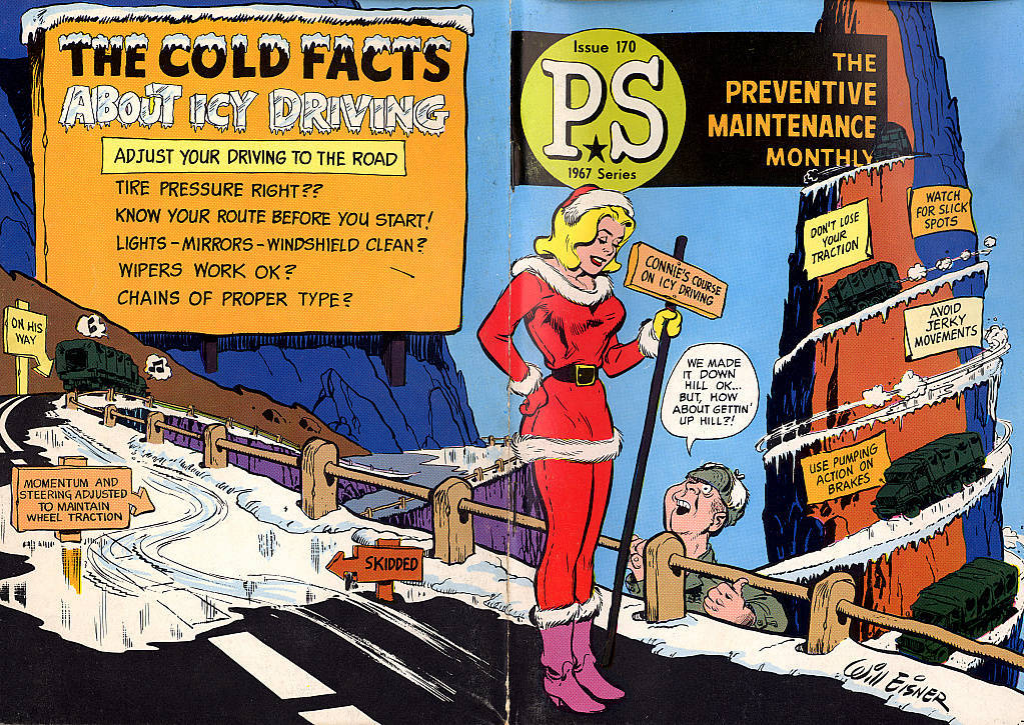

Issue 170
PS
1967 Series
THE PREVENTIVE MAINTENANCE MONTHLY
CONNIE'S COURSE ON ICY DRIVING
WE MADE IT DOWN HILL OK... BUT, HOW ABOUT GETTIN' UP HILL?!
DON'T LOSE YOUR TRACTION
WATCH FOR SLICK SPOTS
AVOID JERKY MOVEMENTS
USE PUMPING ACTION ON BRAKES
WILL EISNER


THE COLD FACTS ABOUT ICY DRIVING
ADJUST YOUR DRIVING TO THE ROAD
TIRE PRESSURE RIGHT??
KNOW YOUR ROUTE BEFORE YOU START!
LIGHTS - MIRRORS - WINDSHIELD CLEAN?
WIPERS WORK OK?
CHAINS OF PROPER TYPE?
ON HIS WAY
MOMENTUM AND STEERING ADJUSTED TO MAINTAIN WHEEL TRACTION
SKIDDED
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It happens . . . 9 times out of 10:

*The man who tries to do a job before he knows how will botch it up.*

So, to stop that, try this: As you use and operate your Army equipment and do your maintenance, get that know-how.

One sure way of getting know-how is to pick up and read (real carefully) the -10 Operator's Technical Manual if you use or operate the equipment or the -20 Maintenance Manual if you are a maintenance man.

Don't have one?

Speak to your sergeant. He, in turn, will get the company clerk (who usually handles the paperwork on ordering pubs) shook up to the point that he will order enough tech manuals for you and others in your unit who need them. Not only that, but your CO will see to it that the Pin-Point order forms (DA 12-series) get filled out right so you'll get enough of all new manuals as they come off the press. If you need one that's already out, he'll order it on DA Form 17.

So, to get that know-how, get that TM.

Know-how can be a lifesaver.

PS

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THE PREVENTIVE MAINTENANCE MONTHLY
Issue No. 170 1967 Series

## IN THIS ISSUE



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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:

Sgt. Holt-Mail
PS Magazine,
Fort Knox, Ky.
40121


Here's a check-map for pulling Continuous PM on your 2½-ton truck. Continuous PM is done over and above your daily PM and is usually performed over a long period of time—say 3 or 4 weeks. This is a good way to catch little faults and would-be deficiencies that develop between your semi-annual "S" services.

Continuous PM means you do a little each day. Where you start is up to you—just as long as you pick up where you left off and continue until you've covered the whole deuce-and-a-half.



This check-map is for the G742 and G749-series 2½-ton trucks. Although only a typical G742 truck with multi-fuel engine is shown, most items apply to both series. And the differences between gasoline and multifuel engines are called out.

Besides finding faults on your vehicle, you want to know the difference between **deficiencies** (should be corrected before operating the vehicle) and **shortcomings** (should be corrected not later than next scheduled maintenance servicing). Suggested improvements are nice-to-have corrections which can be delayed until convenient for your unit mechanics to handle. For the exact definitions of each type fault, see AR 750-8 (Jul 65).

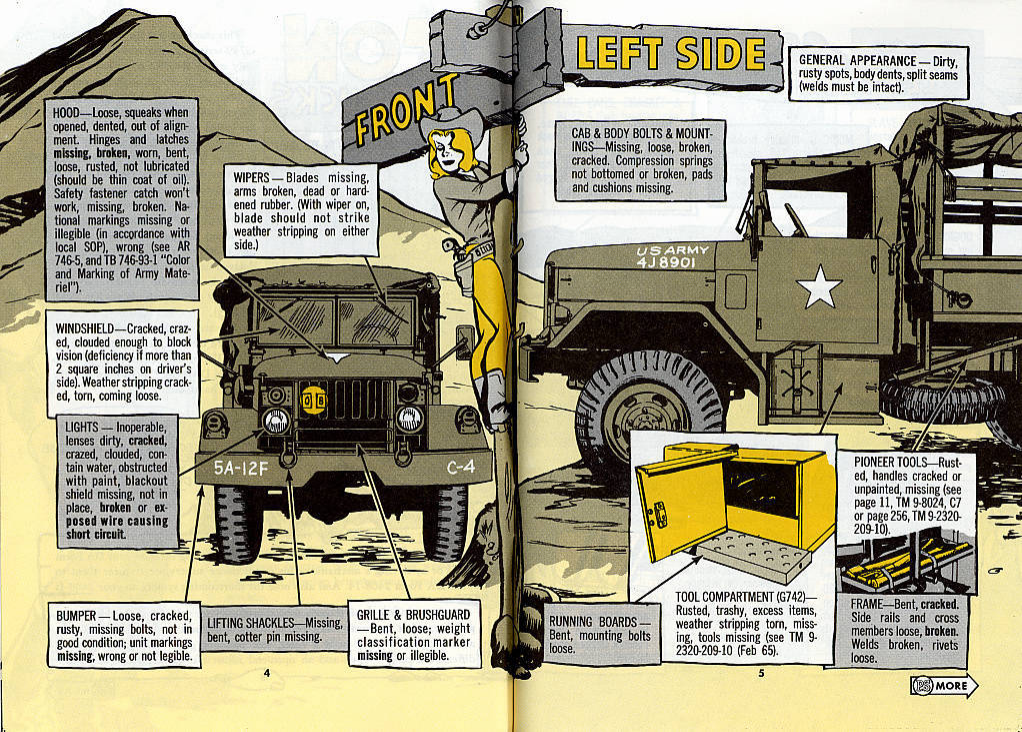
Only the deficiencies will be singled out here by indicating them in **heavy type**. These deficiencies correspond to those in DA Pam 750-10 (Jun 66), the CMMI handbook.

Shortcomings can be covered temporarily by recording them on your DA Form 2404 or by having a mechanic or his maintenance supervisor transfer them to your DA Form 2408-14. And also note the shortcoming symbol on your 2408-1.

Use a wash rack or pit if one's around to check your vehicle's underside. When possible, ask a mechanic when you're in doubt about a suspected fault. To do a thorough job you'll need a ruler, tire pressure gage, pliers, screwdriver, differential plug wrench and an open-end adjustable wrench. Here we go . . .



128 MORE


FRONT
LEFT SIDE
HOOD—Loose, squeaks when opened, dented, out of alignment. Hinges and latches **missing, broken,** worn, bent, loose, rusted, not lubricated (should be thin coat of oil). Safety fastener catch won't work, missing, broken. National markings missing or illegible (in accordance with local SOP), wrong (see AR 746-5, and TB 746-93-1 "Color and Marking of Army Materiel").
WIPERS—Blades missing, arms broken, dead or hardened rubber. (With wiper on, blade should not strike weather stripping on either side.)
WINDSHIELD—Cracked, crazed, clouded enough to block vision (deficiency if more than 2 square inches on driver's side). Weather stripping cracked, torn, coming loose.
LIGHTS—Inoperable, lenses dirty, **cracked,** crazed, clouded, contain water, obstructed with paint, blackout shield missing, not in place, **broken** or **exposed wire causing short circuit.**
5A-12F
C-4
BUMPER—Loose, cracked, rusty, missing bolts, not in good condition; unit markings **missing,** wrong or not legible.
LIFTING SHACKLES—Missing, bent, cotter pin missing.
GRILLE & BRUSHGUARD—Bent, loose; weight classification marker **missing** or illegible.
GENERAL APPEARANCE—Dirty, rusty spots, body dents, split seams (welds must be intact).
CAB & BODY BOLTS & MOUNTINGS—Missing, loose, broken, cracked. Compression springs not bottomed or broken, pads and cushions missing.
US ARMY
4J8901
PIONEER TOOLS—Rusted, handles cracked or unpainted, missing (see page 11, TM 9-8024, C7 or page 256, TM 9-2320-209-10).
TOOL COMPARTMENT (G742)—Rusted, trashy, excess items, weather stripping torn, missing, tools missing (see TM 9-2320-209-10 (Feb 65).
RUNNING BOARDS—Bent, mounting bolts loose.
FRAME—Bent, **cracked.** Side rails and cross members loose, **broken.** Welds broken, rivets loose.





MORE

# LEFT SIDE

MIRRORS—**Missing, broken,** dirty, **obstructed,** clouded enough to block vision, can't be adjusted for movement in every direction.

WINDOWS—Broken, loose, dirty, **clouded enough to block vision,** (driver), cracks, stuck (won't move up or down). Rear window ripped, torn, **fogged enough to hamper vision.**

FUEL CANS, BRACKET & NOZZLE (Only bracket present normally)—Mounting bolts loose, missing. Strap worn, frayed, mildewed, missing, torn. Bracket bent, dirty. Fuel can (if present) rusty inside.

SPRING SEATS—Cap screws loose, missing, leaking.

SLAVE RECEPTACLE (installed for cold climates)—Contacts burned beyond use, dirty. Cap sprung or missing, cracked, broken, cross threaded.

DOORS—Hinges loose, broken, missing, squeak when opened, latch won't open and close properly. Door stops missing, broken, won't stop door in 2 positions. Weather stripping loose, worn, cracked, missing, shredded.

TIE DOWN (TARP) HOOKS—Bent or broken, missing, rusty.




VALVES—Caps missing, valves bent, cores leak (remove cap and wet core-bubbles indicate leak). Wrong tire pressure (see table 9, page 37, TM 9-2320-209-10). Not properly positioned (should point away from vehicle; on duals: outside points in, inside points away . . . 180° opposite).

TIRES—Tread **smooth, and worn, cut to fabric,** uneven wear (front), blistered; unmatched in size, tread design or wear (see TM 9-1870-1); need rotation.

AIR RESERVOIR—Water in tanks (drain daily). Petcock clogged, stuck, broken.

WHEELS—Lube or brake fluid **leaking.** Lug nuts **missing, loose.** Rim and axle flange nuts **missing, loose.** Rims bent. Two axle puller screws missing, broken, bent. Dowels rusted. Studs bent or broken.

SPARE TIRE CARRIER—Loose, bent, rusted, dented, broken spot welds, tire valve blocked, spare missing, wrong tire pressure, tread worn, brackets missing, not secured.





MORE

# REAR

AIR COUPLINGS—Cap or chain missing, broken, leaking, bent.

REFLECTORS—Missing, cracked, broken, dirty, discolored. Red backing peeled beyond ½ inch.

BUMPERETTES—Bent, loose, broken, unit markings missing or not legible.

PINTLE—**Missing,** loose, not lubed, **can't be opened,** lock pin (cotter pin) not attached with chain, spring broken.

SPLASH (MUD) GUARDS—Missing, loose, torn. Fasteners missing.

WIPE OFF TAIL LIGHTS!

TAIL GATE—Bent, broken, loose; fasteners and chains missing or rusted, broken. Chain guard missing, retaining hook bent so won't open, either step unusable.

TRAILER COUPLING RECEPTACLE—Dirty, lugs broken, cap missing or sprung, bent, corroded, outer ring damaged.

REAR LIGHTS—**Not working.** Lenses dirty, cracked, broken, clouded, discolored, covered with paint, **wire short circuited.**



# RIGHT SIDE

TAIL PIPE (G742)—Loose, worn, cracked, dented, **clogged** with mud, busted, **collapsed. Clamps missing,** loose, worn.

LOOK SAME AS LEFT SIDE?

TAIL PIPE (G749)—Loose, **broken,** clogged, **leaking.** Screen loose or missing. Bellows cracked, broken.

BATTERIES (G742)—**Cracked, leaking, caps missing,** vent clogged, tight. Electrolyte not at required level (full mark). Terminals loose (use three fingers for pull test—no more), no grease. Cables pinched, corrosion, clamp or wing nuts missing. No diluted electrolyte marking if in tropical (Viet Nam) area.

FUEL TANK—**Leaking,** loose, bent. Shut-off valve bent or broken. Gas level too high (must be at least 2 inches below tank top). Tank top dirty, rusted, needs paint. Support straps rusted thru, loose. Fuel strainer missing, rusted, holey; chain missing, loose, broken. Fuel filter gasket missing, damaged. Cap not seated properly. Stencil missing (20-gal per minute). Decal missing (pressurized, open slowly).

FUEL LEVEL SENDING UNIT—Gas line crushed, unit connector crushed, wire broken, screws holding unit and filter assembly missing or rusted.



MORE

# UNDERNEATH

TRANSMISSION—**Oil leak** (5 or more drops per minute). Linkage bent or broken. **Wrong lube level** (stick clean finger in up to first joint: fingertip should just touch when cold; lube at plug level when hot). Mounting bolts missing, loose. Flywheel housing drain plug missing from stowage boss or not in glove compartment. Vent not clean and open.

DRIVE SHAFTS & U-JOINTS—Bolts or shaft loose. Spline shaft looseness or excessive play, grease fittings facing same direction, leaking seal, companion flange loose, yokes misalined (vibrate during operation).

DIFFERENTIAL—**Wrong lube level** (should be ½ inch below plug level when cold, finger check), bolts loose, breather vent clogged, plug loose **(leaks)**, gasket **leaks.**

MASTER BRAKE CYLINDER—Leaking, boot missing, torn, not tight at both ends, leaks into boot.

EMERGENCY BRAKE—Loose, worn, linkage loose.

BRAKE LINES & HOSE CONNECTIONS—Loose, kinked, frayed, **leaking,** twisted.

FRONT AXLE HOUSING (CV JOINTS—G749: rusty, scratched, badly scored; G742; **boots missing or torn.** Not lubed, leaks, dirty breather vents, **flange bolts loose,** turning stop bolt weld broken; seal missing, cracked, loose.

GEAR CASE AIR VENTS—Stuck, clogged, loose.

SPRINGS, U-BOLTS, CLIPS—Should not be lubed. Bolts loose or missing. Rubber bump plates missing. Shackle mounting bracket rivets broken (telltale cracked paint). U-bolts **missing** or **broken.** Rebound clips, leaves loose, missing or **broken.**

STEERING GEAR FILL & LEVEL—Leaks, improper level (should be 1 inch below filler plug).

STEERING GEAR ARMS & LINKAGE—Not lubed, **loose,** bent.

SHOCK ABSORBERS—Linkage broken. Loose. Bushings worn, cut, damaged. Housing bent. Bracket loose.

ENGINE OIL PAN—Loose plug or bolts, **leaking gasket** (5 or more drops per minute), pan dented.

TIE ROD ENDS—**Loose,** bent, worn.

TORQUE RODS—Loose, bent.

CROSS BRACES—Bent, loose.

MUFFLER—Loose, worn, **cracked, holes, burned out.** Clamps missing, loose, worn.

TRANSFER CASE—Linkage or mounting brackets loose, **leaks** (5 or more drops per minute), **wrong oil level** (plug level at operating temperature).

DRAIN PLUGS—Loose, leaking.





MORE

# ENGINE
## UNDER THE HOOD

RADIATOR COOLANT—Dirty, rusty, not up to level cock, **below core, cap gasket missing. Anti-freeze protection not adequate** (in season).

RADIATOR FILLER NECK ADAPTER—Use coolant level cock. *(Gas engine only)*

WATER TEMP SENDING UNIT—Loose, rusty, mounting brackets missing, cracked, loose electrical connection.

RADIATOR, HOSES & CLAMPS—Clogged, collapsed, worn, torn, leaking, missing, broken, bent, loose. Shrouding loose, brackets loose, fins badly bent; core clogged by bugs, leaves, etc.

RADIATOR (SUPPORT) RODS—Missing, loose.

RADIATOR MOUNTING BOLTS (STUDS) —Loose, missing.

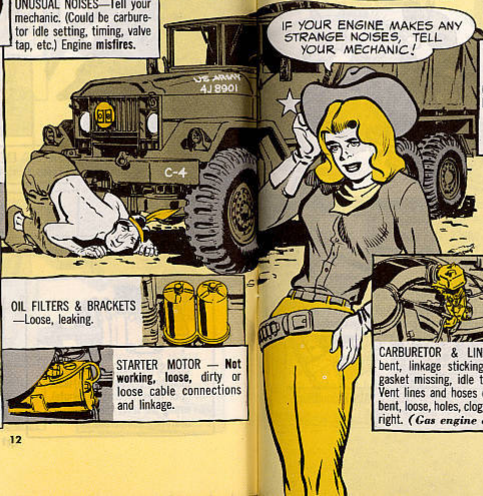
FAN BELT—Cracked, worn, frayed, shredded, oily, greasy, wrong adjustment (G742) — ½-in deflection; (G749) — ½ to ¾-in deflection.

UNUSUAL NOISES—Tell your mechanic. (Could be carburetor idle setting, timing, valve tap, etc.) Engine **misfires.**

OIL FILTERS & BRACKETS —Loose, leaking.

STARTER MOTOR — **Not working, loose,** dirty or loose cable connections and linkage.

WATER PUMP— Leaks, loose on engine block, pulley bent, loose on pump, **not working.**




CRANKCASE OIL—Level too **low** or **high** (should be between "L" & "F" on gas engine, and between "ADD" and "F" on multifuel—wait at least one minute after stopping before check. It's a deficiency when oil is below "ADD" or "L" (or above "F"). Cap **missing,** cap gasket damaged or missing. Check with gage unscrewed.

OIL PRESSURE SENDING UNIT—Loose, rusted, mounting cracked, loose electrical connection.

CRANKCASE VENT LINE— Loose, broken, pinched.

AIR CLEANER & BREATHER—Loose, clogged, leaking, oil not at level mark, dirt more than ⅜-in deep. Breather loose, bent. Bonnet or clamp broken, dirty element.

CRANKCASE BREATHER —Dirty, clogged, cap missing, oil not at level mark, shutoff valve not operating.

CARBURETOR & LINKAGE — Loose, bent, linkage sticking, parts missing, gasket missing, idle too fast or slow. Vent lines and hoses cracked, leaking, bent, loose, holes, clogged, not clamped right. *(Gas engine only)*





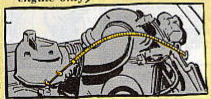
MORE

# ENGINE

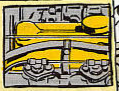
FUEL INJECTOR PUMP (multifuel only) — Mounting loose, lines **leaking** or loose.

FUEL FILTERS (multifuel only) — Missing, drain valves (petcocks) don't work. Primary not drained daily.

CHOKE — Won't work, wire broken, bracket broken, screw missing. ***(Gas engine only)***



CYLINDER HEAD — **Cracked,** compression or water leaks (hissing sound).

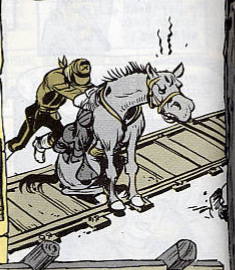


POWER TRAIN MOUNTINGS (engine, transmission, transfer) — Bolts missing, loose, bent.

FUEL PUMP PRIMING LEVER — Missing, broken, inoperative. ***(Gas engine only)***

FUEL LINE SHUTOFF VALVE — **Inoperative,** handle **broken** or **missing.** ***(Gas engine only)***

IGNITION WIRING — Cracked, worn, frayed, shield broken open. ***(Gas engine only)***



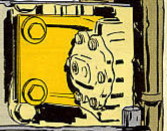
WIRES & CONNECTIONS—Loose, frayed, worn.

AIR COMPRESSOR — Belt adjustment (½ to ¾-in deflection), belt worn, cracked; air breather dirty or clogged.

AIR COMPRESSOR STRAINER (multifuel only) — Mounting loose.



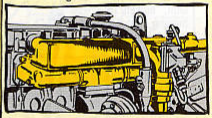
DISTRIBUTOR — Cap **cracked** or **broken,** dirty, loose mounting, loose electrical connections. ***(Gas engine only)***



OIL PUMP ASSEMBLY BRACKET— **Broken, loose.**

CONNECTIONS—Loose, corroded, insulation broken or frayed, ground cable hits battery cover.

MANIFOLDS & HEATER CONTROL — Broken, cracked, loose, frozen, incorrect control setting (G742): down or off except for extreme cold. (G749): 60° and above temp, OFF position; 30° and lower temp, ON position; between 30° and 60° temp, INTERMEDIATE position. Heater control valve stuck, leaking gaskets, studs broken or missing, nuts missing or loose.



BATTERIES (G749) — Level below vent well slots, vent caps missing or clogged, terminals and posts corroded. Case cracked, dirty, corroded, loose in carrier, acid salts. Hold down bolts and nuts **missing,** rusted, corroded. No grease or excess (more than thin coat) on posts. No marking for diluted electrolyte if in tropical (Viet Nam) area.

REGULATOR — Loose electrical connections, loose mounting, seals broken.

GENERATOR — Loose mounting, dirty or loose electrical connections, bracket broken.



MORE

# CAB

DOORS — Gaskets and seals frayed, cracked, missing. Plates missing, loose.

DOOR HANDLES — Missing, loose, inoperative, broken.

SEATS—Cushions torn, worn, frayed, missing, holes. Regulator knob bent, broken. Springs missing, channels loose, hinge plates loose.

FIRE EXTINGUISHER (as required by AR 385-55, para 19h) — **Not present,** discharged.

HEY!!

DRIVER'S SEAT ADJUSTER LEVER — Broken, stuck in one position.

STEERING WHEEL — Bent, cracked, mounting loose, excessive play.

HORN BUTTON — Inoperative, loose, broken.

HOT FULL — COLD FULL

HYDRA-MATIC FLUID LEVEL (G749 only) — Leaking, wrong level: COLD mark on gage or HOT FULL if previously operated (check w/handbrake set tight, transfer engaged, transmission gear selector in "N" range, engine running at idle 3-5 minutes).



WINDSHIELD VERTICAL POSITION LOCK — Missing, rusted, inoperative.

WINDSHIELD TILT ADJUSTER (ADJUSTING ARM) — Missing, rusted, inoperative, broken, bent.

WINDSHIELD INNER FRAME LOCK — **Missing,** rusted, **won't work.**

DIMMER SWITCH — **Broken, won't work,** loose, delay between hi and low beam.

SERVICE BRAKE PEDAL—Spongy, too hard, **grabs,** falls away under pressure, wrong adjustment (travels to point less than two inches from floor).

CLUTCH (G742) — **Grabs, chatters, slips.** Draft pad missing, loose. Wrong free travel (must be 1½-2-in).

FLOORBOARDS—Missing screws or bolts, loose, rusted, bent.

ACCELERATOR PEDAL — **Sticks,** loose, boot missing or torn.

HANDBRAKE — **Won't hold, cable busted,** loose, broken, not adjusted (over ¾ travel on full application).

PTO SHIFT LEVER — **Stuck,** loose, bent (check w/engine off).

COWL VENT CONTROL HANDLE — Broken, loose, stuck.

AIR SUPPLY VALVE — Not working, cap and chain missing.

STARTER PEDAL (BUTTON) — **Not working.**



MORE

AIR INTAKE — Caps missing or loose. (G749 only.)

TRANSMISSION GEAR-SHIFT LEVER—**Stuck,** loose, bent, knob missing, boot torn.

ENGINE STOP KNOB (multifuel only) — **Won't pull out.**

ACCESSORY SWITCH (multifuel only) — Won't work, broken, loose.

IGNITION SWITCH — Loose, **inoperative, broken.** ***(Gas engine only)***

HAND THROTTLE KNOB — Missing, loose, **inoperative.**

CHOKE CONTROL KNOB — **Inoperative,** missing, loose. ***(Gas engine only)***

MANIFOLD HEATER SWITCH (multifuel only) — Won't work.

WINDSHIELD WIPER VALVE KNOB — **Missing, inoperative,** broken.

LIGHT SWITCH—**Broken,** cracked, **inoperative.** Main switch can be moved beyond "BO" when locked.

AIR FILTER INDICATOR (multifuel only)—RED showing.

WIPER MOTOR—Lever missing, won't work. Hold-down fasteners bent, broken, bolts loose, seals cracked, hose cracked. Regulating valve **not operating,** leaks.

HOW ABOUT THOSE ROLL-DOWN WINDOWS?

PRIMER PUMP CONTROL KNOB — Binds in one position, missing, loose, inoperative. ***(Gas engine only)***

CRANKCASE VENTILATION SHUTOFF VALVE CONTROL — Inoperative, loose, missing. ***(Gas engine only)***

NAME, DATA & CAUTION INSTRUCTION PLATES — Not readable, missing, painted over.



# CAB

WINDSHIELD CHANNELS — Rusted, loose, welds cracked, broken. Retaining fasteners missing, loose, broken, bent.

HEADLIGHT HI BEAM INDICATOR LIGHT — Missing, won't work, painted over

TACHOMETER — Not working, RPM limit arrow missing, **overspeeds** red line RPM.

INSTRUMENT PANEL LIGHTS—Burned out, missing, not working.

WATER TEMP GAGE—**Not working**...should read 160°-180°, (G-742); 160°-220° (G-749) after engine's warmed up.

OIL PRESSURE GAGE — **Won't register** w/ engine running at fast idle (approx 15 PSI for G742).

AIR PRESSURE GAGE — **Not working** (won't rise after starting). Buzzer keeps sounding, should go off at 60 PSI (G749) or 65 PSI (G742), **not working.**

OTHER INSTRUMENTS —**Not working,** lenses broken, cracked, clouded, dirty.

BAT-GEN INDICATOR — Won't work right (should not go deep into yellow or red w/ engine running at operating temp). Lens cracked, dirty, clouded.

TRANSMISSION GEAR SELECTOR — Loose, not lubed, **slips out of gear.** (G749 only).

MAP COMPARTMENT — Loose, dirty, falls open, leaks water, latch broken. FORMS and PUBS (LO, TM, DD Form 518, SF 91) — Missing, unreadable, outdated, DD 518 not filled out. Flywheel housing drain plug missing (for fording).



MORE

# CARGO

SAFETY STRAP — Missing, snap hook broken, not in good condition.

AND NOT FRAYED.

SIDE RACKS—Missing, loose, broken, bent, wood rotted, unpainted, tiedown hooks and cargo bolts broken, missing, bent, loose.

SEATS—Broken, rotted, unpainted, brackets missing or bent, cotter pins missing, bracket retaining pins missing. Handhold not facing rear.

FLOOR PLATES—Bent, damaged, drain hole clogged.

CANVAS, BOWS & STRAPS — Canvas missing, torn, dirty. Top bows broken. Ropes frayed. Buckles busted, missing.

# WINCH

CABLE — Dirty, rusted, worn, shredding, not lubed, loose on drum, kinked, breaks, frayed, improperly wound, improperly installed on drum (should be layed either right or left — see fig 15, TM 5-725, "Rigging").

CLUTCH CONTROL LEVER SHIFTER—Bent, broken, rusty, won't operate freely.

CHAIN — Rusted, dirty, damaged links or hook, hook not anchored.

DATA PLATES—Dirty, unreadable, covered with paint.

DRUM LOCK POPPET KNOB—Unlocked, inoperative, not lubed, won't operate freely.

WINCH DRIVESHAFT — Not lubed, dirty, **does not have aluminum shear pin** (test with magnet.)

LEVEL WIND LOCK KNOB — Unlocked, inoperative, won't operate freely, not lubed.

WINCH PROP SHAFT SHEAR PIN — Broken, rusty, missing, not lubed.



## LOG BOOK


TM 38-750 is your guide on the forms you use and keep in your vehicle's log book binder. To make your inspection, you'll need a DA Form 2404 worksheet and the vehicle TM. (A complete log book missing is a deficiency).

Your log book binder should contain these forms:

- DA Form 2408 — Equipment Log Assembly
- DA Form 2408-1 — Equipment Daily/Monthly Log
- DA Form 2408-2 — Equipment Lubrication Record
- DA Form 2408-3 — Equipment Maintenance Record (Organizational)
- DA Form 2408-5 — Equipment Modification Record
- DA Form 2408-6 — Equipment Maintenance Record (Support Echelons)
- DA Form 2408-7 — Equipment Transfer Report
- DA Form 2408-8 — Equipment Acceptance & Registration Record
- DA Form 2408-10 — Equipment Component Register
- DA Form 2408-14 — Uncorrected Fault Record

WINCH END BEARING FRAME HOUSING — Lube level (must be 6⅞-in from top).

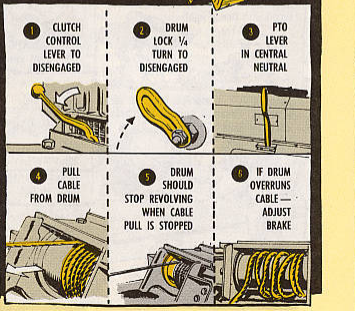
WINCH WORM CASE (HOUSING)—Lube below level plug.

WINCH FRAME BRACKET BOLTS — Loose.

WINCH BUMPER BRACKET BOLTS — Loose.

THIMBLE & CLAMPS —Worn, damaged, improperly assembled (see TM 5-725).

**DRAG BRAKE—NOT WORKING RIGHT. TEST IT LIKE THIS:**






MORE

# FOR THE MECHANIC

You'll have to call on one of your unit mechanics to help you finish this inspection. He'll know how to check out the following items for you:

WHEEL BEARINGS — Loose, defective, not lubed right.


BRAKE LININGS & SHOES — Worn, loose, not operating right.

SPARK PLUGS — Dirty, loose, **porcelain cracked**, burned, gasket crushed, electrodes burned or eroded, plug threads crossed, gapped wrong (should be 0.030 inch).

DISTRIBUTOR BREAKER POINTS — Points pitted, improper gap (should be 0.022 inch), incorrect spring tension (should be 17-21 oz).

IGNITION — Poorly timed (should be timed with timing light).

HYDRA-MATIC SHIFT LINKAGE—Loose, bent, not synchronized.

CARBURETOR — **Improper gas-idle adjustment. Governor exceeds maximum allowable RPM.**

STEERING — **Wander, shimmy, wrong adjustment** (should be 1½ - 2 lb pull).

BRAKE MASTER CYLINDER — Fluid level ¾ full.

BATTERIES — Specific gravity below 1.225 at 80° temp (check w/hydrometer). In tropics (Viet Nam) electrolyte not diluted to 1.200 - 1.225 for full charge. Specific gravity below 1.135 (hydrometer corrected for 80°F, see TM 9-6140-200-15, page 39).


The pubs you need, depending on which series vehicle you're operating, are as follows:

G-742 series include Multifuel Types
TM 9-2320-209-10 (Feb 65)
W/C1 (May 65)
LO 9-2320-209-12 (May 65)

G-749 series
TM 9-8024 (Oct 55) W/C3 (Aug 58), C6 (May 63) & C7 (Feb 65)
LO 9-2320-210-12 (Dec 62)

## ESC

Your vehicle's log book must also have the ESC manual published for it. That means one of the following:

| | |
|---|---|
| TM 9-2320-209-ESC/1 (Jun 64) | M43, M35, M36, M36C cargo truck |
| TM 9-2320-209-ESC/2 (Jun 64) | M47, M59, M342 dump truck |
| TM 9-2320-209-ESC/3 (Jun 64) | M49, M49C 1200-gal fuel servicing tank truck |
| TM 9-2320-209-ESC/4 (Jun 64) | M48, M275 tractor truck |
| TM 9-2320-209-ESC/5 (Jun 64) | M185, M185A1 truck-mounted repair shop & M109, M109A1 van truck & M292 expansible van truck |
| TM 9-2320-209-ESC/6 (Jun 64) | M108 crane wrecker truck & M60 light wrecker truck |
| TM 9-2320-209-ESC/7 (Jun 64) | M50 1000-gal water tank truck |
| TM 9-2320-209-ESC/8 (Oct 65) | M35A1, M35A2 (multifuel) cargo truck |
| TM 9-2320-209-ESC/9 (Nov 65) | M49A1C, M49A2C (mf) 1200-gal fuel servicing tank truck |
| TM 9-2320-209-ESC/10 (Nov 65) | M50A1, M50A2 (mf) 1000-gal water tank truck |
| TM 9-2320-209-ESC/11 (Nov 65) | M185A2, M185A3 (mf) truck-mounted repair shop & M109A2, M109A3 (mf) van truck & M292A1, M292A2 (mf) expansible van truck |
| TM 9-2320-209-ESC/12 (Nov 65) | M275A1, M275A2 (mf) tractor truck |
| TM 9-2320-210-ESC/1 (Jun 64) | M135, M211 cargo truck |
| TM 9-2320-210-ESC/2 (Jun 64) | M215 dump truck |
| TM 9-2320-210-ESC/3 (Jun 64) | M217, M217C 1200-gal fuel servicing tank truck |
| TM 9-2320-210-ESC/4 (Jun 64) | M221 tractor truck |
| TM 9-2320-210-ESC/5 (Jun 64) | M238 truck-mounted repair shop & M220 shop van truck |
| TM 9-2320-210-ESC/6 (Jun 64) | M222 1000-gal water tank truck |



END

# WEEP SEEP LEAK DRIP

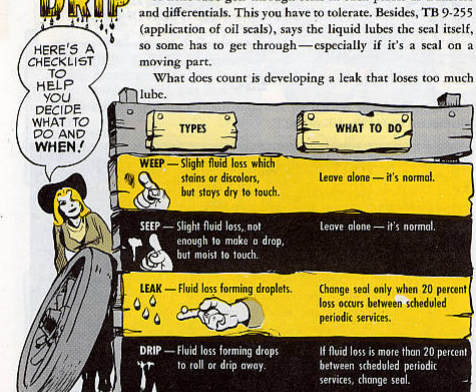
Moppin' your brow in a cold sweat because your equipment's gear case, transfer, or differential seems to be leaking . . . and inspection's coming?

And you can't decide whether to tear 'em apart and replace the seals? Before life gets to looking too grim, perk up and know this percolation around grease and oil retainers isn't so tough after all.

It's no fat secret that seals aren't solid walls against lubes—what counts is the amount of liquid loss you can allow.

A little lube gets through seals in such places as transfers and differentials. This you have to tolerate. Besides, TB 9-255 (application of oil seals), says the liquid lubes the seal itself, so some has to get through—especially if it's a seal on a moving part.

What does count is developing a leak that loses too much lube.

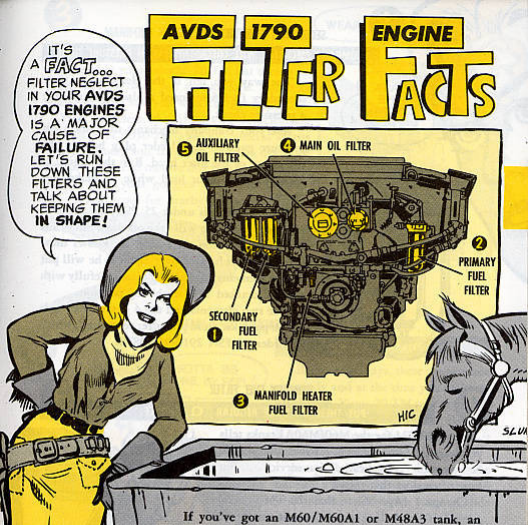



| TYPES | WHAT TO DO |
|---|---|
| **WEEP** — Slight fluid loss which stains or discolors, but stays dry to touch. | Leave alone — it's normal. |
| **SEEP** — Slight fluid loss, not enough to make a drop, but moist to touch. | Leave alone — it's normal. |
| **LEAK** — Fluid loss forming droplets. | Change seal only when 20 percent loss occurs between scheduled periodic services. |
| **DRIP** — Fluid loss forming drops to roll or drip away. | If fluid loss is more than 20 percent between scheduled periodic services, change seal. |

If your support does change the seal, dampen no crying towels if a bit of lube still gets through. Even depot overhaul (TB ORD 245,Dec 65) permits some loss immediately after road or functional test on an overhauled vehicle.

The only but is liquid leaking out onto brake drums and ruining your whoa-power. That's verboten, not good, and won't pass.

# AVDS 1790 ENGINE FILTER FACTS




If you've got an M60/M60A1 or M48A3 tank, an M728 (T118E1) combat engineer vehicle, or an M67A2 flame thrower, you'll want to know about this.

If the elements in the fuel and oil filters on your AVDS 1790 engine get clogged or lost your engine won't keep operating long.

At one depot they found over half the AVDS 1790 engines sent in for overhaul had something wrong with the filters.

So give the elements in these 5 filters regular servicing like it says to in your vehicle TM's and LO and your engine will wear better and longer.



MORE


## 1 SECONDARY FUEL FILTER

**COMPANY MECHANIC WILL CHECK THESE WITH PRESSURE GAGE**

The way you tell if the elements in your secondary fuel filter need replacing is to take a pressure check.

Ask your company mechanic to connect his pressure gage to the bleeder plug hole in the top center of the filter head. Run the engine at 2400 RPM without load while he makes his check.

If the reading is under 25 PSI your friendly company mechanic will take off the 2 filter cans and clean them on the inside. He knows these elements can't be used over again so he will put in new elements, assembling them carefully with the end marked TOP in the top position.

The two elements and the 4 gaskets he needs are in parts kit, fluid pressure: secondary, which he orders as FSN 2910-967-9870.

## 2 PRIMARY FUEL FILTER

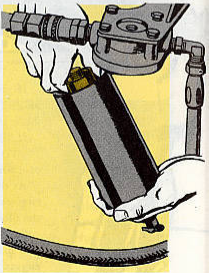
**PUT THESE ON YOUR REGULAR SERVICE**

Your -20 TM for the M60/M60A1 tanks tells you on page 2-261 the primary fuel filter should be removed "periodically" for service . . . but how often does that mean?

Change 1 (Apr 66) to that -20 TM says on page 2-50 in the fine print to do it quarterly. That way there's no chance of forgetting to do it.

After the filter element is removed and cleaned your company mechanic will put it back again with a fresh head gasket which he'll cement in place with MIL-C-10523 gasket cement. He'll get the new gasket in gasket set: primary (5702624), ordered as FSN 2910-678-3298.

It's real important that the filter is assembled in the right order. If the parts are in wrong, either the fuel won't flow right or if it does there won't be any filtering action.



## 3 MANIFOLD HEATER FUEL FILTER

Servicing the manifold heater fuel filter is explained in your vehicle -20 TM but there's no word on how often you should do it. Add it to the Q services and you won't forget it.

First you clean the filter with dry cleaning solvent FSN 6850-281-1985 or mineral spirits paint thinner, and then you blow it dry with compressed air to remove dirt particles. Remember to wear your goggles when you use that air — watch out for nearby personnel.


## 4 5 MAIN AND AUXILIARY OIL FILTERS

**SERVICED QUARTERLY**


Like your LO says, these are serviced quarterly and at the time you make an oil change. Your -20 TM tells you how. One thing it doesn't mention, though, is lining up your filter housing so it will slide up tight against its gasket.

Just play around with it, moving the housing a little this way and that until you find the spot where you can slide it up against its gasket with no trouble.

Tightening the nuts to draw the filter housing up just won't work. Unless it's solid against its gasket before the nuts are tightened, dust will get sucked in from the outside.

Remember it like this: Everybody needs a little something.

The vehicle needs its engine.

The engine needs its filter elements.

The filter elements need your loving attention.



END

*A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Pam 310-4 (May, 66) and Change 1 and DA Pamphlet 310-6 (Jul 66).*

TECHNICAL MANUALS

TM 1-1U8-5, Ct, Jul. U-8.
TM 3-1040-209-12, Jul, Phase Thrower, Mech, Hand Arm, Armament, M10-8 (FSN 1040-774-1891).
TM 5-2330-203-24, Aug, Container Cluster, 130-lb. and 50-Lb.
TM 5-3010-203-14, Jul, Propelling Unit, Outboard Dri Drive.
TM. 5-2420-206-13, Jun, Tractor, Wrhl, Indust, Dsl Drive (Case Mod 290M).
TM 5-3810-223-35, Jun, Crane, Whl Mtd, 20 Ton, W/Bulldozer and Earth Moving Blade (American Hoist and Derrick Mod 7280).
TM 5-4110-203-25P, Mar, Refrig Unit Mechanical, Portl Type.
TM 5-4120-213-25P, Jun, Air Conditioner, Fixed Mtd, (EECO Mod 7003B MOD) and (EECO Mod 7003B).
TM 5-4115-376-15, May, Gen Set, Dsl Eng, Trailer Mtd PU-407/W and Gen Set, Dsl Eng, Trl Mtd PU-408/M.
TM 5-6230-300-25P, Jun, Searchlight, 30 Inch, Whl Mtd (Strong Electric Co, Mod 7800-11).
TM 9-1005-224-12, Ct, Aug, Operator & Crew, MG-M60 & Mount M122.
TM 9-1005-245-12, Ct, Aug, MG Armament Subsystem.
TM 9-1330-200, Jun, Grenades, Hand and Rifle.
TM 9-1400-379-15, Aug, Rerishing.
TM 9-1410-500-15P/21, Jun, Howk.
TM 9-1430-250-15P/21, May, Nike-Herc (Imp).
TM 9-1430-250-15P/21, -15P/61, -15P/61, -15P/71, -15P/71, -15P/101, -15P/111, -15P/121, Jun, Nike-Herc Imp.
TM 9-1430-250-15P/12, Jun, Nike-Herc.
TM 9-1430-252-15P/21, Jun, Nike-Herc (Imp).
TM 9-1430-254-15P/1, Jun, Nike-Herc Imp.
TM 9-1430-268-15P/1, Jun, Nike-Herc Imp.
TM 9-1430-511-15P/1, Jun, Howk.
TM 9-1440-250-15P/21, Jun, Nike-Herc Imp.
TM 9-2320-216-20P, C2, Aug, Gen, SP, M107 and Howitzer, M110.
TM 9-2300-224-ESC/10, Aug, Carrier, Mortar, 81-MM, SP M113A1.
TM 9-2320-211-ESC/2, Aug, Trk, Wrecker, M62, M543.
TM 9-2320-211-ESC/3, & ESC/9, Aug, Trk, Tractor, M52, M246.
TM 9-2320-211-ESC/5, Aug, Trk, Dump, M51.
TM 9-2320-211-ESC/6, & ESC/7, Aug, Trk, Cargo, M54.
TM 9-2320-211-ESC/8, Aug, Trk, Cargo, M54, M35.
TM 9-2320-211-24P, C2, Aug, Trk, Trailers, Low-Bed: M172, M172A1.
TM 9-2330-235-14, Jun, Howk.
TM 9-4910-253-23P/3/1, May, Nike-Herc Imp.
TM 9-4935-306-15P/7/2, Jun, Sergeant.
TM 9-4935-303-15P/1, Jul, Sergeant.
TM 9-4935-274-15P/1/2, Jun, Nike-Herc Imp.
TM 9-4935-306-15P/3/2, & -15P/7/1, Jun, Sergeant.

MODIFICATION WORK ORDERS

MWO 9-1005-213-50/1, Aug, MG, M3 and Mount.
MWO 9-1055-217-30/1, Ct, Sep, 7.75-In RLXM-3. (URGENT)
MWO 9-1270-205-30/1, Jun, Operator & Crew, Rocket Launcher XM16 and Rocket Rocket.
MWO 9-1400-376-30/13, & -30/15, Aug, Pershing.
MWO 9-1400-377-30/17, Aug, Pershing.
MWO 9-1410-511-30/20, Aug, Howk.
MWO 9-1440-376-30/55, & 30/59, Aug, Pershing.
MWO 9-1450-375-30/25, Aug, Pershing.
MWO 9-2300-275-30/1, Jul, Tank, Combat, Gun, M41, M41A1, M41A2 and M41A3, M48, M48A1, M48C, M48A2 and M42A1, Howitzer, M52, M52A1 and M55, M53 Tank, M103A2 and M67, and PC, M75.
MWO 9-2350-215-30/19, C1, Jun, Tanks, Combat, Gun: M60, M60A1.
MWO 9-2320-234-30/1, Aug, Gun, SP, M107, Howitzers M108, M109, and M110; RV M578.
MWO 9-2815-203-30/2, Aug, Gun, SP, M107, Howitzers M108, M109, and M110; RV M578.
MWO 9-4900-500-30/50, Aug, Howk.
MWO 9-4925-377-30/131, -30/129, & 30/131, Aug, Pershing.
MWO 55-1500-200-30/7, Aug, UH-1B and UH-1D.
MWO 55-1500-200-30/7, C1, Sep, UH-1A, UH-1B, UH-1D.
MWO 55-1510-203-34/3, Jun, U-1.

## REAL HANDY PUBS

Here are some real handy pamphlets you may find useful in your maintenance and supply operations.

DA Pam 250-20, Commanders' Supply Handbook.
DA Pam 250-21-1, Unit and Organization Supply Procedures.
DA Pam 250-21-2, Unit and Organization Supply Procedures.
DA Pam 250-23-1, Stock Control and Supply Accounting Procedures for Direct Support Units.
DA Pam 250-23-2, Stock Control and Supply Accounting Procedures for Direct Support Units.
DA Pam 250-53, Officers and NCO Whose Primary Duty is not Maintenance.
DA Pam 250-54, Motor Officer/NCO/Maintenance Officer.
DA Pam 250-55-1, Organization Mechanic/Repairman Course, Armored Carrier—M113.
DA Pam 250-55-2, Organizational Mechanic SP Artillery.
DA Pam 250-55-3, Organizational Mechanic M60A1 Tank.
DA Pam 250-55-4, Organizational Mechanic M60A1 Tank Turret.
DA Pam 250-26-1, Utility Truck, ¼ ton, M151.
DA Pam 250-26-2, Dump Truck, 5-Ton M51.
DA Pam 250-26-3, Wrecker Truck, Medium, 5-Ton, M543.
DA Pam 250-26-4, Amphibian Resupply (LARC V).
DA Pam 250-27-1, Radio Set AN/PRC-6.
DA Pam 250-27-2, Teletypewriter Set AN/PGC-1.
DA Pam 250-27-3, Radar Set AN/PPS-4A.
DA Pam 250-28, Helicopter.
DA Pam 250-29-1, Materials Handling Equipment.
DA Pam 250-29-2, Power Generator Equipment.
DA Pam 250-30, Compressor.
DA Pam 250-31-1, M113 Armored Carrier (Operator).
DA Pam 250-31-2, Self-Propelled Artillery.
DA Pam 250-31-3, M60A1 Tank.
DA Pam 250-32-1, Utility Truck, ¼-Ton, M151.
DA Pam 250-32-2, 5-Ton Dump Truck, M51.
DA Pam 250-32-3, Wrecker Truck, Medium 5-Ton, M543.
DA Pam 250-32-4, LARC V.
DA Pam 250-33-1, Radio Set AN/PRC-6.
DA Pam 250-33-2, Teletypewriter, AN/PGC-1.
DA Pam 250-33-3, Radar Set AN/PPS-4.
DA Pam 250-33-4, Radar Set AN/PPS-5.
DA Pam 250-34, Helicopter.
DA Pam 250-35, Power Generator Equip.
DA Pam 250-36, Compressor.
DA Pam 250-7, PM Guide for Commanders, Jan 65.
DA Pam 750-1-2, PM Guide for Commanders, Nike-Herc, Aug 65.
DA Pam 750-1-3, PM Guide for Commanders, Howk, Jan 64.
DA Pam 730-2, Post Level PM Course.
DA Pam 750-4, Combat Readiness, Aug 64.
DA Pam 750-7, Army Maintenance Management System, Materiel Readiness for Commanders, Dec 65.
DA Pam 750-8, Commanders Guide, Ready Men and Ready Materiel, Apr 66.
DA Pam 750-10, CMMI Handbook, Jun 66.


JOE'S DOPE
KNOW-GO A'GO-GO ON ICE 'N' SNOW,
JOE
HARK TO THE WORDS OF NACOOKIE-OF-THE-NORTH
A GIRL WHO KNOWS WHAT ICE DOTH WROTH (HUH?)
AN ESKIMO WHO... KNOWS HER SNOW!! AND HELPS THE TROOPS TO A-VOID WOE...
Y'CHH
THAT'S POETRY?
TM
ICY DRIVING CLASS

YOU SAID THERE WAS GONNA BE A LOTTA HEAD-WORK, SO I BROUGHT MY HEAD.

YES, BUT...

THE OLD MAN SENT ME OVER TO GET A FEW POINTERS WHILE I RECUPERATE.

OK... LINE UP AND I'LL SHOW YOU.

THE BIG SECRET IN **WINTER DRIVING** IS USING YOUR HEAD.

DON'T DROP ME, DOLL.

THAT... COUPLED WITH SOME TRICKS OF TH' TRADE WILL MAKE YOU A PRO!

FIRST... YOUR TM GETS YOU FAMILIAR WITH YOUR VEHICLE.

BE SURE TO CLEAN OFF ALL ICE AND SNOW FROM YOUR WINDSHIELD, THEN CHECK THESE...

TIRES... PROPER PSI FOR ICE AND SNOW

LIGHTS AND OUTSIDE MIRRORS

KNOW HOW TO DOUBLE CLUTCH

**CLUTCH** NEUTRAL **CLUTCH** AGAIN FOR **GEAR**

CHAINS... PROPER TYPE?

DEFROST

WIPERS AND DEFROSTERS

LEARN TO USE THE ACCELERATOR, THE BRAKES AND STEERING SO THEY WORK TOGETHER SMOOTH!

YOU MUST BE IN CONTROL OF TRACTION AND MOMENTUM ALWAYS

... TRACTION! IS YOUR GRIP ON THE ROAD!!

AND MOMENTUM IS THE SPEED OF YOUR VEHICLE!!

IT WORKS LIKE SO...

MOMENTUM TOO SLOW FOR WHEEL SPEED
BREAKS TRACTION
RESULT

MOMENTUM
TOO FAST FOR WHEEL SPEED
BREAKS TRACTION
RESULT

MOMENTUM IN TUNE WITH WHEEL SPEED
GOOD TRACTION
RESULT
CONTROL

STARTING SUDDEN CAUSES SKIDDING SO...START SMOOOTH - NO JERKING... OR YOU'LL LOSE PRECIOUS TRACTION!

M
T

WHY?

TOO MUCH MOMENTUM CANCELS OUT TRACTION.

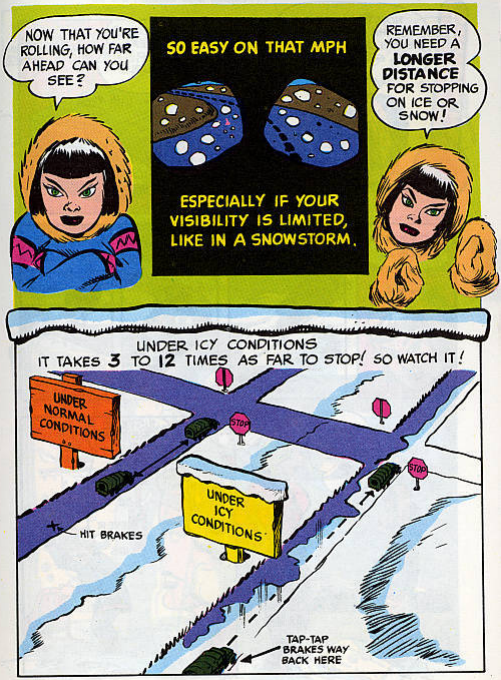
M
T

SKID! SCREECH

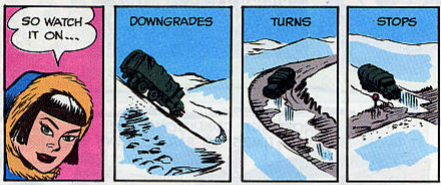
WHETHER TO USE YOUR BRAKES OR ACCELERATOR TO KEEP TRACTION DEPENDS ON YOUR MOMENTUM.
NOW FOR SOME ACTUAL DRIVING TIPS

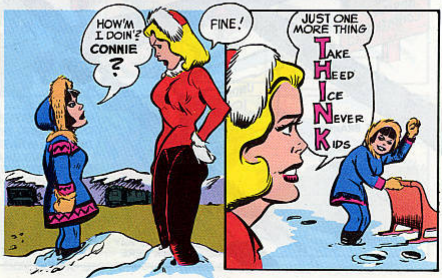

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.


ON HILLS, BE SURE YOU'RE CLEAR GOIN' DOWN. SUDDEN BRAKING WILL KEEP YOU FROM HAVING MOMENTUM FOR GOING UP NEXT HILL.
HIT BOTTOM OF HILL WITH ENOUGH MOMENTUM TO GET YOU UP THE NEXT SLOPE, AND DON'T STOP, KEEP MOVING.
DOWN HILL FORMULA
CUT SPEED BEFORE STARTING DOWN
HOLD TRACTION GO DOWN IN LOWEST POSSIBLE GEAR--UP IN HIGHEST POSSIBLE GEAR.
TRAFFIC ON A HILL??
TAP-TAP-TAP YOUR BRAKES...KEEP YOUR DISTANCE
EASY SPEED CHANGES AND EASY BRAKING KEEPS MOMENTUM FROM CANCELING TRACTION... AND YOU DON'T SKID...
OK, FINE, EASY HOW ABOUT SKIDDING?
SUPPOSE YOUR TAIL IS SWINGING TO THE RIGHT.
LIKE THIS
TURN YOUR STEERING WHEEL IN THE DIRECTION YOUR REAR IS SKIDDING AND TAKE YOUR FOOT OFF THE GAS.
DON'T OVER-STEER--JUST ENOUGH TO CORRECT YOUR SKID.


NOW THAT YOU'RE ROLLING, HOW FAR AHEAD CAN YOU SEE?
SO EASY ON THAT MPH
ESPECIALLY IF YOUR VISIBILITY IS LIMITED, LIKE IN A SNOWSTORM.
REMEMBER, YOU NEED A LONGER DISTANCE FOR STOPPING ON ICE OR SNOW!
UNDER ICY CONDITIONS IT TAKES 3 TO 12 TIMES AS FAR TO STOP! SO WATCH IT!
UNDER NORMAL CONDITIONS
STOP
STOP
UNDER ICY CONDITIONS
HIT BRAKES
TAP-TAP BRAKES WAY BACK HERE


NOW, THIS IS TRICKY, AS THE TEMPERATURE GOES UP... YOUR GOING WILL GET SLICKER!
AS THE ICE MELTS, YOU HAVE A LAYER OF WATER ON TOP, MAKING FOR DOUBLE CAUTION.
WATER
ICE
ROAD


SO WATCH IT ON...
DOWNGRADES
TURNS
STOPS

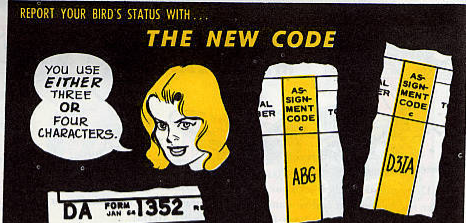

HOW'M I DOIN'? CONNIE ?
FINE!
JUST ONE MORE THING
TAKE HEED ICE NEVER KIDS


# MAKE LIKE MR. CLEAN!


Dirty microswitches got your Seminole (U-8) landing gear indicators snafued? Like maybe the gear is down and locked but the horn or visual indicator doesn't confirm it, giving the pilot a bona fide 4-flusher alarm!

Can happen. So, better gleam the cleaning poop in para 1-74d of TM 55-1510-201-20 (29 Apr 66) for PM tips—'specially if you're crewing a Seminole in a frigid, rigid climate.

And remember, if you have to replace or adjust one of the switches you gotta pull the special inspection called for in chap 3, sect II, page 3-4 of the organizational maintenance pub.




Hold one before you fill out your monthly DA Form 1352 on aircraft inventory, status and flying time! The whole assignment reporting code (block c) is changed, effective Dec 66, as directed by Dept of Defense.

The new codes, spelled out in DA Message 786812 (17 Oct 66) and revised by DA Message 789300 (4 Nov 66) supplement the codes in para 4b(3) of AR 710-12 (20 Aug 65).

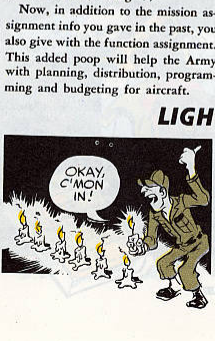
Now, in addition to the mission assignment info you gave in the past, you also give with the function assignment. This added poop will help the Army with planning, distribution, programming and budgeting for aircraft.

From here on out you'll have three alphabetical characters for all codes except Code D and Code S. The first character gives the mission assignment and the second and third characters give the function assignment.

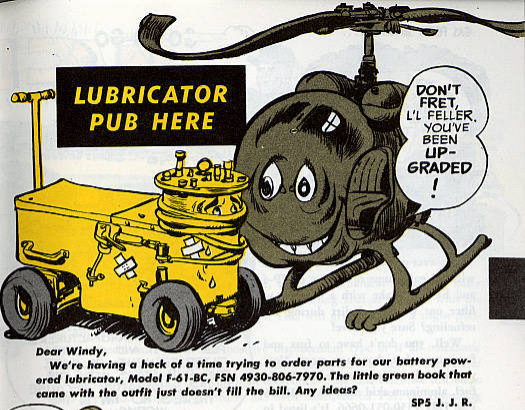
If your bird falls under training and support (Code D) or storage (Code S) you will have four characters. The first two characters represent assignment and the last two represent the functional bit.

The new code should be coming your way from your headquarters right now. You might want to meet it half-way to get a head start.

## LIGHT UP!




Burned out bulbs in your portable, emergency airfield runway light set, FSN 6230-542-6680, leave you in the dark? Then latch on to a package of 2 clear, incandescent lamps of 5.1 volts, 15 amps with miniature screw base—for 72 cents. It's listed in Fed Cat C6200-IL-A (1 Jan 66) as FSN 6240-155-8681.




***Dear Windy,***

***We're having a heck of a time trying to order parts for our battery powered lubricator, Model F-61-BC, FSN 4930-806-7970. The little green book that came with the outfit just doesn't fill the bill. Any ideas?***

**SP5 J. J. R.**


Dear Specialist J. J. R.,

Your Model F-61-BC has been upgraded to a Model F-63-BC and the pub for this baby is TM 10-4930-206-13 (11 Feb 66). Since these models are exactly the same the TM applies to both units.

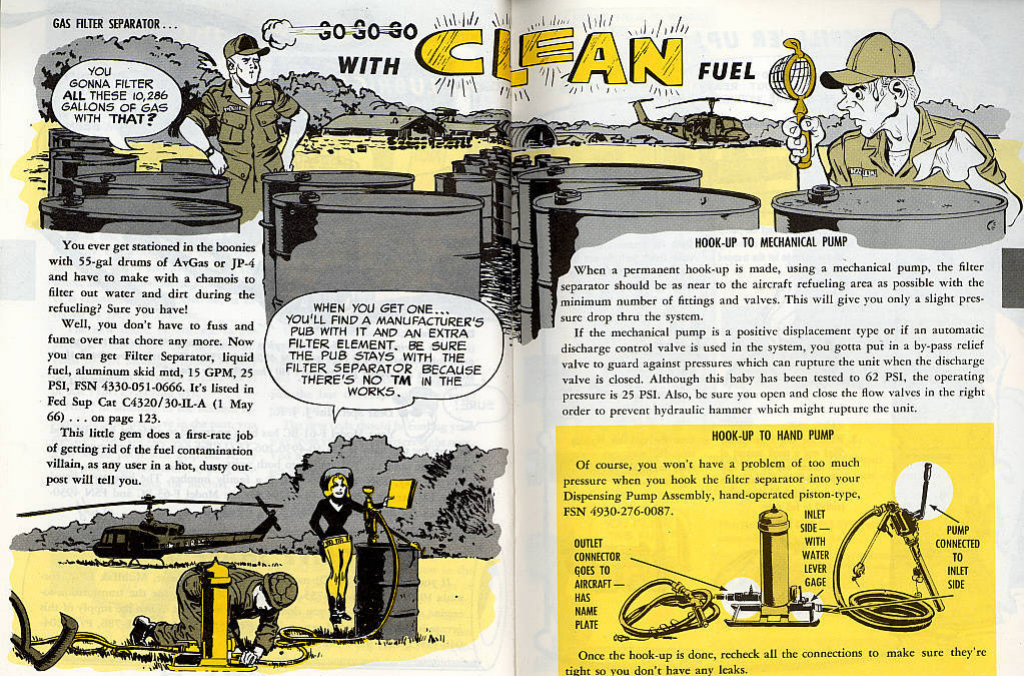
By the way, FSN 4930-806-7970 is a family number. The lubricator listed in the TM carries FSN 4930-914-7294 for the Model F-63-BC and FSN 4930-914-7213 for the Model 331400.

*Windy*

## NEW DRIVE SHAFT GREASE

If you Huey (UH-1B, D) mechanics requisition grease, Multifak EP-2, formula 1952, P/N 204-040-755-1, FSN 9150-082-2533, for the transmission-to-engine drive shaft—and you don't get it—no sweat! When the supply of this grease is exhausted you'll get an improved type . . . Anderol L-786, P/N 204-040-755-3, FSN 9150-926-1969.

# GO GO GO WITH CLEAN FUEL




You ever get stationed in the boonies with 55-gal drums of AvGas or JP-4 and have to make with a chamois to filter out water and dirt during the refueling? Sure you have!

Well, you don't have to fuss and fume over that chore any more. Now you can get Filter Separator, liquid fuel, aluminum skid mtd, 15 GPM, 25 PSI, FSN 4330-051-0666. It's listed in Fed Sup Cat C4320/30-IL-A (1 May 66) . . . on page 123.

This little gem does a first-rate job of getting rid of the fuel contamination villain, as any user in a hot, dusty outpost will tell you.



## HOOK-UP TO MECHANICAL PUMP

When a permanent hook-up is made, using a mechanical pump, the filter separator should be as near to the aircraft refueling area as possible with the minimum number of fittings and valves. This will give you only a slight pressure drop thru the system.

If the mechanical pump is a positive displacement type or if an automatic discharge control valve is used in the system, you gotta put in a by-pass relief valve to guard against pressures which can rupture the unit when the discharge valve is closed. Although this baby has been tested to 62 PSI, the operating pressure is 25 PSI. Also, be sure you open and close the flow valves in the right order to prevent hydraulic hammer which might rupture the unit.

## HOOK-UP TO HAND PUMP

Of course, you won't have a problem of too much pressure when you hook the filter separator into your Dispensing Pump Assembly, hand-operated piston-type, FSN 4930-276-0087.




Once the hook-up is done, recheck all the connections to make sure they're tight so you don't have any leaks.

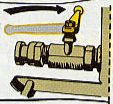


MORE

# FILL 'ER UP!


BE SURE . . .

BLOCKING VALVES ARE CLOSED



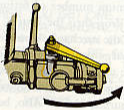
AND . . .

MANUAL WATER DRAIN VALVE IS CLOSED.

Then, after you start the pump:

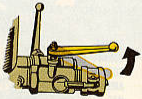
1. Open the vent valve at the top of the cover to let the trapped air out.

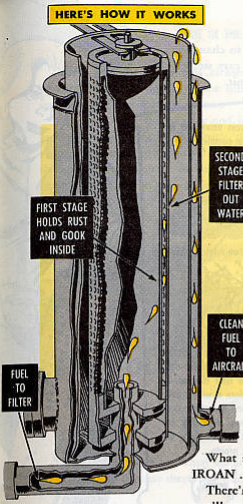
2. Open the upstream blocking valve (inlet) partially and let the filter separator fill slowly and completely.



3. When the unit is completely filled and a small amount of fuel comes out of the vent valve, close the vent and open the downstream blocking valve (outlet) to full open.

4. Open the upstream blocking valve full open and you're ready to refuel your aircraft with clean fuel.






## MAKE OPERATOR CHECKS

The pressure drop on your new unit should be 2.5 PSI or less. But as foreign particles build up on the inside of the filter element this pressure will increase. Therefore, the pressure should be measured with indicator, pressure, differential, P/N MC134MFP85, Manufacturer's code 06816 (or equivalent gage) to determine when you need a new element.

When the pressure reaches 15 PSI you put in a new element. You should also drain out the water and open the air vent valve, daily.

## PULL IROAN MAINTENANCE

What about maintenance? It's practically nil—IROAN . . . inspect—and repair only as necessary.

There're no moving parts and about the only ones you'll need to replace are the . . .


Filter Element, FSN 4330-983-0998 (which comes with an O-ring in each end)...

. . . the O-ring, Canister Top, FSN 5330-291-3076...

. . . the O-ring Canister Bottom, FSN 5330-265-1077...

. . . and the Cover O-ring, P/N 97403, MS 13207E9035.



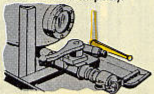
MORE

## TAKE THE ELEMENT OUT

You don't need any special tools to change the filter element. Just follow these easy steps after you stop pumping fuel to the unit.

1. Close the inlet and outlet blocking valves.

2. Open the drain valve and let the unit drain completely.



3. Take off the cover and eye the cover O-ring for damage and deterioration. If the O-ring is shot or it doesn't set in the groove right, put on a new one.

4. Slip out the two retaining bars.

5. Take hold of the knob on the canister top plate with one hand and press down around the top outer edge of the canister with the other hand. A gentle pull on the knob will release the top plate. Eye the top plate O-ring for deterioration and make with a new one if it's shot.

6. Pull the element up and out. This element isn't cleaned — you just replace it with a new one every time. Remember that JP-4 additives remaining on the element can be toxic so get rid of it, pronto.

7. You don't have to take out the canister unless you suspect damage or you need to replace a shot O-ring in the bottom mounting plate. Then, a firm pull straight upward will release the canister from the mounting plate.



## PUT IN THE NEW ELEMENT

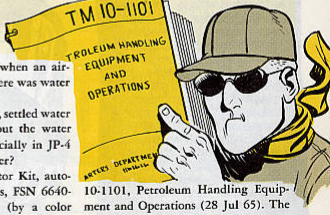
Before you put in the new element be sure to eye the inside of the filter separator for any foreign matter.

Then, put back the canister and insert the new element. Put back the retainer top, making sure it's flush with the top of the canister so you get a complete seal and so you can insert the two retaining bars. You might have to

coat the top plate O-ring with Petrolatum, Fed Spec VV-P-236, FSN 9150-250-0931, to get the cover flush with the canister top. Add the two retaining bars and the cover and you've got it made.

Yessir-e-e-e, a $200 investment in one of these little gems should go a long way to cut down on those reports that give the cause of an accident as "fuel contamination."

## GET YOUR WATER DETECTOR KIT




The price is too high when an aircraft augers in because there was water in the fuel.

Sure, you can spot clear, settled water in AvGas, but what about the water that hasn't settled—especially in JP-4 where it takes a lot longer?

The capsules in Detector Kit, automotive and aviation fuels, FSN 6640-892-2264, will tell you (by a color change) if your AvGas or JP-4 test sample has water in it—down to 30 PPM (parts per million).

'Course all the latest know-how on sampling our aviation fuels is in TM 10-1101, Petroleum Handling Equipment and Operations (28 Jul 65). The water detector kit is covered in para 122.

The price is right for this kit, listed in Federal Supply Catalog C6630/6640-ML (1 Aug 66).

# TRY THIS DAMPER FIXTURE!

Dear Editor,

*Any time you replace the Huey (UH-1B, D) stabilizer bar dampers you have one tough time keeping the main rotor stabilizer bar perpendicular to the mast while you're trying to adjust the control tubes. This rigging takes a couple of men and some doing.*

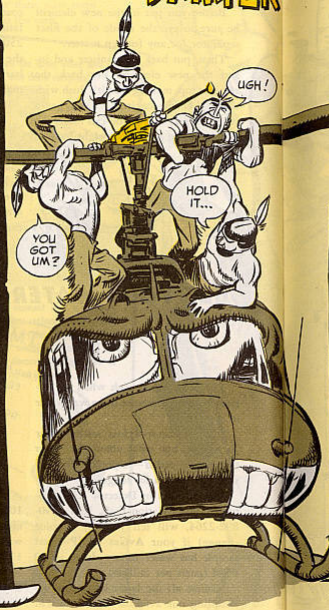
*Well, that is the way it used to be here before we came up with this little stabilizer bar fixture.*

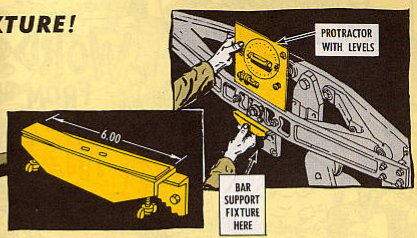
*To use the tool you hold the protractor on the stabilizer bar to make sure the bar is level. Then you slip this little tool over the shelf on the stabilizer bar support and tighten the 2 wing nuts against the stabilizer bar center frame. This operation locks your stabilizer bar perpendicular to the mast.*

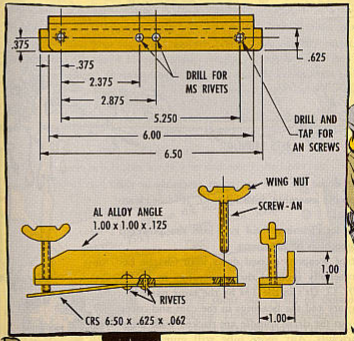
*Install the damper lever on the damper wingshaft and turn the shaft to aline the pin with the mark on the cam as seen thru the damper window. Reposition the damper lever on the wingshaft horizontal to the closest separation, keeping the pin and cam relationship. Then you adjust the control tube as necessary and connect the rod end to the leading side of the damper lever.*

*This little jewel works so well that one man can do the whole rigging operation.*

SP4 Jan J. Stage
Mr. Mathias Leenboeck
US Army Avn Maint Center
USAREUR





*(Ed Note—Good going. Looks real handy for the damper adjustment called for in para 8-36, page 8-21 of TM 55-1520-210-10, 28 Dec 65.)*

M5 SUBSYSTEM:

# WORDS FROM THE WISED UP

Here you are, men: A fistful of advice and plain PM tips from guys who've made the big scene with the M5 40-MM grenade launcher subsystem.

Heed what you read and you'll escape an assortment of woes with the launcher . . . the sighting station . . . the ammo . . . and you name it.

TIP:

M75 LAUNCHER

Never douse the cam and cover assembly or the drive-spindle assembly with lube oil, JP-4 or cleaning solvent.

Never let cleaning fluid run into the powered drive assemblies of the turret.

A lot of weapons missed dates with Charlie because somebody ignored these warnings in LO 9-1010-207-12. (It's in the TM by the same name.)

The gears and the bearings in the cam and cover and also in the drive spindle are packed with long-life lubricants. Any more lube will gum up the works. And the gears and electric motors in the powered drive assemblies of the turret will be ruined by solvent.



TIP:

Make sure the straight-headed pin (FSN 5315-930-0103) is included in your unit's PLL. This pin connects the front leg of the launcher receiver to the shaft of the sun gear in the cam drum. It takes a beating and may need replacing any time you get a weapon stoppage . . . like when the gun jams or you get a hangfire.

O'course, the best way to save these pins is to avoid stoppages . . . by good all-around and frequent weapon PM, and especially by doublechecking the ammo belt before loading to make sure the links are positioned OK.

TIP:

Keep an eye on the turret support screws. They sometimes work loose from vibration.

Be careful how you tighten 'em, though. If you screw 'em in too much, they'll shear off. A lot of outfits use Locking Torque (Inch-Pounds) paste . . . FSN 8030-081-2333 (10-cc bottle), on the screws before tightening 'em. Makes a good field fix. You'll find this paste on page 68 of Fed Cat C8000-1L-A (1 Jan 66).



MORE

## SIGHTING STATION

Never fail to lube the sight-pivot-shaft area every week. Otherwise, the shaft might seize and your gunner will have a tough time.

**HERE'S WHAT YOU DO**

**1** Remove the 4 screws on the cover plate to get at the main gear.

**2** Then apply a thin coat of Aircraft and Instrument Grease... (MIL-G-23827... FSN 9150-985-7246—1-lb can)

TIP:

LUBE BEHIND THE PLATE ON THE CENTER PIVOT PIN, ON THE BALL-BEARING RACEWAYS AND UNDER THE MAIN GEAR ON THE SHAFT.

TIP:

## AMMUNITION

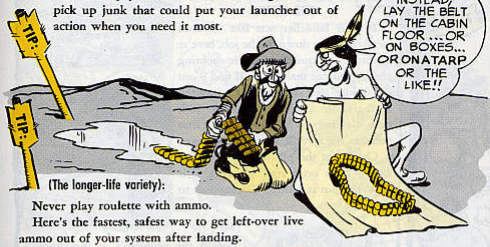
Think—and save time—before you open a new case of ammo.

Ammo's normally packed the same way every time.

If the ammo's going right into the chuting, open the case from the bottom so that you'll expose the first round with its female connection. This connection mates up with the ammo loading cable.

If you're putting the ammo in a storage container, open the top of the case so you'll expose the last round with its male connection.

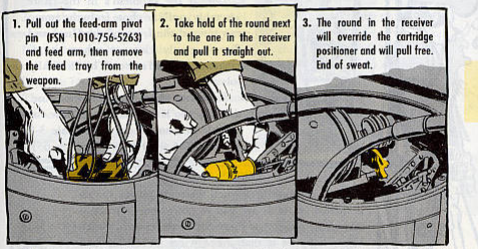
Never lay your ammo belt on the ground. It'll pick up junk that could put your launcher out of action when you need it most.




(The longer-life variety):

Never play roulette with ammo.

Here's the fastest, safest way to get left-over live ammo out of your system after landing.




Of course, if you have trouble removing the feed arm, loosen the feed tray first and then move it back slightly.

**Never** — no, no! — do like some would-be Lucky Pierre types do. Never turn the barrel back over a live round till the link is disconnected and then push the live round out of the ejection chute. This is a losing game.

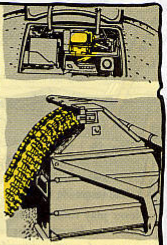
One slight slip of the hand and the round in the weapon will go off!



MORE

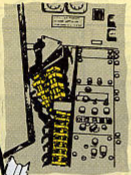
TIP:

## FEED SYSTEM



If your launcher acts like the feed motor's laying down on the job, here're a couple of quickie trouble-shooting checks you can make. You'll find 9 out of 10 times that your trouble is kinking in the chute assembly. And the 10th time it's likely to be a broken pin that attaches the spindle shaft to the gears.

Check out the pin first by giving a strong push on a feed sprocket. If it slips, the pin is busted. Get support to fix it for you.



But, if the problem's in the chute assembly, pull the chute from the ammo can toward the front of the Huey and flex it gently close to where it attaches to the feed motor. This'll usually solve it.

If neither check uncovers the cause, though, you'll just have to follow the trouble-shooting routine in Table 3-5 of your TM 9-1010-207-12 (Jan 65).

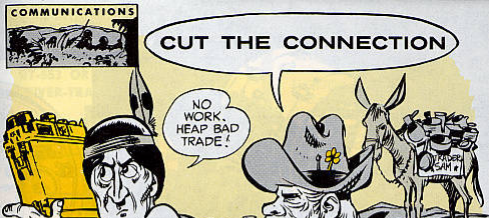
TIP:

## CONTROL PANEL

If the weapon fires when the main power switch is turned on, odds are you've got a short circuit in one of the plugs that connect into the control panel. What happens is that the 2 wires (A279A20 and A280A20) entering the smallest connector to the control panel touch each other when the connector is twisted on . . . and pow!

Best fix: Get the connector "potted." Any electrician in your aircraft maintenance outfit can do the job for you.

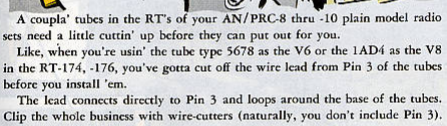
# CUT THE CONNECTION




A coupla' tubes in the RT's of your AN/PRC-8 thru -10 plain model radio sets need a little cuttin' up before they can put out for you.

Like, when you're usin' the tube type 5678 as the V6 or the 1AD4 as the V8 in the RT-174, -176, you've gotta cut off the wire lead from Pin 3 of the tubes before you install 'em.

The lead connects directly to Pin 3 and loops around the base of the tubes. Clip the whole business with wire-cutters (naturally, you don't include Pin 3).




There's a caution stamped on the V6-V8 tube shield about cutting the lead, plus another reminder in para 19b(2) of TM 11-5820-292-20.

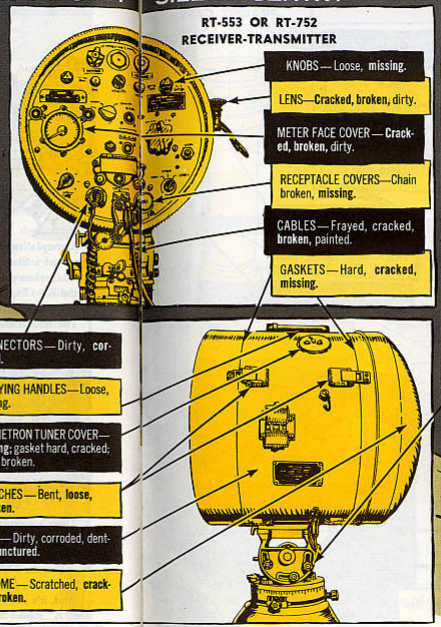
Naturally, if you forget to cut the connection, the set won't work.

When the 1AD4 tube is used as the V4 or the 5678 tube is used as the V5, V10 or V11, the connection does not have to be cut.

And, it's not necessary to put the clip to the wire when the V6 or V8 are in the "A" model sets, the AN/PRC-8A, -9A or -10A.

BE YOUR OWN INSPECTOR ON . . .

# YOUR PIPSY-4 SILENT SENTRY





Yep! . . . Just like the gal who keeps you on the beam chasin' her 'til she catches you. That's how your AN/PPS-4() radar set works when it's taken care of.

It'll keep tabs on just about anything that moves, from the beak of a bird to a tank making tracks along the trail.

Your Pipsy-4 will stay alert a lot longer when you take time to give it a good eyeing between operations. Here're some faults to watch for, with the more serious in bold type:





MORE

## CY-2733 RT TRANSIT CASE

GASKETS—Cracked, worn, **missing.**

CASE—Dented, dirty, **punctured.**

RUBBER BUMPERS—Cracked, **crumbly, pulling loose from case.**

LATCHES—**Loose,** bent, **broken.**

## CY-2734 TRIPOD TRANSIT CASE

LATCHES—**Loose,** bent, **broken.**

CASE—Dirty, dented, **punctured.**

CARRYING STRAP—Frayed, cut, broken, missing.

## H-183 HEADSET

EARPHONES—Dirty, **broken.**

CABLE—Frayed, cracked, **broken,** connector dirty.




## BB-422/U BATTERY

STRAP—Frayed, mildewed, broken.

CASE—Dirty, **corroded,** dented, **punctured.**

GASKET—Hard, cracked, **missing.**

CELLS—Dirty, **corroded, cracked, leaking.**

CONNECTOR—Dirty, corroded, broken.

## PU-532 GENERATOR SET

DOOR COVER—Loose, bent, **missing;** holder bent, broken.

CASE—Dirty, dented, corroded.

PANEL—Dusty, **connectors dirty.**

METER FACE—**Cracked, broken,** dirty.

AIR FILTER—**Dirty, missing.**

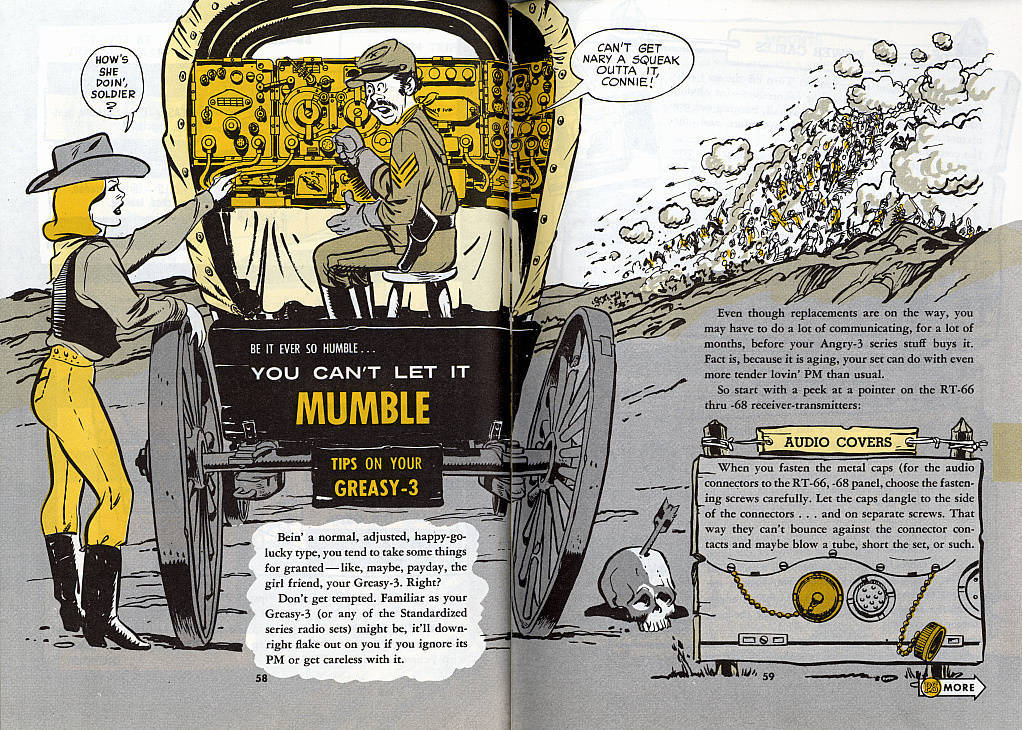
AIR VENT—**Dirty, clogged.**

SWITCH COVERS—Cracked, **missing.**

Pubs you should have for proper Pipsy-4 PM are TM 11-5840-211-12 (Apr 60) with changes 2, 4, 7 and 8 and TM 11-5840-211-ESC (Jun 64). TM 11-6140-202-15 (Nov 60) with changes 2, 3 and 4 and TM 11-6140-202-25P (Apr 66) cover the BB-422. SB 11-506 (Sep 64) and TM 5-6115-290-15 (Oct 63) with 1 change are for the PU-532.



END


HOW'S SHE DOIN', SOLDIER ?
CAN'T GET NARY A SQUEAK OUTTA IT, CONNIE!
BE IT EVER SO HUMBLE . . .
YOU CAN'T LET IT
MUMBLE
TIPS ON YOUR
GREASY-3
Bein' a normal, adjusted, happy-go-lucky type, you tend to take some things for granted—like, maybe, payday, the girl friend, your Greasy-3. Right?
Don't get tempted. Familiar as your Greasy-3 (or any of the Standardized series radio sets) might be, it'll downright flake out on you if you ignore its PM or get careless with it.
Even though replacements are on the way, you may have to do a lot of communicating, for a lot of months, before your Angry-3 series stuff buys it. Fact is, because it is aging, your set can do with even more tender lovin' PM than usual.
So start with a peek at a pointer on the RT-66 thru -68 receiver-transmitters:
AUDIO COVERS
When you fasten the metal caps (for the audio connectors to the RT-66, -68 panel, choose the fastening screws carefully. Let the caps dangle to the side of the connectors . . . and on separate screws. That way they can't bounce against the connector contacts and maybe blow a tube, short the set, or such.
58
59
MORE

## POWER CABLES

Another hot point to remember: Turn off the set's juice before you clean power cables or connectors—for obvious reasons like getting knocked on your tail, burning out connectors or jacks, fusing wire brushes to contacts and other fun consequences.

Fact is, instead of using a wire brush, you might try a typewriter or pencil eraser for the not-too-stubborn cleaning jobs on contacts and pins. Results wouldn't be as painful or damaging if you didn't remember to turn off power.

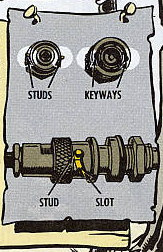
When you disconnect power cables, take the extra few seconds necessary to attach the cables to the insulator bushings on the mount brackets. It pays, with longer cable life and protected connectors. It's smart thinkin' to make sure those bushings are present and in good shape, too, since you can short the POWER-IN connector with a bad or missing bushing.

## RF CABLES

The RF cables on the RT's and receivers slide on and off with a minimum pressure. Just line up the connector keyway with the studs on the antenna jack, give it a slight twist with a little forward push, and quit. Overturn the connector and maybe you'll be looking for a new jack—or a repair job for the cable.

A quick look at the studs will tell you if the connector's in place. They'll be at the top of the slots.

On all cables be sure the connector is seated right in the receptacle or jack before you tighten the locking screws. If the connector's off center you can crack the receptacle insulation or damage the connector pins.

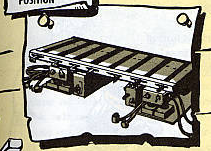





## MOUNTS

Find a Joe who's wearing a radio component in the back of his head and you'll see a Joe who's on the way to the hospital. Chances are the component got there because he or his buddy (?) forgot to lock the mount clamps when the component was put in, and a bump or fast stop did the rest.

A "sorry about that" just wouldn't seem adequate.





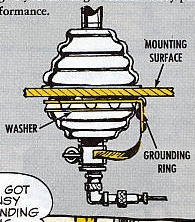
## MAST BASE

Watch it with the grounding ring next time you're about to reassemble your AB-15 antenna base.

Getting the grounding ring and large rubber washer back on right will be a prime factor in the way your set'll put out for you.

Both go on the lower cup insulator, but the rubber washer goes first. The ring goes on top of the washer, which would put the ring against the mounting surface.

Reversing the 2 cuts the RF output of your set considerable . . . and might give you downright unsatisfactory performance.







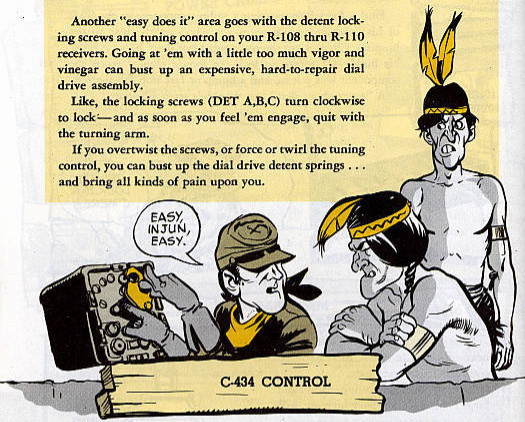
MORE

## R-108, R-110

Another "easy does it" area goes with the detent locking screws and tuning control on your R-108 thru R-110 receivers. Going at 'em with a little too much vigor and vinegar can bust up an expensive, hard-to-repair dial drive assembly.

Like, the locking screws (DET A,B,C) turn clockwise to lock—and as soon as you feel 'em engage, quit with the turning arm.

If you overtwist the screws, or force or twirl the tuning control, you can bust up the dial drive detent springs . . . and bring all kinds of pain upon you.




## C-434 CONTROL

When you're rigging your C-434 local control for operation, play it cool on the position of the audio connector cables (W-1 and W-2).

Er, don't close the lid on 'em.

That is, when you close the lid, be sure the cables feed thru the opening in the compartment cover, else you might chop the cables in two, or bruise and nick 'em enuf to short 'em.

Finally, when you install or remove the batteries from the C-434, be sure you snap the battery container cover flush with the container. That way you keep from cracking it when you slip the case over it.

# CHECK THAT BOOM BAM


When you move your truck-mounted crane on the road, you don't want to risk whamming somebody or bustin' some equipment with that quarter-ton hunk of hook iron on the boom end.

So for such models as Gar Wood M20A and M20B and American Hoist 2360, snub that hook block close to the boom tip, but don't take a strain on the cable.

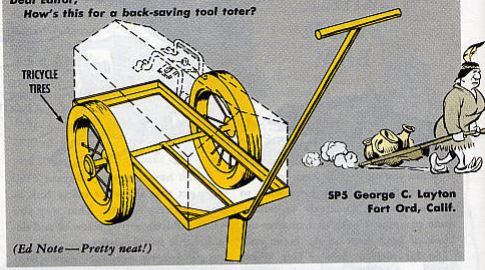

For the American Hoist 2380, use your overpack tow chain to snub the hook to each dozer blade eye. You'll want to offset the chain to keep from bending the boom. Then take out the slack in your boom cable.


If you have the rough-terrain 2380 type, get that side-steer safety link in place before you start. That way you won't suddenly swing sidewise and demolish the surroundings.


And you'll know not to let the boom down to the bottom of the cradle for traveling, but to leave an 8-in leeway. That keeps you from snapping boom ends and wrinkling front panels in rough going. The only time that boom gets all the way down is when you've parked your jewel to stand a while.

# HANDY TOOL TOTER

*Dear Editor,*
*How's this for a back-saving tool toter?*




SP5 George C. Layton
Fort Ord, Calif.

*(Ed Note—Pretty neat!)*

# HOME-MADE PRE-PRINTS

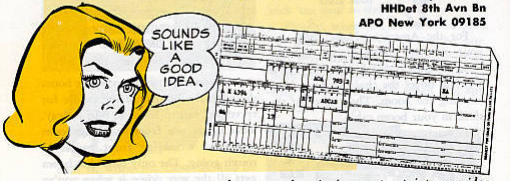
*Dear Editor,*

*We cut stencils to complete the routine entries needed on our request forms (DA Form 2765). The home-made pre-prints save us loads of typing, speed up form filling, and cut down on possible errors.*

*We use 2 stencils to pre-print the standard entries on our replacement requests, and one stencil with the routine info that goes on turn-ins.*

*A batch of cards is run off at one time, and then we keep the pre-prints in a separate file so they'll stay clean and handy.*

CWO Jay Thorson
HHDet 8th Avn Bn
APO New York 09185




*(ED NOTE—Where your supply support doesn't give you pre-prints, your idea is sure OK.)*


## One and Only

There's only one model generator set now in the hands of troops that's to be reported on line 740030 in Appendix III of TM 38-750. It's the 1.5 KW Hol-Gar CE-016-AC (Military model SF-1.5-MD), FSN 6115-736-8509. If the DA Form 2408-8 is complete, it'll show the set was purchased under one of these contracts: DA 11-184-AMC-560(T) or DA 23-195-AMC-00174(T). So, just stop sweatin' over that "Mil Std" in the nomenclature on line 740030 for now.

## Check That Circular

In case you're concerned with MWO's and Equipment Records, you're using DA Circular 750-17 (31 Oct 66). You might remember that para 5 intended to say AR 750-5 instead of AR 750-2.

## New Info on UND

You men in supply may like to know about Change 15 (15 Nov 66) to AR 725-50. It puts out some new scoop on Urgency of Need Designators (UND). Para 2-6 has the word.

## Field Radio FM Frolic

Tack this to your "must" reading list: FM 24-18 (Jul 65), Field Radio Techniques. The FM gives you the way up lowdown on good stuff like antennas, power sources, maintenance, operation and what-do-you-want-to-know. Your pubs support people can get it for you.

## Form's ID

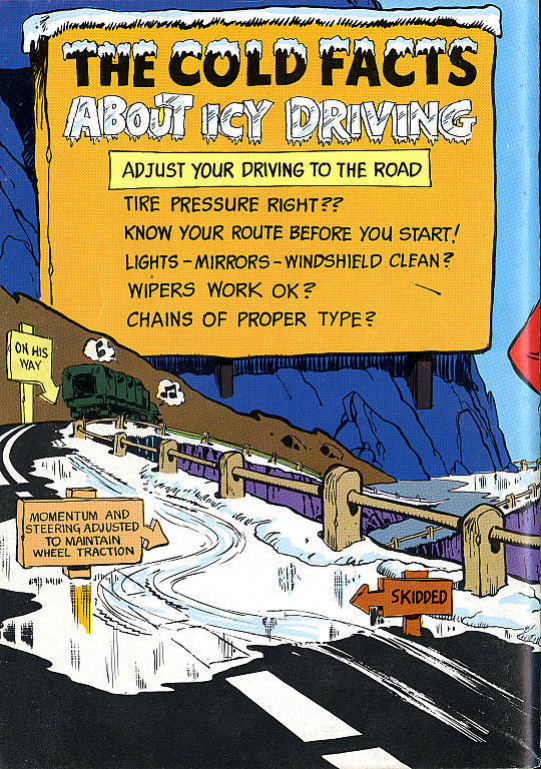
Your old multi-line item supply forms, DD Form 1150-1 and its continuation sheet, DD Form 1150c (1 Oct 57), were made DA Forms 1 Jul 66. You'll now know them as DA Forms 3161 and 3161-1, respectively.

## Drop Cord Bulb FSN's

Replacement light bulbs for your organizational common tool kit's 24-volt drop cord (FSN 6230-268-9436) can be requisitioned with these numbers: FSN 6240-222-0276 for the 12-volt 25-watt lamp and FSN 6240-153-6494 for the 25-volt 25-watt lamp.

Replace the FSN's given on page 9 of your copy of PS161 with these new ones.

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


THE COLD FACTS
ABOUT ICY DRIVING
ADJUST YOUR DRIVING TO THE ROAD
TIRE PRESSURE RIGHT??
KNOW YOUR ROUTE BEFORE YOU START!
LIGHTS - MIRRORS - WINDSHIELD CLEAN?
WIPERS WORK OK?
CHAINS OF PROPER TYPE?
ON HIS WAY
MOMENTUM AND STEERING ADJUSTED TO MAINTAIN WHEEL TRACTION
SKIDDED