

Issue 244

PS

1973 Series

March

THE PREVENTIVE MAINTENANCE MOVIE

HEY! WHO'S
THE CIVILIAN
TYPE?

WELL...
REMEMBER
THAT CALL WE
PUT IN FOR
TECHNICAL
ASSISTANCE?

TECH
LAO
ASSIST

CHUCK
KERNER

THE PROBLEM PURGERS
SEE INSIDE COVER

HELP-WHEN YOU NEED IT . . .

THE PROBLEM PURGERS

OHhhh... I
CAN'T BELIEVE
THEY WRECKED
THE WHOLE
THING!

NO ONE KNOWS
WHERE TO START...
WHO KIN HELP
US ???

YOUR COMMAND'S
MAINTENANCE PEOPLE
CAN CALL THESE
REAL HELPERS.

EASY,
DIAL YOUR
L.A.O.!

All steamed up over a really unusual maintenance or supply jam? Ready to blow your stack?

Why let a little pressure split your seams? Just blast your whistle for help.

If it's too much for your DS or GS types to handle, don't worry. They can have your command's maintenance officer phone the nearest U.S. Army Materiel Command Logistic Assistance Office (LAO). These civilian maintenance and supply technicians will help you cool your boiler.

They have the know-how and are there to support you with any of your supply and maintenance problems. You name your problem . . . they'll go to work on it. It could save valuable time and materials, and help keep your outfit combat ready.

Here are the numbers to call:

LOGISTIC ASSISTANCE OFFICES

EUROPE

Heidelberg Mil 8888/8950/7068.

U.S. ARMY PACIFIC

Ft Shafter 86-2741/2715.

VIETNAM (includes Thailand)

Long Binh 4273/4879.

KOREA

Yongsan 3174/3873.

LAO-JAPAN

Okinawa Mil 51144/51160.

CONUS

1st and 3rd Armies

LAO (Eastern) New Cumberland

Depot, AUTOVON

977-6024/6506/6507.

5th Army

LAO (Central) Red River Depot,

AUTOVON 956-2822/2816.

6th Army

LAO (Western) Sacramento Depot,

AUTOVON 839-2067/2423.

PS

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:

MSG Half Mast
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Fort Knox, Ky
40121

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GROUND MOBILITY

FIREPOWER

COMMUNICATIONS

AIR MOBILITY

COMBAT SUPPORT

GROUND MOBILITY

TM-242-SERIES 1¼-TON TRUCK

How good—and for how long—your Gama Goat goes is mostly up to you, the driver or mechanic. What you know about it and what you do about it is what keeps your Goat friendly and frisky.

Nobody's good enough to operate and maintain a Gama Goat without the publications that go with it.

TM 9-2320-242-10

(MAY 70) W/Ch 2

TM 9-2320-242-20

(AUG 70) W/Ch 1 & 2

TM 9-2320-242-20P

(FEB 70) W/Ch 1

TM 9-2320-242-ESC

(FEB 70)

LIBRARY CARD

LO 9-2320-242-12

THE
M56
GAMA
GOAT

OPERATION
AND
PREVENTIVE
MAINTENANCE

DA PAMPHLET 750-31 (NOV 70)

IT'S ME, OL'
GAMA GOAT...
BACK TO SEE
HOW YOU'RE
TREATIN' MY
SIX-WHEELED
LIL FRIEND.

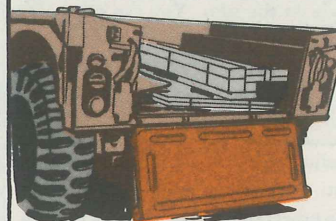
KEEP THE

GO IN GOAT

BEFORE OPERATION

HIT EVERY ONE OF THOSE
PREVENTIVE MAINTENANCE
CHECKS AND SERVICES IN YOUR
-10 TM. JOT THE FAULT DOWN
ON YOUR DA FORM 2404
WHEN YOU CAN'T FIX IT
YOURSELF.

TAILGATE—It's got to be watertight to swim. Look for tears or places where the seal's come loose. Check for dents or



bends in the metal that'll upset the seal. When you close 'er back up, make sure the latches press snug against the tailgate.



Never drop the tailgate or travel with it hanging down. It's light metal, to save weight, and gets dented and bent pretty easy. And never put a heavy weight on the tailgate—even your own full weight—when it's held open on the chains. That chain hook can straighten right out.



ENGINE COVER—Before sticking your head under there, be sure the engine cover's tipped all the way back. Straighten out the hinge brace and lock it. Pull the rod brace down and set it in place. Then a gust of wind won't slap that cover down on your neck.



BRACE BRACKET—This's for the 5-wheel operation kit. Eyeball the weld all around. Some brackets have torn loose, probably because the brace assembly wasn't installed right. (More on that coming.)

TIRES & WHEELS—A puncture can be repaired with the tire right on the vehicle. If you spot a nail or something else sticking into the tire, don't pull it out—not until you've got your tubeless tire repair kit on the spot. You can probably fix the tire without losing much air.

But report it on your 2404. Your mechanic will decide whether a better repair is needed.

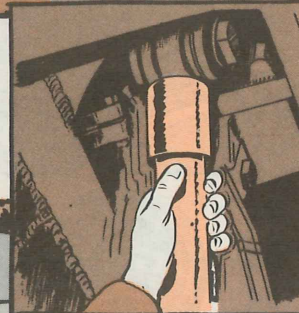
Bad alinement will show up as uneven wear on the tire—one side worn more than the other. But you don't have to wait for this sign. Position your Goat so all wheels are as straight as possible. Then sight along both sides.

IF YOU SEE ANY WHEEL COCKED IN OR OUT, REPORT IT—YOUR GOAT MAY NEED AN ALINEMENT JOB.

With all the muscle in your thumb-and-finger, try to tighten those jacking screws (4 on each wheel). They're used to take off the brake drum, so they just bottom against the hub. Finger-tight on these screws—as hard as you can turn 'em—is enough to keep from losing them.

While you're down there, get under and try those 4 bolts holding the stub axle to the U-joint cross bearing. If you can move any with your fingers, get your mechanic on it with his torque wrench.

Now grab ahold of each wheel at the top and push in and pull out. This'll show up loose wheel bearings—a dull knocking sound. Bad? Report it!



ARTICULATION JOINT ASSEMBLY—There're some strange parts in that hookup. Soak up all the poop on pages 1-16 thru 1-19 in your -10TM (and in your DA Pam 750-31).

Look for shiny places that may point to hard wear on moving parts. They may just need lubing. Get your wrench in there. Put a little tug on all nuts 'n' bolts—no strong arm stuff, just enough to tell whether any of 'em are loose. Get your mechanic to check out any loose parts. Maybe all they need is tightening to the right torque.

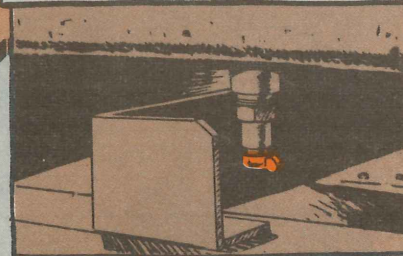
SUSPENSION ASSEMBLIES—You've got a shock absorber for each front and rear wheel and 2 for each center wheel. Keep a close eye on 'em. Shake to see if they're loose. If any are leaking, get 'em replaced.

FUEL FILTERS (primary and secondary)—Some guys think that just draining their fuel filters is enough. Not so. Like your -10 TM says, you catch the drainings in a container and see if there's any dirt (even tiny specks) or any water (blobs) in your fuel. If you've got this kind of junk in your secondary filter, report it on your 2404. You may be in for fuel injector trouble.



Remember, too, you've got draincocks on your Goat's fuel tanks.

So, in real damp weather, you can head off fuel problems by draining some off the bottom of your tanks every week or so.



TURN SO SLOTS
ON BOTTOM



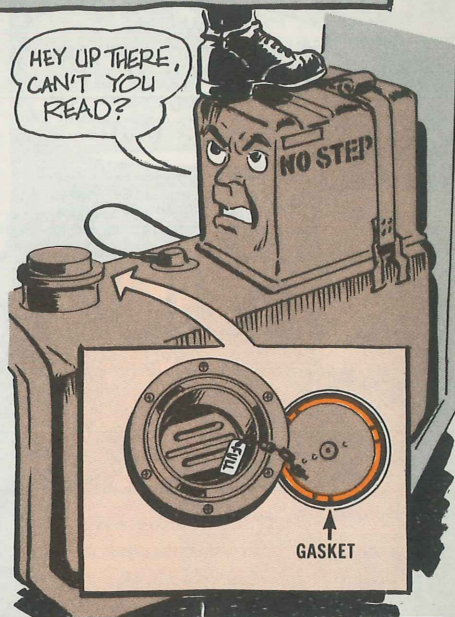
ENGINE COMPARTMENT—Take a look at the engine pre-heater air pump. If the air intake slot's on top, have the pump turned so the slot's on the bottom. Then water won't get into the pump and screw it up.

BATTERIES AND COVERS—Those battery covers look almost like they were meant for steps. No, no, no—you'll bust the cover for sure! It's fiberglass and won't hold your weight. Having the covers stenciled "No step" will help remind you.

FUEL TANKS—Learn the easy way. Keep your fuel up to the FULL mark as much as possible. With low fuel and traveling on a slope, the fuel level may slant below the pickup tube. You'll be drawing air, not fuel.

And make sure the filler caps on your tanks fit snug and have good gaskets. On a slope, the fuel in the higher tank will be siphoned into the lower tank and may fill it right up to the filler cap. Then, if you've got a bum cap, the fuel will run out past the cap. Good caps are a must, too, when swimming your Goat.

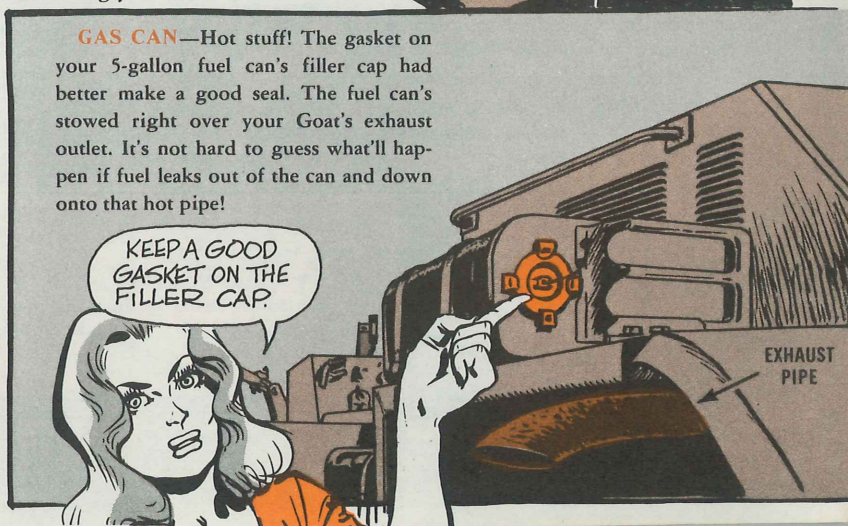
HEY UP THERE,
CAN'T YOU
READ?



GASKET

GAS CAN—Hot stuff! The gasket on your 5-gallon fuel can's filler cap had better make a good seal. The fuel can's stowed right over your Goat's exhaust outlet. It's not hard to guess what'll happen if fuel leaks out of the can and down onto that hot pipe!

KEEP A GOOD
GASKET ON THE
FILLER CAP.



EXHAUST
PIPE

GROANNNN...
YOU GUYS ARE
KILLING ME! STICK
TO PARA 2-8 OF
Y'R -10.



ON YOUR MARK—GET SET—MOTOR MURDER—Starter motors are being burned up by guys who won't give up until it's too late. Stick to the rundown in paragraph 2-8 in your -10 TM. Give your starter a chance to cool off between tries. Quit if your engine won't take ahold after 4 tries. Get your mechanic to check it out.

In real cold weather, your engine pre-heater may do the trick. But, if you're operating at high altitude (over 5,000 feet), your cold start setup will need a little doctoring to make it perk right. (Coming up in "For The Mechanic.")

JUMP STARTING—Cold pulls batteries down, too, so you may need help from another vehicle. (No jump starting, though, if you started out with good batteries and ran 'em down trying to start. You've got real trouble—get a mechanic on it.)

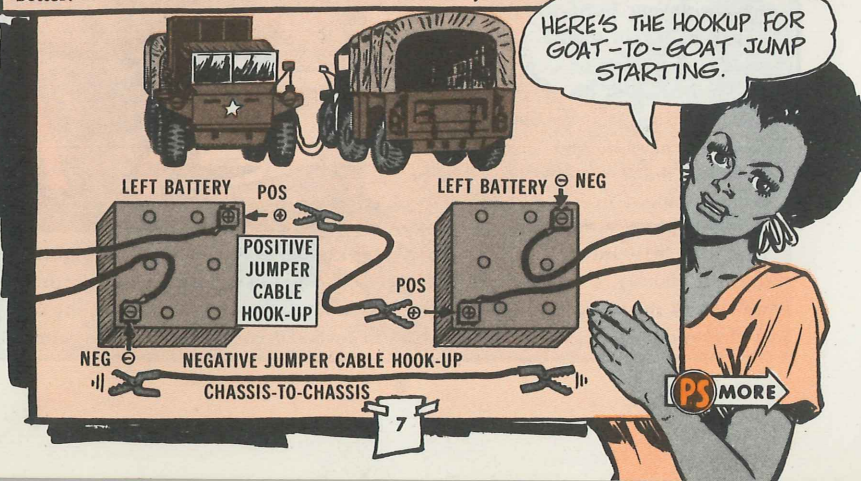
If you don't have the slaving setup, you can use clamp-type jumper cables from another vehicle to your Goat. You can hook up the cables to both batteries on your Goat, like it says in your -10 TM (and in DA Pam 750-31). But here's a way some guys like better:

—Connect one jumper cable from the positive battery terminal on the good vehicle to the positive terminal on your Goat's left battery. Never try to jump start to or from your Goat's right battery alone. There's only 12 volts there. On the left side, you've got the 24 volts you need.

—Connect the other cable from the negative battery terminal on the good vehicle to any clean, shiny place (no paint, rust, dirt or grease) on your Goat's chassis. Near your left battery is handiest.

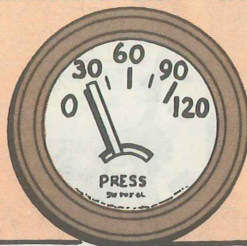
Then go ahead and start 'er up like the TM says.

HERE'S THE HOOKUP FOR
GOAT-TO-GOAT JUMP
STARTING.



CHASSIS-TO-CHASSIS

GOOFY GAGE—Don't worry if your oil pressure gage reads down around zero when your engine's running at idle speed. Just rev up your engine and watch the gage. If the needle doesn't climb then, shut down quick—you've got problems!

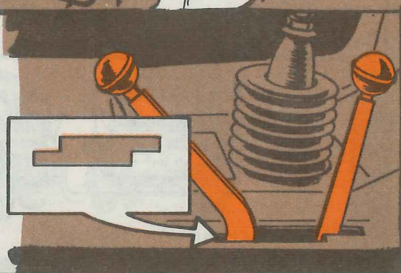


GLASS-CRACKER—Hold it! Leave that defroster handle in until the heater has warmed up the cab. Your heater puts out a real blast—and this heat on a cold windshield will crack the glass like crazy.

YOU'LL PROBABLY FIND THAT YOU DON'T EVEN NEED THE DEFROSTER TO KEEP YOUR WINDSHIELD CLEAR.



SHIFT LEVERS—You may have trouble with your 2-or-6-wheel drive shift lever or with your transfer shift lever. It won't go all the way or won't stay where you put it. See if the lever is hitting against the fiberglass console. Your mechanic will have to saw out enough at the end of the slot so the lever can be moved all the way in its travel range.



And don't be afraid to shift into 6-wheel drive as soon as you move off the highway into rough country. That's what it's for. There's no point in making your center drive wheels do all the work. With the work spread around, there's less strain on any one part of your drive train. Be sure to shift back to 2-wheel drive when conditions permit.

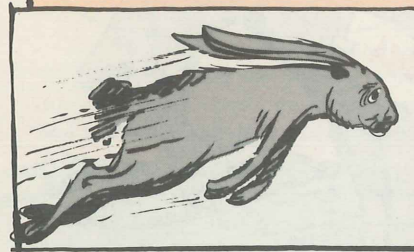
U-JOINTS—Since the first time you climbed into an Army truck—any truck—you've probably heard:

"Never pop the clutch. Let up easy on your clutch pedal after changing gears."

This goes double when you're driving a Gama Goat. That engine's got terrific torque. If you let up on the clutch pedal too fast, you throw a sudden, heavy strain on your whole drive train. Your wheel prop shaft U-joints really feel it bad.

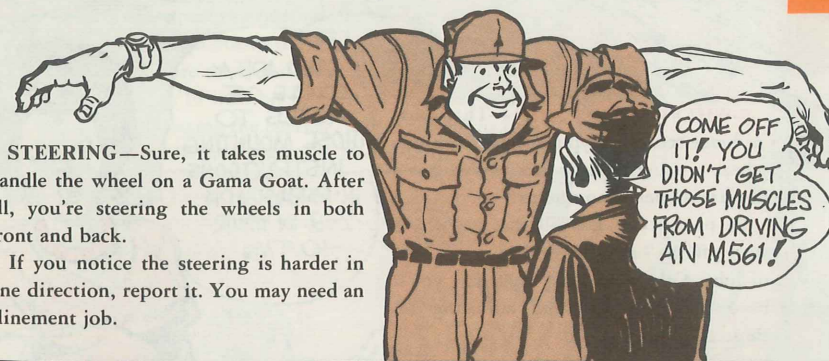
They break!

So, puz-leeze, no clutch popping!



STEERING—Sure, it takes muscle to handle the wheel on a Gama Goat. After all, you're steering the wheels in both front and back.

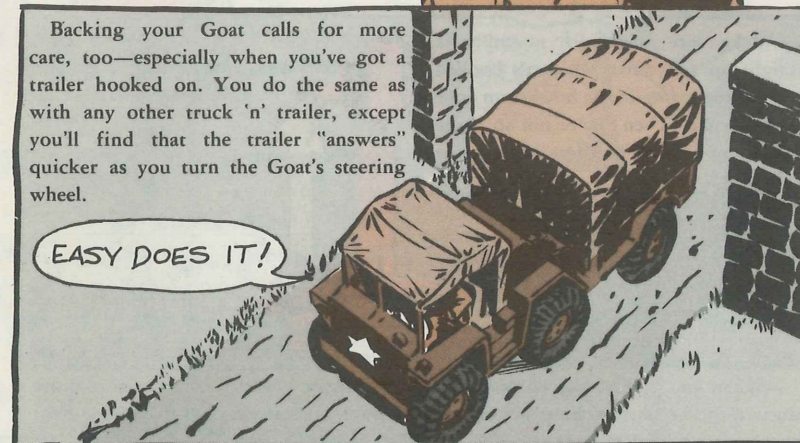
If you notice the steering is harder in one direction, report it. You may need an alinement job.



COME OFF IT! YOU DIDN'T GET THOSE MUSCLES FROM DRIVING AN M561!

Backing your Goat calls for more care, too—especially when you've got a trailer hooked on. You do the same as with any other truck 'n' trailer, except you'll find that the trailer "answers" quicker as you turn the Goat's steering wheel.

EASY DOES IT!



WOT'S SO STRANGE? DIDN'T YOU EVER HEAR OF 5-WHEEL OPERATION?

GAMA

AND ADD A COUPLE OF NOTES TO THOSE MOUNTING INSTRUCTIONS IN PARAGRAPH 2-19 IN YOUR -10 TM.

5-WHEEL OPERATION—That truss 'n' brace setup lets you operate with one wheel missing. Like when you've got a flat tire. (There's no spare.)

Be prepared! Clean all that protective stuff off the hardware and give it a coat of lube. Otherwise, on a cold day, you'll have one heckuva time adjusting all those connections.

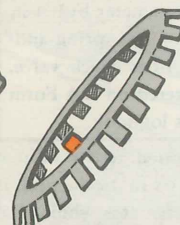
—Make sure the brace assembly is straight up and down when it's hooked up from the spring to the bracket on your carrier chassis. Then you're not so likely to wind up with the bracket coming loose at the weld.

—When you're traveling on 5 wheels, stop once in a while and make sure those brace-to-spring nuts 'n' bolts are right. It'll save you some stripped threads. Eyeball all the other hookups, too.

FOR THE MECHANIC

HERE'RE SOME TIPS AND NEW POOP THAT'LL HELP YOU SHOP TYPES.

—All Goats get a swimming test before they're issued. There may be water in the steering boxes. Check 'em—both front and rear. If needed, drain and refill with GO.

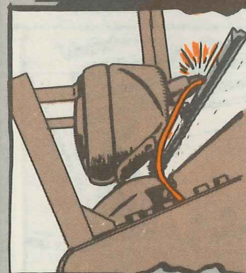


—Do wheel bearings come up loose after they've been adjusted by the book? Probably the inner tab (or tang) on the wheel nut lock washer is too long. It bottoms out in the wheel spindle keyway before the outer bearing is fully seated. File 1/16 inch off that tab. Also, when you're seating the bearing, torque the nut to 150-170 lb-ft instead of 80-100 lb-ft.

—Both upper and lower mounts for shock absorbers get 70-90 lb-ft torque. Upper suspension arm plugs get 92-110 lb-ft torque. Pitman arm torque (both front and rear) is 120 lb-ft.

OBOY! I LOVE TO TORQUE... RIGHT ON, MAN.

EASY! CHECK TORQUE VALVES FIRST...



—Is the left windshield wiper rubbing against the wire on the back of the black-out driving light? Try changing the wiper arm sweep so it doesn't go so far to the outside. If this makes the wiper hit the center windshield frame, do this instead: Make the light bracket mounting holes longer so you can move the light forward.

YOU SURE NEED THAT COLD START SYSTEM IN CHILLY WEATHER.

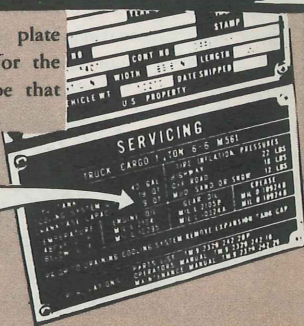
—In a high altitude area (over 5,000 feet), the Goat's cold start system gets this fix (but only with DS supervising your work).



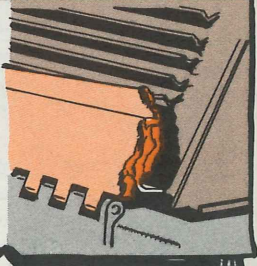
Put a slug, 11/32-in diameter by 1/4-in thick, between the screw and spring-and-ball in the air heater inlet check valve. This job should be entered on DA Form 2408-10 in the vehicle's logbook.

—There's only limited repair of that turn signal setup put on in production. If it breaks down, replace the whole deal with the solid state turn signal kit, FSN 2590-050-8821.

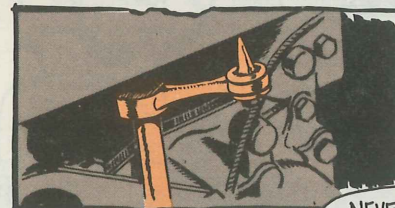
—The instrument panel data plate should show 12 quarts, not 9, for the crankcase oil capacity. Just scrape that space clean and stamp it with a 12.



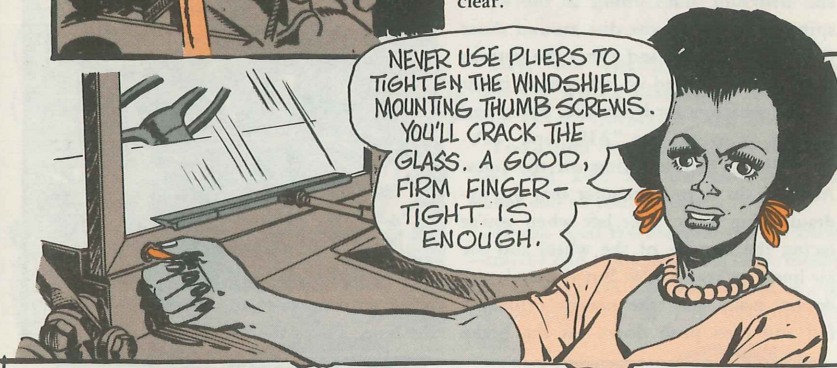
—You can repair those torn-up corners at the hinge end of the old-type, aluminum engine cover so they won't come apart again. The poop's in Ch 2 to your -20 TM. You also get the dope on adjusting engine cover guide clips and on removing the left torsion rod and readjusting the right torsion rod.



—That rubber seal on the engine cover may stick to the radiator and pull loose from the cover—and then dangle down into the fan. Stick it back in place with Adhesive, FSN 8040-664-4318. Then smear Silicone Compound, FSN 6850-880-7616, on the seal where it touches the radiator. It won't stick there again.



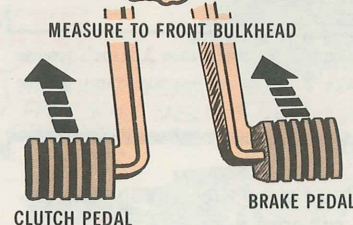
—Is the front of the engine cover grazing the throttle-governor linkage? A little pull or a bang with a rubber hammer should bend the cover out far enough to clear.



NEVER USE PLIERS TO TIGHTEN THE WINDSHIELD MOUNTING THUMB SCREWS. YOU'LL CRACK THE GLASS. A GOOD, FIRM FINGER-TIGHT IS ENOUGH.

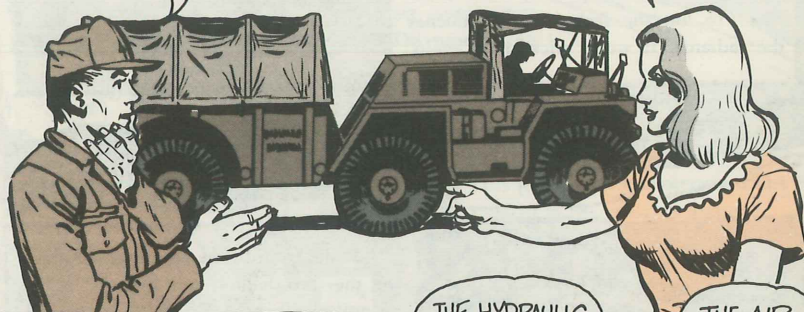
—Clutch pedal free travel should be 3/4-to-1 1/8 inches.

—If the brake pedal travels more than 4 inches toward the front bulkhead—under full pressure on the pedal—something's wrong. You may have to adjust the brakes, bleed the system, adjust the master cylinder linkage free play or add fluid to the master cylinder.



-S'POSE YOU FIND THAT LOSS OF BRAKE FLUID IS CAUSING BRAKE TROUBLE...BUT YOU CAN'T FIND THE LEAK.

GET UP OVER THE CENTER DIFFERENTIAL AND CHECK THAT BRAKE LINE "T." IT'S A LIKELY LEAKER.



—Take care or you can switch the air and hydraulic lines going to the wheel spindles. Wipe off the dirt around those fittings—you may find either the fittings and spindle marked to tell which is for air and which is for hydraulic. Safest bet, though, is to tag 'em "AIR" and "HYDRAULIC" before taking off the lines. Another tip is to remember that the hydraulic line is on your left when you're facing the outside of the wheel and the air line's on your right. But if there's any doubt, make sure the master cylinder's full and then push down on the brake

THE HYDRAULIC LINE'S ON MY LEFT.

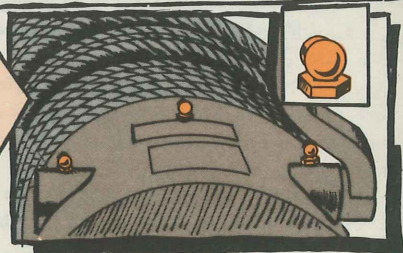
THE AIR LINE'S ON MY RIGHT.



pedal until brake fluid comes out one of the lines. That's the hydraulic lines.

—Annually, give those 3 winch grease fittings 2 shots with your hand grease gun.

—Need a new tailgate? FSN 2510-088-4125 will bring it.



BRAKES--GET 'EM RIGHT

You've got 2 different types of brake shoes on that Gama Goat—primary shoes and secondary shoes. Like it says in TM 9-2320-242-20 (Aug 70), para 2-162f(17), the primary shoe lining is shorter than the secondary shoe lining.

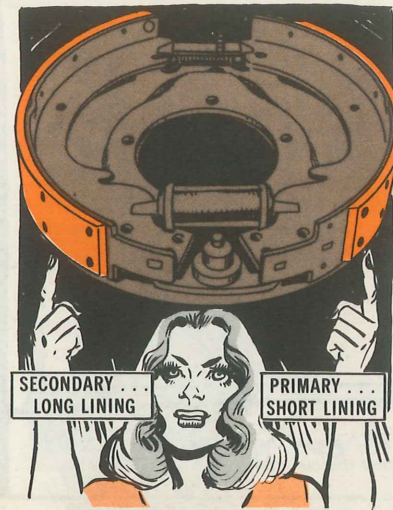
So what?

So you'd better install those shoes right or you'll have that Goat hopping, skipping and jumping when it's supposed to be stopping.

What's right?

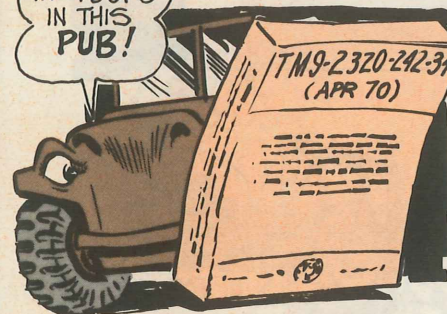
The primary shoe (short lining) goes in front on all 6 wheels.

The secondary shoe (long lining) goes in back on all 6 wheels.



GAMA GOAT WIRING DIAGRAM

THE POOP'S IN THIS PUB!



Hey, you electrical troubleshooters, there's a wiring diagram missing from your TM 9-2320-242-20 (Aug 70).

You'll find that the diagrams on pages 2-90 and 2-91 are the same—for the trailer end of your vehicle.

If you need the diagram for the front—tractor-end—of your Gama Goat, mosey over to your DS and take a peek at Fig 1-8 on page 1-9 in TM 9-2320-242-34 (Apr 70).

MASTER CYLINDER LEVEL

Make a note for the PM services on your Gama Goat. The brake fluid level in your master cylinder should be 1/8-to-1/4-in from the top in each reservoir.

THIS IS DIFFERENT FROM WHAT TABLE 2-3 OF YOUR -20 TM SAYS.



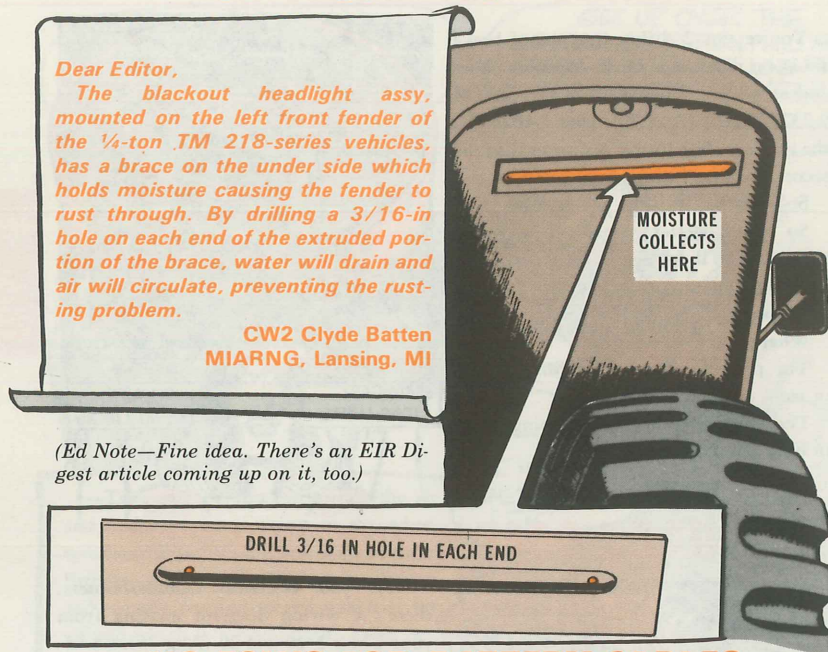
RUST-BUSTER FOR 1/4 TON

Dear Editor,

The blackout headlight assy, mounted on the left front fender of the 1/4-ton TM 218-series vehicles, has a brace on the under side which holds moisture causing the fender to rust through. By drilling a 3/16-in hole on each end of the extruded portion of the brace, water will drain and air will circulate, preventing the rusting problem.

CW2 Clyde Batten
MIARNG, Lansing, MI

(Ed Note—Fine idea. There's an EIR Digest article coming up on it, too.)



NO FSN'S FOR BATTERY CABLES



Battery cables are made, not born.

That means they're fabricated for you by your DS. They don't come from the supply system factory-made.

All 3 of those cables for your M151A2 (or other TM-218-series 1/4-ton vehicle) are listed by Part Number in your TM 9-

2320-218-20P (Jan 72). You request the cable you need by its Part Number.

Your DS has FSN's for the stuff to make your cables. They're listed in TM 9-2320-218-34P (Jan 72).

If you're hangin' onto an old FSN for one of those cables, forget it.

HAPPY WHEEL BEARINGS

Too tight? Too loose?

Either one spells trouble for wheel bearings on your M151A1, M151A2 or other TM-218-series 1/4-ton vehicle.

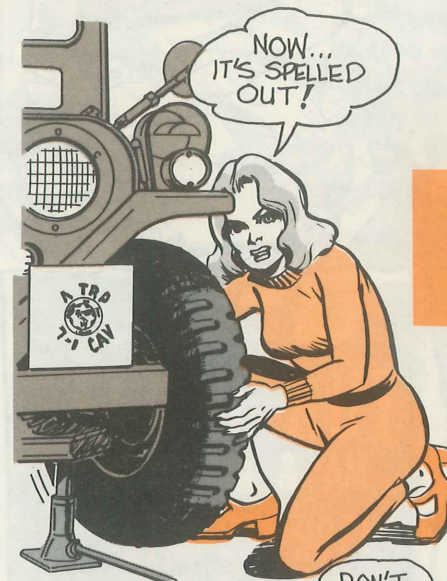
So you've adjusted 'em just like it says in TM 9-2320-218-20 (Sep 71) w/Ch 1, paragraph 2-143. But you want to make sure.

It's in the book . . . but not yours, yet.

It's spelled out in TM 9-2320-218-34 (Jan 72), page 10-26, para 10-25a(5), like so:

"Raise front wheels off floor. Grasp each front tire at the front and rear, then push the wheel inward and outward. If any excessive free play is noticed, adjust wheel bearings. . . ."

This same dope'll be showing up in your -20 TM.



You may be scratching your head, going bald or getting gray for nothing—trying to get ahold of the canvas designed especially for the new M151A2 1/4-ton truck.

Relax. No matter whether you've got the M151 or M151A1 or M151A2, you use the same canvas on all of 'em as listed in the -20P:

Curtain, vehicular, folding top, quarter

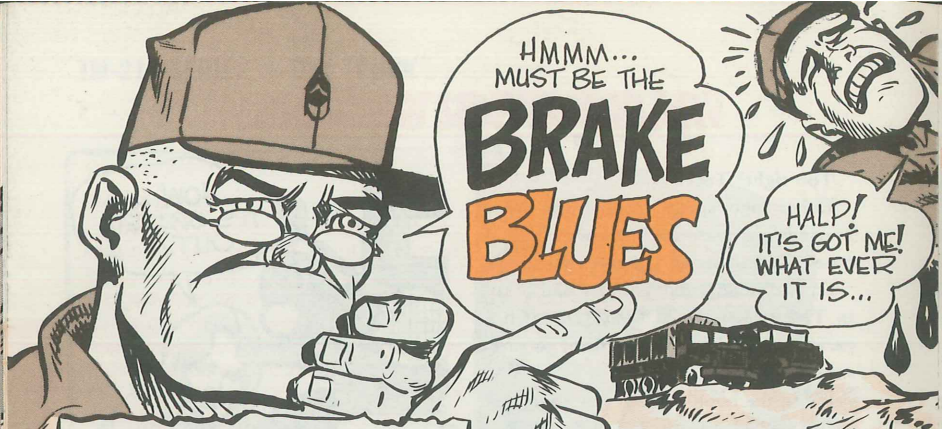


and back, FSN 2540-064-6587.

Door and side curtain kit, FSN 2590-788-6262.

Chances are, the new top you get will have the large, single rear window.

If you have trouble making your canvas fit, just dampen it with water so it'll stretch a little. When it dries, mounted on the vehicle, it'll fit like a tailor-made suit.



Dear Half-Mast,

Some trucks just issued to our unit are giving us a real pain in the neck.

When we checked into reports that the brakes weren't working right, we found a terrible mess in the wheel cylinders—a gummy, rubbery stuff. In some cases, we've had to use a drift and hammer to knock the pistons out because they were "frozen" in something that looks like crystal sugar.

What causes this? And what's the best way to clean it up?

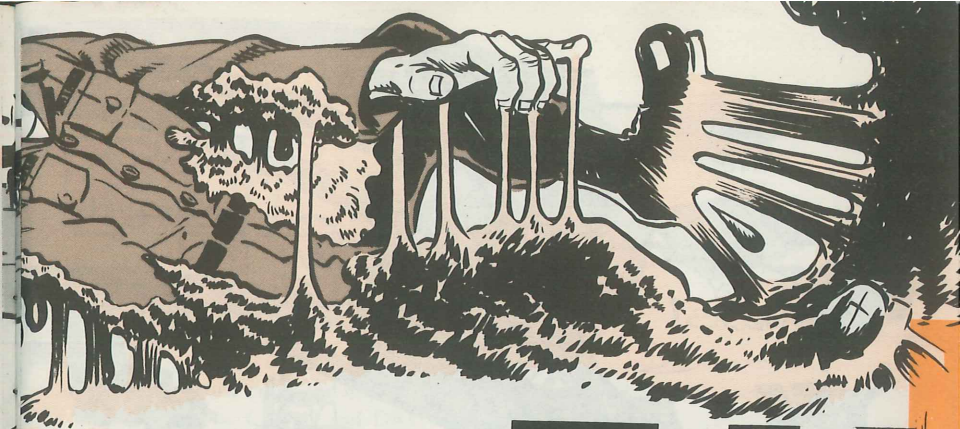
SSG W.L.

Dear Sergeant W.L.,

I'd bet a buck that those vehicles came to you out of storage where they'd been sittin' still for several months. The brake fluid "oxidized", changing its chemical makeup. Then it and the metal parts in the brake system worked on each other, building up corrosion (your "crystal sugar") and making that gummy, rubbery stuff.

Or, you could be the victim of somebody's guesswork. When adding brake fluid to the system, they grabbed the first can that said "Non-Petroleum Hydraulic Fluid" on it and dumped it into the master cylinder. It was the wrong fluid and didn't mix right with the brake fluid already in the system. This can turn into a jelly-like mess or even the gummy, rubbery stuff you found.

GOTTA DO OUR PUSH-UP EXERCISES...



Someone at command level—whoever's responsible for storage—can solve that first problem. Vehicles should get regular exercise, like it says in TM 740-90-1 (Mar 71), Administrative Storage of Equipment. Maybe this exercise should be more often than the 24 weeks called out in Appendix B of the TM, since the damage caused by oxidizing brake fluid can be well underway in 120 days—a month-and-a-half before the vehicle's due for its scheduled exercise.

Where there's no danger of 0°F cold, it's a good idea to change the brake fluid before putting vehicles into storage. Preservative fluid, automotive brake system, FSN 9150-753-4951 (MIL-P-46046) resists corrosion and oxidation better than your regular brake fluid.

Fact is, in climates where temperatures do not drop below -10°F, your command may want to authorize this preservative heavy duty brake fluid for regular operation. The preservative brake fluid retains its preservative properties below -10°F but it becomes too thick for safe operation.

Unless some other type is specified in your unit's written SOP, never—but NEVER—use anything but brake fluid that says VV-B-680 right on the can.

IF-D
FLUID AUT
VV-B-680a & AM
9150-231-9071
TYPE II SHELF LIFE

This's the brake fluid you get with FSN 9150-231-9071 (1-gal can).

How do you clean up the mess you've got?

You clean the metal parts with dry-cleaning solvent, rinse real good with denatured alcohol and then dry with compressed air:

—Drycleaning solvent, FSN 6850-281-1985 (1-gal can), FSN 6850-285-8012 (55-gal drum)

—Alcohol, denatured, Fed Spec O-E-760, FSN 6810-201-0907 (5-gal)

Toss out all rubber parts. Use new ones when you're putting your brake system back together.

Half-Mast

FOR
BATTERY
AND
ANTIFREEZE . . .

HEY
MECHS!

2-IN-1

TESTER

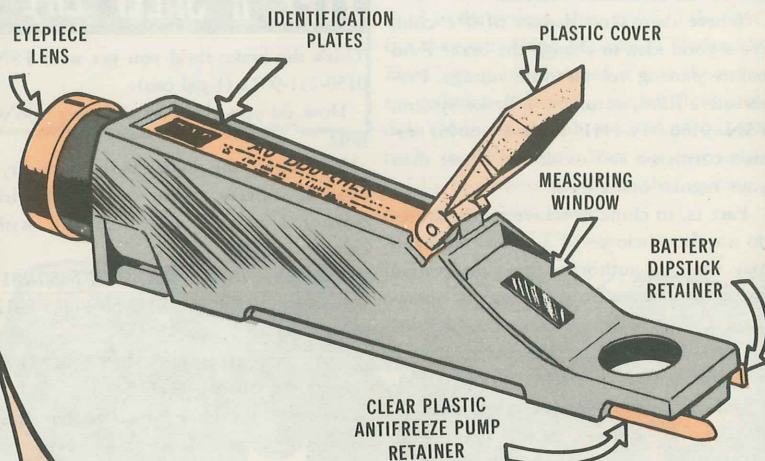
A handy item to latch onto is the new optical Antifreeze and Battery Tester, FSN 6630-105-1418.

It's quick, accurate and reliable—there's no guesswork or arithmetic involved. This tester even adjusts for temperature automatically.

Now how's them PM apples?

So you've got that tester, you say, and now you'd like to use it?

Take a quick check to make sure your tester is operation-ready, and then you're Green for Go!



CLEANING

Both plastic cover and measuring window must be CLEAN and DRY. Flush with tap water, then with a tissue or soft cloth, wipe cover and window carefully. And wipe the eyepiece clean while you're at it.



Swing the plastic cover down till it rests against the measuring window. Nothing to it!

SOME TIPS . . .

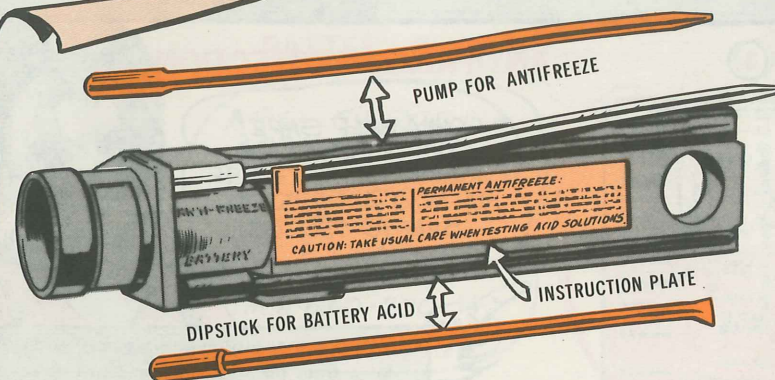
Clean and dry all parts thoroughly after each use.

BE CAREFUL WITH ACID SOLUTIONS.

Test battery before adding water.

Keep the plastic cover against the measuring window when testing. You could get a bum reading if any of your sample solution begins to evaporate.

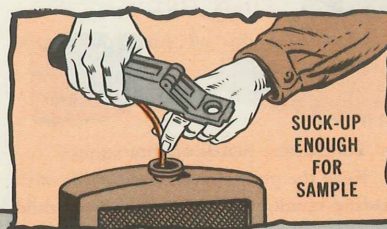
If the line where the light and dark areas meet isn't sharp or clear, the plastic cover and measuring window weren't cleaned and dried well enough. Clean the tester again and take a new reading.



TESTING ANTIFREEZE

1 TESTING

Antifreeze—Without removing the clear pump from its saddle housing, release pump tip from its retainer clip. Insert pump end an inch or so below the liquid level in the radiator. Squeeze the pump bulb to suck up a sample.



SUCK-UP
ENOUGH
FOR
SAMPLE

2

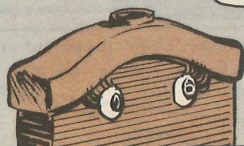
Bend the pump tube around the tester body and point the pump end through the slot opening on the plastic cover. Place a few drops of the sample on the portion of the measuring window exposed by the slot.



READING

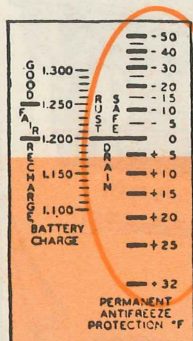
Head the tester toward a bright source of light. When you look through the eyepiece lens you'll see a rectangle with two calibrated scales—battery charge readings on the left scale, antifreeze readings on the right.

YOU'RE FULLY CHARGED
BABY- BUT YOU'D
FREEZE IN
THE COLD.



3

ANTIFREEZE PROTECTION

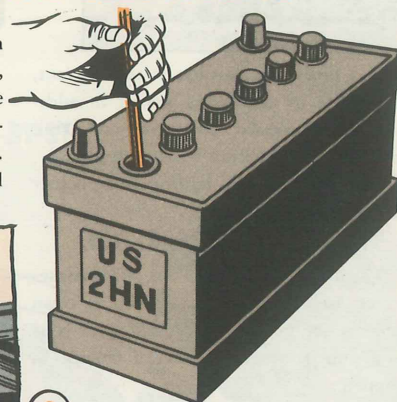


ONLY HALF SAFE!
COOLING SYSTEM
PROTECTED TO +5°F...
ADD MORE ANTIFREEZE...
SEE TB 750-651.

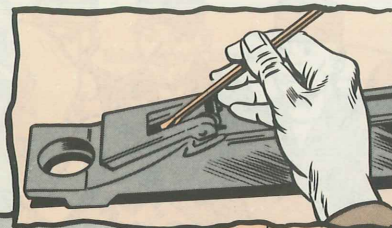
Notice the antifreeze scale is upside down from the scale on a standard thermometer—don't let it fool ya. Just go by the plus and minus signs.

TESTING LEAD-ACID ELECTROLYTE

Battery—Make a separate test for each battery cell. Using the black dipstick, place a few drops of battery acid onto the exposed portion of the measuring window. Watch out for stray drops of acid. Clean window and cover after each cell test.



2

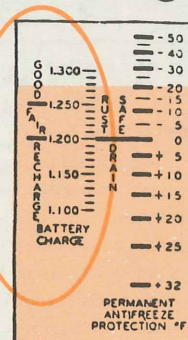


The liquid sample will divide the rectangle with an area of light and an area of shadow; you read the scale where they meet.

BATTERY CHARGE

3

A FULL CHARGE IS A
1.280 sp. gr.
ELECTROLYTE READING.
IF BELOW
1.225 sp. gr.,
GET A CHARGE...
SEE
TM 9-6140-200-14.





FIREPOWER

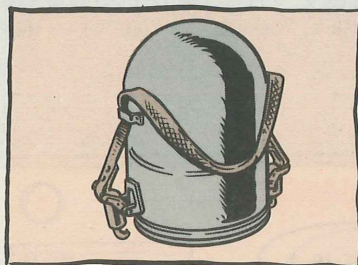
In a pinch you can use it as a sextant, theodolite or surveyor's transit in addition to its regular duties in measuring azimuth and elevation bearing angles.

So check out this faithful little helper like so . . .

GENERAL APPEARANCE

The important words for M2 maintenance are clean and dry. Keep it clean and dry and you take care of most of your problems before they have a chance to happen.

You need protective cover, FSN 1290-346-8171 (8211749). If all you need is the strap, it's FSN 1290-712-9438. Your manual for the M2 Aiming Circle is an oldie but a goode, TM 9-6166 (Oct 55), w/Ch 1 (Jun 63).



CLEANING, LUBE, PAINT

You never use diesel fuel, carbon tetrachloride, gasoline or benzine to clean your M2. If you use mineral spirits paint thinners, remember you'll need plenty ventilation.

Send your aiming circle to direct support when it needs lube. Except—you give the leveling screws a coupla drops of light lube oil monthly.

Paint? Touch up only.

M2 AIMING CIRCLE

YOUR M2 AIMING CIRCLE WILL DO LOTS OF THINGS, SHORT OF KNITTING YOUR SOCKS.



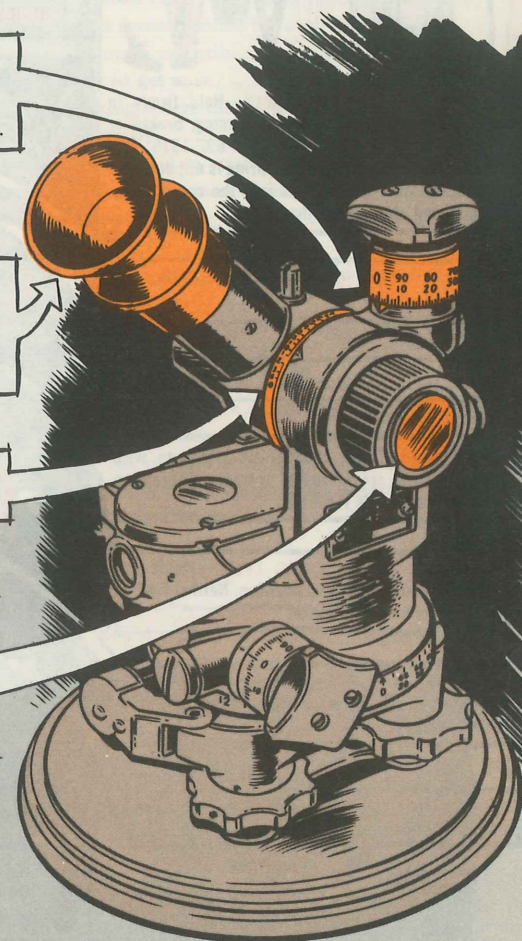
STEP-BY-STEP

MICROMETER DIAL—Numbers not blurred. No slippage when moved in one direction or the other.

EYESHIELD—Not chunked, rotted or cracked. If it's missing, you can order a new one as FSN 1240-346-7676.

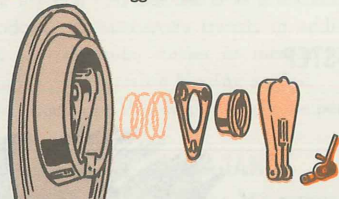
SCALE—Numbers readable. Index marker clear.

FILTER—Not missing, loose or painted over. Remember: Use a filter if you point the telescope directly at the sun; the heat can damage the optics.



PRESSURE ADJUSTING SCREWS—Present, not too loose.

SPRING PLATE—Threads not stripped, corroded or clogged with dirt.



BASEPLATE COVER ASSEMBLY—Held firmly in place by spring. If spring is missing, broken or weak, get a new one, FSN 1240-692-1519. This is important because if the spring is not doing its job, dirt and junk can get into the screw receptacle and clog up the threads.

INSTRUMENT LIGHT SHOE—Free of burrs, works right.

REFLECTOR—Not broken or painted over.

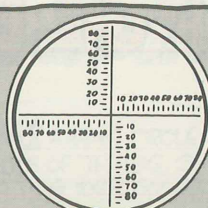
LEVELS—(3). Both tube levels complete with covers which are not rusted or frozen. Graduation lines in all levels readable.

COMPASS NEEDLE LOCKING LEVER—Holds in either locked or unlocked position. Neither figure N nor window painted over.

ORIENTING KNOBS—Move freely. When in the depressed position the deflection scale can be rotated rapidly.

ORIENTING KNOB COVERS—Work in both open and closed positions.

RETICLE ASSEMBLY—Numbers readable. No moisture or dirt on the glass.



LEVELING SCREWS—Turn but with no play in any direction. (They are under spring tension load and are defective if there is any vertical or sidewise play.)



CHUCK THE GUNK

Call it gunk, trash or some earthy 4-letter name, that oily debris that collects in combat vehicle engine compartments can be a fire hazard.

So check it and chuck it—before it builds up into a bonfire.

For all combat vehicles, an eyeball-to-eyeball check of engine cooling equipment, air shrouds, wiring and hull compartment is recommended for each Q-service.

When any debris (trash, gunk or anything combustible) is found, clean it out—even if you have to remove the power plant to get at it.

If your vehicle's "going steady" or operating where there's lots of trash and leaves, it may need inspecting more often than quarterly.

It's likely that this inspection soon will be added to your combat vehicle Q-service checks in the vehicle TM. And plans are afoot to require a complete engine removal and compartment cleaning for some vehicles—starting with the M60-series tanks—at every second Q-service.

So watch those combat vehicle TM changes. And, even before that, get out that fire-breeding gunk—by whatever action is necessary.

HELMET HARDWARE

Bogging down on finding CVC helmet housing hardware?

No sweat. To fasten the molded plastic housing to the helmet, you need:

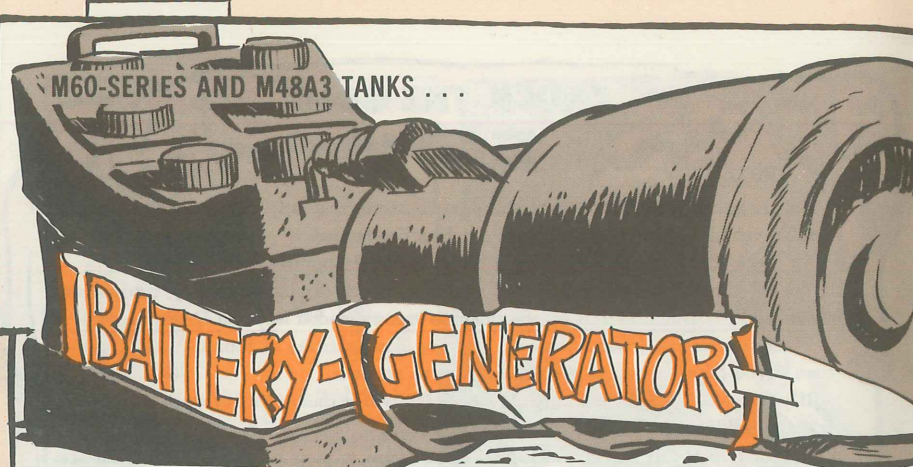
Machine screw
Self-locking nut
Flat washer

MS1083B06
MS15795-805-B

FSN 5305-925-4777
FSN 5310-941-3630
FSN 5310-409-1763

You'll want 3 of each for installation.

HARDWARE
FOR
HERE

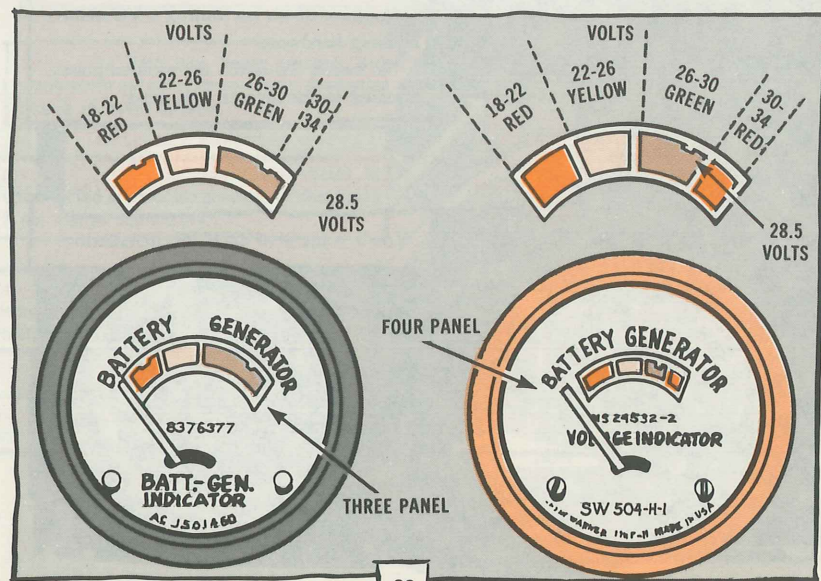


The battery-generator indicator in your tank tells you things that can save your neck. All you have to do is learn how to read it.

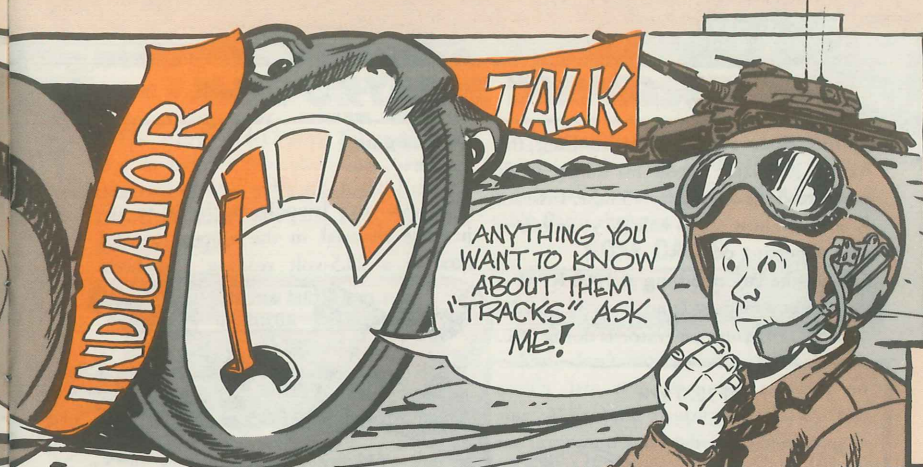
When you turn the master switch ON, the battery-generator indicator needle shows how much charge there is in your batteries.

If the needle shows 20 volts or under—(anywhere in the left red segment) don't even try to start. All you'll do is beat up your batteries still more and perhaps burn out a starter.

You also run the risk of ruining your generator or generator control box (regulator).



28

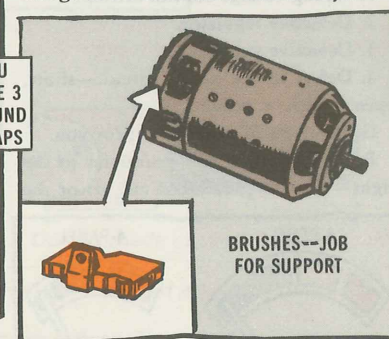
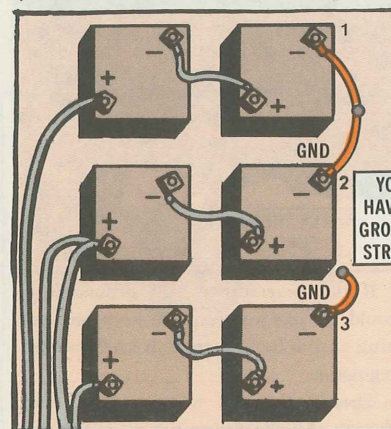


BATTERIES OR GROUND?

If your batteries register as weak, make sure they really are. Any loose connection (ground strap, cable or adapter) can give you a false reading. (Remember, your batteries have 3 ground straps and

to-metal bond can keep the connections from working right. However, this is easy to fix.

If your batteries really are weak, recharge or replace 'em. No battery should be below 1.225 sp gr (corrected to 80°F). Have your mechanic check to see what went wrong. (Worn generator brushes could do it). Your support can put in new brushes if they're needed. With a battery charge of 21 to 26 volts (needle anywhere



be sure the internal/external lockwashers listed in the -20P TM manuals are on.) Don't forget the thin regulator ground strap: A break in it could easily be overlooked.

A little paint preventing a bare metal-

from the right half of the red through the yellow to the beginning of the green) you should have no trouble getting started.

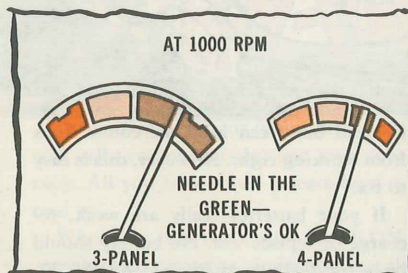
If you do there is something else wrong, so check it out.

29

SHOWS OUTPUT

Once your engine starts running, the battery generator needle no longer gives you a reading on battery voltage. Instead, it tells you how much voltage your generator is putting out.

With the engine idling at 1000 RPM—if you get a reading from 26 to 30 (needle in the green) your generator is doing OK.

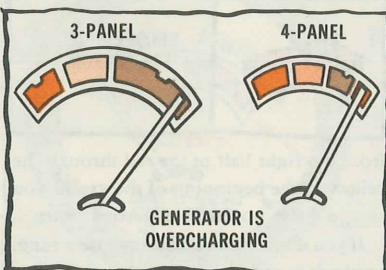


If the needle falls back into the left red or yellow segment, your generator is not putting out enough current to keep the batteries charged. This could be due to:

1. Wrong voltage control setting.
2. Defective regulator.
3. Defective generator.
4. Defect in the wiring circuit—short, open or lack of ground.

Get your mechanic to fix it for you.

But 'spose the needle points far to the right—into the green (old model) or the



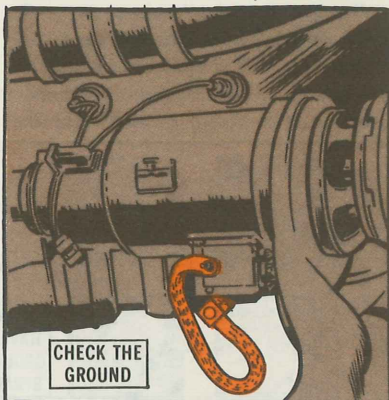
red (new model). If the needle is in this high-volt segment, your generator is overcharging.

FOR THE MECHANIC

So ask your friendly mechanic to adjust the rheostat in the voltage control box to a 28.5-volt reading (the little



white bench mark in the green segment in both the old and new style indicator).



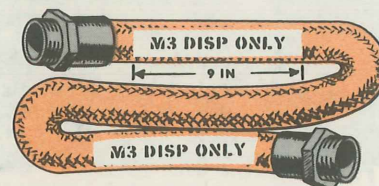
If the generator is not grounded it could act like a starter and keep on running until it burned up both itself and the regulator.

There's an easy way to stop this, though. All the driver can do is flip the master switch OFF, and the runaway generator will stop. Then you mechanics can go to work and fix what's wrong.

Make 'specially sure both the generator and generator-regulator are well grounded.

M3 PORTABLE DISPERSER

TM 3-1040-214-12 (Feb 72), page 4-19, says to paint a 9-in aluminum band on each end of your M3's gun hose, and then stencil the note "M3 Disp Only" on each end of the hose.



But that info's only for M3's that've been modified by MWO 3-1040-214-45/1 (Feb 71). The MWO gives the M3 a new safety head which is marked: 125 to 175 PSI at 72°F PN 227299.

So check your M3's safety head before you paint the hose. The MWO should also be noted on your M3's DA Form 2409. If it hasn't been applied check with your DSU.

The reason the M3's hose needs the painted markings is so the hose'll not be accidentally used with an M2A1-7 portable flame thrower.

HOSE DATES

And, don't worry about the manufacturer's date and issue date stamped on your M3's hose couplings. Those dates are important only when the gun hose is used with the flame thrower.

COUPLING CAP

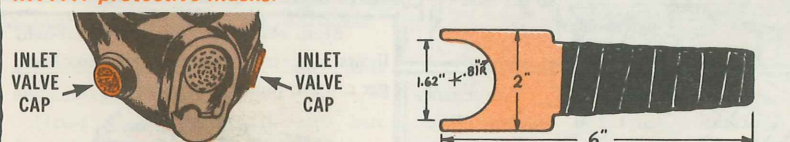


Some hose coupling caps may have a chain on 'em. The chain's extra. It's not needed. You can remove it, so the cap'll be free like it shows on Fig 2-2(B), TM 3-1040-214-12.

THUMB SAVER

Dear Editor,

Here's a handy home-made tool that'll save wear and tear on a man's thumbs when he has to remove inlet valve caps from a slew of M17 or M17A1 protective masks.



It can be made of aluminum or steel. Ours is made of 1/8-in flat aluminum stock. Its grip is wrapped with tape.

Just slip the tool's head under an inlet valve cap and pull up on its handle. The cap'll slip off easy-like.

We keep the tool in the supply room where it's handy for whoever's checking the unit's masks.

Mr. Edward Barker
Fort Ord, California

(Ed Note—The tool's shape is not too important—but the front end of its head should clear the cap center. Its edges must be smooth so's not to cut the mask.)

PM TIPS ON...

FIRE CONTROL SCOPES

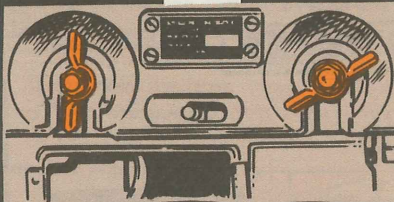
REMEMBER!
WE'RE THE DUDES
WHO TELL YA
WHERE THOSE ROUNDS
ARE GOIN'...
**TAKE CARE
OF US!**

CLEAN AND DRY

First, last, and always—handle optics and all fire control equipment easy-like. FC scopes are sturdy—but they won't take abuse.

Make sure scopes are properly attached to their mounts and their mounts securely attached to the vehicle. Before mounting 'em check mounting surfaces for grime and damage.

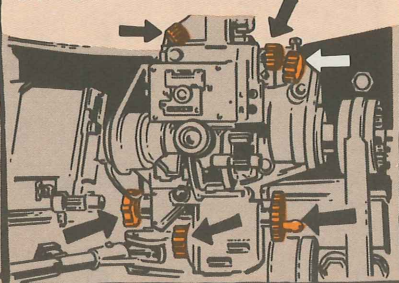
E-A-S-Y



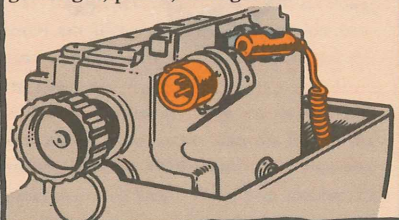
Stick to your MAC (Maintenance Allocation Chart) PM responsibilities. Hands off all other problems. Yell for your outfit's turret mechanic or your support unit to take care of things you're not authorized to do.

Protect level vials, windows, lenses with their covers.

Know your knobs, their rotating directions, their stops. Use a very light touch on all knobs, rings, screws, caps, latches, catches, covers, locks, etc. Never force 'em.



Store electrical leads and hand-held lights in their receptacles. Dangling leads get caught, pulled, damaged.



Clean electrical contacts, plugs, receptacles before you mount optical equipment.

Keep FC equipment clean and dry. Never use a high-pressure hose inside a vehicle. Dampness and splatter will dam-



age seals, sneak moisture into optics and damage bearings.

Never touch lenses with your bare fingers.

Purge and charge optics and mounts as needed, or as called for by TM 750-116 (Oct 71). SC 4931-95-CL-J54 (Jun 68) covers the purging and charging kit, FSN 4931-065-1110.

Dust lenses with an artist's camel hair brush. As you dust, tap brush on hard surface to clean it. Never use cloth (your sleeve, cap, shirt-tail, etc.) to clean lenses.

Use approved cleaning supplies. Like:

—Lens paper, FSN 6640-393-2090 (100 3x5-in sheets), FSN 6640-597-6745 (50 4x6-in sheets), FSN 6640-559-1385 (100 7x11-in sheets).

—Cleaning compound, optical lens, FSN 6850-227-1887.

—Alcohol, denatured, FSN 6810-201-0906.

—Brush, artist's camel hair, FSN 8020-264-3883.



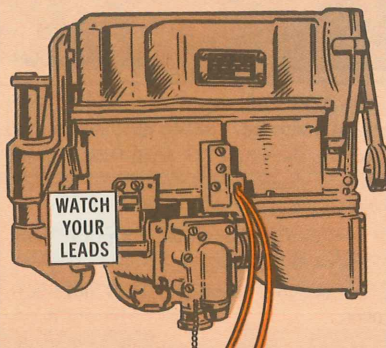
Use the cleaner and alcohol sparingly. Wipe the lenses lightly with a folded lens tissue.

Head pads and eyeshields take on your oily sweat. Wipe 'em with a cloth rinsed in soapy water. Remove eyeshields to clean 'em—also when you clean lenses.

PM POINTERS ON SPECIFIC FC ITEMS

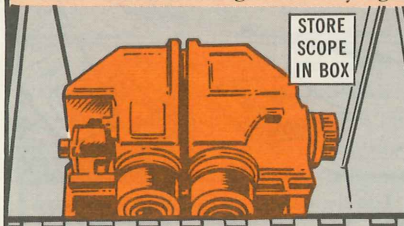
M32/M34/M36/ TANK PERISCOPES

—It's usually safer to remove one component at a time. If you remove the complete assembly (head, body assembly, scope) as a unit—you're pulling a very heavy, awkward load right into your lap. It can be dangerous for you and the optics.



When swapping the M36 for the M34 be sure to disconnect the leads for vehicle power. A hard yank'll damage the leads or the connector.

Store the scope (M34 or M36) that's not in use in the storage box. They'll get



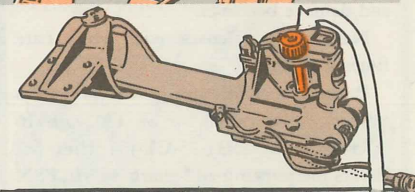
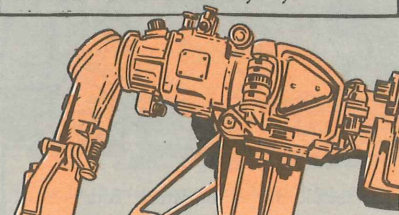
banged up if you leave 'em lying loose in the crew compartment. If the scopes must be stored in the supply room, make sure they're kept to themselves to protect them from bangs and crowding.

M17 RANGE FINDER—Never keep anything (tools, bags, boxes) on top of the gun breech. If the weapon's depressed to maximum, the squatters will crowd the range finder and crack its housing.



When your range finder's ailing—check it for burned out light bulbs before you report it to your support.

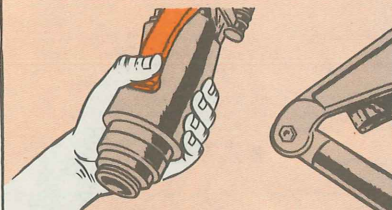
M118 ELBOW TELESCOPE—Connect its mount power lead easy-like. Never force the tiny plug. You'll bend its prongs. Take time to line up the plug's slot with the connector keyway.



When installing the M118 on its mount make sure the scope's tapered bores are lined up right with the mount's tapered holes. Insert the kingpin gently—never force or hammer it.

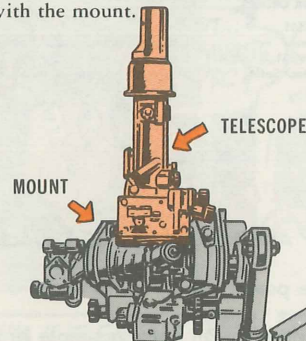
When you remove the M118 from its mount, protect the scope's spherical seat. Don't lay the scope on anything that'll burr the seat.

Before you move the M118's eyepiece always press its release lever down ...



otherwise you'll bust the arm's ratchet.

M117 PANORAMIC TELESCOPE—Check its spring-loaded electrical connector. If it freezes up, it'll not make contact with the mount.

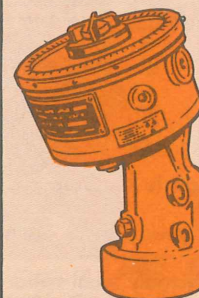


The M117 should slip into its mount easily. Never force it. If the electrical connector on a new M117 doesn't slip right into the mount's receptacle, don't force the scope. Call support. Keep the mount's toggle switch on OFF when you're not using the scope. A sudden surge of vehicle power will burn out all the wiring in the mount. It's a depot job to rewire the mount.

M116 ELBOW TELESCOPE, M115 PANORAMIC TELESCOPE, M15 QUADRANT—(And all other scopes and fire control items living out in the open on self-propelled and towed weapons): Keep 'em covered or remove 'em when they're not in use, when traveling, and when the weapon's being airlifted. When you remove 'em store 'em in a storage box, or a similar safe container.

M113 PANORAMIC TELESCOPE, M114 ELBOW TELESCOPE—For travel or airlift—release the lock plunger and rotate the M113's eyepiece 80 degrees, so it's parallel with the weapon's tube. Turn the M114 so its eyepiece faces the weapon.

M28A1 AZIMUTH INDICATOR—It's no foot rest or step. Don't stomp on it. It should have a radioactive decal.



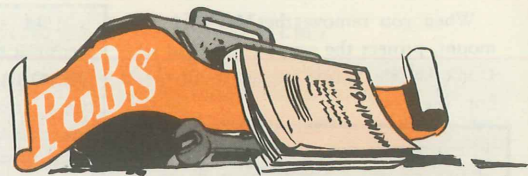
RADIOACTIVE
MATERIAL
ACCOUNTABILITY
REQUIRED
ISOTOPE,
QUANTITY,
DATE.



VISION BLOCKS—They're serviceable if at least 65 percent of the sighting area is OK. Minor pot marks, scratches, etc., are OK.

UNSERVICEABLE FC ITEMS—Box 'em in padded box or container so they'll not be jolted about enroute to your support for repairs.

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 1 (Aug 72), TM's, TB's, etc., DA Pam 310-6 (Jul 72), and Ch 1 (Oct 72), SC's and SM's; DA Pam 310-7 (Aug 72), MWO's; and DA Pam (C) 310-9 (Nov 71), COMSEC Pubs.



TECHNICAL MANUALS

TM 5-1940-221-12 Oct Boat, Bridge Erection
 TM 5-4110-221-14 Oct Refrig Unit, 5000 BTU
 TM 5-4110-224-20P Sep Refrig Unit, Gasoline, 9000 BTU
 TM 5-4310-345-24P Oct Compressor, Rotary, Air Davey Mdl 14M250RPV
 TM 5-4320-242-24P Oct Pumping Assy, Flam Liq, Gorman-Rupp Mdl 84C15-4A084, Barnes Mdl US36ACG
 TM 9-1430-527-12-1 Sep AN/MSQ-95 (Imp HAWK)
 TM 9-1440-585-20P Oct SM48 and XMS4 CHAPARRAL
 TM 9-2330-241-14 Oct M345 4 Whl 10-T Flat Bed Trailer
 TM 9-2350-202-20P Sep M42 40-MM Twin Gun
 TM 9-2350-242-20P Sep M88 VTR
 TM 10-3930-222-20P Aug Forklift Truck: Army Mdls MHE178, MHE178A, MHE178B, MHE178C, MHE223, Hyster Mdl H150C, Hyster Mdl H150F
 TM 10-3930-621-20P Sep Forklift Truck, GED: 4000 Lb MHE 209

TM 10-8340-311-13 Sep Gen Purpose Tent
 TM 11-1520-221-20P Sep Electronic Equip for AH-1G
 TM 11-5820-401-12 Sep Radio Sets AN/VRC-12 Series
 TM 11-5825-231-25P-4 Oct Azimuth Indicator IP-669/TRD
 TM 11-5826-226-20 Oct Radios AN/ARN-82, -82A
 TM 55-1510-202-20P Oct O-1 Series Airplane
 TM 55-1510-209-CL/1 Aug U-21A, RU-21A, RU-21D
 TM 55-1510-209-CL/3 Aug U-21G, and RU-21E
 TM 55-1510-209-PMD/3 Oct U-21G, RU-21E
 TM 55-1520-228-10 Sep OH-58A
 TM 55-8465-206-23 Sep Acft Survival Kits

MODIFICATION WORK ORDERS

9-2350-230-20/9 Oct M551 (AR/AAV) Instal Access Cover
 9-2350-230-20-16 Nov M551 (AR/AAV) Instal Driver's Seat Safety Harness

9-2350-230-30/10 Oct M551 (AR/AAV) Instal Rectifier, Relay
 9-2350-230-40/2 Oct M551 (AR/AAV) Instal Driver's Hatch Emergency Outside Release Mechanism, Exterior Hatch Lock Brackets
 55-1500-210-30/42 Sep Provide Positive Retention of Bolts Within Critical Control Hinge Connections CH-47A, B and C
 55-1520-221-30/37 Nov Instal Inster Light Dimmer (Cobra)

MISCELLANEOUS

LO 10-3930-235-12-1 Aug Truck, Lift, Fork, 4000 Lb Towmotor Mdls: Army Mdls MHE 191, 190, 190A, 190B and 220
 SB 9-185 Nov Rubber Stamp Kit for Missile Units
 TB 9-2300-280-30 C4 Oct Tactical Wheeled Cargo Vehicles and Dump Trucks, Instal Universal Tiedown Anchors.

TPN-8 Voltage

Next time voltage levels drop on your AN/TPN-8 or -18 GCA radar sets, think on this:

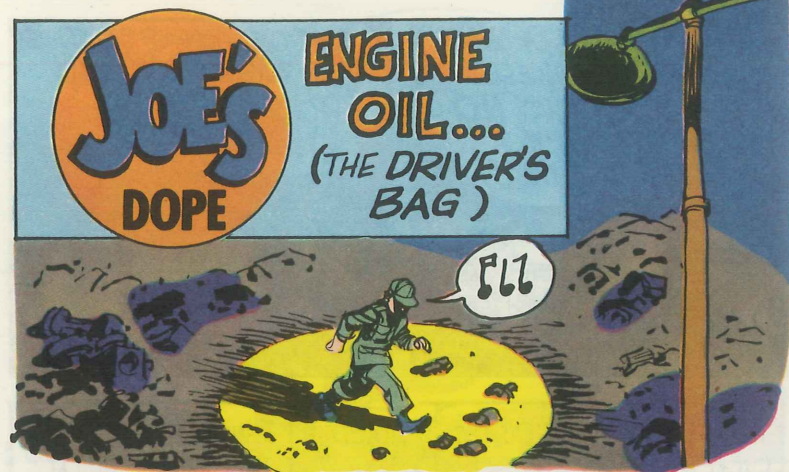
Any attempt on your part to adjust the power supply could make a lot of additional trouble.

A call to your friendly local radar repairman can keep a simple problem simple.

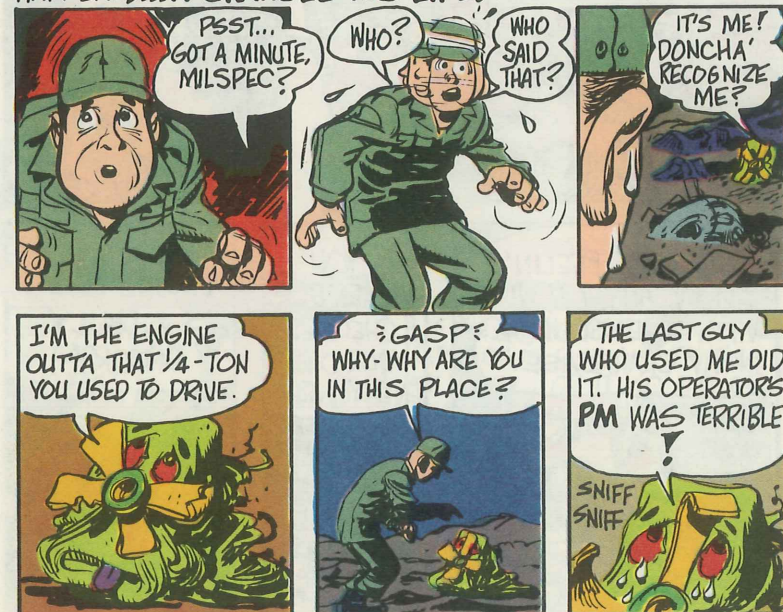
Your choice.

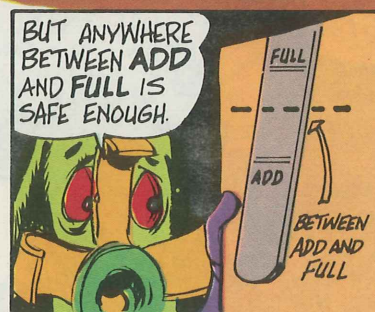
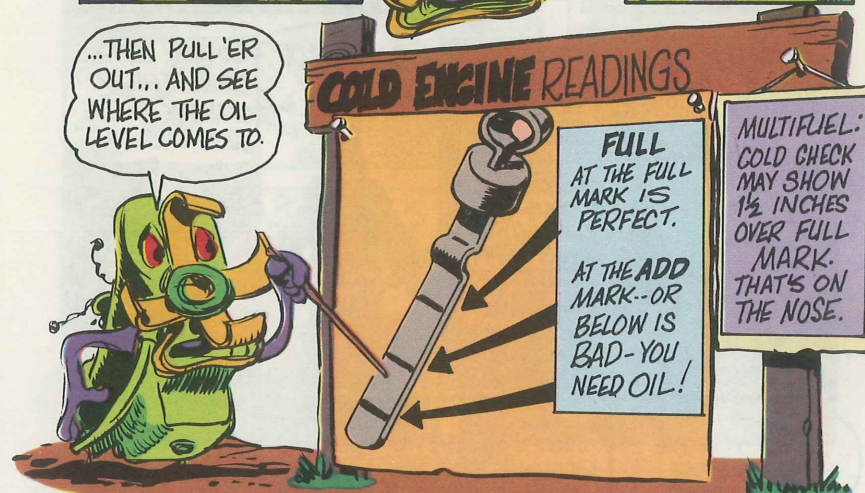
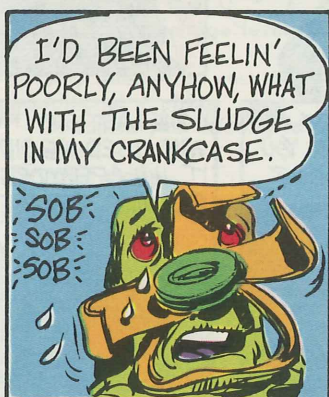
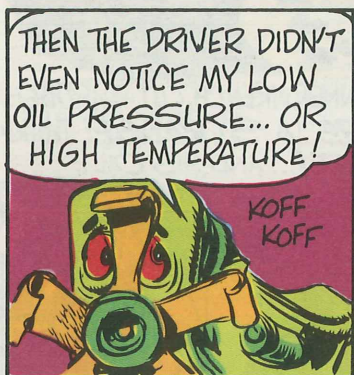
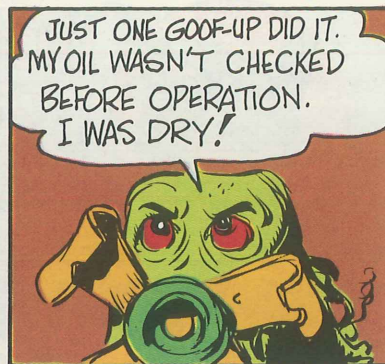
MWO of the Month

Wanna head off wear damage in the blade socket incidence bolt hole on your Chinook? Not all B and C Models have been up-dated per MWO 55-1520-227-20/2 (May 70). Modification Kit FSN 1615-461-1186 has 2 new bushings, a replacement bolt, and other hardware.



THE NIGHT SPEC 4, MILSPEC H. SPANNERWRENCH, CUT THROUGH THE SALVAGE YARD TO HIS QUARTERS, A STRANGE THING HAPPENED... IT CHANGED HIS LIFE!... AND HIS OIL.





OPERATING IN
DUST BUILDS
SLUDGE IN
YOUR OIL.



AND SO DOES COLD
WEATHER, WHEN MOISTURE
CONDENSES IN YOUR
CRANKCASE.



ANY "UNUSUAL
CONDITIONS" CALL FOR A
CLOSER EYE ON
YOUR OIL!



HERE'RE THE JOBS
OIL DOES IN YOUR
ENGINE...



FAULTY
LUBE

LUBES
BEARING
SURFACES
CLEANS AWAY
CARBON
'N' DIRT
COOLS BY
CARRYING
AWAY HEAT
SEALS IN
POWER

SO, WHAT DO
I DO?



TOO MANY DRIVERS
THINK REGULAR
CHANGING BY THE
LO IS ENOUGH...



...BUT IT'S THE
CONDITION OF
THE OIL THAT
COUNTS
MOST.



JUST ONE GUY'S
RESPONSIBLE FOR
ENGINE OIL---
THE DRIVER!



MILSPEC IS A CHANGED MAN,
AND AS HE LEAVES THE "BONE"
YARD...



!HUH! GUESS I'LL GO
BACK 'N' CHECK THE
OIL IN THAT NEW 5-
TONNER I GOT. I
COULDN'T SLEEP...
NOT KNOWIN'.

**JOE'S
DOPE**

**GOOD STUFF
FOR
M60A1 TANKS**
(AN M60A1 TELLS ALL)



HOLD
ONE!



UNHAND
THAT
WRENCH!

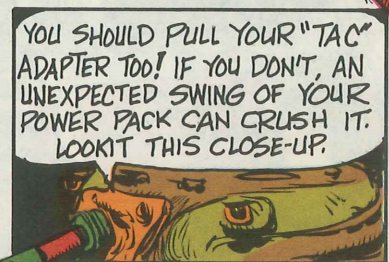


I'VE GOT SOME
REAL GOOD TIPS
FOR YOU M60A1
CREWMEN...

PUFF



WHEN Y'R PULLIN' A POWER PACK
OUT, DO YOU ONLY DISCONNECT
THE "TAC" LINE?



YOU SHOULD PULL YOUR "TAC"
ADAPTER TOO! IF YOU DON'T, AN
UNEXPECTED SWING OF YOUR
POWER PACK CAN CRUSH IT.
LOOKIT THIS CLOSE-UP.



REMOVE YOUR
"TAC" ADAPTER

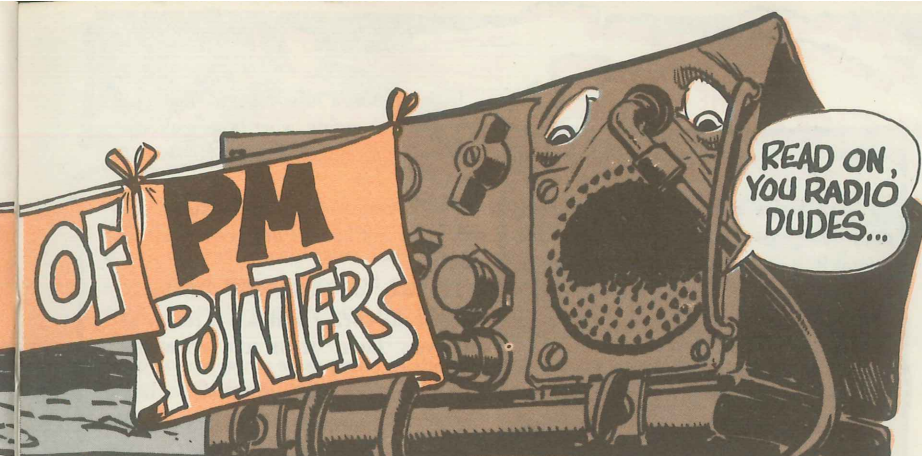
STORE THAT "TAC" ADAPTER
'TILL YOU'RE READY TO
PUT BACK THE PACK.



WHILE THE PACK'S OUT--
KEEP CREWMEN'S FAT
FEET OFF THINGS LIKE...

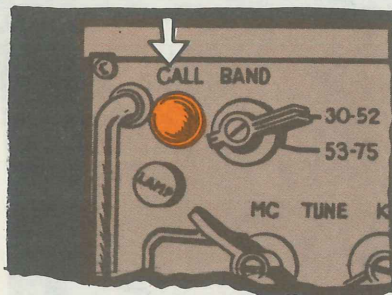






Whether you're operator or unit radio repairman, what you do to your radio set is pretty much going to determine what it does for you.

If you're the operator, eyeball these points: If the CALL light on your RT-524

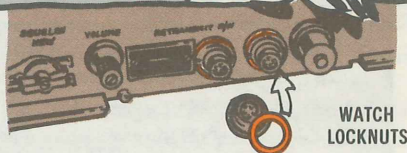


or -246 receiver-transmitter won't light up when a signal comes in, suspect a burned-out light bulb or a bad squelch module assembly.

Check the bulb before you ask your repairman to haul your receiver-transmitter to DS for a check on the squelch.

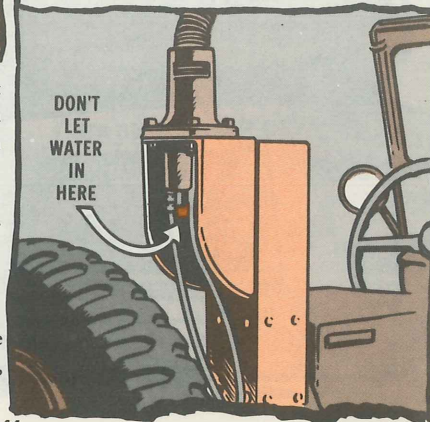
AUDIO CONTACTS

Eyeball the metal locknuts on the MIKE connectors. If they're loose, tighten 'em.



And keep in mind, dirty contacts on the audio connectors can cause side-noise feedback.

Something to consider: Before you hose down your vehicle, you better cover the radio set and the bottom of the MX-6707 matching unit. A high-pressure



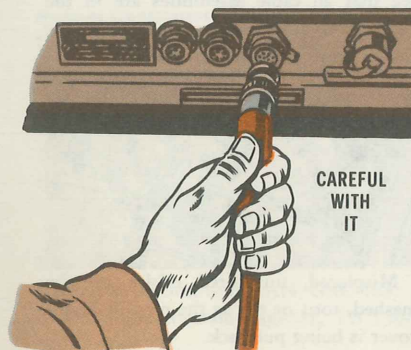
hose can push some of the water inside the units. Use a piece of canvas or anything else that's waterproof and fits. If you need to get off the mud and grime, use a wet brush to scrub off the surfaces.

Most of the damage is caused when the hose is turned up under the MX-6707 to wash out grime.

ABLE CABLE TOUCH

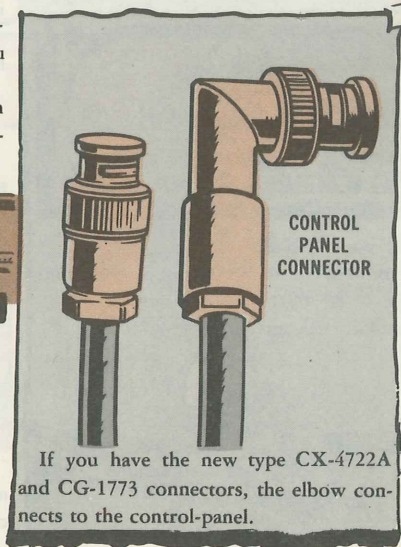
The new type CX-4722A with the elbow likes a light, skillful touch when you attach it to the RT control panel.

If you twist it too hard, you can crunch the elbow, twist the pins off the connector, or even twist the connector off.



Never unhook your CX-4722 unless maintenance is needed. The more you hook and unhook, the more chance for cuts and breaks in the cable.

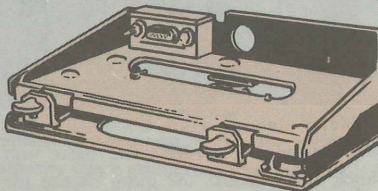
When you plug in the old-model CX-4722 (minus the elbow), avoid a male-to-male connection. It'll slip in that way but plays hob with the connector when it comes out.



RESET THE LINKAGE

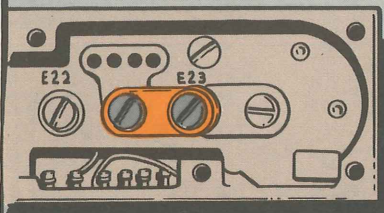
You never use the MT-1029 mount from a remote-power-controlled AN/VRC-12 series radio in a local-power-controlled configuration unless the mount link is changed. Without resetting, you get no power to your set. So, if you

CHECK YOUR MOUNT . . .



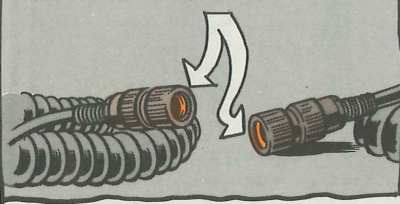
come up with a dead set after getting a new mount, have the link in the mount checked. It must be set to the right (E23 screw) to let you use the radio in the local-power-controlled radio setup.

. . . RESET YOUR E23



About That Gasket . . .

Be sure the rubber O-ring is in place on the M-80 ()/U microphone or H-189 handset cable connector.



If the O-ring's missing, you get loose contacts and arcing when you make the connection to the control panel of the RT-524 or RT-246.

This causes burn-off of the audio contact pins, and knocks out your transmission.

To make the connection job easier, dampen the O-ring with a wet finger before you insert it in the connector.

TIPS FOR MECHANICS

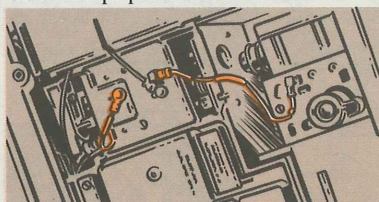


Module-board hinge pins have small retaining rings you can lose easily. Minus retaining rings, the 2 front hinge pins of the 8000-series board, for example, can fall and hit the power supply or diodes—and short out the set.

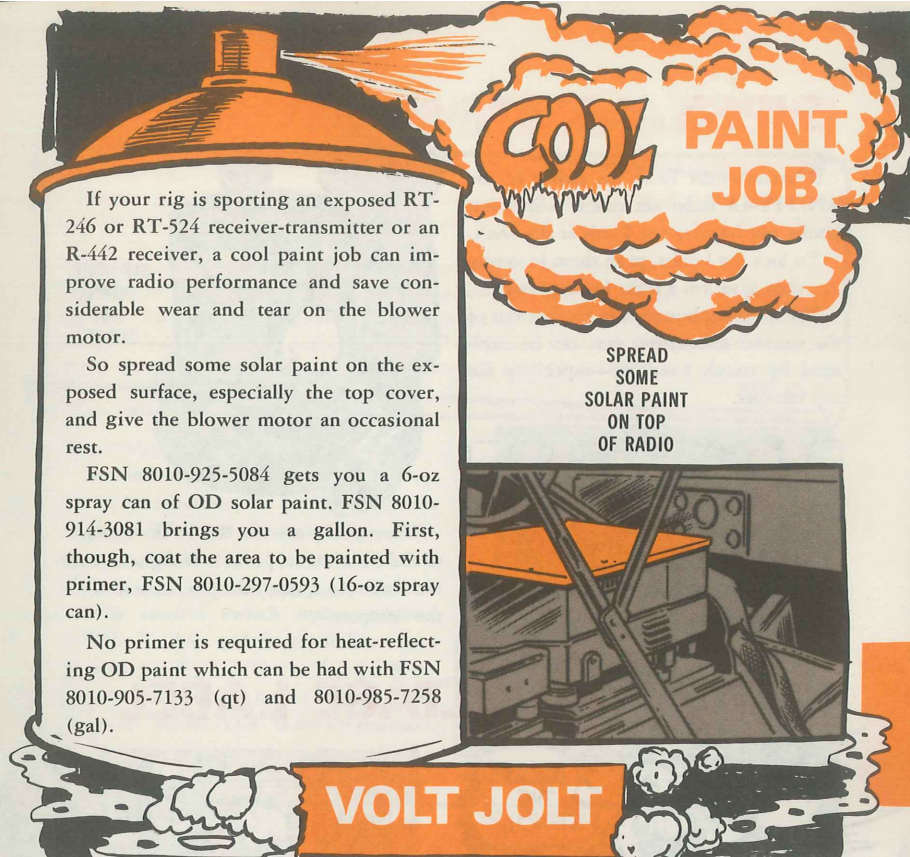
If you don't see the pins when you're working with the board, find 'em and reinsert 'em. Do some eyeballing for the retaining rings, too, if they're not on the hinge pins.

CABLE ASSEMBLIES

When you replace modules in the RT, see that all cable assemblies are in the right receptacles and secured under the cable clamps provided for them.



Misplaced, unsecured cables can be mashed, torn or cut as the module-board cover is being put back.



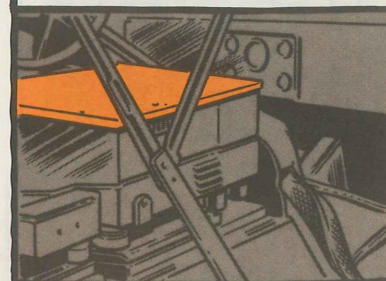
If your rig is sporting an exposed RT-246 or RT-524 receiver-transmitter or an R-442 receiver, a cool paint job can improve radio performance and save considerable wear and tear on the blower motor.

So spread some solar paint on the exposed surface, especially the top cover, and give the blower motor an occasional rest.

FSN 8010-925-5084 gets you a 6-oz spray can of OD solar paint. FSN 8010-914-3081 brings you a gallon. First, though, coat the area to be painted with primer, FSN 8010-297-0593 (16-oz spray can).

No primer is required for heat-reflecting OD paint which can be had with FSN 8010-905-7133 (qt) and 8010-985-7258 (gal).

SPREAD
SOME
SOLAR PAINT
ON TOP
OF RADIO



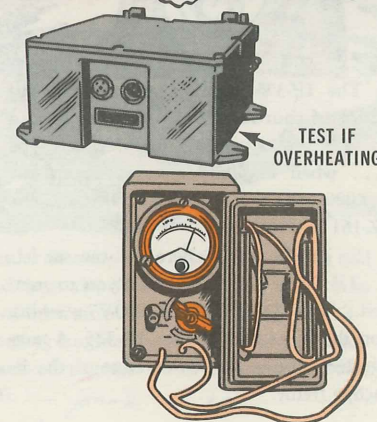
VOLT JOLT

When you power your RT-524/VRC receiver-transmitter with the PP-2953B/U power supply in the AN/GRC-163, too much voltage could damage the RT unit.

If you think your RT unit is overheating, have a repairman use a AN/URM-105 multimeter to check the DC output of the PP-2953B/U and adjust its output to 23 volts, if necessary.

This lets the radio run cooler and gives longer life expectancy, since it is in continuous operation in the AN/GRC-163.

The authority's on page 11, TB 750-911-4 (Aug 71).



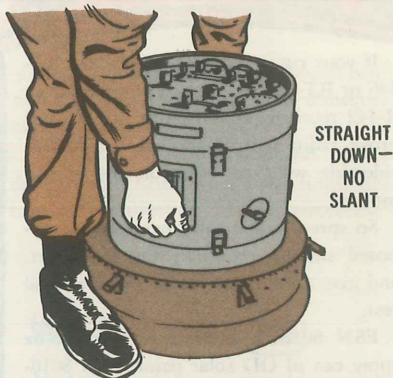
TEST IF
OVERHEATING

PIPSY-4A BUMP STOPPERS

A muscle-man twist on either of the AN/PPS-4A radar set range calibration knobs can fracture the knob at the shaft.

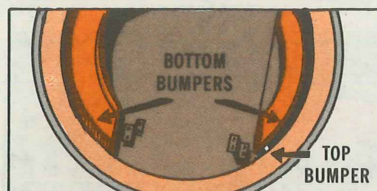
To lock the knobs, push them in gently . . . then give 'em a light locking twist.

The 2 rubber bumpers in the bottom of the receiver-transmitter case can be damaged by rough handling—especially the top bumper.



STRAIGHT
DOWN—
NO
SLANT

When you place the RT in the bottom of the transit case, point it straight down. No slant. And, don't drop it. Ease it onto the bumpers.



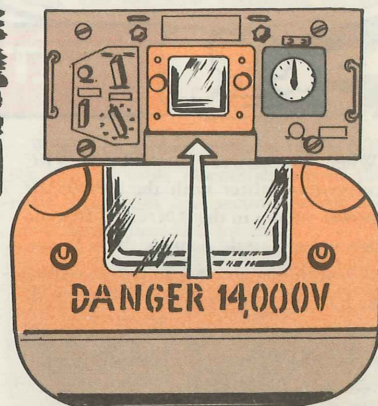
MPQ-4A VOLTAGE LABEL



The IP-375 azimuth and range indicator of your AN/MPQ-4A radar set can be a real shocker to a maintenance type . . . when he doesn't know about the 14,000 volts that go zipping through the Z-161 HV rectifier.

So get the word where you can see it!

TB 750-911-1 (1973) tells you to stencil a 3/8-in "DANGER-14,000V" warning on the front panel of the IP-375. A suggested spot is the lower edge of the B-scope frame.



Also, have your support stencil the same warning on the bottom of the Z-161 rectifier, inside the indicator, using MILSPEC MIL-M-13231.

BIRDMAN, LEND ME AN EAR

Dear Windy,

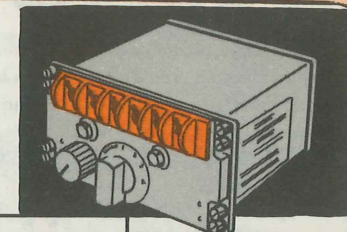
Please pass on a word to pilots and crew chiefs: Check your intercom control switch setting before you call an avionics repairman or turn in a radio set or control for repair.

Too many times the equipment "problem" is with the operator. For instance, he tries to call tower or other aircraft on "INT" (intercom setting), or he tries to talk to the crew on a transmitter setting. We have a continuing headache on "repair" calls for the C-1611/D intercom set control. Most of the time, the "problem" is merely a wrong switch setting.

SFC R.R.

Dear Sergeant R.R.,

Reminds me of the pilot who wrote up his C-1611 because he couldn't transmit on the VHF Omni channel. If he'd made it, it would have been a great trick for that Omni receiver. Anyway, a quick look at the control switch makes magical "repairs." An added reminder: even though the C-1611/D can handle 8 receivers, the operator has to turn on those he wants to use. "ON" is the up position.



TO RECEIVE--
SWITCHES
MUST BE
ON

Windy

SOFT SPRAY--NO STEAM



Never use steam or water under high pressure to clean your Huey, HueyCobra and Kiowa, bird mechs. Water will be forced into the fiberglass panels and cause adhesive bond failure, corrosion—even loss of lubrication to internal parts.

To keep the bonded honeycomb from coming unglued, use a low-pressure water spray and follow the cleaning poop in the aircraft organizational maintenance pubs, backed up by TM 55-1500-204-25/1 (Apr 70).

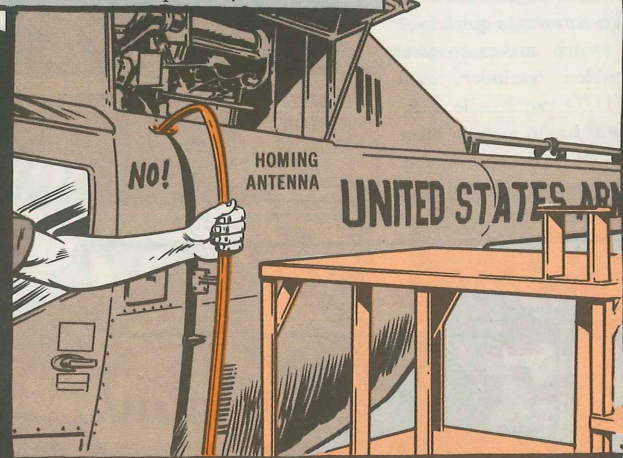
para 3-10.1
see pg 3-1 "direct cleaning spray away from" 51
"nonatomizing spray" for cleaning thoroughly with a stream of water



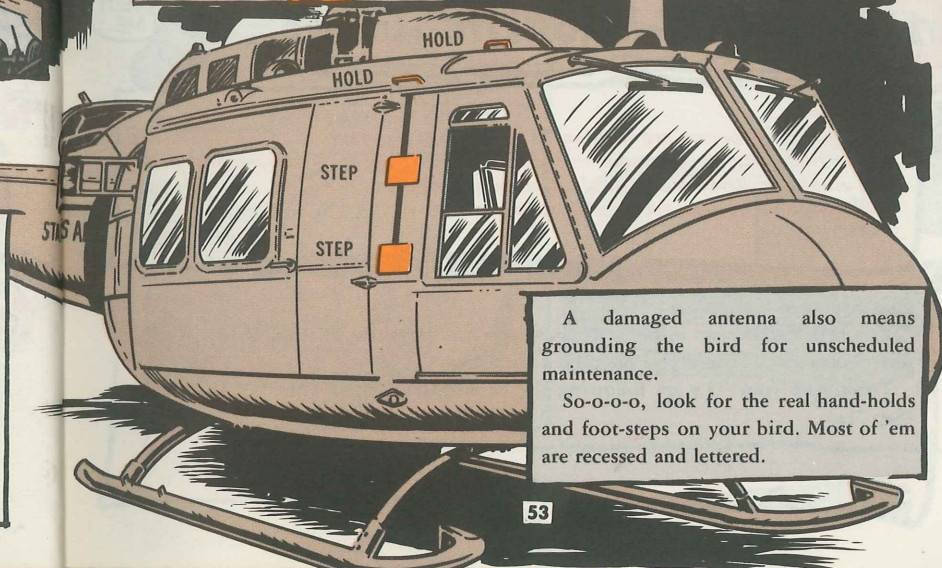
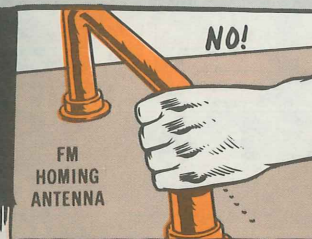
AIR MOBILITY



If you're one of the newcomers climbing in and around aircraft, you'll see a lot of avionics antennas that look like hand-holds and foot-steps. They're not.



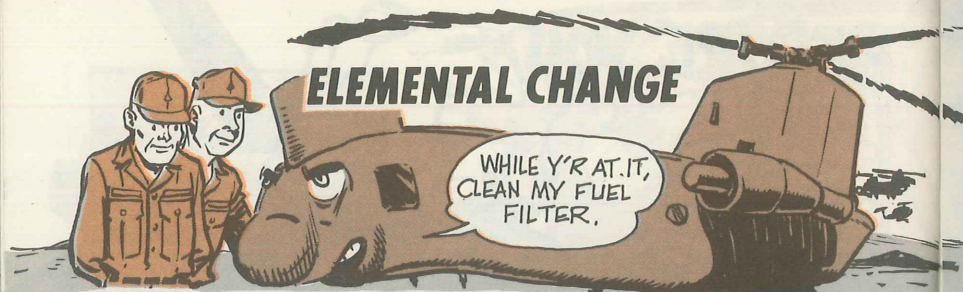
Planting your mitts or brogans on an antenna can break it. The pilot will lose his bearings and the ability to communicate.



A damaged antenna also means grounding the bird for unscheduled maintenance.

So-o-o-o, look for the real hand-holds and foot-steps on your bird. Most of 'em are recessed and lettered.

ELEMENTAL CHANGE

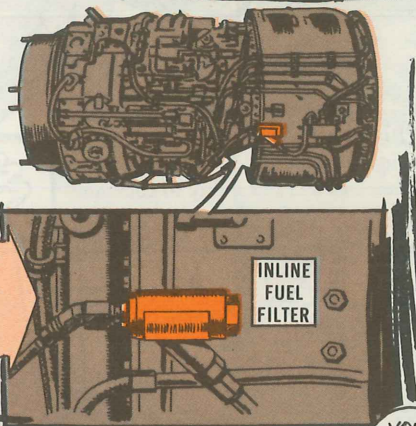


Focus in on the Chinook (CH-47B,C) L-11A engine inline fuel filter when pulling the next Periodic, knucklebusters.

When you remove the element, chances are you won't be able to clean it with the phosphoric acid and detergent solution called for in para 5-61d of TM 55-2840-234-24/2 (Aug 71) ... 'taint in the supply system.

So, use an equivalent. Clean the stainless steel element with drycleaning solvent, P-D-680, Type II. FSN 6850-274-5421 will get you a 5-gal pail.

After cleaning, wipe the element with a lint-free cloth to remove all excess solvent.



NON-MAGNETIC SCREWS

Dear Windy,

Our tech inspectors are making us replace steel screws that were installed in our Huey (UH-1) windshields, lower forward cabin windows and cabin roof windows. They want dural (aluminum bronze) screws.

Are window screws really all that important?

SP4 F.M.M.

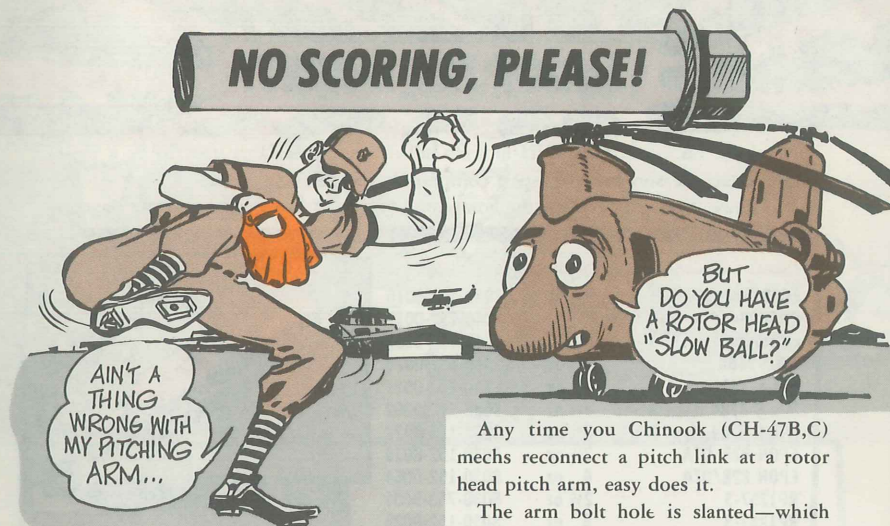
Dear Specialist F.M.M.,

You bet! Steel screws in the instrument area can throw the magnetic compass off several degrees ... could give the pilot a bum steer.

That's why your TI's are following the book—para 4-29 of TM 55-1520-210-20 (Sep 71).

Windy

NO SCORING, PLEASE!

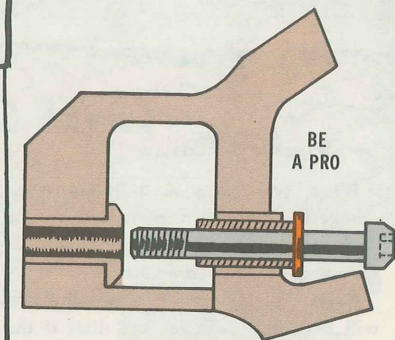
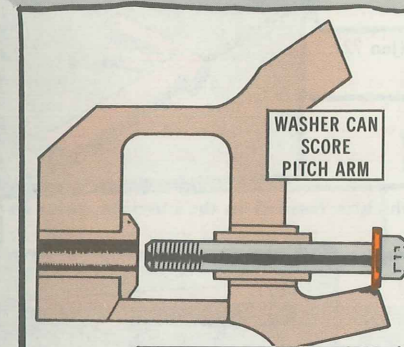


Any time you Chinook (CH-47B,C) mechs reconnect a pitch link at a rotor head pitch arm, easy does it.

The arm bolt hole is slanted—which can mean trouble when installing bolt, FSN 5306-891-1449.

Sure, the head of the bolt will clear the flange of the arm, but the washer will not clear when you put them in together. The result is a scored arm.

To head off damage to the pitch arm, place the washer at the bushing—then insert the bolt.



SHOOT THE WORKS!

Working on your Huey (UH-1) with adhesives and sealants used to be a messy chore. Exact measurement of 2-part compounds was also a big job.

No more. You can now get the compound you need in a cartridge. Here they are:

Adhesive/Sealant	Cartridge Size	FSN
EC2216BA	2½ oz	8040-152-0016
EPON934AB	2½ oz	8040-152-0017
EC2126	6 oz	8040-152-0067
WA/934BX	6 oz	8040-152-0075
MIL-S-7502	2½ oz	8030-152-0025
MIL-S-8784, Type A½	2½ oz	8030-152-0062
MIL-S-8784, Type B½	2½ oz	8030-152-0022
EPON 828/DTA	2½ oz	8030-152-0015
EPON 828/DTA	6 oz	8030-152-0064
RP1257-3	2½ oz	8030-753-5005
RP1257-3	6 oz	8030-152-0026

Check 'em out in TM 55-1520-210-20P-2 (Jan 72).

Use 'em in these guns—

Cartridge Size	Cartridge Gun
6 oz	FSN 5120-952-3507
2½ oz	FSN 5120-924-2872

Latch onto this polyethylene nozzle which is inserted in the cartridge, prior to loading.

Orifice Size	Length	FSN
.031-in dia	4-in	5120-801-0949

COVER CONSOLE

When you Chinook (CH-47) types change the forward transmission, or the transmission oil, cover the pilot's console to protect avionics components.

Gravity being what it is, oil and dirt will seep into switches and dials if the console is not protected . . . which leads to premature part changes.

PROTECT YOUR CONSOLE

FOR A SECURE HUEY



Dear Editor,

If a thief really wants to break into a Huey (UH-1), locks won't keep him out.

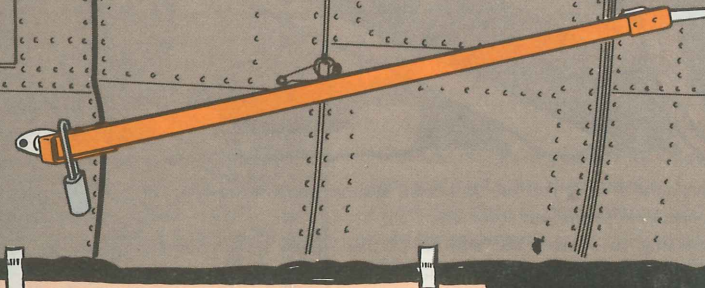
But to keep an honest man honest, we came up with this handy security bar that secures the pilot and cargo doors. It's made from 1/16-in aluminum stock.

Secure the bird by looping the large hole in the bar over the cargo door handle. Insert the other end over the pilot's door handle. Add a lock thru the small hole in the other end of the bar.

One locking bar goes on each side of the bird. Works like a charm.

(Ed Note—Right! You're not modifying the bird, so it looks like a winner.)

SSG Willie G. Boddie
Mr. Duanne Stamper
Aberdeen Proving Ground, MD



Write SSG Windy Windsock at PS Magazine, Ft Knox, Ky 40121 if you need details on how to make this security bar.



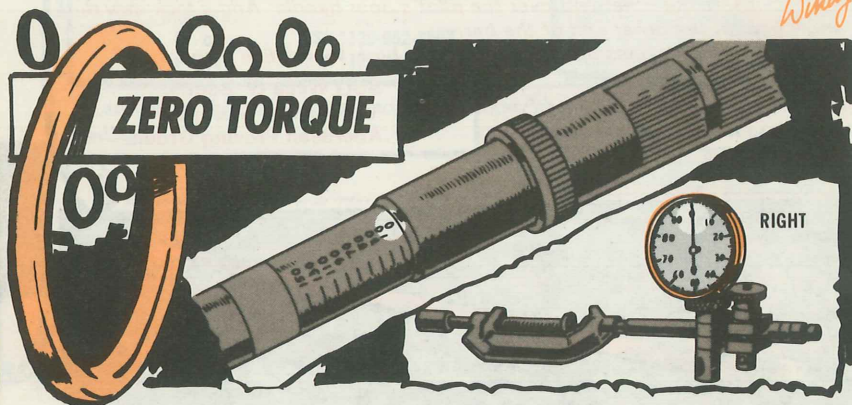
Dear Windy,
What's the deal on waxing rotor blades? Some pubs say wax 'em, some say don't—and others say nothing about waxing.

SFC D.M.T.

Dear Sergeant D.M.T.,

The latest word is that only the Kiowa main rotor blades should be waxed. The OH-58A blades are made of extruded aluminum, which corrodes faster than the steel or aluminum sheet in other chopper blades. Keep the wax off all other rotor blades.

Windy



That's the setting you use on preset, audible micrometer-type torque wrenches after each use. And when you store 'em.

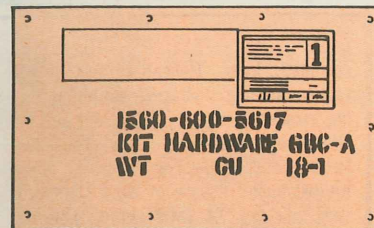
Resetting to 0 takes the tension off the detent lever compression spring. Your wrench'll last longer—give better service next time you use it.

If your torque wrench has been in storage or shipment, run it thru a few release cycles. This action frees ball bearings, or lets the internal mechanism re-cover the innards with a thin oil film.

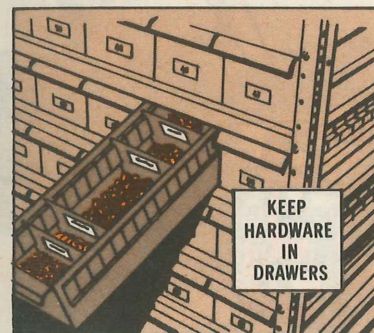


If you think looking for a needle in a haystack is tough, try finding a certain type nut after the contents of aircraft hardware Kit, FSN 1560-600-5617, have been spilled in the Conex container during shipment.

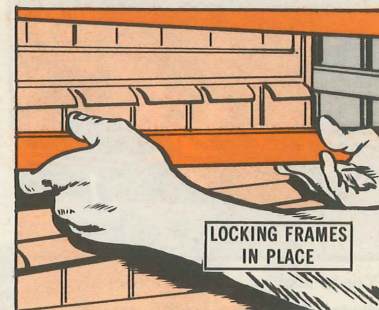
It'll happen when you pull up stakes unless you secure the hardware according to the shipping poop on the inside of the container door.



To keep the drawers in order, put the cover on each drawer one at a time. 'Course the drawers go back in the right slot. Use the cover under each drawer.



To keep the drawers from flying out of the bins and really upsetting the apple cart, put the locking frames in place with the flanges directly on top of each row of drawers.



Put the thumb screws and lock nuts in place using all 4 for each frame.

Lock the door of the container and it's ready for shipment.

Keep your kit up-to-date by using the inventory in SB 1-15-14 (Dec 66), instead of the outdated plaque on the Conex container.

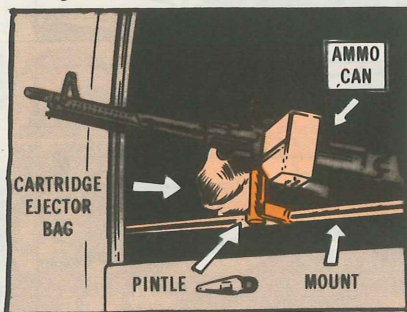
**M23, M24, M41...
BE YOUR OWN
INSPECTOR -**

**HIGH
FLYING**

M60D

**"SHOT
GUNS"**

Good PM includes an overall eagle-eye look at your M60D 7.62-MM machinegun, ejected cartridge bag, ammo cans and mount assemblies for corroded, damaged components.



You're also looking for loose, missing, damaged nuts, bolts, screws, safeties.

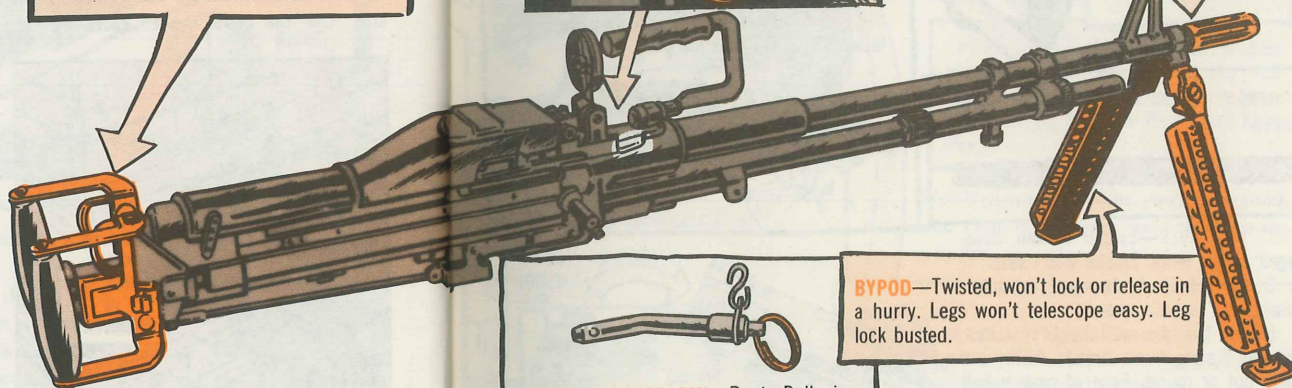
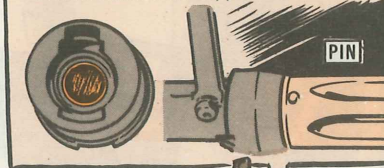
Don't overlook the ID, CAUTION, and Instruction plates, podner. They have to be in the right spot, on tight—and readable.

Here're some baddies you want to check 'tween missions or before your Delta or Hotel model Huey (UH-1 D,H) or Chinook (CH-47) lifts off on an ASH and trash caper. If you find a fault, fix it—or call for DS help pronto.

GRIP, TRIGGER ASSEMBLY—Damaged, corroded, loose. Helical springs weak, broken, missing. Damaged sear pin. Housing cracked; rivets loose. Missing or wrong kind of sear pin safety. (You have to use corrosion resisting steel safety wire, Knucklebusters. Nothing else!) Damaged sear link nut, link and spring. Threads busted, worn. Operation sticky, rough. Safety must work. Rubber coating gummy; loose bond.

BARREL LOCK LEVER—Loose, or binding. Won't hold barrel tight.

BARREL ASSEMBLY—Dirty, bent, corroded, rusty, damaged; too oily in bore and chamber. Foreign objects land-to-land; powder-fouled. Cracked, loose barrel socket. Suppressor pin loose; not staked. Loose flash suppressor.



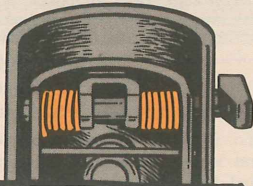
QUICK RELEASE PIN—Bent. Pull ring missing, broken. Pin retaining lugs stuck, missing.

BYPD—Twisted, won't lock or release in a hurry. Legs won't telescope easy. Leg lock busted.

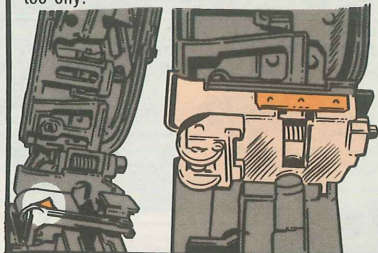
HEY, "SHOTGUNNERS!"
CHECK ALL THESE ITEMS.
YOUR TRIGGER FINGER
WILL THANK YOU
FOR IT.

COVER—Hinge cover, latch pins crooked, damaged. Parts missing. Broken latch or weak springs. Cartridge guides burred, marred, bent, damaged. Too much oil on cartridge roller.

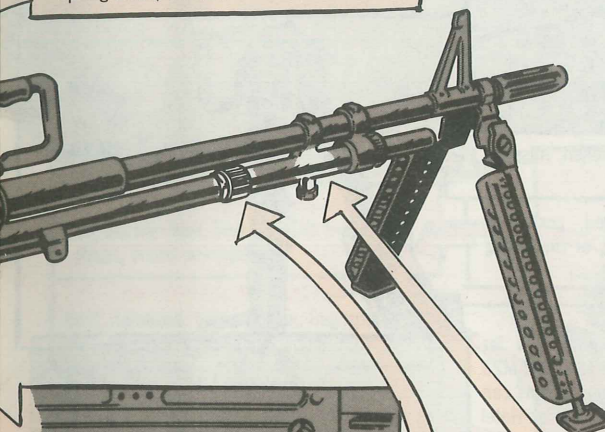
Feed pawl damaged.
Latch lever shaft won't turn easy.



CARTRIDGE TRAY—Belt holding pawl spring weak. Welds cracked, broken. Dirty, too oily.



REAR SIGHT—Loose, bent, broken. Helical spring weak, broken.



RECEIVER—Damaged, dirty. Sliding surfaces of receiver rails too oily.



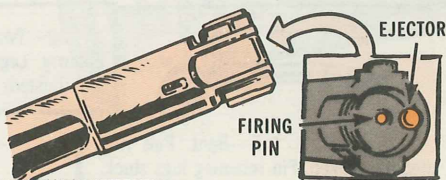
OPERATING ROD SPRING—Weak, damaged.



BOLT ASSEMBLY—Ejector broken, damaged; spring weak. Ejector won't seat.

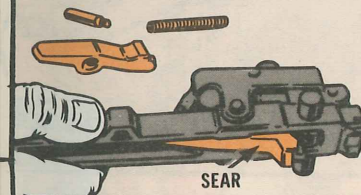
Broken, chipped, damaged extractor, plunger.

Firing pin burred, bent, cracked, broken. Spring weak, broken. Firing pin hole out of round. Face of breech bolt pitted.

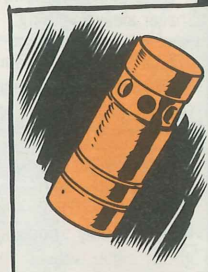


REMEMBER...
DON'T GUESS ON
YOUR PM CHECK
WITH YOUR PUBS.
GOT THAT?

SEAR, SAFETY HOUSING—Missing, broken parts. Spring weak, missing. Sear burred, broken. Damaged, missing sear plunger, spring. Bushing corroded.



GAS PISTON—Carbon-caked gas cylinder; plug safety missing. (Is Murphy still 'round? That gas piston can go in bass-ackwards, so be sure it's in the right way.)



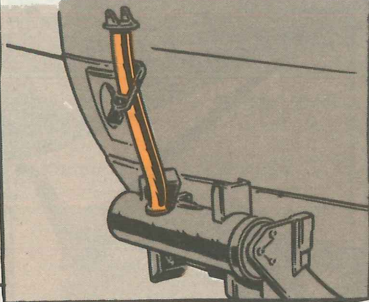
TIP: If piston is in right, you'll get a good, loud clunking noise when you shake the cylinder.

GAS CYLINDER—Nut loose; threads stripped. Plug safety missing, or the wrong kind. Extension loose; threads stripped. Gas port clogged.



MOUNT ASSEMBLIES

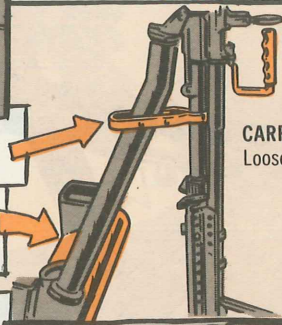
M23 (UH-1D,H)—Pintle dirty, damaged, bent, rusty, won't turn easy. Missing, broken cotter pins. Mounting beam twisted, loose. Ball bearings damaged, rusty, unlubed, missing. (You need 12 of 'em!)



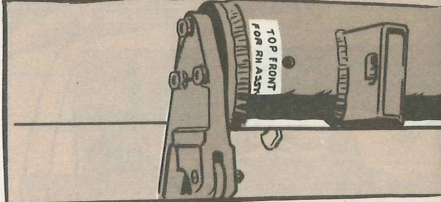
Traversing lock bent, broken, missing. Spacer sleeve missing.

Tube assembly damaged, corroded, loose. Safety wire missing, or the wrong kind.

(Hold one, 45Juliet type. Watch for Murphy riding double with you. This M23 tube assembly and mounting beams can go on either side of your Delta or Hotel model. But w-a-t-c-h for the stamp on the tube assembly that tells you which end goes up front!)



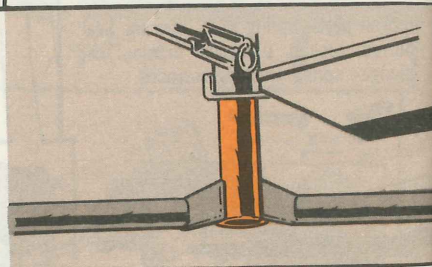
CARRYING HANDLE—Loose, broken, cracked.



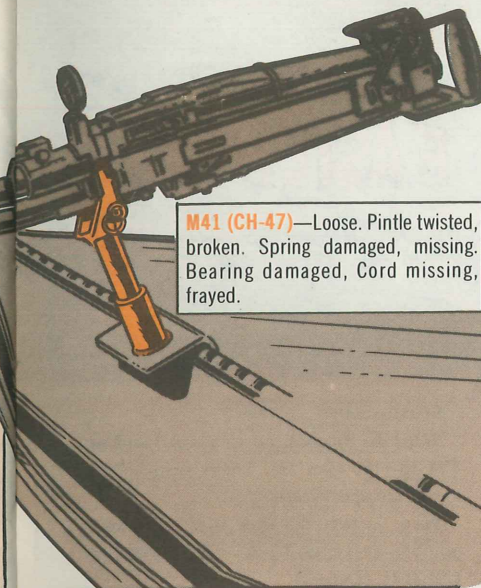
M24 (CH-47)—Loose. Ball bearings rusty, unlubed, missing. Shock assembly cord broken, frayed, missing. Cracked, twisted pintle; not staked.

(If swaging sleeve, cable safety pin, or quick release pin is damaged or missing call DS before the pilot pulls pitch! Same check goes for M41 subsystem.)

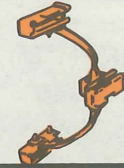
Mount subassemblies twisted, bent; welds broken.



M41 (CH-47)—Loose. Pintle twisted, broken. Spring damaged, missing. Bearing damaged, Cord missing, frayed.



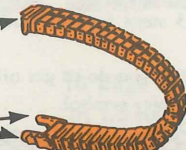
CHUTE BRACE ASSEMBLY (M23)—Spring sprung, broken. Nuts missing, threads stripped. Clamp retainer spring damaged.



FLEXIBLE CHUTE (M23)—Damaged, bent, kinked. Latches broken. Box end fitting damaged.

BOX END

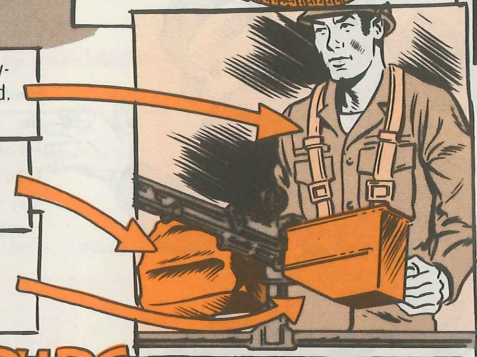
LATCHES



AIRCRAFT SAFETY HARNESS—Cut, frayed; buckles bent. Seams 'n' stitches ripped. Rings, snaps damaged.

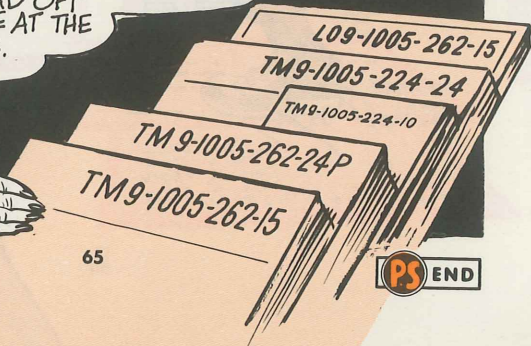
EJECTION CONTROL BAG (M24)—Frame bent, damaged, broken, loose. Bag ripped, torn—'specially the seams. Zipper zapped.

AMMO CAN (M24)—Loose, damaged. Spring weak, broken; cotter pin, rivet missing. Plunger bent, dirty, corroded.



PUBS

HOMework IN THESE PUBS WILL HEAD OFF TROUBLE AT THE PASS.





LO SYMBOL + MIL SPEC = FSN ...

EASIER THAN HOPSCOTCH

WHAT'S HE DOING?

SECOND CHILDHOOD, NO DOUBT.

Take 3 steps forward and hop to supply.

That's all you do to get oil from a lube order military symbol.



Start here:

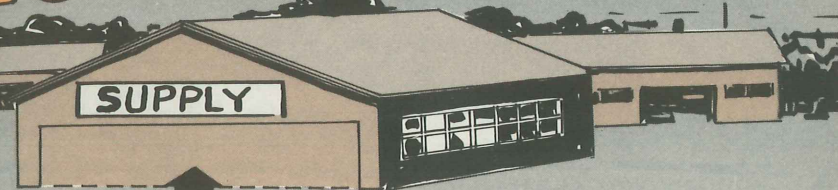
With the symbol, go to pages 15-16 of TM 10-1105 (Jan 72). There, turn it into a military specification.

Now, match the spec with an index number on pages 2.1-2.5 of the Fed Cat C9100-IL (Dec 71).

Then, follow the index number to the catalog page. Right before your eyes is the federal stock number(s). The full identification of the oil is there, too. Double check this info for the right military symbol and the LO use of the oil.

OK? OK.

HERE'S AN EXAMPLE.



INDEX NO	FEDERAL STOCK NO 9150
----------	-----------------------

719600-111	502-5481	PKG DATA
222	753-4799	BULK
333	985-7234	1 GAL CAN
444	582-5480	5 GAL PAIL
555	411-4174	55 GAL DRUM
		55 GAL DRUM

SPECIFICATION INDEX

Specification

Index No.

MILITARY SPECIFICATIONS

L-17672

719300, 719600, 720100

Military symbol	Military/federal specification
2075 TH	MIL-L-17672
2110	MIL-L-15016
2110 TH	MIL-L-17672

START

To page 3.31 of C9100-IL to get the FSN

Then to page 2.3 of Fed Cat C9100-IL

Go to page 16 of TM 10-1105 to get Mil Spec

Military Symbol In LO --2110TH

1500- & 3000-GPM TRUCK-MOUNTED ...

WATER PURIFICATION UNITS

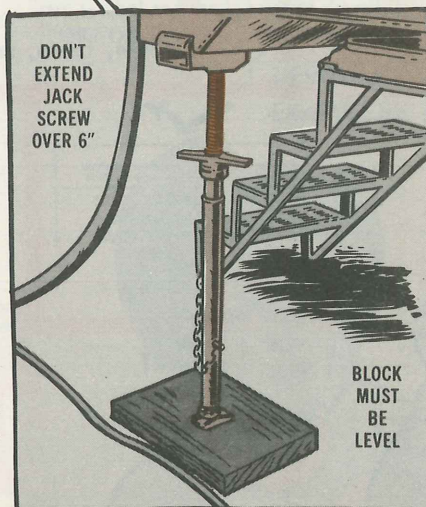
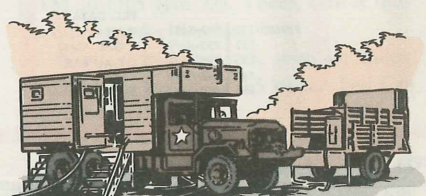
You can have the world's best shootin', scootin' and commo equipment but without good drinking H₂O you're like up the dirty creek without a paddle.

Safe drinking water is rarely found in nature. It's either mucked up by disease organisms or plain crud.

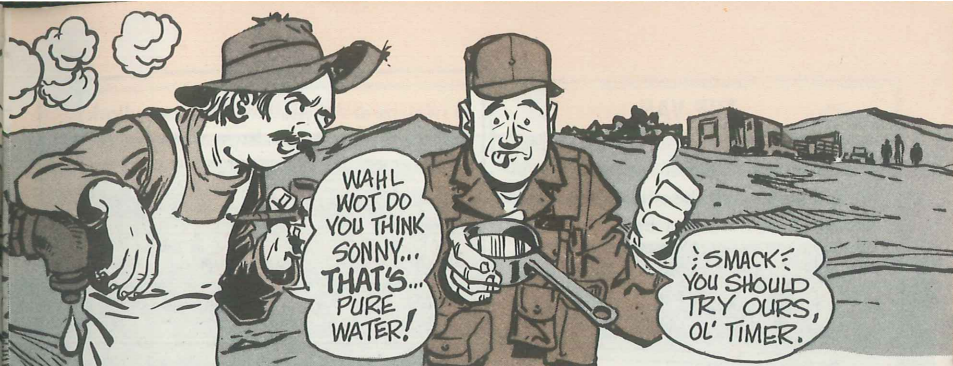
The 1500- and 3000-GPM truck-mounted water purification units are designed to clean up that liquid—clean enough to drink. To do that you've got to keep it in good working order. The equipment's basic TM's tell how to do that. But like with most pieces of machinery, usage uncovers extra goodies that'll stop breakdowns or make your job easier. Here're some tidbit goodies ...

LEVELING—A level and firm footing under the truck is a must. Even if it means digging or bulldozing away a slope, or putting timber under the wheels. A tilted truck'll make it tough when leveling with the jacks.

Be sure to place a block of wood or steel plate under each leveling jack and the van leveled before taking on water. The jack's small base may hold a waterless van level on solid looking ground, but added water weight can sink it—and tip the van. And trying to re-level the van with the jacks will cause the turn handle lug to break. Too much weight.



BLOCK
MUST
BE
LEVEL



Keep the jack screws lubed with GAA. A screw exposed up to 6 inches is enough—more will weaken the overall brace. When you reach this point, adjust the extension in the jack housing.

GROUNDING—Water, electrical currents and bodies can become a great shocker. Every piece of the unit's electrical equipment can knock an operator on his seat—sometimes permanently. To avoid any hard kick, ground these items before going into water production:

GROUND

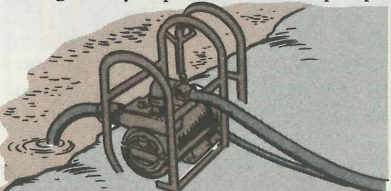
1. The van.
2. The power unit (generator).
3. The raw water pumps.
4. The distribution pumps.

If there're not enough ground rods provided in the units BIIL you can get more with FSN 5975-878-3791.

All grounding lugs should be large enough to take a No. 6 AWG wire—the size that come in the ground rod kit. If you have any lugs that're too small, replace 'em with a ground lug FSN 6115-021-3321.

Paint on lugs is a no-no. Only clean and bare metal will conduct electricity.

RAW WATER AND DISTRIBUTION PUMPS—The pub you want at hand for these babies is TM 5-4320-200-15 (Nov 68). It gives the daily PM checks and the troubleshooting dope ... plus the interchangeability of parts with similar pumps.



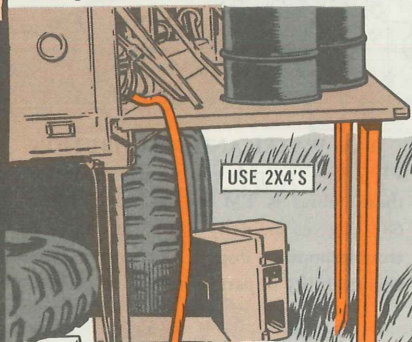
If the electric motor driven raw water pump is not kicking through enough water to keep your 3000-gal unit operating at full capacity—and you're certain there's no voltage drop in the power cable due to loose or bad connections—use a gasoline engine driven pump to offset the limitation of the smaller electric pump.

When 2 electric motor driven pumps are used, put them in series—connect the discharge side of the first pump to the suction side of the second pump. Keep in mind, the suction lift for each pump is not to be more than 20 feet.

Identify the raw water pump so it won't be used for distribution without first being cleaned with super hypochlorinated water.

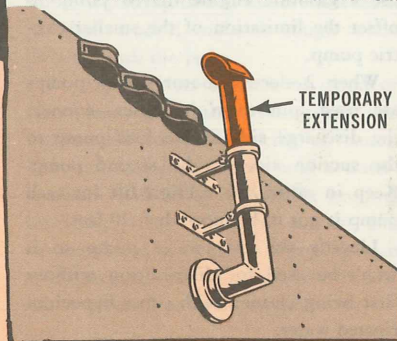
THE VAN

LEFT SIDE PLATFORM—A couple of loaded chemical barrels and several 200-lb plus crew members can cause it to droop. A 2x4 wooden brace under each

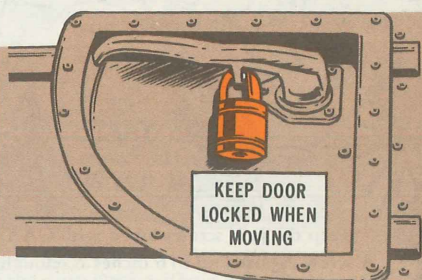


corner and another under the center edge will put a stop to any possible sag. A bent or warped platform makes it tough to close and secure.

HEATER EXHAUST—The only way to keep the hot and carboned exhaust from cracking and blacking over the center running lights is to add a temporary extension high enough to clear the top of the van. Such an extension would fall into the "minor alteration" category and can be removed when van is transferred.

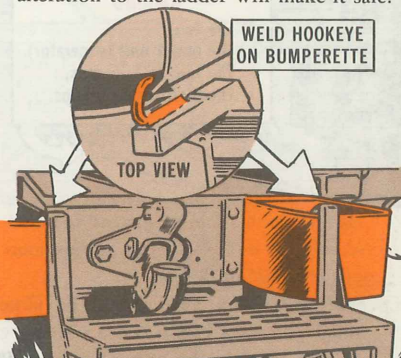


RIGHT SIDE DOOR—Keep a padlock or catch-pin on the latch when on the



move. Otherwise the latch can work loose, let the door slam open and tear it off its hinges. Letting the door slam open at any time will bend and damage the door-check. If yours is already broken it may be worth installing a check chain until the broken door-check is replaced.

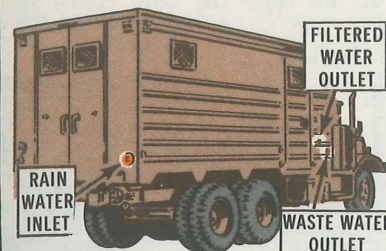
REAR LADDER—On some units the truck bumperettes prevent the ladder from hooking onto the van. A minor alteration to the ladder will make it safe.



A hook-eye welded on the inside of each bumperette in line with the ladder hooks will prevent the ladder from slipping sideways. And another step welded at the top will complete the job.

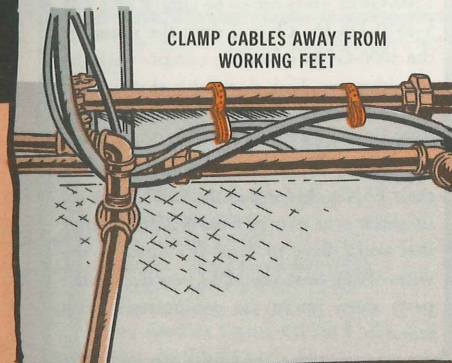
70

DRAINAGE—Water left in any part of the equipment during freezing weather will ice up and bust pipes, gages, pumps, etc. Complete drainage after shutdown is a must. Especially when a van's going



into administrative storage that may extend into the winter months. And keep the exterior dust cap off the water inlet and outlet until the system's completely drained and dried out.

POWER CABLES—Cables running onto the control cabinet must be tight. Anybody, stepping or stumbling on a loose cable can yank and tear it from the terminal board, especially the main power cable. Clamp it off the deck away from working feet and secure it inside the cabinet.



CONTROL PANEL DOOR—Never leave it open when the unit's operating. All sets have overload relays that have adjustment dials for plus or minus 15 percent adjustment of tripping current. That's to do away with the nuisance tripping in hot weather. If your relays trip too often, turn the adjustment dial clockwise just a hair past the tripping point.

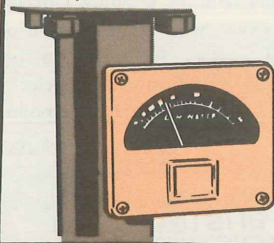
KEEPING THE DOOR OPEN IS LIKE PUTTING A PENNY BEHIND A FUSE... 'NUFF SAID?



71

RAW WATER FLOW INDICATOR—

If it starts to stick or fails to register the GPM, it needs a cleaning. Support will disassemble and clean it with cleaning solvent.



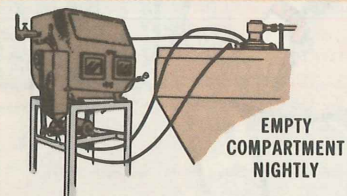
FLOW CONTROL VALVE—30 GPM

is the limit on this valve control. There's no such thing as overriding it to get more GPM. Turn the knob to 30 and stop. Turning it more will close it.



SLURRY FEEDER—

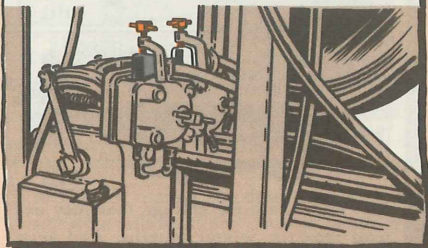
Never leave limestone and diatomite in the compartment for any length of time when you stop operating. Or overnight. It'll cake up in the solution and get hard as concrete.



EMPTY
COMPARTMENT
NIGHTLY

SOLUTION FEEDER DIAPHRAGM PUMPS—

After cleaning, tighten the poppet valve caps with care—only light pressure. They're plastic and overtightening will crack 'em. Before tightening, be certain the upper and lower gaskets are clean and seated right with the cap seated flat.



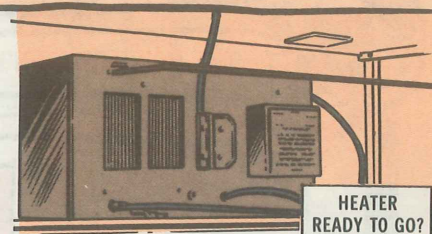
LIFTING KIT—

Slinging the truck 'n' van without special lifting equipment can break the unit's back. And the only way you can be ready for a lift is to have the truck chassis rigged for it.

TM 5-4610-204-12 Ch 7 shows how the 1500-GPM units are to be rigged and TM 5-4610-223-15, Chap 2 does the same for the 3000-GPM units. To comply with the requirements laid down by these TM's you'll have to get Kit, vehicle lifting, FSN 4910-168-2600. And MWO 5-4600-218-20/1 (Jun 70) lists the kits parts with their FSN's. As long as the MWO kits are in stock you can get the kit free. After that you'll have to fund it. Word to the wise—hang onto the MWO until all of the parts show up in the equipment's parts manuals.

SPACE HEATER—Your van heater can be a sleeper. It's an item that's seldom used—and often overlooked. In freezing weather you can't make water without a heated van. Waiting until the cold hits before you're certain it's ready, willing and able to put out can catch you with ice in your pipes.

Although the operator's TM on the purification unit contains poop on the heater, it's smart to have the heater TM's



handy also. They cover a lot more ground.

The most likely trouble spots on the hot-box are . . .

1. Fuel filter . . . dirty element. Remove bowl and clean. Replace gasket FSN 2910-496-0066.

2. Fuel pump . . . clogged filter element. Remove, clean and blow out with air. Water trapped here will ice up tight. Replace gasket FSN 5330-406-5239 Part No. 106057 (31771).

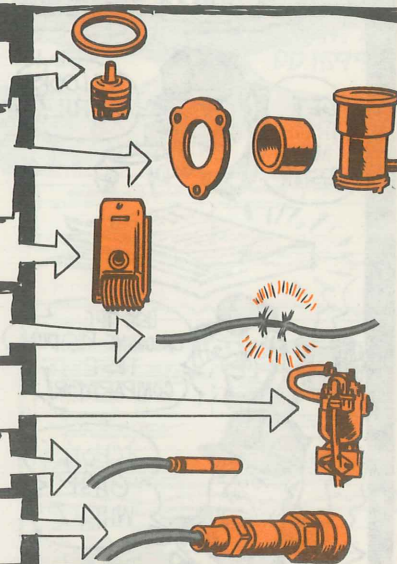
3. Thermostat . . . not set to required temperature; heavily corroded.

4. Wiring . . . loose or broken connections.

5. Carburetor . . . not adjusted for fuel you're using.

6. Thermocouple . . . loose, dirty or cracked.

7. Ignitor plug . . . burned out, weak spark, bad resistor.



TM's, LO's AND ESC's.

1500 GPM Truck-Mounted Unit	TM 5-4610-204-series.
	TM 5-4610-221-series.
3000 GPM Truck-Mounted Unit	TM 5-4610-223-series.
Truck Chassis, 2½-ton	TM 9-2320-209-series.
Trailer, Cargo, 2½-ton	TM 9-2330-213-14 (Jan 64) w/Ch 2 & 3.
Generator, 10-KW Model MEP-018A	TM 5-6115-275-series.
Generator Engine, Mil Std, 20 HP	TM 5-2805-259-series.
Pumps - Electric and GED	TM 5-4320-200-15 (Nov 68) w/Ch 1.
Pump Gasoline Engine, Mil Std 3 HP	TM 5-2805-256-series.
Heater: Hunter Model UH-68-4	TM 5-4520-227-14 (Feb 68 w/Ch 1, 2 & 3).
Hunter Model UH-68D	TM 5-4520-233-series.
Water Purification In The Field	TM 5-700 (Jul 67).

THE DO'S AND DON'TS TO GET GOOD H₂O

TM 5-700 is THE bible for water processors. Follow it to a tee. But be extra watchful on these points . . .

-
- A simple line drawing of a beach. In the foreground, there is a bottle and a can lying on the sand. The background shows a wavy line representing the ocean and a distant shoreline.

IT LOOKS
AWFUL!

BLAH!
IT
TASTES
FROM
OIL.

REPORT OF ITEM DISCREPANCY...

THE SUPPLY FIXER-UPPER

SO? TELL
SUPPORT
THEY'LL STRAIGHTEN
THINGS OUT
WITH A
DD 1599.

Why make-do when you receive the wrong supplies—or when your supply request is otherwise goofed-up?

You can get such supply problems fixed up quick-like by helping your support with SF 364 (or DD Form 1599), Report of Item Discrepancy. DD Form 1599 is the older form, but it's still authorized.

The report's used when the supplies
you request are:

- Over or short.
- Busted or defective.
- Unacceptable substitutes—or the wrong items.
- Received after you've canceled your request—and the cancellation has been acknowledged.
- A duplicate shipment—or some other repeated goof.

The report's also used when you receive items you didn't order, and to settle similar supply source slip-ups.

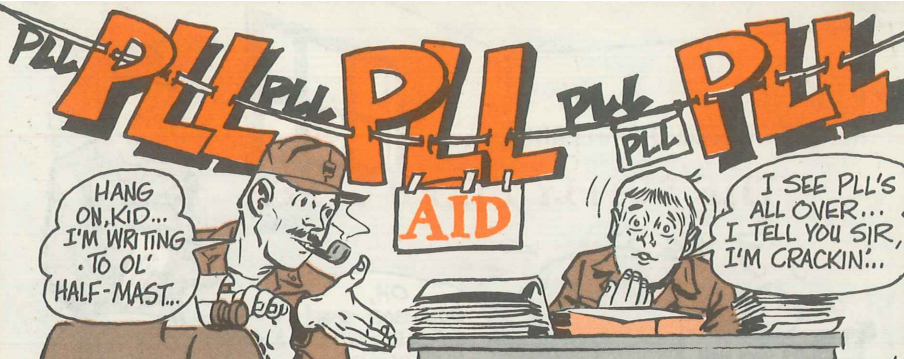
See AR 735-11-2 (Nov 72), Reporting Item Discrepancies, and AR 735-11, (May 71), Chap 8.

REPORT OF ITEM DISCREPANCY		DATE OF PREPARATION	REPORT NUMBER
1. TO: (Include ZIP Code)		6. FROM: (Include ZIP Code)	
5. CONTRACT/DOCUMENT NUMBER		8. SHIPMENT NUMBER	
9. ORIGINATOR, REVISION, TEC, ETC.			

[illegible]

17. FUNDING AND ACCOUNT		
18. VOUCHER NUMBER	19. SIGNATURE OF APPROVING OFFICIAL	20. DATE

DD FORM 1599
FEB 67



HANG ON, KID... I'M WRITING 'TO OL' HALF-MAST...

AID

I SEE PLL'S ALL OVER... I TELL YOU SIR, I'M CRACKIN'...

Dear Half-Mast,

Can you help with this PLL problem?

Our unit pulls organizational maintenance for all the companies and for the headquarters detachment in our brigade. And, outside of the detachment, we're the only outfit that's authorized maintenance personnel and tools.

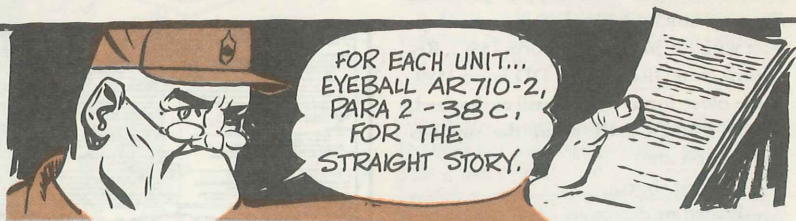
Now:

1. Do we total up all the supported equipment and make up only one PLL?
2. Or, do we make up separate PLL's and keep separate records and stocks for each separate unit we support?

Our PLL man's over-worked now. If we have to do No. 2, he'll be tending the PLL operation around the clock.

What's the score?

CW3 W.W.



Dear Mr. W.W.,

You base your PLL allowances on your own unit's equipment and the equipment of the units that don't have a maintenance capability.

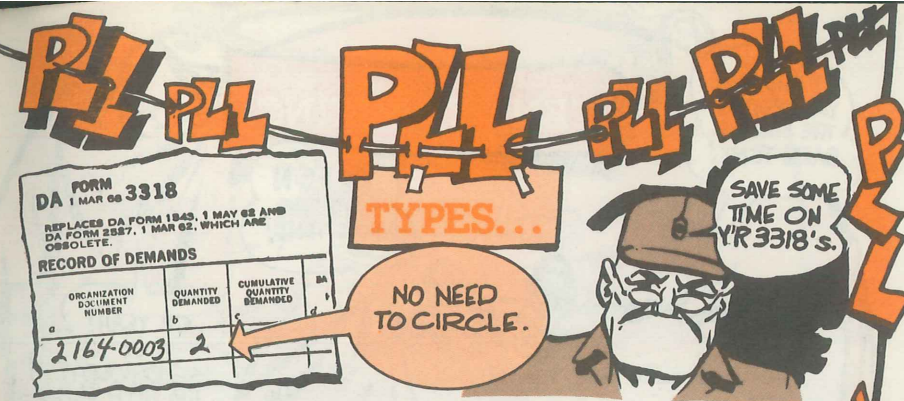
You need a separate PLL, and separate records and parts, only if your outfit has the authorized men, tools and equipment to do maintenance. In this case, it's you.

The idea behind separate PLL's for supported units (that have their own maintenance capability) is so the outfits concerned can pick up their loads and records any time they need to do so, without any big sweaty shuffling of parts and paperwork.

But it's only 1 PLL, 1 set of records and 1 load of repair parts for units that'll normally move out together.

Para 2-38c, AR 710-2, calls for separate PLL's, etc., for outfits that do (or can do) their own organizational maintenance.

Half-Mast



DA FORM 1 MAR 66 3318

REPLACES DA FORM 1543, 1 MAY 62 AND DA FORM 2527, 1 MAR 62, WHICH ARE OBSOLETE.

RECORD OF DEMANDS

ORGANIZATION DOCUMENT NUMBER	QUANTITY DEMANDED	CUMULATIVE QUANTITY DEMANDED	BA
2164-0003	2		

TYPES...

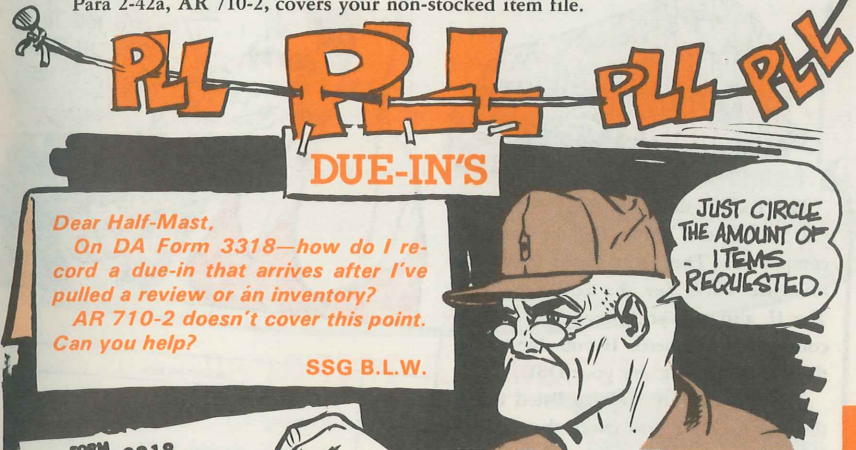
NO NEED TO CIRCLE.

SAVE SOME TIME ON Y'R 3318'S.

You're wasting beaucoup time and work—

1. IF you record title-insert info on the 3318's in your non-stocked (fringe) item file. That info's needed only if the item makes it to your PLL file (3 separate demands in 180 days);
2. IF you're circling quantities received on those cards.

Para 2-42a, AR 710-2, covers your non-stocked item file.

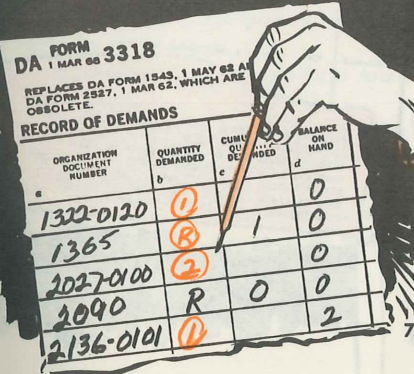


Dear Half-Mast,

On DA Form 3318—how do I record a due-in that arrives after I've pulled a review or an inventory?

AR 710-2 doesn't cover this point. Can you help?

SSG B.L.W.



DA FORM 1 MAR 66 3318

REPLACES DA FORM 1543, 1 MAY 62 AND DA FORM 2527, 1 MAR 62, WHICH ARE OBSOLETE.

RECORD OF DEMANDS

ORGANIZATION DOCUMENT NUMBER	QUANTITY DEMANDED	CUMULATIVE QUANTITY DEMANDED	BALANCE ON HAND
1322-0120	1	0	0
1365	1	0	0
2027-0100	2	0	0
2090	R	0	0
2136-0101	1	2	2

JUST CIRCLE THE AMOUNT OF ITEMS REQUESTED.

Dear Sergeant B.L.W.,

Yep. Just go back and circle the quantity you requested. If the item goes in your stock, update your current on-hand balance on the card, and that's it.

You simply record the receipt of the item, and correct your on hand balance—if needed.

Half-Mast

I THOUGHT YOU ORDERED THE WHOLE DARN TENT!

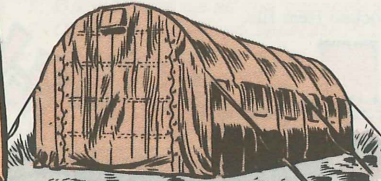
TENT TRACKING

THE FSN SAYS THE WHOLE TENT!

OH YEAH? WHAT DO WE USE TO HOLD IT UP WITH?

YOUR FED CAT C8300-IL-A (MAY 71) GIVES YOU THE SCOOP ON PAGE 144. THIS IS IT...

Your maintenance tent, FSN 8340-951-6419, doesn't come as a complete package. You order it by components. FSN 8340-951-6419 covers the complete tent, all right—but that FSN's for reference only.



Fed Cat C8300-IL-A (May 71), with Ch 5, lists the FSN's for the separate components. They're all listed under the reference FSN. See the IL's page 144. The IL also tells you how many of each component you need. If you don't have that federal catalog, try your DSU.

The components are also listed under their own FSN's. Just check their FSN's in the IL's index. The index numbers will lead you to each separate component.

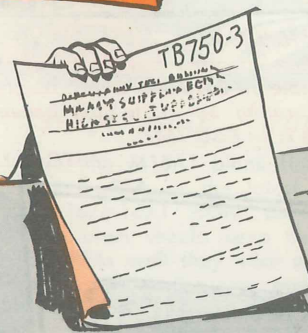
The tent liner, FSN 8340-082-5802, along with its components, is listed on page 156 of the IL.

TM 10-8340-207-14 (Dec 68), with Ch 1, calls out the tent's major components, illustrates 'em, and tells how to put your tent together. It also covers the tent's repair parts list, and maintenance info.

FSN	DESCRIPTIVE DATA	
8340		
951-6419	TENT: frame type, maintenance, medium	
ISSUED BY COMPONENTS		
8340-951-6420	FRAME SECTION (pack no. 1)	1 ea
8340-951-6421	FRAME SECTION (pack no. 2)	1 ea
8340-951-6422	FRAME SECTION (pack no. 3)	3 ea
8340-951-6423	KIT, GROUND ANCHOR	1 ea
8340-823-7451	PIN, TENT, steel, 12 in lg	24 ea
8340-951-6424	TENT SECTION, end	2 ea
8340-951-6425	TENT SECTION, intermediate	3 ea

KEY KEEPERS

I'M THE LI'L OL' KEY KEEPER... 'N' TB 750-3 TELLS ME TO CHECK YOU OUT.



Quick-like:

Look up TB 750-3 (Feb 72). It sets up a special periodic PM check-up for your arms-room high-security lock—which is authorized by AR 190-11 (Aug 71).

The TB also tells how to report defective locks to the Defense Industrial Supply Center (DISC), ATTN: SFA, 700 Robbins Avenue, Philadelphia, PA 19111.

The reporting SOP, in fact, applies to all unserviceable high-security locks (damaged locks, locks with broken, jammed or lost keys, etc.).

Since the high-security lock is a controlled security item, you turn in all unserviceable locks to your unit's security officer. He'll notify DISC on DD Form 1686 that he has unserviceable locks on hand, and they'll tell him what to do with 'em.

Also the lock is covered by warranty. The sooner the defective locks are reported the better it'll be, money and replacement wise.

PS IS NOT A DIRECTIVE

Half-Mast gets this question day after day: "Is PS official?"

The answer is yes; it's an official Army publication.

But what the guys really want to know is this: "Is PS Magazine a directive?"

The answer is no.

But—any major commander can make it directive in his command by putting out the word that it is.

Any more questions?

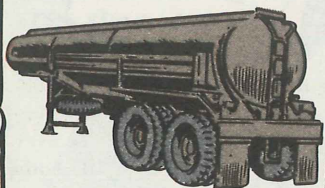


RATE REPORTABLES ONLY

Dear Half-Mast,
When equipment is no longer reportable on DA Form 2406, must an ESC rating be made just because there is an ESC TM?

SFC E.J.S.

REMEMBER! AN
ESC PUB WITH YOUR
GEAR DOESN'T ALWAYS
MEAN YOU REPORT IT
ON A DA 2406.



Dear Sergeant E.J.S.,

Only if it's required by your command for its own use.

Para D-2b(1) of AR 220-1 (Sep 71) limits required ESC status ratings to equipment that's reportable on DA Form 2406.

That limit, o'course, applies only to reports to DA. Reports within a command may include other items. So check it with your command before dropping an item from your ESC rating list.

For an item that requires an ESC rating, you can save time by doing the ESC rating at the same time you make the before (or after) operation check on the ESC due date. Use a separate DA 2404, natch.

Half-Mast

80

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET			
EQUIPMENT		EQUIPMENT	
1. EQUIPMENT	Co B, 1st BATTAL BN	2. EQUIPMENT	SEMI-TRAILER M131A5
3. EQUIPMENT	DAIRIES	4. EQUIPMENT	ESC
5. EQUIPMENT	9-2370-272-ESC	6. EQUIPMENT	10 AUG 65
7. EQUIPMENT 8. EQUIPMENT 9. EQUIPMENT 10. EQUIPMENT 11. EQUIPMENT 12. EQUIPMENT 13. EQUIPMENT 14. EQUIPMENT 15. EQUIPMENT 16. EQUIPMENT 17. EQUIPMENT 18. EQUIPMENT 19. EQUIPMENT 20. EQUIPMENT 21. EQUIPMENT 22. EQUIPMENT 23. EQUIPMENT 24. EQUIPMENT 25. EQUIPMENT 26. EQUIPMENT 27. EQUIPMENT 28. EQUIPMENT 29. EQUIPMENT 30. EQUIPMENT			

NO ESC RATING
REQUIRED BY DA

DA FORM 2404

Connie's
Mini Mini's



Stick 'Em

BFA Fade Away

If you're having trouble making DA Label 76, "A Good Driver," stick on the soft but rough-surfaced vinyl dashboard in some new vehicles, try this: Leave the label's backing on. Use double-sided pressure-sensitive tape, FSN 7510-904-2663 (36 yards) on the back. It'll hold the label to the vinyl.

Defroster Fix

Does your Gama Goat have the personnel heater (-25°F)? To keep the defroster from cracking the windshield, see the fix in TB 750-981-1 (dated Jan 73). It's good for either the M561 1¼-ton truck or M792 ambulance.

For Maintenance
Soldiers

Every soldier who is involved with maintenance ought to take a strong look at DA Circular 700-18 (Nov 72) "Logistics Improvement—Preventive Logistics." It gives some real good thoughts in its 18 pages on how your maintenance can be improved. Take a good look at the parts of this circular on PM and things you can do to keep your gear from falling apart. If your unit didn't get a copy via pin-point, order it from the Baltimore Publications Center.

True, the M15A1 blank firing attachment—BFA—is the latest model for M16/M16A1 rifles. But Sweet Sixteen users should keep their old model BFAs until they wear out. Replace 'em with the new one—FSN 1005-078-1792.

Rough and Ready

You sure can get rough service bulbs for the extension lights. The 100W, 115V frosted lamp comes with FSN 6240-824-4676. It's listed in Fed Cat C6200-IL-A (JUL 72). Others are there, too.

Starter Switch

Engine inertia starters for the Beaver (U-6A) are becoming as scarce as hen's teeth. When the supply is gone ask for the direct cranking type starter used on the Otter (U-1A) Para 5-285 of TM 55-1510-203-20 (Aug 70) clues you on how to install it.

Yellow Fill-Line

For brightening up the fill-line on your M11 portable decon you need yellow marking ink, FSN 7510-224-6733 (1 pint). Forget FSN 7510-179-0451, listed under painting instructions, page 15, TM 3-4230-204-13 (Oct 69). It covered a 1-gal can; it's no longer stocked.

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

☆U.S. GOVERNMENT PRINTING OFFICE: 1973 - 759-503/8



TO
CHECK
TORQUE...
THE FASTENER
MUST
BE
TURNING

BACK OFF $\frac{1}{2}$ TO
A FULL TURN
WITH BOX OR
OPEN END WRENCH

THEN
RE-TIGHTEN
WITH
TORQUE WRENCH