UR Battery Test Set
TM 55-450-19 Ch1 Helicopter External Lift Rigging

MISCELLANEOUS

AR 750-20 Dec Pollution Control
DA Pam 750-22 Nov Troubleshooting Equipment in Combat Units
FM 10-14 Dec Unit Supply
SB 11-634 Nov Wrench Set, Spanner
LO 9-2320-244-12 Aug Truck 1½ Ton, M715, M725, M724, M726
TB 9-2300-419-10 Oct Filter Facts for M60, M60A1, M48A3 Tanks and M728 Cev.
TB 55-1500-206-20-19 Dec Inspect H-1 Main Rotor Blades
TB 742-93-1 Nov Test of Air and Gas Compressors

NEW MOVIES

TF 44-4382 Vulcan (Toward) Part III
TF 46-4712 Aviation Maintenance Safety

New AR On Tires

The pressure's on everybody to make the most use of tire retreading. The word's in AR 750-36 (30 Jan 74). It's for commanders, operators and everybody in between.

5-Ton Prop Shaft

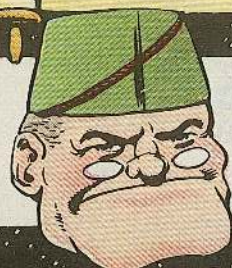
There're 2 different FSN's — not 3 — for the transmission-to-transfer prop shaft on your TM-211-series 5-ton truck. Either FSN 2520-901-9681 or FSN 2520-040-2339 is OK. That FSN 2520-901-6981 you see buried in the listing on page 2-86, TM 9-2320-211-20P (May 73), is just a slip.

New Battery

Read and heed the tag that comes with every new 6TN or 2HN military type battery. If you didn't get a tag with your battery, ask your supply wrangler to show one to you. Follow the info on the tag to give your battery a good start—and long life. TM 9-6140-200-14 (Aug 71) gives you more details on battery PM.



GLOWING IN THE HEAVENS ON CLEAR CLOUDLESS NIGHTS CAN BE SEEN A THING... A "UFO" IN SILENT AND ENDLESS ORBIT... A WAY STATION CAUGHT FOREVER BETWEEN HERE AND NOWHERE. THIS IS ITS STORY...
A FABLE OF 2074.



"WELL, 'TAS JUST A FEW YEARS AGO -- BACK IN 2069... WHEN **COMPANY B** WAS ASSIGNED TO A DUTY TOUR ON **MAXIMUS** -- THE MOST MODERN POST IN EARTH ORBIT. THEY ARRIVED FOR THE TAKEOVER AND FOUND **COMPANY C** HAD LEFT EVERYTHING IN TOP ORDER..."

JOE'S
DOPE

STAND UP AND
BE COUNTED

THERE IT IS, MEN -- YOUR HOME FOR THE NEXT TWO YEARS...

SO WHAT?

BIG DEAL.





"FROM THE VERY FIRST DAY, IT WAS APPARENT THAT **COMPANY B** WAS QUITE DIFFERENT FROM **COMPANY C**..."



HEY, WHAT'S THAT FUNNY SMELL COMIN' OUTTA THE COMMO GEAR?

DON'T SWEAT IT... WE'RE GETTIN' THRU TO GROUND OK.



NUTZ! DISPOSER'S JAMMED!

I'LL JUST TOSS THIS CRUD INTO THE VENTILATOR SHAFT. THEY BOTH GO DOWN TO RE-CYCLING ANYHOW...



SARGE, THE STARBOARD GYRO IS ACTING STRANGELY...

FORGET IT-- WE'VE GOT BACK UP GYROS.



SAY, CHARLIE -- THAT LOOKS LIKE A RIP IN THE PRESSURE SUIT YOU'RE STOWING.

DOESN'T MATTER -- THESE SUITS ARE ALL SELF-SEALING, AIN'T THEY?



OOPS-- SPILLED MY COFFEE ON THIS BLASTED COMPUTER...

I TOLD YOU IT WAS BOUND TO HAPPEN!



YOUR ASTRO-TESTER FELL OFF TH' BENCH!

WON'T HURT IT! AFTER ALL-- WE ONLY HAVE 1/3 G UP HERE!



"AND SO THAT WAS THE *MODUS OPERANDI* OF THE MEMBERS OF **COMPANY B** AS THEY MANNED **SPACE STATION MAXIMUS**... BUT ONE DAY, WHEN **MISSION CONTROL** IN THE **OCTAGON** TRIED TO CONTACT THE STATION...



COME IN, **MAXIMUS**... COME IN!

NO RESPONSE FROM THEM, SIR.

TRY THE EMERGENCY CHANNEL.



RIGHT, SIR-- **STATION MAXIMUS**... **STATION MAXIMUS**... **COME IN-- URGENT!**

WHAT--
: SPLUTTER:
IN NEED...
: CRACKLE:
ASSIST--
: WHEEEEOO:
Zzzzz!



SORRY, SIR... THEY'RE RESPONDING, BUT THEIR TRANSMISSION IS SO GARBLED EVEN OUR DECODERS CAN'T DECIPHER IT.

OBTAINING SOMETHING'S GONE WRONG UP THERE! SEND FOR OUR ACE TROUBLE SHOOTERS-- CONNIE AND BONNIE! ON THE DOUBLE...!



SO THAT'S THE SITUATION! YOUR MISSION IS TO PROCEED IMMEDIATELY TO **MAXIMUS**, FIND OUT WHAT'S WRONG, AND REMEDY THE SITUATION!

YES SIR!

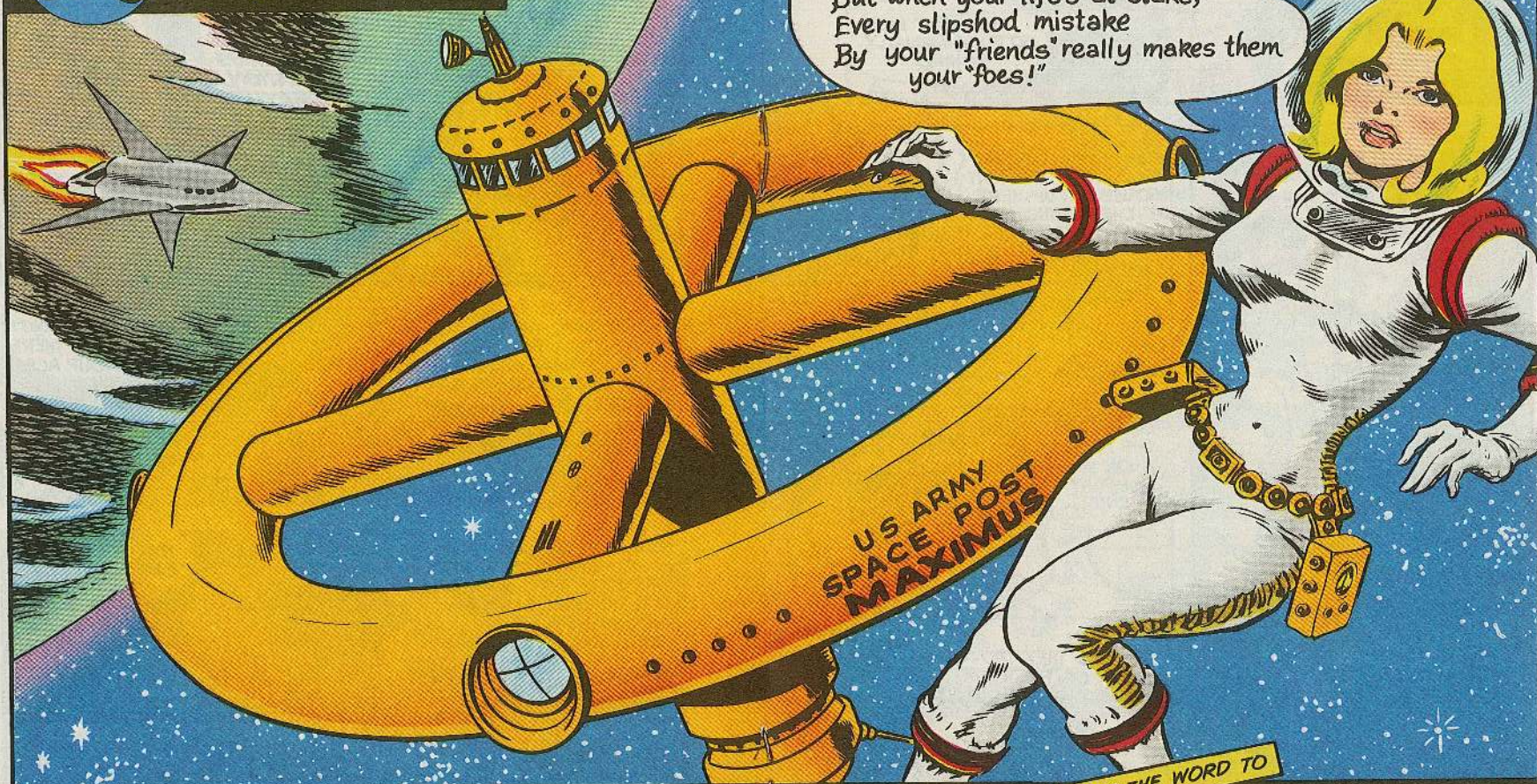


SOON, THOUSANDS OF MILES OUT FROM EARTH...

WHY--IT'S GARBAGE, BONNIE!

WHAT'S ALL THIS JUNK FLOATING AROUND THE STATION, CONNIE?

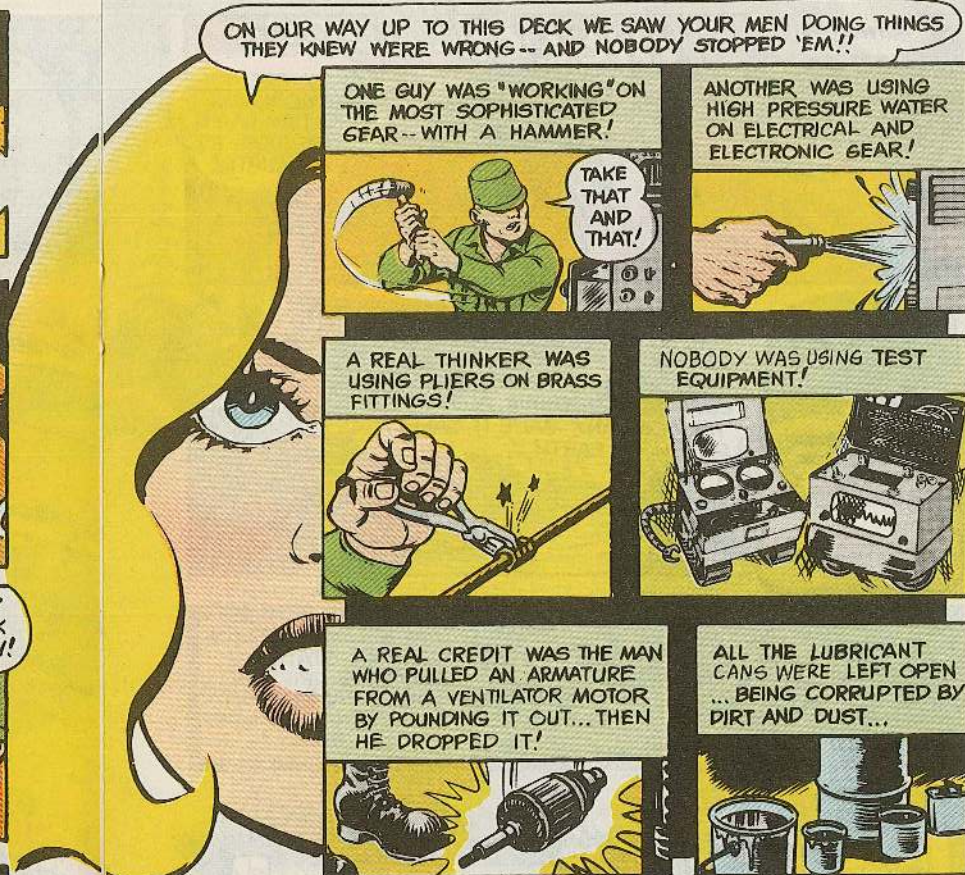
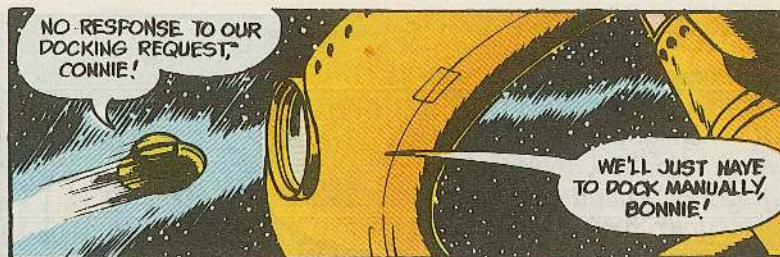
Joe's Dope Sheet



PASS THE WORD TO

WE HAVE THE WORLD'S BEST EQUIPMENT .! Take care of it

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



ON OUR WAY UP TO THIS DECK WE SAW YOUR MEN DOING THINGS THEY KNEW WERE WRONG-- AND NOBODY STOPPED 'EM!!

ONE GUY WAS "WORKING" ON THE MOST SOPHISTICATED GEAR-- WITH A HAMMER!



ANOTHER WAS USING HIGH PRESSURE WATER ON ELECTRICAL AND ELECTRONIC GEAR!



A REAL THINKER WAS USING PLIERS ON BRASS FITTINGS!



NOBODY WAS USING TEST EQUIPMENT!



A REAL CREDIT WAS THE MAN WHO PULLED AN ARMATURE FROM A VENTILATOR MOTOR BY POUNDING IT OUT... THEN HE DROPPED IT!

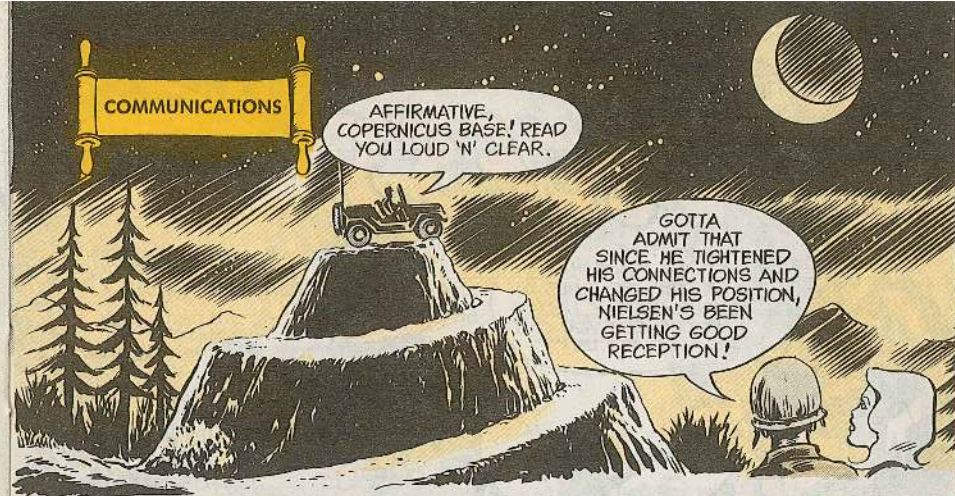
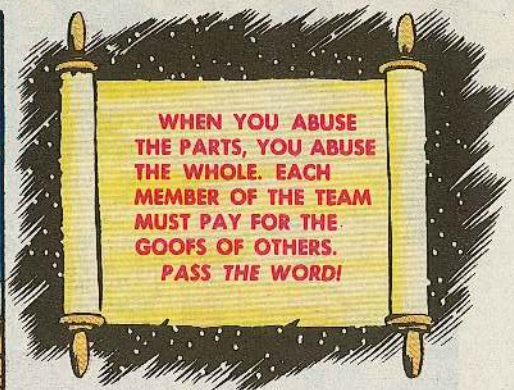


ALL THE LUBRICANT CANS WERE LEFT OPEN ... BEING CORRUPTED BY DIRT AND DUST...



AND ON... AND ON AND ON.

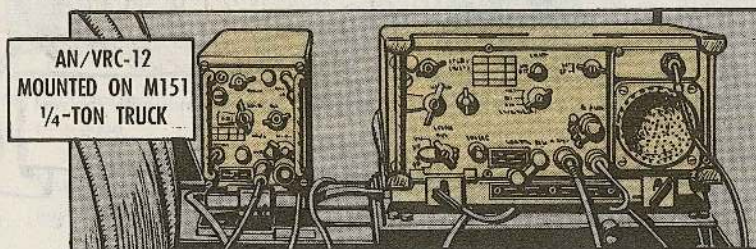




SOUNDER SIGNALS

When your punter lofts one into a strong wind, you know it may not be all his fault if his kick doesn't get much distance.

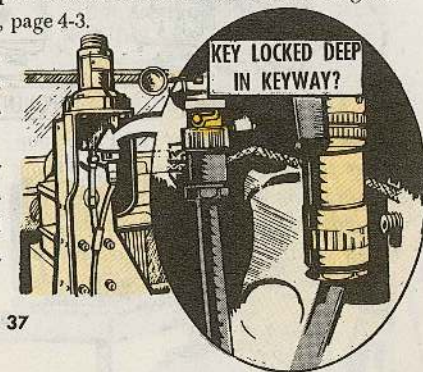
And when your AN/VRC-12 series radio set's not getting good transmitting distance, it just may not be the radio's fault.



A loose connection between your antenna cable or your CX-4722 Control cable and their antenna receptacles could be the culprit. Be sure those cables are locked on good, like it says in TM 11-5820-401-12 (Sep 72), page 4-3.

Could be your radio's just in a bad spot. Mountains, woods, or heavy brush can really gum up the transmission and reception on an FM set.

One more thing. Try to position your vehicle so that both incoming and outgoing signals travel over it diagonally. This'll usually give transmission and reception a boost.



WHEN IT'S TIME TO PROJECT...

SUCCESS

IS WHAT

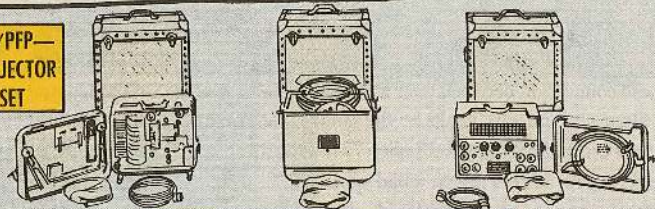
YOU WANT

HEX-RATED FLICKS
PUTTIN' THE BLUES IN
YOUR MOVIES? HOCUS-
FOCUS GOT YOU OUT
OF FOCUS?



Witchcraft has nothing to do with lettin' movie time come around—with the reel ready to roll but the projector's all spooked up. It's the lack of PM that sets the bad scene.

AN/PFP—
PROJECTOR
SET



GOT ALL COMPONENTS AND ACCESSORIES?

Like, Frinstance, your AN/PFP-1 projector set should get a preview of coming attractions in PM pointers before the seats are filled and the lights are dimmed.

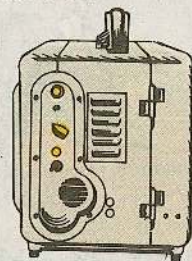
Be sure the projector's components and accessories, including spare parts, are all

together when you're setting up. 'Cause a missing amplifier or loudspeaker'll be replaced with boos or whistles when the movie stays silent at a time there's supposed to be sight and sound.

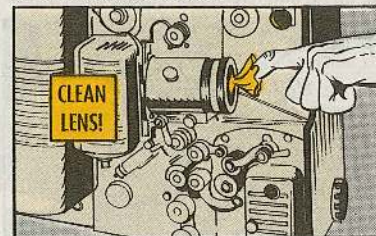
38 **BOO-HISS-T-WEET
TWEET**

And, if switches or controls bind, or are too loose, get 'em replaced or repaired before they leave you in the dark.

CHECK
SWITCHES
AND
CONTROLS



Water is out when it comes to cleaning the lens and reflector. Just about all lens care can be handled with lens tissue such as FSN 6640-285-4694.



For tough cleaning jobs such as removing oil or finger marks, use a liquid lens cleaner like FSN 6750-466-2129. Put the cleaner on a cloth or tissue — not directly on the lens.

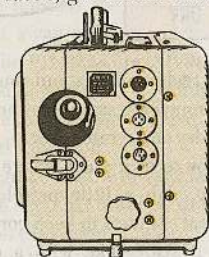
Eyeball the outside surfaces for dirt, dust, oil or other gunk. Use a rag to get rid



of it... And stay away from the water bath treatment. Dousin' it'll do more harm than good.

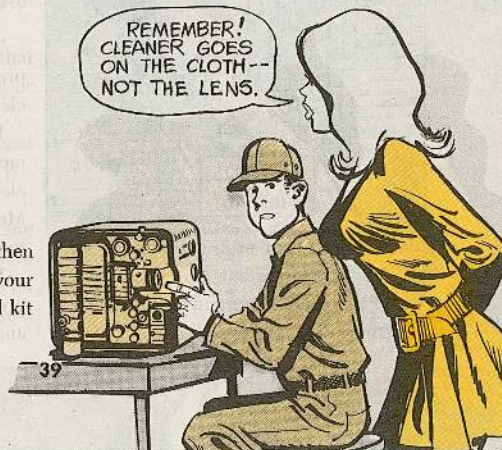
Make it a must to scan the surfaces for rust, cracks or chipped paint. If you find any of these faults, get 'em corrected.

FIRM
UP
SCREWS
AND
NUTS



Firm up accessible screws and nuts, then put the screwdriver and wrench in your pocket... Or, better still, in your tool kit and keep 'em there.

REMEMBER!
CLEANER GOES
ON THE CLOTH--
NOT THE LENS.



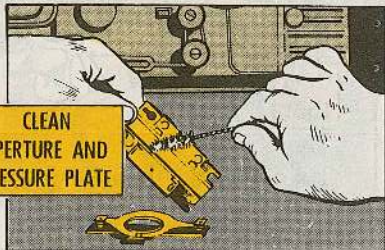
OUT! OUT!
GOOK AND
STICKY STUFF
BE GONE!

There's no place for oil, dirt, paint or any other sticky stuff on cords or connectors. So, get rid of it.

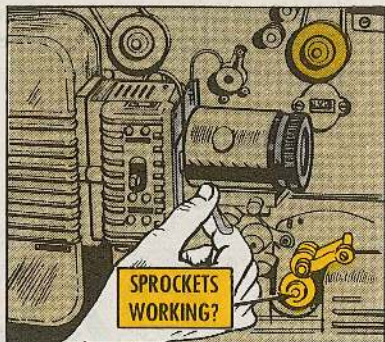
Every time you use that movie machine, it's just good PM practice to remove and clean the aperture and pressure plates and to open and clean the sprockets. If the

Also, if you've got a frayed or damaged cord, start getting a new one. Never wait till they shut you down . . . or up.

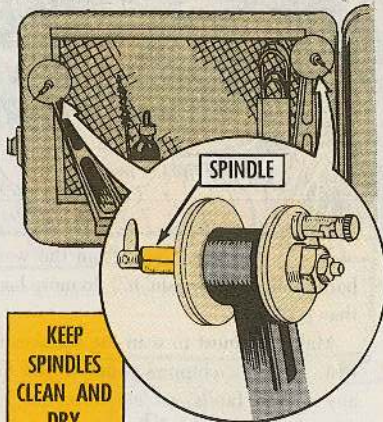
CLEAN
APERTURE AND
PRESSURE PLATE



SPROCKETS
WORKING?



plates have a burr or 2, get 'em smoothed off. It's real important you don't put off your PM on the plates and sprockets, since they're on the film path.



KEEP
SPINDLES
CLEAN AND
DRY

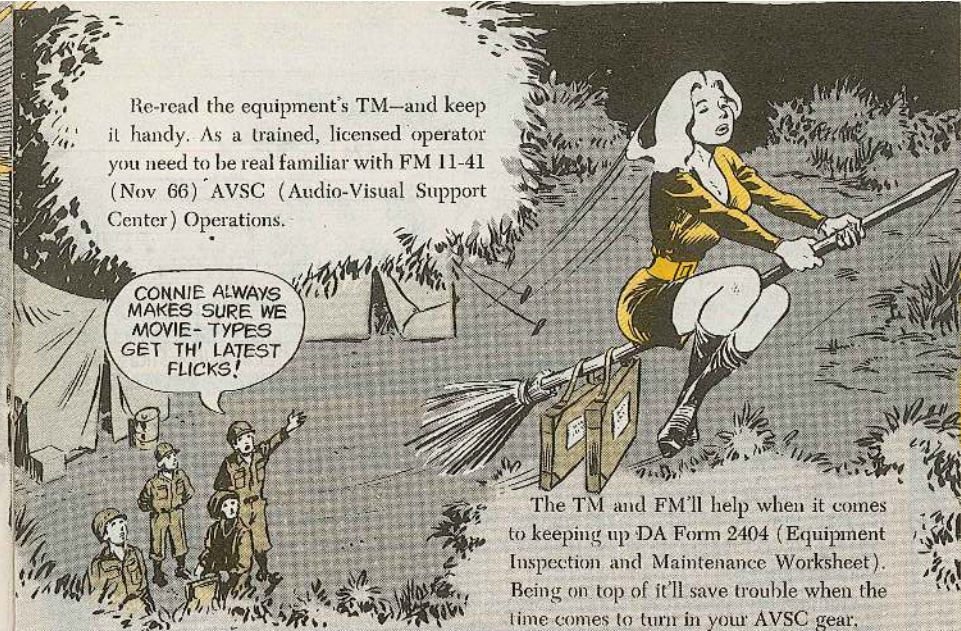
The reels, spindles and sound drum get pretty much the same treatment. Keep 'em clean, dry and scratch-free.

If you're in a place where moisture's a menace, dab a little petroleum jelly on electrical contacts to keep corrosion down. Make it scarce-like with a cotton swab, toothpick or pin.

When you're storing or transporting the projector set make sure you turn switches and knobs to the OFF position.

Re-read the equipment's TM—and keep it handy. As a trained, licensed operator you need to be real familiar with FM 11-41 (Nov 66) AVSC (Audio-Visual Support Center) Operations.

CONNIE ALWAYS
MAKES SURE WE
MOVIE-TYPES
GET TH' LATEST
FLICKS!



The TM and FM'll help when it comes to keeping up DA Form 2404 (Equipment Inspection and Maintenance Worksheet). Being on top of it'll save trouble when the time comes to turn in your AVSC gear.

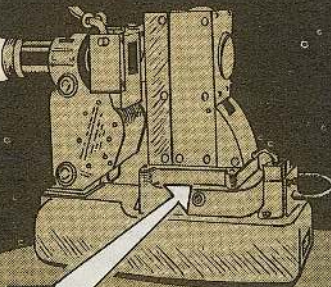
KEEP YOUR FAN FANNING

So you've finished the film and you're ready to put away your still picture projector, like the PH-222-C or AP-9(1).

Wait a couple or three . . . minutes, that is. Leave the fan fanning for that long or longer with the lamp off.

This'll lengthen the life of your lamp and get rid of the hots that build up during the slide scene on the screen.

And, remember when you're replacing a lamp, keep your finger off it. This could cause bulging of the bulb and put you on the outs with your picture showing. Use a clean, dry cloth to replace the lamp.



KEEP IT
GOING--TO
COOL THINGS
OFF!

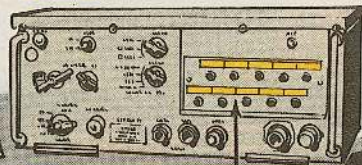


MAKE YOUR MARKERS

Dear Half-Mast,
Can you tell me how to get the white plastic markers used as labels on the signal or frequency strips for such gear as patching communication panels, radio sets and the like?

1LT D.E.C.

RT-524



FREQUENCY DESIGNATION STRIPS

Dear Lieutenant D. E. C.,

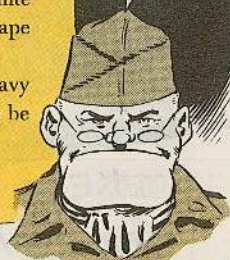
Plastic markers for commo gear, such as the RT-524, RT-442 or SB-675, are shy FSN's, Sir.

Your best bet's to have your support latch onto a piece of white plastic and get it cut into strips, squares, rectangles or whatever shape your set calls for.

Another handy material that'll do the job for switchboards is heavy glossy paper . . . or, you could use thin aluminum strips which can be locally fabricated.

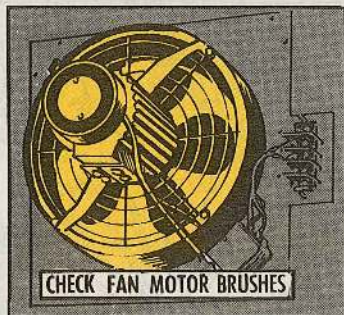
Half-Mast

KEEP
YOUR LABELS
LEGIBLE!



RTT FAN BRUSH

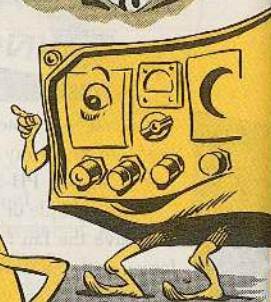
Quarterly PM check coming up on your AN/GRC-122 and -142 RTT rigs? As part of the Q-check, be sure shelter ventilating fan motor brushes are approximately 1/4 inch long ('bout the thickness of a pencil eraser). If not, get the brushes replaced.



I'M A FAN
OF YOURS,
BIG BOY!



GREAT!
BUT HOW ARE
YOUR BRUSHES,
BABY?



KEEP
THAT
ARC
STRAIGHT,
BABY



Hark, you agile avionics mech. . . .

The AN/ARC-54 and AN/ARC-131 FM radio sets do a top job of work — which means they rate all the help you can slip 'em.

So, when you put back the RT in its mount, feel your way as the RT connector moves into the mount connector.

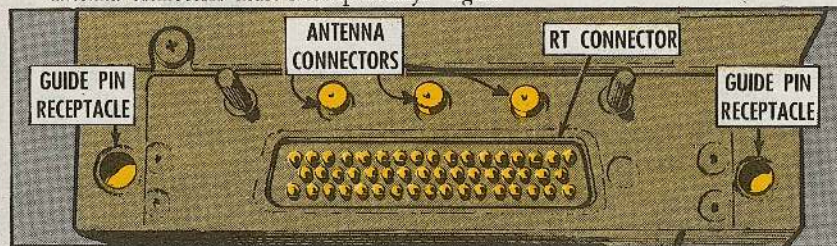
Heavy-handedness can bring on bent or broken connector pins.

The homing, transmitter and receiver antenna connectors must line up evenly.

Otherwise, you can accidentally push and lock the connectors into the set—especially if the inner lock is worn.

Consider the RT's 2 guide-pin receptacles. These must be lined up to engage the mount pins. Make a straight insert, take your time, do not slant the RT into the mount.

After you've guided the RT into the mount, if you find that the locking handle won't fasten, something's wrong. Try again.



I CAN'T
GET THE
LOCKING
HANDLE TO
FASTEN,
CONNIE!



LIKE IT
SAYS, TRY
THE INSERT
AGAIN, BUT
GENTLY--
AND STRAIGHT!
EASY DOES
IT!





KEEP IT FLOWING



LIKE--
MY BATTERY
HAS TO
BREATHE,
MAN.

The nickel-cadmium battery will really put out for you, Huey mechs, if you give the connecting hardware regular attention.

Like—make sure both battery vents are clear during your Daily. The vent in each battery cell releases gasses built up during operation, and the vapor has to go somewhere.

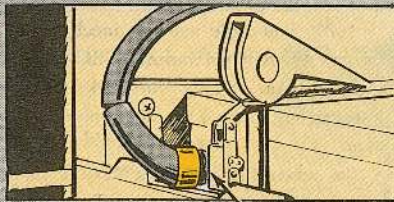
If the vapors are trapped, you'll get cell link corrosion. Current will then follow the corrosion to ground and short out the battery.

So, eyeball the ram air inlet tube to make sure it's not plugged up.

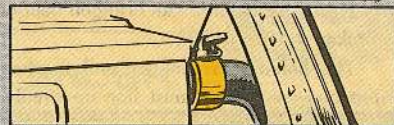


If necessary, disconnect the air inlet hose at the battery to check for a plugged line.

The same deal goes for the air outlet vent.



DISCONNECT BOTH AIR LINES AT BATTERY



Also, the rubber outlet vent must be shaped so that it doesn't act as an air inlet in flight. Otherwise, you'll trap harmful fumes in the battery.

If necessary, shape the outlet hose on your baby simply by cutting the rubber toward the rear of the bird.

That'll keep your battery properly vented.



NEVER LEAVE 'EM GUESSING



Leave 'em laughing, bird mechs, but never keep support types in the dark about a part you send for repair. It can mean a lot of unnecessary work for support and a longer wait for you.

Take the case of a leaky, 42-degree gear box on a Huey (UH-1), for example.

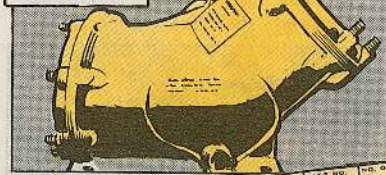
Well—support didn't know if the input quill seal, output quill seal or the grease seals were leaking so they replaced all of them to be on the safe side.

'Course, on a low-time gear box, a seal damaged during installation would give you a leak. No need for all the seals to be changed.

All you have to do is pinpoint the problem.

Then, give with the facts on a maintenance request form. Be real specific.

SPECIFY WHERE
42° GEAR BOX
IS LEAKING



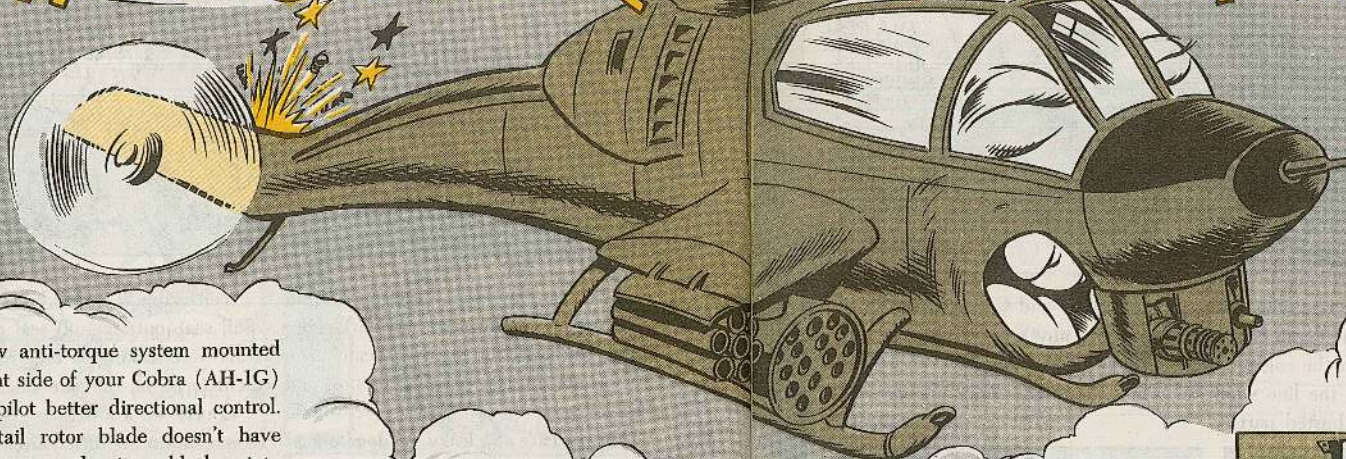
THAT GOES FOR
ANY PART YOU
SEND FOR REPAIR!

MAINTENANCE REQUEST		PAGE NO.		NO. OF PAGES		REPORTED ON DATE		BY WHOM	
For use of this form, see DA FORM 2407, 1-67, and the instructions in the Office of the Army Chief of Staff for Leadership.		1		1		1		1	
SECTION I		SECTION II		SECTION III		SECTION IV		SECTION V	
301109		B T P 7/1ST AIRCAV		FURT KNOX Ky 40121		B472			
70-14731		Helicopter		UH-1H		1520-854 2670		7240	
70-14731		42-DEGREE GEAR BOX		DA FORM 2407		1-67		1-67	
42-DEGREE GEAR BOX LEAKING AT INPUT QUILL									

DA FORM 2407

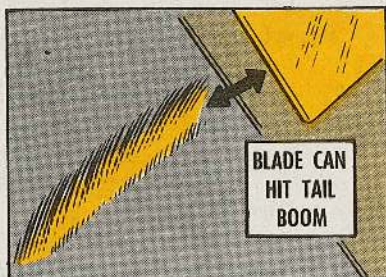


HOW'S YOUR CLEARANCE?



The new anti-torque system mounted on the right side of your Cobra (AH-1G) gives the pilot better directional control.

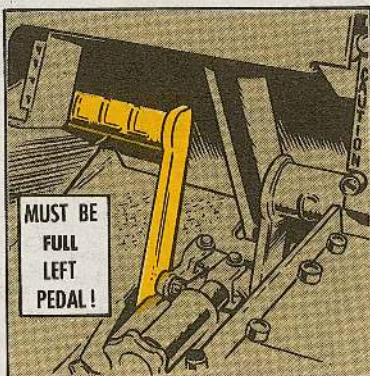
If the tail rotor blade doesn't have enough clearance, tho, it could chop into



the tail boom fin and give your favorite throttle jockey a headache. You, as a mechanic, might have some explaining to do??

Which is why you want to focus in on the bit about checking the blade pitch setting, para 9-17c of TM 55-1520-221-20 (Sep 71), following a tractor system rigging.

After you adjust the pitch change links to 5.64 inches between centers of the rod-end bearings, hold full left pedal.

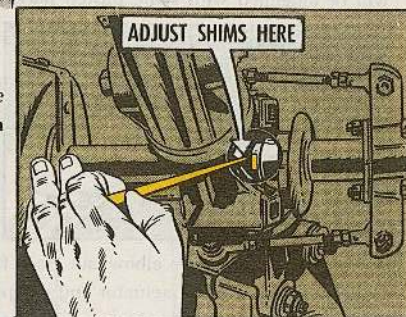


Move the blade inboard and measure for 2.00 to 2.50 inches clearance, between



the tail boom fin and the trailing edge of the blade at the nearest point.

If the shim stack doesn't measure up, change the thickness of the shims between the static stop and the rotor hub.

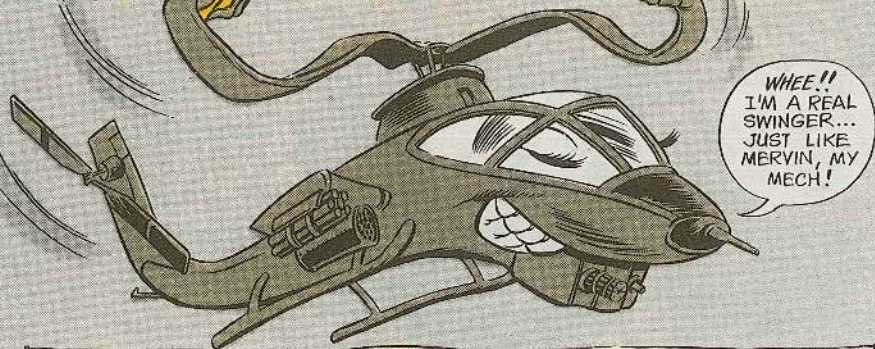


Is the clearance too small? Then reduce the shim thickness to decrease flapping travel of the blade. Adding shims will increase the travel.

THAT'LL PREVENT ANY TAIL ROTOR FLAPS!

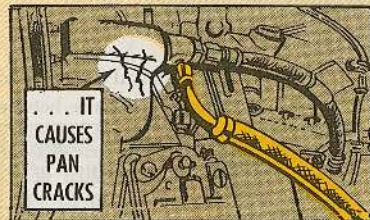
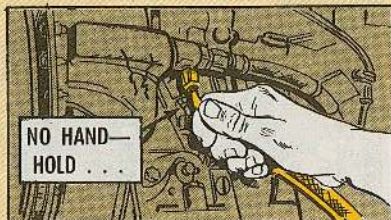


NO HAND-HOLD



You bird mechs watch your feet when mounting the Huey and Cobra. Good Show! But what about your mitts? Some types will latch onto any part of the bird that seems sturdy, like the hose for the engine self-purging particle separator.

Never grab the aft end of the line when mounting the engine deck or your bird will be sidelined with some busted parts.

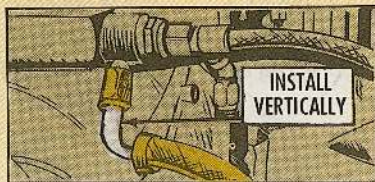


Fact is, muscle on the elbow can crack the pan assembly, which is the P3 air outlet source for the air bleed actuator and self-purging system.

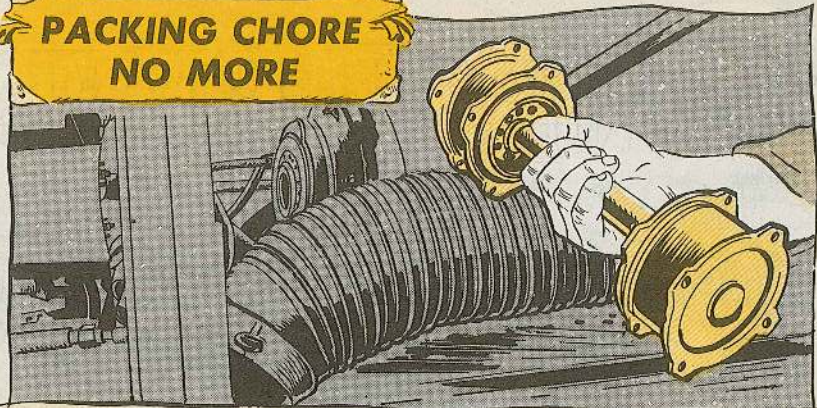
Most cracks can be repaired according to the poop in para 7-36 of TM 55-2840-229-24 (Sep 71) on the T-53 engine.

Some cracks, tho, can mean removing the engine for a costly premature overhaul. Take no chances during inspections. Treat the hose gently.

When installing the hose, position the elbow part of the line in a vertical plane. A horizontal elbow is a tempting hand-hold.

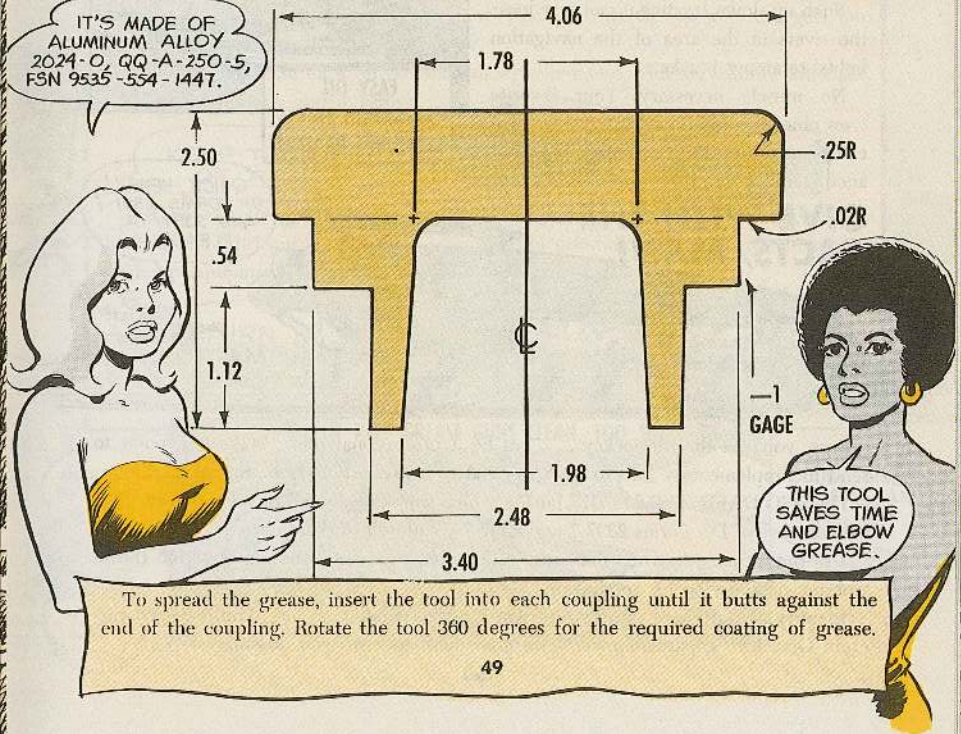


PACKING CHORE NO MORE



Packing the Kiowa (OH-58A) main drive shaft couplings with grease every Periodic is messy and time-consuming. Fact is, it's nigh-on to impossible to get a smooth coating without air bubbles during a hand-packing chore.

So, to get the 0.200 to 0.300 inch coating of grease over the top of the internal spline teeth, make up this simple grease-gaging tool.



To spread the grease, insert the tool into each coupling until it butts against the end of the coupling. Rotate the tool 360 degrees for the required coating of grease.

WRONGING THE RIVETS

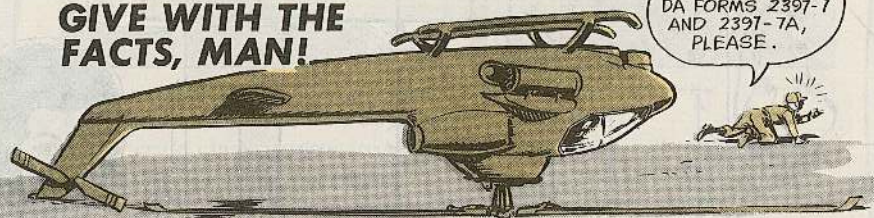


Hot pilots . . . when you're eyeballing the struts on that U-21, nix on pulling up and down on the wing tip.

Such up-down treatment can tear loose the rivets in the area of the navigation lights' retaining brackets.

No muscle necessary. Your favorite crew chief should measure for proper strut extension during the Preventive Maintenance Daily.

GIVE WITH THE FACTS, MAN!

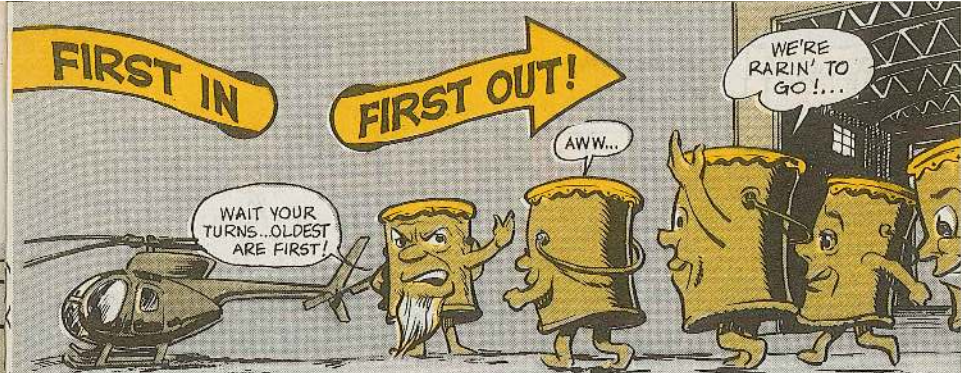


Sure, you're a throttle jockey . . . but be a professional pilot. Make it a point to send in supplementary info to USAAVS after a precautionary or forced landing.

DA MSG DAFD-AVP 242201Z, Jan 73, which supplements AR 385-40 and AR 95-5, requests use of DA Forms 2397-7 and 2397-7A within 5 working days.

Use the forms *only* when the cause of a mishap was not determined within the 8-working-hour period for sending in the original crash facts message.

Identify aircraft hardware involved in the malfunction, to help improve your aircraft. Give FSN's, part numbers, and serial numbers wherever possible.



Grease? It's soft, shiny, easy to push around, nothing ever happens to it, right?

Wrong! Things can—and do—happen to grease, right on the shelf.

It can weaken enough that the oil and solid matter part company, or else moisture can creep in and do its dirty work.

Air can cause a chemical reaction in the grease and grease can also react with its container material when there's air to get things going.

To keep down grease deterioration:

1. Use your grease on a "first in, first out" basis, so that the older grease gets into the action before the new grease takes over.
2. Never put grease back on the shelf or anywhere else, with the lid only half-tight. That encourages air and moisture.

KEEP THE LID ON TIGHT!

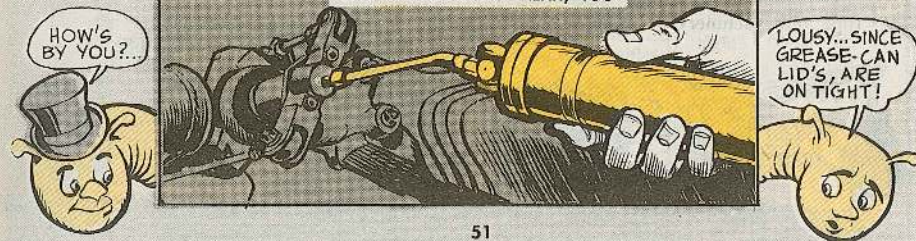


3. Keep your grease clean . . . if sand or dirt or metal particles get in the grease, you don't have a lubricant any longer . . . you have a grinding compound that'll chew up whatever equipment it's used in.

TURN IN CONTAMINATED GREASE!

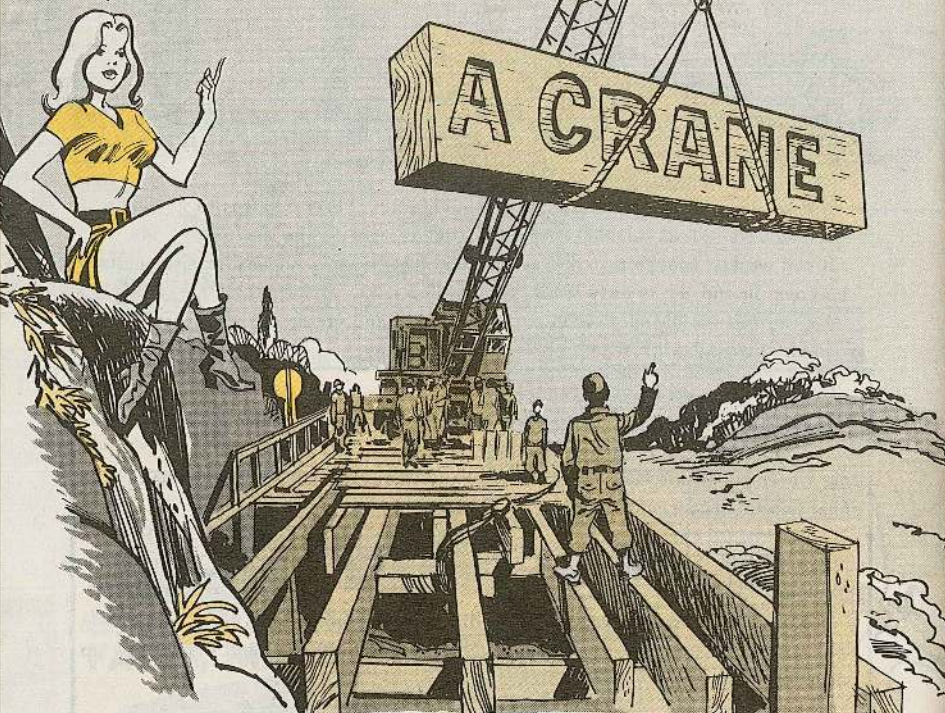


KEEP GREASE GUNS CLEAN, TOO



DIFFERENT--
BUT ALIKE!

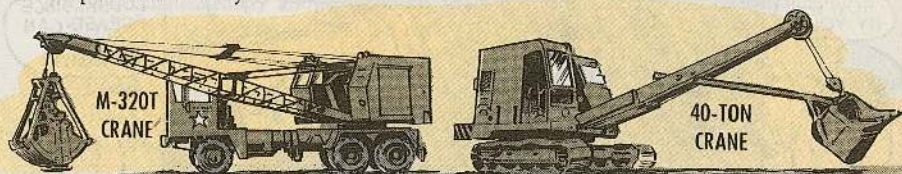
A CRANE'S



If you really know what makes one crane tick, you've got preventive maintenance pretty well licked on 'em all. It's not hard to see why.

Take a long look at your favorite rig and compare it with any other crane, truck-mounted or crawler.

Same difference, right? They all have a cab, controls, instrument panel, boom, wire rope and machinery.



OK, let's take the Model 2380 rough terrain 20-ton crane, as a frinstance. This guide tells you how to get into the swing of inspecting it.

If you're operating another type or size, you can use this guide too. Just remember, take the time to do it right.

The big problems are printed in a heavy type. If you come across any one of these on your rig, fix it fast or yell for help. It takes only one of 'em to lead to a breakdown or extra wear or unsafe conditions.

M 2380
CRANE

GENERAL APPEARANCE

OVERALL—Mud-caked; rust; body damage; welds broken; oil, fuel or water leaks.

UNIT MARKINGS—Missing, not readable.

ID, INSTRUCTION PLATES—Missing, not readable, loose. (Electric lines warning decals missing.)

PUBLICATIONS—Missing, torn, unreadable, not up to date. (Check DA Pamphlet 310-4 for the latest pubs.)

CAB—Loose, missing assembly nuts or bolts. **Bent**, cracked frame members. If support has deferred maintenance—DA 2408-14—and said it's safe to operate, then forget it for now. Windows broken, missing. **Doors or panels missing, won't open, close or fasten.**

LIGHTS (Floodlights, Marker Lights, Headlights, Blackout)—Burned out; lenses dirty, broken, missing. Reflectors discolored. Wires broken, loose, frayed.

TOOL BOX—Rusty. Lid won't fasten or open.

BATTERIES—Loose cables; mountings loose, corroded. **Cracks, leaks.** (Water should be $\frac{3}{8}$ inch above plates.)

OUTRIGGERS—**Bent, cracked, broken.** Mounts loose. Screw jack bent, muddy, dirty, rusty. (For hydraulic outriggers check for scored or bent piston rods, leaky seals and faulty pad connections.)

FIRE EXTINGUISHER—Missing, unserviceable, not fully charged. Loosely mounted. Broken seal.

DRIVER'S COMPARTMENT—Junked up with things like oily rags and oil cans.

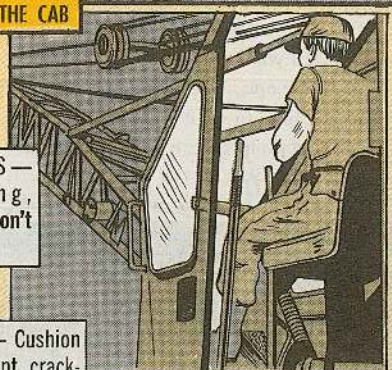
OPERATING CLUTCHES—No quick response. Out of adjustment. Bind. (Clutch control shaft could bind from lack of use. Only cure here is to use the crane at least once every 2 weeks or clean linkage connection and oil sparingly.)

CONTROLS—Knobs missing, loose, bent. **Won't operate.**

SEAT—Cushion torn; mount cracked, **broken**; screws missing; frame bent.

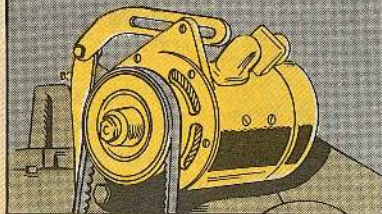
PEDALS—Out of adjustment.

INSIDE THE CAB



HOSES—Leak, spongy, swelled (when engine is running). **Clamps missing, broken.**

GENERATOR—Brushes worn, loose, dirty, oily. Mounting loose. Wires loose.



PRESSURE RELIEF VALVES—Rusty, dirty, missing, **clogged, won't operate.**

GOVERNOR—Out of adjustment; mounting bolts loose, missing.

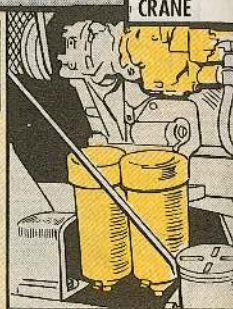
FAN—Mounting bolts missing, loose. **Blades bent.** Guard, shroud loose, bent.

FUEL FILTER—Leaks. Gasket worn. Dirty (has water and sediment). Filter element clogged.

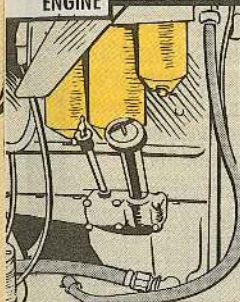
RADIATOR—Leaks. Air passages clogged. Loose mounting bolts. **Coolant below right level.** (See your TM for recommended distance above core.)

DRIVE BELTS (Generator, Water Pump and Fan)—**Worn badly**; cracked, frayed. Fan belts too loose or too tight (Replace as a matched set). Pulleys cracked, chipped; out of alignment; loosely mounted.

CRANE



ENGINE



AIR CLEANER—Loose, leaks, dirty; clamps missing.

OIL PUMP—Leaks; connections and mountings loose.

FUEL LINES—Leak, clogged; connections loose.

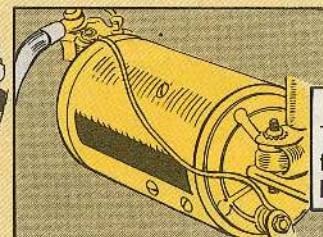
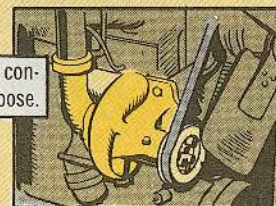
WATER PUMP—Leaks; connections and mountings loose.

STARTING MOTOR—Wiring loose, frayed. **Mounting loose.**

FUEL TANK—Leaks; loose mounting. Filler cap damaged; gasket missing; strainer clogged, torn.



MUFFLER, TAIL PIPE—Loose, worn, cracked, holes.



INSTRUMENTS

PANEL LIGHTS—Reflector missing. Bulbs burned out, missing. Wires broken loose, frayed.

FLOODLIGHT SWITCHES—**Broken**; loose connections.

FUEL GAGE—Glass broken; won't operate; needle broken, bent.

BATTERY-GENERATOR INDICATOR—Glass broken; needle broken, bent; won't operate.

WATER TEMPERATURE GAGE—Glass broken; needle broken, bent. **Not in normal operating range** when warmed up.

WATER TEMPERATURE WARNING LIGHT—Glass broken.

STARTER BUTTON—**Broken**, loose connections and mounting.

OIL PRESSURE WARNING GAGE—Glass broken; won't operate.

IGNITION SWITCH—Loose connections. **Broken**.

CAB LIGHT SWITCH—**Broken**; won't operate.

PANEL LIGHT SWITCH—**Broken**; won't operate.

HEATER SWITCH—**Broken**; won't operate.

OIL PRESSURE GAGE—Glass broken; needle **broken, bent**. **Not in normal operating range or according to specific TM.**

YOU DROPPED YOUR HANKY, CONNIE!

BOOM AND ATTACHMENTS

HOOK BLOCK—**Cracked**; broken sheaves.

BOOM ASSEMBLY—Cracks, breaks, bends; sheaves worn, broken flange; pins worn.

PILE DRIVER—Mountings loose; guides bent; leads worn, bent.

DRUMS, SHEAVES, CABLES—Bearings, bushings worn badly. Shafts worn, bent. Cables kinked, rusty, frayed; strands broken. Mounting bolts loose.

BUCKETS (Dragline and Clamshell)—Cracks, breaks. Sheaves worn, broken flanges. Loose, missing bolts, lock. Teeth worn, broken, loose.

TAGLINE—Reel needs lube. Mounting loose. Seals worn.

MACHINERY

MACHINERY DECK—Oily, dirty; cluttered with containers, trash.

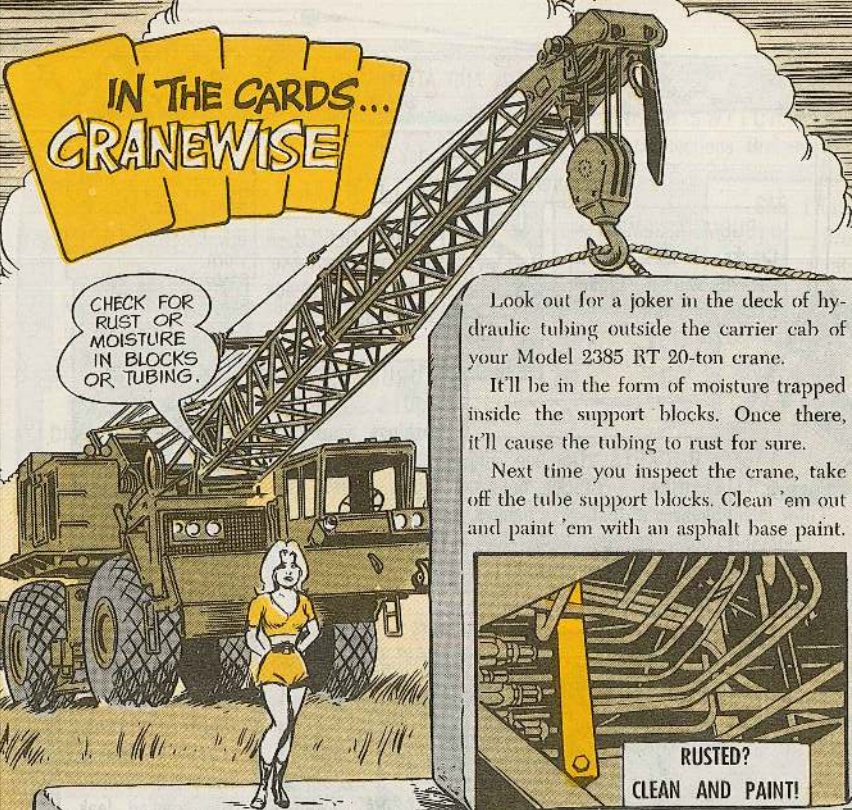
DRIVE CHAINS—Dirty, worn; out of adjustment. Links **cracked, broken**. Primary drive chain case cracked, leaking oil.

SWING SHAFT-ASSEMBLY—Jaw clutches, roller, bearings worn. Roller path dirty, not lubed (Too much grease on rollers causes sliding and unnecessary wear. Wipe off excess grease).

PINION GEARS—Worn, damaged. Teeth broken, missing. Need lube.

IN THE CARDS... CRANEWISE

CHECK FOR
RUST OR
MOISTURE
IN BLOCKS
OR TUBING.



Look out for a joker in the deck of hydraulic tubing outside the carrier cab of your Model 2385 RT 20-ton crane.

It'll be in the form of moisture trapped inside the support blocks. Once there, it'll cause the tubing to rust for sure.

Next time you inspect the crane, take off the tube support blocks. Clean 'em out and paint 'em with an asphalt base paint.

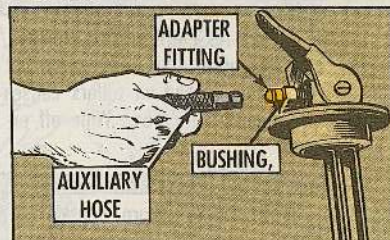


Check all the tubing too. If you find any tube that's rusted, clean it, prime it and repaint it with regular olive drab paint. It's the only way to beat this game.

FITTIN' IN

Sure, there's a way to hook up the auxiliary fuel line (FSN 4720-274-9480) of the 1.5-KW generator sets to the drum adapter. Replace the fitting now on the drum adapter with fitting, FSN 4730-837-7073.

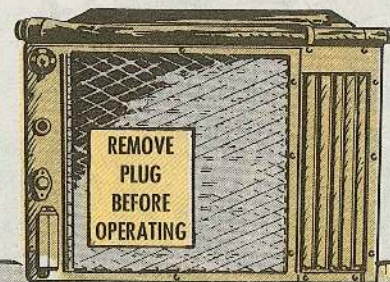
You'll also need bushing, FSN 4730-057-6587, and packing O-ring, FSN 5330-248-3838.



Pull the Plug

Get off to a good start with your 18,000-BTU horizontal air conditioner. Take out the condensate drainage plug before you put it into operation.

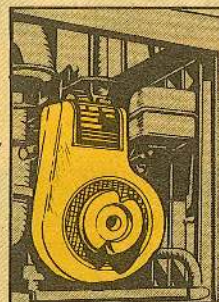
You'll find the plug just below the fresh air inlet filter on the rear of the unit (the condenser side).



Drainage here will prevent a water buildup inside and rust and corrosion. This could keep your unit running without a hitch... when you need it most. To store the plug, just tape or fasten it to one of the lifting handles.

TANK-AND-PUMP UNIT POOP...

IT'S ELECTRIC NOW, TOO

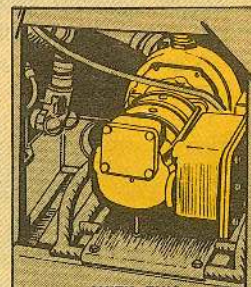


YOU CAN REPLACE THIS
GAS ENGINE PUMP...

Here you go, you tank-and-pump users in extreme cold climate.

There's now a 50-GPM electric-motor-driven pump, FSN 4320-135-6233. You can mount it in place of the engine-driven pump.

Order it through regular supply channels. Instructions on how to mount it come with the pump.



... WITH THIS
ELECTRIC PUMP





It takes two to tango through a maintenance routine too.

The combo here is you, the mech, and the right how-to-do-it info.

For example, you gotta know that an impeller screws off any 50-GPM pump. That know-how is beautiful music. And the maintenance work is done without a hitch.



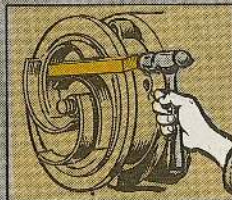
If you try to pry or pull it off, you're heading for a bust . . . and lots of downtime.

So, get into the swing of the thing by learning the right steps pronto.

First, you put a block of wood on the impeller blade.

Then, strike it sharply to loosen the impeller threads.

LOOSEN IMPELLER
FROM SHAFT . . .



. . . AND UNSCREW
SLOWLY

Last, you slowly unscrew the impeller from the engine crankshaft . . . and off she goes without a scratch.

This info may not be in your specific TM, but you gotta know it before you do the fancy stepping.

M59 FIELD RANGE . . .

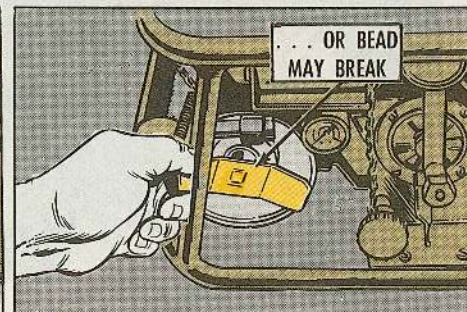
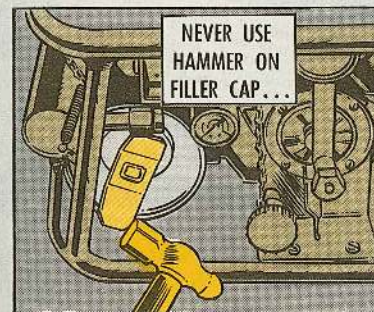
YOU'VE BUSTED
ANOTHER CAP,
HERCULES?

M2 BURNER PM



A heavy-handed twist on the M2 burner unit's fuel filler cap you don't need, ever! Anytime you tighten this cap turn it just tight enough to hold pressure or stop a leak. No extra force needed.

Course, you never use a hammer or heavy wrench to open or close the cap. A broken head or damaged gasket means downtime and parts replacement—not to mention a slow burn from the mess sergeant.



HERE'S HOW TO GET IT

FIRST CHECK
YOUR -20P
AND **\$8 700-50...**

DEPARTMENT OF THE ARMY SUPPLY BULLETIN
SB 700-50
EXPENDABLE ITEMS
(EXCEPT MEDICAL)

"Unauthorized" just means that they're not listed in a current authorization document. A justification in writing can change that.

... THEN IF YOU STILL DON'T FIND
AN AUTHORIZATION, TRY THIS:

Half-Mast

Handle assy, PSN 5820-057-7756, is needed for RT-524, assigned this unit by TOB, to avoid damage to the equipment. Handle not listed in TM 11-5820-401-12, but is identified on page 560 of Fed Cat C5820-II-2 (Feb 72) and on page 45 of P3 250.

Jim H. Hixenbaugh
LTJG M. H. Hixenbaugh
Officer

JUSTIFY YOUR NEED WITH
A STATEMENT ON THE BACK
OF DA 2765 OR ON A
SEPARATE SHEET OF PAPER

authorization media and the type of exception information required at supply support level. Some of the exceptions that may occur are discussed below.

(1) *Unauthorized items.* Justification will be submitted in writing for items not authorized in applicable authorization documents. For other than repair parts, requests will be processed in accordance with AR 310-34 and AR 310-49.

62

SMALL ARMS SERIAL NUMBERS



Major commands got the word on this by DA message DALO-SMS-R 301410Z Oct 72. The change is part of a new policy for life-time control of small arms by serial number.

[illegible]

**SERIAL AND DOCUMENT
NUMBERS GO ON THE BACK
OF THE PROPERTY BOOK PAGE**

CHECK YOUR
LOCAL **SOP** FOR
THE LATEST ON
ACCOUNTING FOR
YOUR SMALL ARMS

63

SOME "SETS" ARE NOT

Dear Half-Mast,
Does para 2-7d(4) in Ch 1 (Jun 73) to AR 710-2 apply to components of sets like radio, radar and generator sets? In other words, are nonexpendable components of these sets accounted for as separate property items—or only as PLL?

SGT W. R. K.

NO SEPARATE
PROPERTY
BOOK LISTING
IS NEEDED FOR
COMPONENTS.

Dear Sergeant W. R. K.,

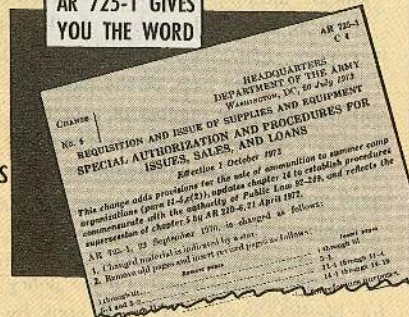
Any assembly, subassembly or part that is a bona fide component of one of these sets (that is, issued as a component under the current end item LIN) is covered by the property book listing for the end item (or set). No separate property book listing for the component is needed.

PROPERTY BOOK
LISTING FOR RADAR
SET AN/PPS-4A
COVERS ALL COMPONENTS
OF LIN Q 16100 . . .

. . . BUT NOT GEN-
ERATOR, LIN J42685,
THAT'S USED
WITH IT

Items covered by para 2-7d(4) are those items that once were included in many sets—but have now been removed as spelled out in AR 725-1 and its changes. These do require separate property book

AR 725-1 GIVES
YOU THE WORD



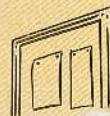
listing—even if you got 'em as part of a set before the new rules were issued.

But for components that are still part of sets, replacements for 'em that are stocked at Organizational level are PLL items, and property book accounting is not required. If non-expendable, such components must be turned in when unserviceable—whether they go to DS, GS or depot for repair. But the turn-in is not a property book transaction.

Half-Mast

Connie's
Mini Minis

CONNIE-- HAVE I
GOT A PROBLEM!



Like Those Posters?

Have you tried those 10 Army posters on how to use your troubleshooting equipment? Here they are:

DA POSTERS

- 750-50 Low-Voltage Circuit Tester
- 750-51 Spark Plug Cleaner/Tester
- 750-52 Antifreeze/Battery Tester
- 750-53 Multimeter TS-352B/U
- 750-54 Dry Cell Battery Tester
AN/PSM-13
- 750-55 Multimeter AN/URM-105
- 750-56 Vacuum Gage
- 750-57 Timing Light
- 750-58 Tach-Dwell Meter
- 750-59 Compression Gage

They are the "new look" in posters, with pictures showing hook-ups and tests you can make, plus troubleshooting tips. Shoot any word you have on them to the U.S. Army Maintenance Management Center, Lexington, KY 40507, or to PS Magazine.

You can order the posters from the AG Publications Center, Baltimore. You can also order Pamphlet 750-22 that goes along with the posters.

1/4-Ton Boot

That bellows-type boot for the handbrake lever on older M151-series 1/4-ton vehicles comes under FSN 2530-678-2971. It shows up right on page 179 of TM 9-2320-218-20P (Jan 72). It's wrong on page 134 of the —20P TM.

BIG OIL, ANTIFREEZE CHANGE

You now double the mileage or time between oil and antifreeze changes in your tactical and commercial wheeled vehicles. That word went out in DA Msg DALO-SMM-E 261852Z Feb 74. Intervals for filters do not change. Engines still under warranty are not affected by these changes.

Of course, if your oil gets contaminated or your antifreeze loses its protective ability, you change.

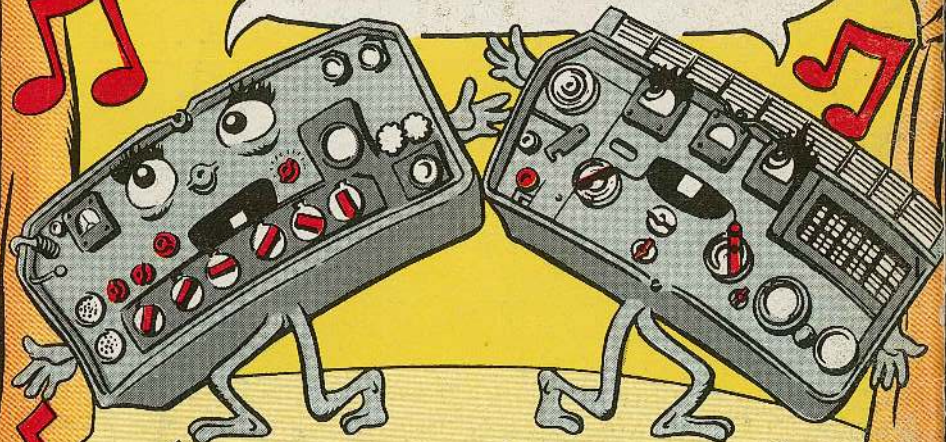
The whole idea is to save energy products. If you have any problems, let's hear from you.

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

COMMO GEAR SING-OUT

GIVE ME LOVE, GIVE ME LIFE,
GIVE ME PEACE — NOT HURT...

... KEEP ME DRY, KEEP ME CLEAN,
KEEP ME FREE FROM DIRT;



...GIVE ME HOPE, HELP ME COPE
WITH THIS HEAVY LOAD!