

Issue 241

PS

1972 Series
December

THE PREVENTIVE MAINTENANCE MONTHLY

MAN, DO I
KNOW MY WINTER
PM...SHE STARTED
RIGHT OFF.
HOW'S THAT?

THAT'S
BEAUTIFUL...
BUT YOUR
TIRES, MAN,
**YOUR
TIRES!**
THEY :SOB:
FROZE
IN!

CHUCK KRAMER



Is your time worth \$6,000 a minute? Or \$10,000 a minute? How about \$250,000 a minute?

You bet it is! Maybe even more, depending on what Army equipment you're responsible for.

Think.

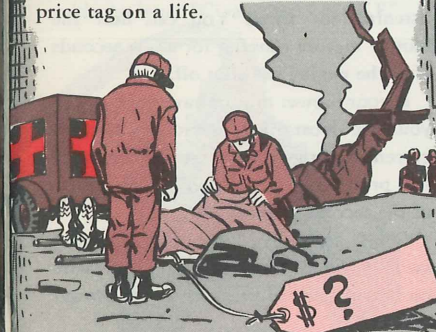
Hardly any check-point in your before-operations-inspection takes more than a minute of your time. If you miss just one of those checks, that minute can prove mighty expensive. Not only for Uncle, but for you, too—after all, you own a piece of that equipment.

Say you're the operator of a 290M tractor. You forget to check your engine oil level. Or you figure it must be OK, because it

was up to the full mark yesterday. But today it's low. You throw a rod. Your engine's shot . . . better than \$6,000 down the drain!

Or you take off in a 2½-ton truck—without checking your brakes. Your air pressure warning buzzer tells you there's not enough pressure for your brakes. Or some yo-yo has unhooked the buzzer, and you don't care. A steep hill! A curve! No brakes! If you're lucky, you hop out before your truck goes over the edge. You look down at a pile of junk—smoking 'n' steaming to the tune of about \$10,000.

The stakes are really high when you're crewing a Huey chopper. Around \$250,000 in hardware. Anywhere from 3 to 12 lives—including yours! So the only thing you miss in your pre-flight check is a bum hookup in a fuel line quick-disconnect. That's enough. You can't even put a price tag on a life.



No matter what Army equipment you're responsible for, it doesn't come cheap. And its value holds up according to the way you take care of it.

That's Preventive Maintenance—maintenance that prevents equipment failure.

Think about it.

Is the minute you save in sloppy PM worth \$6,000? \$10,000? \$250,000? Your life?

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,
PS Magazine,
Fort Knox, Ky.
40121

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FIREPOWER
GROUND MOBILITY
COMBAT SUPPORT
COMMUNICATIONS
AIR MOBILITY



HERE'RE 12
TIPS ON THE
M109
HOWITZER!

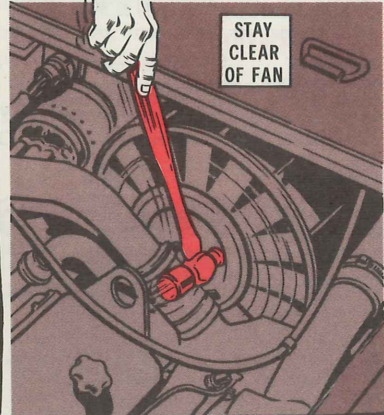
M109 HOWITZER

HANDIES

THEY MAY BE
JUST WHAT YOU NEED
TO KEEP 'ER IN
SHAPE!

1

If you can't get your engine started, could be the Bendix in your starter is hanging up. You can often free a stuck Bendix by gently tapping the starter with a hammer while another crewman presses the start button. DANGER—Stay clear of the cooling fans.



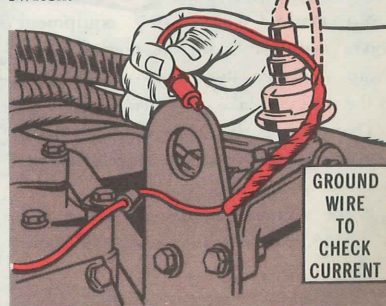
This is just for emergencies. If the Bendix hangs up often, get your mechanic to put in a new starter.

2

Unless your air cleaner blower motors are working, your engine won't be getting the clean air it needs. Get in the habit of listening for them. You can hear the blower motors running for a few seconds after the engine has shut off.

If your blower motors have gone out on you, the most likely reason is because current is not getting to them through the fuel pressure-motor blower switch on top of the secondary fuel filter.

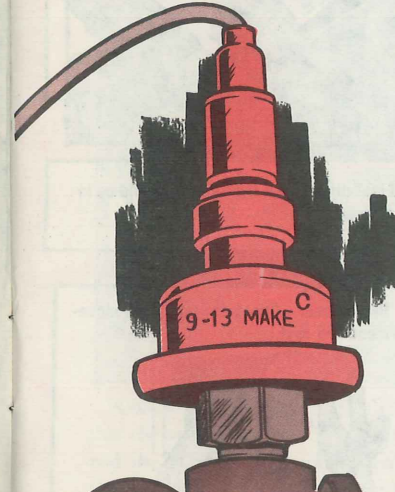
Check this by turning the master switch ON and then grounding the wire on top of the fuel pressure-motor blower switch.



If your blower motors start up, the fault is not in them but in the switch.

Have your hull mechanic replace the bad switch with a new one. It's FSN 5930-069-3604.

He'll make sure he gets one stamped with the letter "C" and "9-13 MAKE."



The danger is in putting in a transmitter by mistake instead of a switch. Since they look a lot alike this can happen and has happened.

3

Your TM doesn't say so yet but it's a good idea to run your bilge pump at least once a week.

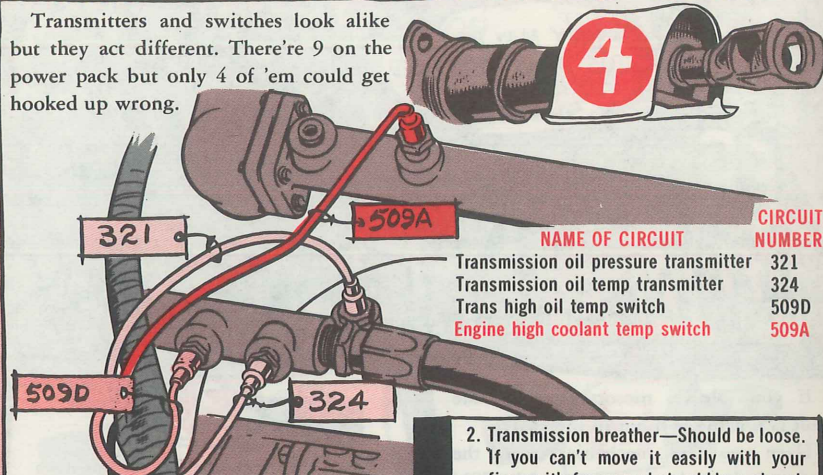
MORE OFTEN...
IF IT'S BEEN
RAINING!



Careful, never run the bilge pump longer than one minute unless the engine's running.

Water in the hull can corrode your starter and make the Bendix hang up.

Transmitters and switches look alike but they act different. There're 9 on the power pack but only 4 of 'em could get hooked up wrong.



| NAME OF CIRCUIT | CIRCUIT NUMBER |
|---------------------------------------|----------------|
| Transmission oil pressure transmitter | 321 |
| Transmission oil temp transmitter | 324 |
| Trans high oil temp switch | 509D |
| Engine high coolant temp switch | 509A |

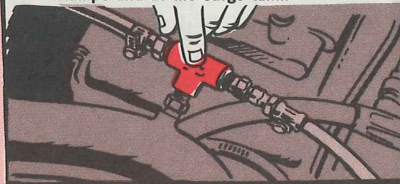
So what's the harm?

So, you could burn up a \$5,000 to \$6,000 engine because your switches or transmitters were hooked up so you didn't get the news that your engine was in trouble until it was too late to do anything about it.



Here are some things that are often overlooked when your M109 power pack is checked out:

1. Surge tank lines—Check 'em for leaks, particularly at the T-fitting, at the clamps and at the surge tank.

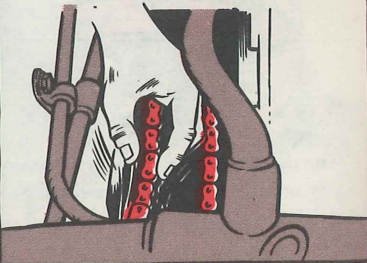


2. Transmission breather—Should be loose. If you can't move it easily with your fingers it's frozen and should be replaced.



3. Final drives—All lacing wire should be in place.

4. Brake chain—Check for lube, free movement and rust.



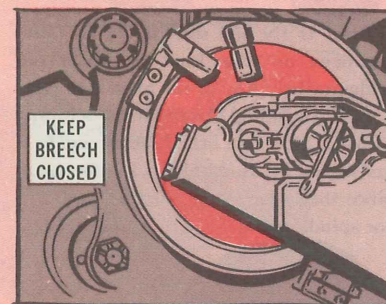
If your M109 has the new weapon-mounted rammer, here's something to know: Your rammer can jolt itself to pieces unless you have it locked when the vehicle is moving.

Some outfits have been painting **LOCK BEFORE TRAVEL** in 1-in red letters on the rammer tube.



Keep the breech closed when not in use. If it's left open, it can be tripped shut by accident and hurt somebody.

If you can't close the breechblock with the adjustor in the first notch position, get your mechanic to clean and lube it so it works easier. You use the second and third notch (high tension) positions only if absolutely necessary.



Another reason for leaving it shut is that the service life of the closing spring and the rack springs will be reduced if the breech is locked in the open position for long periods of time.

To keep your breech closing spring healthy, adjust it for as little tension as possible.

DIG THIS MAIN GUN POOP! IT'LL KEEP ME ON THE TARGET.

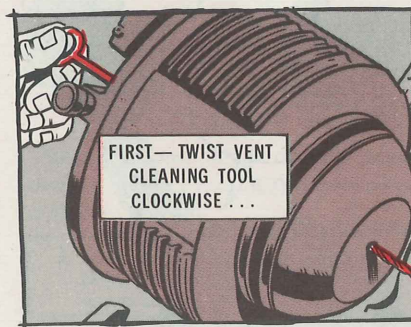


When you have to replace any of the leaf springs, FSN 5360-824-0522, put in a whole new set if you've got 'em. However, if you have to mix old and new springs, put the new springs on the outside of the pack. Keep old, undamaged springs to use in case you can't get new springs.

When you put in new springs use as many as possible to complete the pack with a minimum of 50 leaf springs.



The vent hole in the obturator spindle has to be kept open. So, daily after operation, put the vent cleaning tool, FSN 4933-601-9667 (6019667), completely through the vent and twist it clockwise until the vent is clean.



You then run the primer seat cleaning brush, FSN 4933-730-7183 (7307183), through the hole back and forth a couple of times. Use rifle bore cleaner if you have to, but make sure you get every-

thing out. Wipe it dry and lube it unless you plan to fire again the next day.

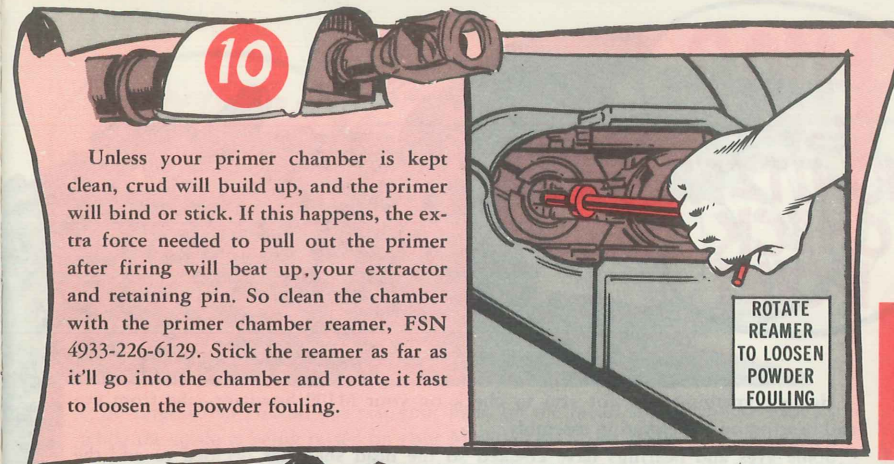


Clean the obturator pad with soap and water after firing.

Since the oils and the solvents used to clean the bore are not too good for the obturator, it's a good idea to mop up any excess so they don't form a puddle in contact with the obturator for long periods.



Brass is IN and steel is OUT: That's the news on what kind of primer cartridge to use. Any of the brass case types are OK, including MK15 Mod 1 or Mod 2, or M82. Steel case MK15 Mod 4 containers should be used only in an emergency since they shorten the life of the obturator spindle shaft.



Unless your primer chamber is kept clean, crud will build up, and the primer will bind or stick. If this happens, the extra force needed to pull out the primer after firing will beat up your extractor and retaining pin. So clean the chamber with the primer chamber reamer, FSN 4933-226-6129. Stick the reamer as far as it'll go into the chamber and rotate it fast to loosen the powder fouling.

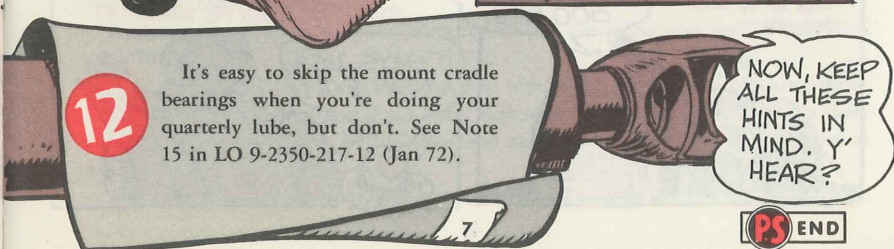
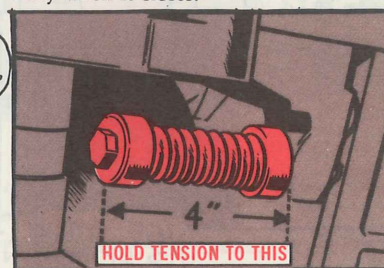


Keep the clearances and adjustments for the breech mechanism operating cam at the figures shown on pages 423-424 of Ch 4 (Jan 69) to TM 9-2350-217-20 (Jan 65). If not, you'll get fast wear and possible damage to parts of the breech block mechanism.

Breech cam adjustment has to be checked when any one of these has been changed or replaced:

| | |
|------------------------|------------------------|
| breech opening cam | cam hinge pin |
| breechblock | torque key |
| breech operating crank | carrier detent plunger |

Cam spring tension must be held to 4 inches. If it's too loose, the breechblock can accidentally release and hit somebody when it closes.



It's easy to skip the mount cradle bearings when you're doing your quarterly lube, but don't. See Note 15 in LO 9-2350-217-12 (Jan 72).

M109 SP HOWITZER CHECK POINT

Here's something new for you to check on your M109 howitzer—the front eye and bearing on the elevating assembly.

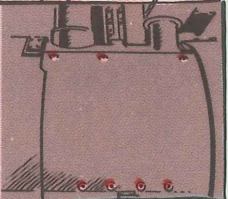
Some eyes and bearings have cracked so the head shed has decided to add the elevating assembly to the quarterly check points.

Make this inspection right now and repeat every quarter. (The next change to your M109 TM manual should spell this out, but you don't need to wait.)

1. Remove your M118C direct fire telescope the way it says on page 430 of your TM 9-2350-217-20.



2. Lower the main gun as far as it'll go and take out the 7 screws from the upper rotor shield.



3. Elevate the cannon back up to about 800 mils.

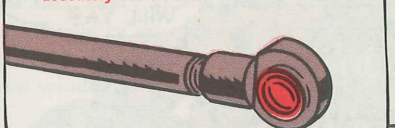
ULP... I THINK IT'S UP MORE'N 800 MILS.



4. Get 2 men to lift the upper rotor shield and lay it on the vehicle floor.



5. Lower cannon to 0 mils. From the roof of the vehicle, eyeball the eye and bearing assembly for cracks.



6. If a new eye or bearing is needed, get one using figs 114, 115, or 116 in TM 9-2350-217-25P/2 (Apr 69), with Ch 1 & 2.



M107/M110 HAND HAZARD



Be careful that you do not rest your hand on the recoil spade cylinder lock knob while the spade is being raised on your M107 or M110 SP artillery.

If you rest a hand on one of the spade cylinder lock knobs while the spade is being raised, you can get that hand mashed between the knob and the spade cylinder hose guard.

So, crew members, keep your hands off the lock knob until the spade reaches its extreme raised position, then lock it.

Stencil a warning in 1/2-inch letters on the flat surface of the new spade cylinder hose guards (P/N 11642975), reading "Keep Hands Clear."

Head Off Icecapade . . .

M102 HOWITZER DRAIN HOLE



Water trapped in the cradle body can cause serious damage if it's allowed to stay there and freeze. You gotta keep it drained out.

Now, your M102 105-MM towed howitzer either has drain holes in the breech end of the cradle or it hasn't.

If there're no drain holes, your support will put 'em in for you per TB 750-951-4 (Sep 70).

If they're already there, take out the 1/4-in pipe plugs that've been blocking them.

Either way, once you have drain holes that work, keep 'em in shape with a daily inspection for obstruction or blockage and clean out with a piece of stiff wire as needed.

Elevate the weapon for complete drainage after fording or other exposure to water.



Cold Nose, Cold Feet?

MAYBE YOUR

THERMOSTAT'S BEAT



Healthy dogs have cold noses . . . but that's not so for water-cooled engines.

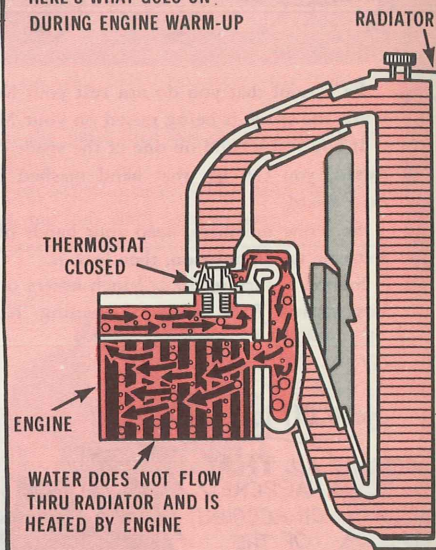
An engine has to work somewhere around the 160°-180° range or it gets mechanical pneumonia—and spits, sputters, coughs and hacks its health away. It develops chills in some places and fevers in others. It snuffs up more fuel than it burns, and the crankcase oil gets diluted with fuel. Water condenses in the crankcase and doesn't get vaporized off as promptly as it should. It doesn't get lubed right inside. All in all, it's in pretty sad shape.

To make sure your engine gets up to the right operating temperature—and stays there—the engineer types came up with the thermostat. It's a valve device that permits flow of fluid at certain temperatures and closes off the flow at other temperatures.

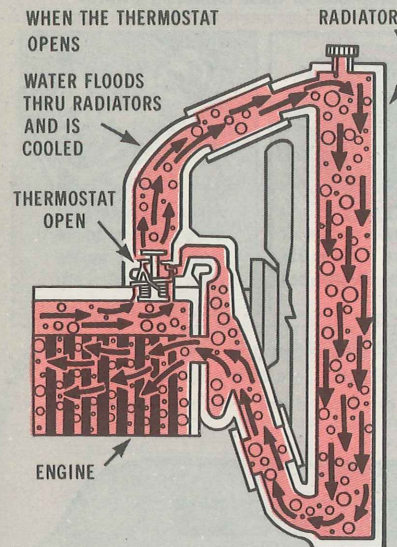
While this goes on, your personnel heater is getting warmed up, too. So if your personnel heater won't cheer up, you know your engine's not getting the warmth and affection it needs, either.

That's the tip-off for you to call in the Doctor of Machinery—your unit mech, that is. Make an entry on your 2404 that your engine may be running too cold.

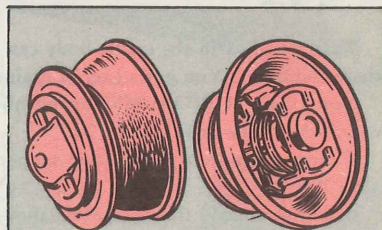
HERE'S WHAT GOES ON DURING ENGINE WARM-UP



HERE'S WHAT HAPPENS WHEN THE THERMOSTAT OPENS



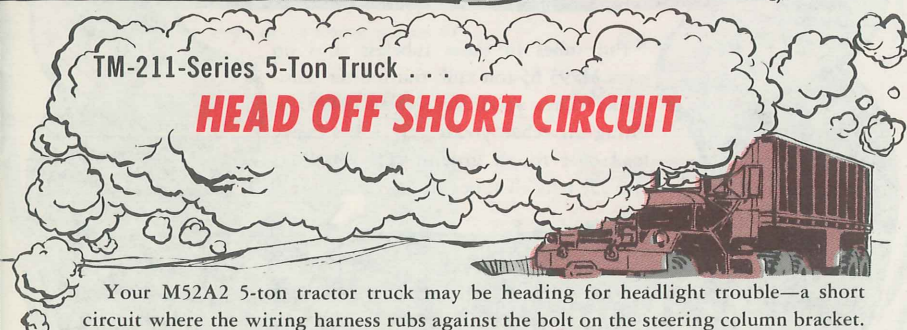
KEEP YOUR THERMOSTATS IN GOOD SHAPE FOR COLD WEATHER OPERATION.



IT'S GOT TO WORK RIGHT

TM-211-Series 5-Ton Truck . . .

HEAD OFF SHORT CIRCUIT



Your M52A2 5-ton tractor truck may be heading for headlight trouble—a short circuit where the wiring harness rubs against the bolt on the steering column bracket. But you can head it off with the fix in TB 750-981-3 (Jul 72).

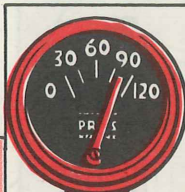
2-INCH LIFE SAVER

There're at least 2 things common to those TM-209-series 2½-ton trucks, TM-211-series 5-ton trucks and TM-260 series-5-ton trucks.

First, you're in for real trouble if you've got to stop one of these babies in a hurry—and can't!

Second, you check your brakes on all of these trucks in the same way—so you'll know you've got brakes when you need 'em.

EVERYTIME YOU PULL
YOUR BEFORE-OPERATIONS-
INSPECTION, MAKE SURE...



Your brake system air pressure is above 65-PSI (the buzzer has shut off)



Your brake pedal goes down no closer to the floor than 2 inches when you mash down on it hard

If your brake pedal goes closer to the floor than 2 inches, you will need your brake shoes adjusted and checked out. Your mechanic will take care of it with the "minor adjustment" in his -20 TM—after he makes sure the brake fluid level is up to snuff in the master cylinder.

TUBELESS GET TUBES

Put tubes in those tubeless tires on your M793 65-ton tank transporter semi-trailer. Then you'll have no trouble with losing air when you're carrying a heavy load over rough ground. TB 750-981-3 (Jul 72) tells all about it.

RIGHT WRENCH FOR JOB

Dear Half-Mast,

Is there a special wrench for taking out drain plugs on the 2½-ton truck's transfer and transmission?

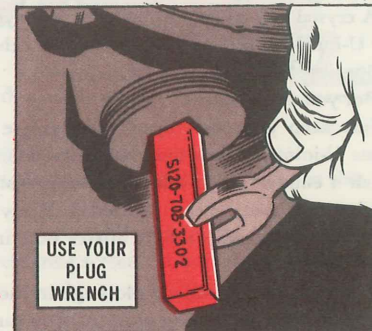
CW3-J. D. W.

Dear Mr. J. D. W.,

There is—Wrench, plug, FSN 5120-708-3302, listed on page 233, Ch 5 (Oct 68), TM 9-2320-209-10.

With this and a ½-in open-end wrench to turn it, you've got it knocked.

Half-Mast



TRANSFER MOUNT MURDER

You wouldn't try to ram 2 pounds of sugar into a 1-lb bag, would you?

That's about like some guys trying to tighten the transfer mounting bolts and nuts on their 2½-ton truck—when they're already as tight as they can be. So the bolt snaps off or the threads are stripped.

Then these guys don't know where to get new mounting parts.



Let's take it from the top.

When your transfer mounting pads are

mashed down so they don't cushion anymore, put in new ones—6 of 'em:

Insulator, mounting,
FSN 5340-040-2073



And if you need new mounting hardware, order:

Bolt, shoulder, FSN 5306-752-1549—2 each



Bolt, shoulder, FSN 5306-752-1548—1 each



Nut, self-locking,
FSN 5310-488-3888—3 each



Washer, flat,
FSN 5310-022-3305—3 each



Then you torque your nuts 'n' bolts to 65-70 lb-ft—no more!

TM-218-Series ¼-Ton Truck . . .

GREASELESS LUBE JOB

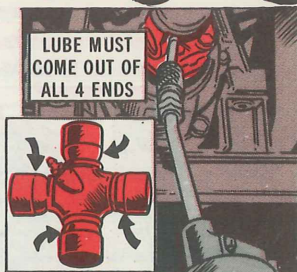
A crystal ball might help tell you when you're in for U-joint trouble on your M151A2 or other TM-218-series ¼-ton vehicle.

But you don't need it.

Just keep your eyes open when you're lubing those U-joints. If you don't see grease coming out of all 4 ends of the U-joint, you know you're not getting lube everywhere it's needed. If any one of those needle bearing setups misses out, it's on a short road to ruin.

For some reason—like a blockage in the lube passage—the grease may get to only 1 or 2 or 3 of the bearing ends. All you can do is take the U-joint apart, clean it and pack it by hand.

Remember, you can't even begin to give those U-joints the right lube treatment unless you've got the right grease gun adapter. You get it under FSN 4930-204-2550, but to make sure it's the one that works on your ¼-tonner, you've got to specify the manufacturer's Part No. 5855 and manufacturer's code 36251 when you order.



RE-STRETCH M718 CURTAINS

Dear Half-Mast,

How do you keep canvas on the M718 ambulance from shrinking so much it won't zipper up in the rear?

Dear Specialist C.S.,

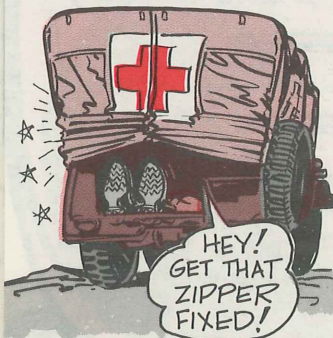
SP5 C.S.

You can probably lick the problem on your present curtains—soak them with water, stretch, then zip closed. Be sure your tie-downs, straps and snaps are all fastened when you do that.

It should dry with enough stretch to be re-closed again if you don't leave it standing open too long. Zip them up every night and over weekends.

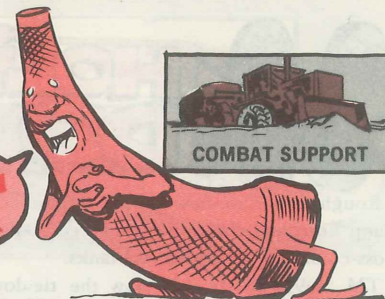
Incidentally, you soon can replace worn-out cotton duck curtains with new no-shrink coated Nylons. They'll be issued as standard on M718A1 ambulances before long.

Half-Mast



No Foolin' Fuel Pumpers . . .

STRAIN 'ER, PUH-LEE-EZE



Your fuel-dispensing nozzle comes with a built-in junk picker . . . the cone screen strainer.

The worst thing you can do is to pump fuel without it.

It filters dangerous contaminants like scalings off the hose liners and dirt that gets in when a hose breaks or is replaced.

Don't take for granted all the nozzles on the tank and pump units. The tank trucks and the refueling systems have their cone screen inside.

To be sure, you have to take the nozzle assembly apart daily to see the strainer with your own eyes.



Once out, give the strainer a good cleaning. Blow it out with low pressure compressed air from the inside.

How about holes and tears?

If you need a new strainer, order it fast. Here're the stock numbers of the cone screens and their nozzles.

2½-TON FUEL TANK TRUCKS

Nozzle—FSN 4930-471-0288

Nozzle—FSN 4930-732-6215 (M49 only)

Screen comes only as part of nozzle.

FUEL TANK SEMITRAILERS

Nozzle—FSN 4930-845-2474

Screen—FSN 4930-954-1317

(Used with Milwaukee Model P2050 nozzle) PN 490956 (09310) or PN 827A-11 (09310) (Used with Buckeye Model 12102 nozzle.)

TANK & PUMP UNITS

Nozzle—FSN 4930-458-9702

Screen—PN SA9590-2

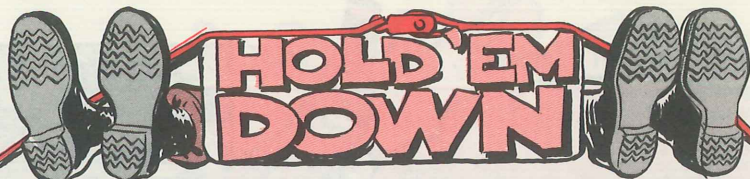
Nozzle—FSN 4930-902-4642

Screen—FSN 4320-989-3260

REFUELING SYSTEMS

Nozzle—FSN 4930-902-4642

Screen—FSN 4320-989-3260



Rough terrain tie-down straps on your truck mounted liquid dispensing tank and pump unit, and the trailer mounted 600-gal tank unit are a must when bounding cross-country with loaded fuel tanks.

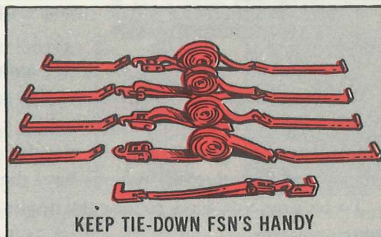
TM 5-4930-227-14 tells how the tie-downs are used on the truck bed, and Ch 2 of TM 5-4930-220-12 shows how to tie a 600-gal tank to a trailer.

To get the tie-down straps, use FSN's: 5340-185-6829 for Kit, tie-down, rough terrain. This kit has 4 strap assemblies and 1 pump tie-down assembly.

4930-444-7462, Tie-down Tank Assembly. You get only 1 strap assembly. You'll need 2 for a trailer job.

5340-185-6830, Tie-down, pump assembly.

All tie-downs are authorized as needed and are listed as supply items in the Army Master Data File.

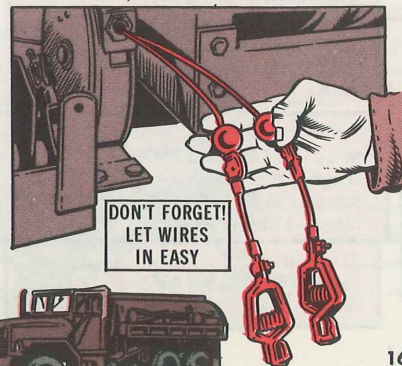


REEL DEAL...NO STATIC

Your static reel takes the gamblin' out of fuel handlin'. It protects you from explosion and fire.

So be sure yours works A-OK, making a good bond or ground.

Excuses don't count here. If the static reel is busted, fix it fast.



A hunk of electrical wire and a couple o' clips will usually do it.

You get the No. 10 electrical wire you need with FSN 6145-519-2685 and electrical clips with FSN 5940-204-8350.

'Case you need a whole new static reel assembly, here're the stock numbers.

Fuel Tank Trucks: FSN 2590-993-4785 (If exhausted, use FSN 2540-040-2070)

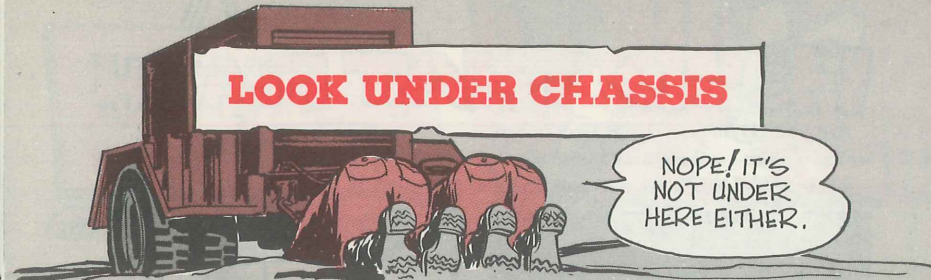
Fuel Tank Semitrailers: FSN 2540-930-5303 (If exhausted, use FSN 2590-792-8621)

Tank & Pump Unit: FSN 4930-563-3666

Remember, any time you rewind the spring-loaded reel, let 'er in easy; it'll last longer.

During travel, hook the clip to something to stop the whipping.

LOOK UNDER CHASSIS



Dear Half-Mast,

We have several pieces of truck and trailer-mounted equipment like generators, compressors, bituminous distributor, and so on, and need the truck and trailer TM's. DA Pamphlet 310-4 doesn't seem to list those trucks and trailers . . . only the mounted equipment. And the mounted equipment TM's do not cover the truck or trailers.

Where are the publications for the basic vehicle listed?

SFC O.D.P.

Dear Sergeant O.D.P.,

Try scanning the DA Pamphlet 310-4 under "Chassis".

When you have truck or trailer-mounted equipment it's usually on a vehicle chassis, even though the end item is called truck or trailer-mounted. Go by the nomenclature on the vehicle chassis data plate, and chances are you'll find the pub in Pamphlet 310-4.

Half-Mast



NEW TM ON COOLING SYSTEMS



Hot stuff on cooling systems—that's TM 750-254 (Mar 72), Cooling Systems: Tactical Vehicles.

This TM was sent out to every pinpoint account for M151 ¼-ton truck pubs ordered on DA Form 12-38.

If you didn't get the new cooling system TM, order yours on a DA Form 17 from the St. Louis pubs center.

Remember, too, you should have TB 750-651 (Jan 71), Use Of Antifreeze Solutions And Cleaning Compounds In Engine Cooling Systems.

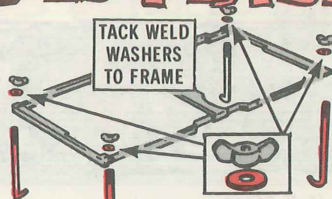
HOLD THAT FLASH

Are your D7E or HD16M tractor batteries in place—and tightened down?

Their hold-down bolts can work loose and slip off the retainer bracket. Then the bolts or bracket jog about and short the batteries. And a flashing hot time is in the making.

To keep the hold-down bolts from slipping out of the retainer's corner slots in case the wing nut works loose, tack-weld the flat washers to the retainer directly over each slot. It won't let the bolt slip free.

Natch—you remove the retainer from the box assembly to weld. An open flame around batteries can ignite any surrounding hydrogen gas—then BOOM . . . you've had it. After welding, dab each tack with paint.



HEAD OFF CRACKED ENGINE BLOCKS

Shipping a tractor, truck, generator or any other water-cooled item to a rebuild depot or any other far-off installation? Especially from a climatic area that never gets below +32°F?

A frozen and cracked engine block is a bad happening. But many are popping up at depots and storage points because they didn't get the right treatment before shipment.

Since you never can tell where the equipment may wind up, always ready its cooling system. Do either . . .

1. Fill the system with equal parts of anti-freeze, 6850-243-1990, and water and attach a red warning tag, 8135-178-9191, to the filler neck, saying—"Cooling system filled with water and antifreeze (ethylene glycol) in equal parts by volume. DO NOT DRAIN."



2. Drain the system and fill with preservative FSN 8030-244-1293 (5-gal). Then drain it completely . . . especially from accessories and low spots that have their own drain cocks. And on the attached warning tag put—"Cooling system drained and preserved with preservative conforming to MIL-C-16173, grade 3."



Ol' Soft Shoe Routine . . .

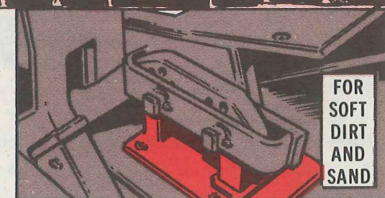
290M TRACTOR SKID SHOE

If you don't know the why's and where-fors of the 290M tractor's blade skid shoe, it'll wind up with a busted bracket. And it's happening time and time again.

The purpose of that skid is to support the blade when grading in soft dirt or sand. That's all!

When you're working on a hard flat surface, put the skid in the elevated position. When you're on hard, rocky terrain or in a stone quarry, take off the skid shoe.

The ones that have a busted bracket can be repaired by welding.



Model 2385 Crane Hydraulic Tank . . .

TOO MUCH OIL

To right a wrong, make your own mark on the hydraulic reservoir dipstick of the Model 2385 20-ton RT crane.

Lower the FULL mark.

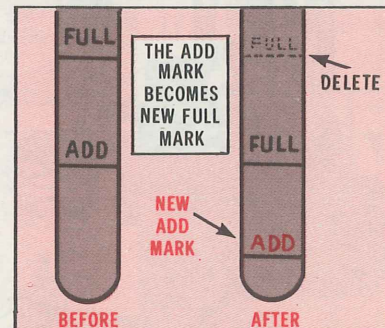
As it is now you can get too much oil in the reservoir, causing seepage through the filler cap when the hot oil expands.

So, make the ADD mark your new FULL mark.

From this point, measure down 1 inch for the new ADD mark.

You can change the dipstick with the 3/16-in metal stamping die set, FSN 5110-293-1904. To make it easier to read, fill in the old lettering with solder before you restamp it.

Next thing you do is take out the spring in the reservoir's relief valve and put in the 12 PSI spring with PN 6711-021 (91561).



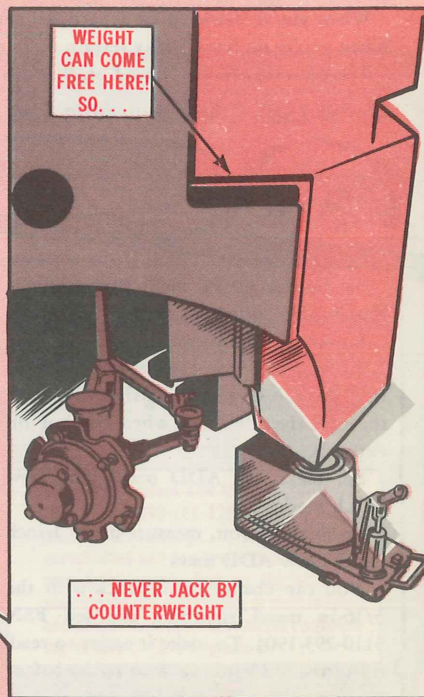
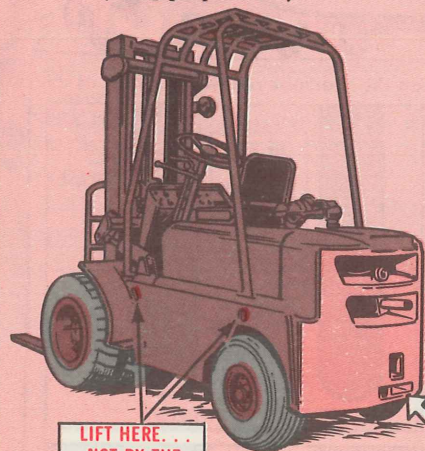
SEE TB 750-971-2 (MAY 72)

COUNTERWEIGHT CARE

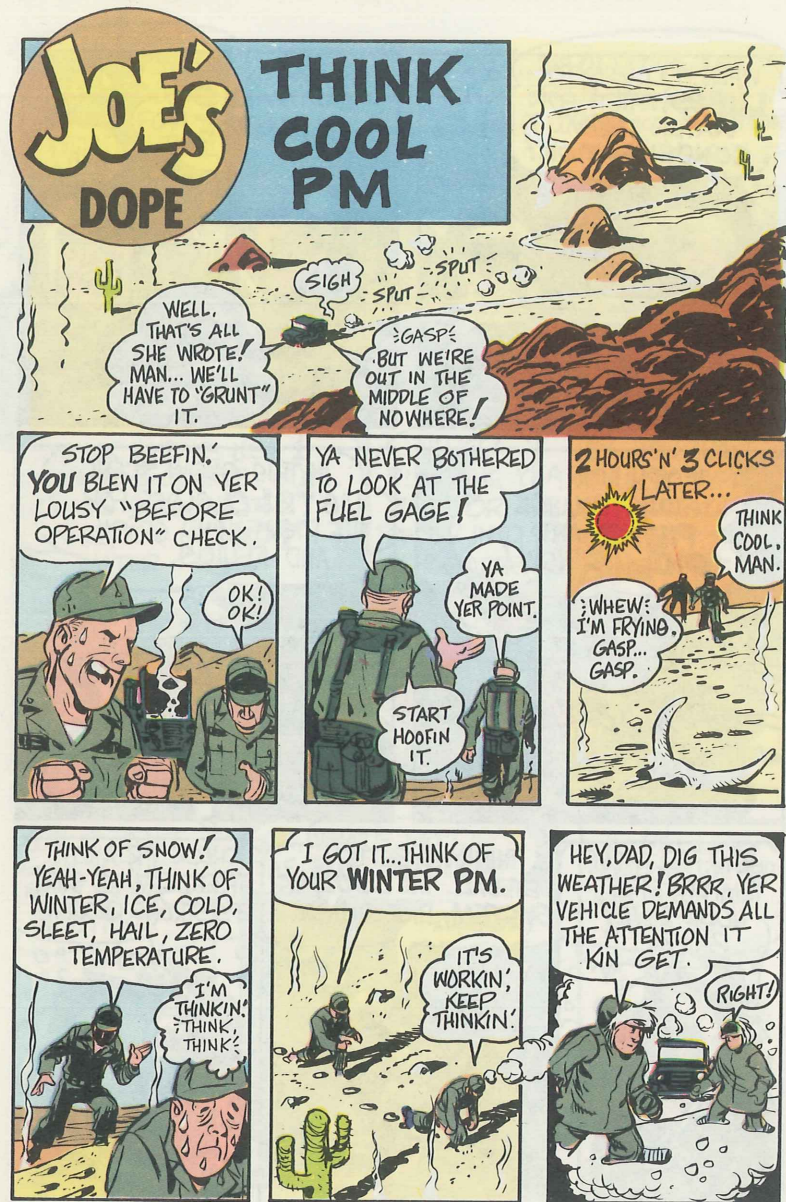
NEVER
LET THIS
HAPPEN...
NEVER!

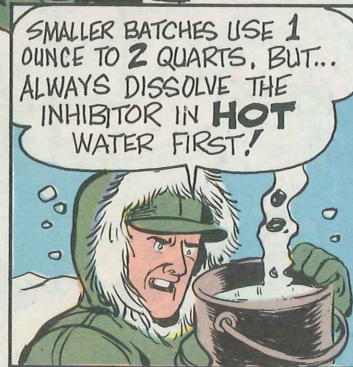
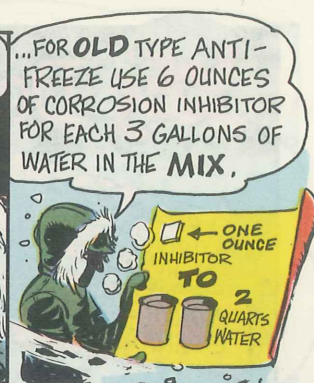
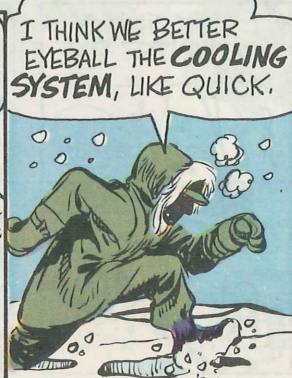
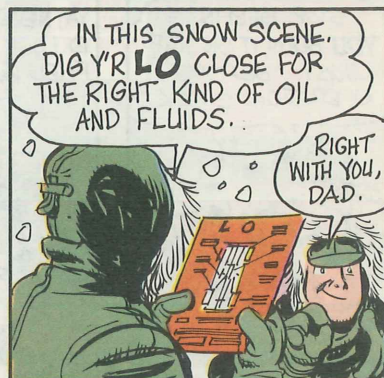
Many commercial design forklifts—like the Baker 6000 and Towmotor Model B-15—have removable counterweights mounted at their rear end. They're big and heavy—real heavy. And they sit there innocent-like, as if they wouldn't crush a flea.

The trouble begins when somebody tries to lift the forklift by putting a jack under the counterweight to change a rear wheel. Or by hooking a sling to the counterweight to lift the truck. This can cause the counterweight to fall off or swing free causing damage to the truck and injuring people nearby.



So... if your truck has a removable counterweight, stencil "LIFT HERE" at each lift point. And across the counterweight stencil "DO NOT LIFT TRUCK BY COUNTERWEIGHT."







Dope Sl

FM 31-70 (APR 68)

FM 31-71 (JUN 71)

TM 9-207 (DEC 70)

TM 10-275 (JUL 68)

TB ORD 390 (JUL 52)

TB ENG 347 (DEC 58)

TB 750-651 (JAN 71)

TB 9-2855 SERIES

SB 11-576 (APR 69)

SB 9-16 (AUG 70)

ORD SNL G249 SERIES

COLD WEATHER
PUBS

BASIC COLD
WEATHER
MANUAL

NORTHERN
OPERATIONS

OPERATION AND
MAINTENANCE OF
ORDNANCE MATERIAL
IN COLD WEATHER

COLD
WEATHER AID
KIT M40

COLD WEATHER
CLOTHING AND
SLEEPING EQUIPMENT

USE OF
ANTI-FREEZE

WINTERIZATION
TECHNIQUES FOR
ENGINEER
EQUIPMENT

WINTERIZATION KITS
FOR AUTOMOTIVE
EQUIPMENT

COLD WEATHER
BATTERIES FOR
RADIO SETS

WINTERIZATION
EQUIPMENT

GENERAL SUPPLY:
WINTERIZATION KITS
FOR TANK-AUTOMOTIVE
EQUIPMENT

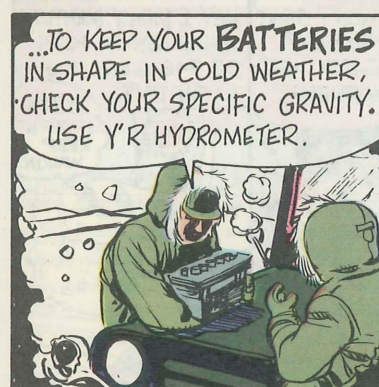
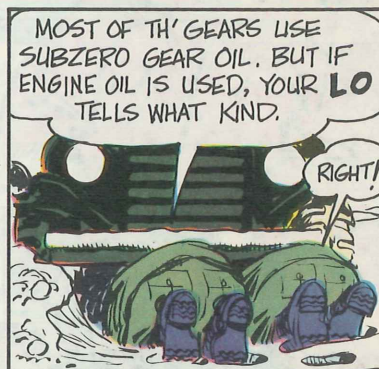


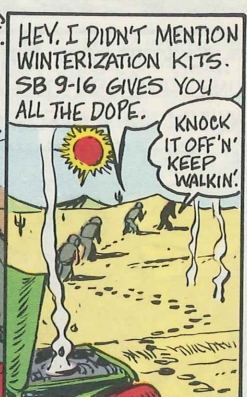
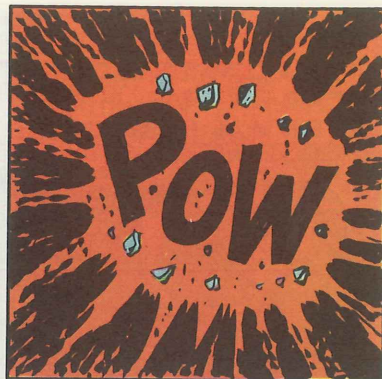
When the temperature's
swingin' down low,
And you're up to your
axle in snow...

Then your PM Know-How
Is the only snow plow
That'll keep all your gear
on the go!

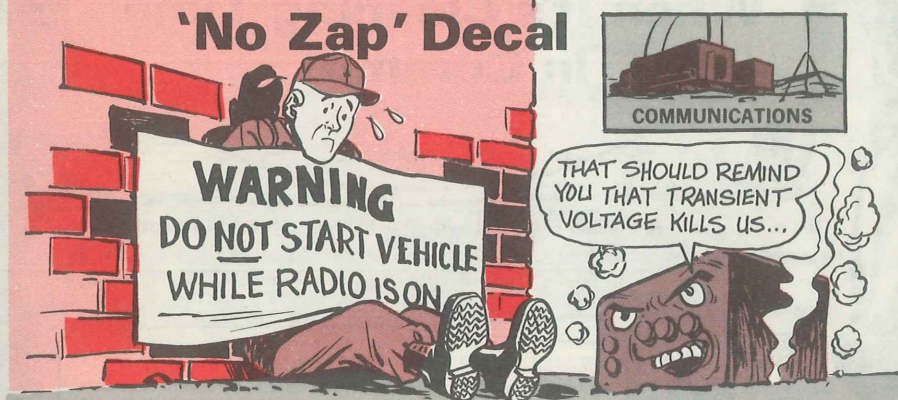
WE HAVE THE WORLD'S BEST EQUIPMENT ...Take care of it

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





'No Zap' Decal



Starting and stopping vehicles zaps radio sets, radio teletypewriters and intercoms . . . unless you turn off the electronic gear first.

The guys who wear the brain hats keep coming up with gadgets like diodes and transient suppressors and such, but they admit that the best protection is simply to turn off the electronic gear's power before you start or stop a vehicle.

You can get away with it a time or two, but each shot of transient voltage weakens transistors and such . . . and knocks them out sooner or later.

As a reminder, here's a reminder which you can stick next to the starter or ignition switch of your vehicle:

DA Label 132 (1 Nov 69), which reads:

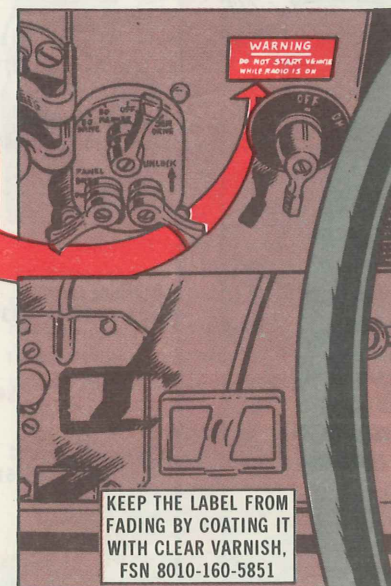
WARNING
DO NOT START VEHICLE
WHILE RADIO IS ON

DA LABEL 132, 1 NOV 69

Your unit can fire off a DA Form 17 to either Army AG Pubs Center (Baltimore or St. Louis), as well as pub centers in Europe and the Far East, requesting as many labels as the unit needs.

SB 11-624 (Mar 70) gives you the official word on availability of the label.

It's worth the investment . . . in time and attention.



When It's Cleaning Time In Commo

I'M
POLISHING
CLOTH!

If you're operating commo-electronics equipment, you're bound to want it clean, tight and protected.

So, you need to be on friendly terms with some of the major cleaners, sealants, moisture-fighters, etc.

NOMENCLATURE

SOME USES

| | | |
|--|-----------------|--|
| Trichloroethane (FSN 6810-930-6311) | 12-oz can | Contact cleaner |
| Silicone grease (FSN 9150-257-5358) | 8-oz tube | Antenna contacts (non-insulating) |
| Silicone compound (FSN 6850-880-7616) | 8-oz tube | O-rings, rubber grommets, etc. |
| Varnish (FSN 8010-515-2487) | 1-pt spray can | Moisture protection, fungus-proofing |
| Denatured alcohol (FSN 6810-201-0906) | 1-pt bottle | Cleaning plugs, springs (in humid areas), searchlight reflectors |
| Cleaning compound (FSN 6850-597-9765) | 1-gal can | Cleaning parts, external surfaces |
| Polishing cloth (FSN 7920-985-6849) | 13½ by 11-in | Switchboard plugs and packs |
| Freon type TF (FSN 6850-105-3084) | 16-oz spray can | Cleaning recorder head and electronic components |
| Silicone compound (FSN 6850-927-9461) | 5-oz tube | Heatsink compound, heat protection |
| Isopropyl alcohol (FSN 6810-753-4993) | 8-oz can | Cleaning boards, electronic components |

I'M
VARNISH!

I'M
DENATURED
ALCOHOL!

I'M
SILICONE
GREASE!

I'M DEFEATED!

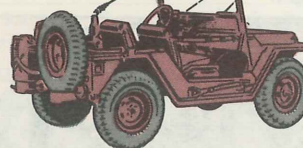
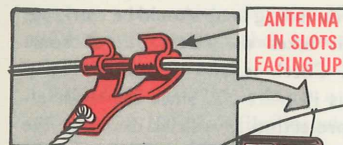
How To Tie One On...

BY PARKING
BETWEEN HILLS
YOU CAN'T
TRANSMIT...
BESIDES, YOU
BUSTED THE
ANTENNA
TIP.

Tying one on right is half the battle. Avoiding obstacles takes care of the other half.

We're talkin' about antennas and tie-down clamps, of course. If you just happen to snag the antenna tip under the wrong loop on the clamp, bet a nickel that you'll bust the tip if you snag it on a branch or any other firm obstacle.

The secret's simple. Just push the antenna tip into the slot that faces up. That way, the antenna pulls free if it gets snagged . . . and doesn't bust. You don't want to secure the antenna under the loop that's looking at the tie-down cord. It's got no place to go that way . . . except the repair shop.



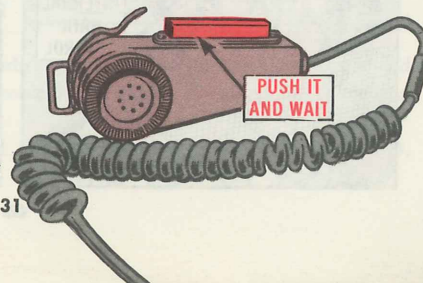
If you're out in the hills or woods with an FM radio set, and you're having

trouble transmitting, find a high spot.

Now, if you've got a reasonably unobstructed line of sight and still can't get the word out, see a repairman.



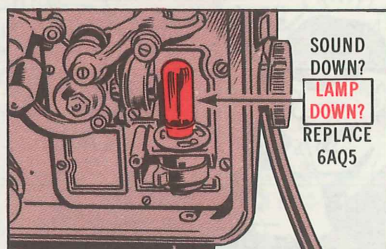
Sometimes it takes a brief pause for the transmitter to catch up after you push the push-to-talk switch on a mike or handset. So, if you're losing words on transmission, push the switch, wait a second, then talk.



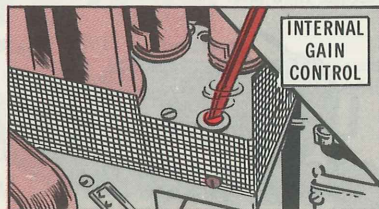


Getting the word, as well as getting the picture, can hang you up when operating the AQ-2A() projector . . . providing you're not with some basic indicators.

Low sound, for instance, could mean that the 6AQ5 tube needs replacing. A good indicator of a poor tube is a dim exciter lamp. If your sound's down, and the lamp's down, too, replace the 6AQ5.

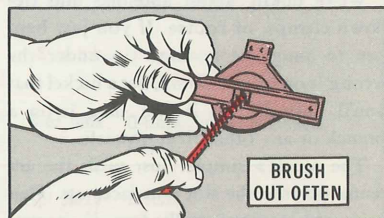


Another sound problem: providing you've checked out the tube, and if you get very low or no sound, try to bring it up with the internal gain control. If that doesn't work, have your support check out the sound prism. Chances are it needs a good cleaning.



CLEAN THE PLATES

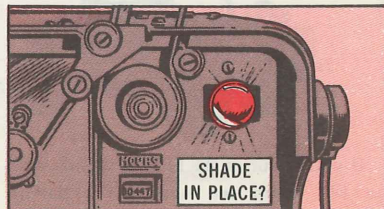
Which brings up these points: the pressure and aperture plates' fissures should be brushed out often . . . with the fiber brush that comes with the set.



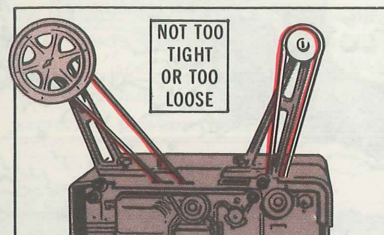
Clean plates (with no dirt on the edges of the frames) eliminate the fuzzy border you get around projected pictures.

CHECK THE LAMP

The threading lamp should be working, since it takes the sweat out of some chores. Check it, and be sure the lamp shade is in place . . . since the shade affords protection as well as directing the light.



Too loose or too tight take-up and rewind belts can give bad performance. You should be able to pull them through with slight hand pressure.



So, if they slip on the clutches, or the clutches turn hard, eyeball para 30 of TM 11-6730-201-10 for adjustment procedures.

ON REFLECTION

Finally, for best performance, remember the projector reflector next time you're pulling routine maintenance. Polish it with lens tissue routinely . . . and especially after each 100 hours of operation.



Cold Weather Film

HEY, LET'S SNAP A BEAUTY CONTEST... THAT'LL KEEP ME WARM.

If below freezing temperatures are zapping your aerial film (for KA-30A and KA-60B cameras), then turn a warm ear thisaway:

FSN 6750-763-7745 will get a pliable roll (5-in by 150-ft) of film for your KA-30A, and FSN 6750-935-3977 will get you a 500-ft by 70mm roll for your KA-60B. That's the best cold weather stuff available.

There is no "special" film for cold weather use, but the above film is recommended for its pliability. It'll help prevent problems caused by brittle film, including jamming and camera misfire.

Even so, film should be loaded and threaded in above freezing temperatures, where possible.

LOAD AND THREAD FILM IN ABOVE-FREEZING TEMPERATURES



Aircraft Tires . . .

TLC TO THE RESCUE

AFTER THAT LANDING
I NEED SOME TLC
ON MY TIRES.

The tires on a fixed wing bird take a beating, coming to grips with various obstacles in all types of weather. With just a little tender lovin' care, tho, they'll really take care of you.

eyeball the tires during your Preventive Maintenance Daily. Cuts that expose the cord and blisters over 2-in diameter in the sidewall means the tire has to be changed.



Only support can repair the tire, send it for retreading if it passes inspection, or scrap the tire.

Remove stones, nails and other objects

in the tire tread by using a medium-sized screwdriver. Cover the object you're prying with your hand so it doesn't fly up and hit you in the noggin!!



Wipe oil or grease from a tire with a cloth moistened with drycleaning solvent. Protect bearings and seals and wash the tire with mild soap and water to remove the solvent.



Inspect the tire to be sure POL hasn't caused the rubber to become swollen, soft or spongy, so that you have to replace it.

TIRE PRESSURE OK?

Overinflation can cause a tire to explode.

Underinflation can cause a tire to slip on the rim, shearing the inner tube valve stem—cause a tire to blow out on landing.

Which is why you want to check the bird organizational maintenance pub for correct air pressure figures.

TM 55-1510-204-20
C.B.

Table 1-4. Tire inflation versus gross weight

CH 1 - SEC II

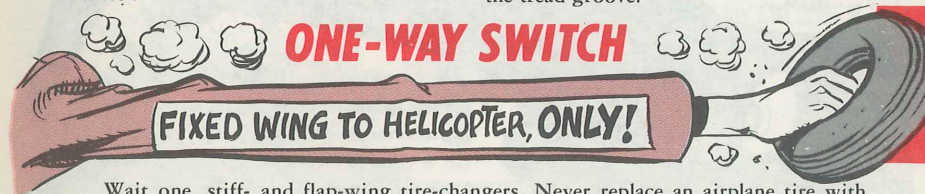
| AIRCRAFT GROSS WEIGHT (LBS) | LOADS INFLATION PRESSURE (PSI) | | | |
|-----------------------------|--------------------------------|---------------|----------------------|--------------|
| | MAIN WHEELS 5, 10-15 | | TIRE WHEELS 5, 10-15 | |
| | 10 FLY RATING | 12 FLY RATING | 6 FLY RATING | 8 FLY RATING |
| 10,000 | 50 | 50 | 30 | 30 |
| 12,000 | 70 | 63 | 35 | 35 |
| 14,000 | REFER TO NOTE 1 | 75 | 40 | 40 |
| 16,000 | REFER TO NOTE 1 | 80 | REFER TO NOTE 2 | 45 |
| 18,000 | REFER TO NOTE 1 | 100 | REFER TO NOTE 2 | 50 |

NOTES:

- DO NOT USE 10 FLY RATING TIRES FOR AIRCRAFT GROSS WEIGHT OVER 12,000 LBS.
- DO NOT USE 6 FLY RATING TIRES FOR AIRCRAFT GROSS WEIGHT OVER 16,000 LBS.

If your unit has a protective tire cage, use it when you make with the air hose. At the very least, use safety chuck gage, FSN 4920-781-8423, at pressures of 50 PSI and above. With the gage you can deflate, inflate and check tire pressure from a comfortable distance in case the tire should go BOOM!

As you go over the tire looking for damage, eyeball the wheel also. Nicks, cracks and corrosion of the metal may require repair or replacement of the wheel.



Wait one, stiff- and flap-wing tire-changers. Never replace an airplane tire with a helicopter tire. Those chopper tires are marked HELICOPTER or HELI 'cause they're not made to stand up under the high speed and impact loads of airplane landings and takeoffs. If necessary, you can use an airplane tire on a helicopter. Just make sure it's the right size!

Focus in on the tire slippage mark, for real. Para 3-214e of TM 55-1500-204-25/1 (Apr 70) on general maintenance calls for a slippage mark on tires with tubes. The mark is put on during tire mounting to give mechanics a visual means of spotting tire slippage. Tubeless tires don't get marked.

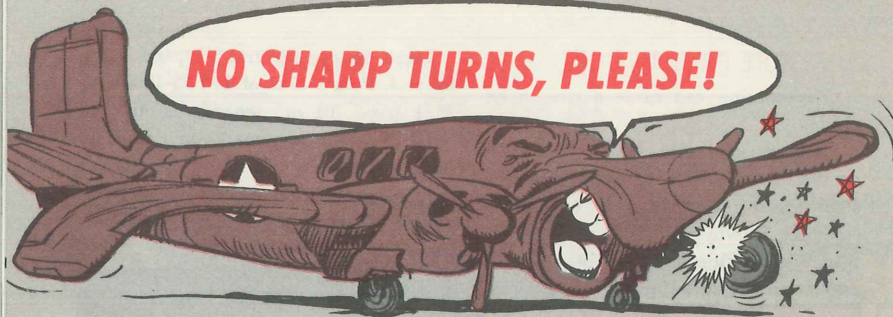


Slippage marks will wear off in time. Renew the mark with a painted red stripe 1/2 inch wide by 2 inches long across the rim flange and tire sidewall, extending 1 inch on the rim and 1 inch on the tire.

Deciding when a tire has excessive wear and needs changing is up to your maintenance officer. If the tires on your bird are not listed in TB 55-2620-202-15 (Aug 71) as authorized for retreading, you can use 'em until you spot the cord body.

Tires authorized for retreading have to be removed when any portion of the tread wear has reached the bottom of the tread groove.

NO SHARP TURNS, PLEASE!



When you tow your Seminole (U-8), avoid making any tight turns. If the nose wheel is turned past the placard limit mark it'll hit the metal restraining stop . . . maybe crack the strut housing and sideline the bird!!

TIME FOR A FILTER ELEMENT CHANGE...

ELEMENTAL CHANGE

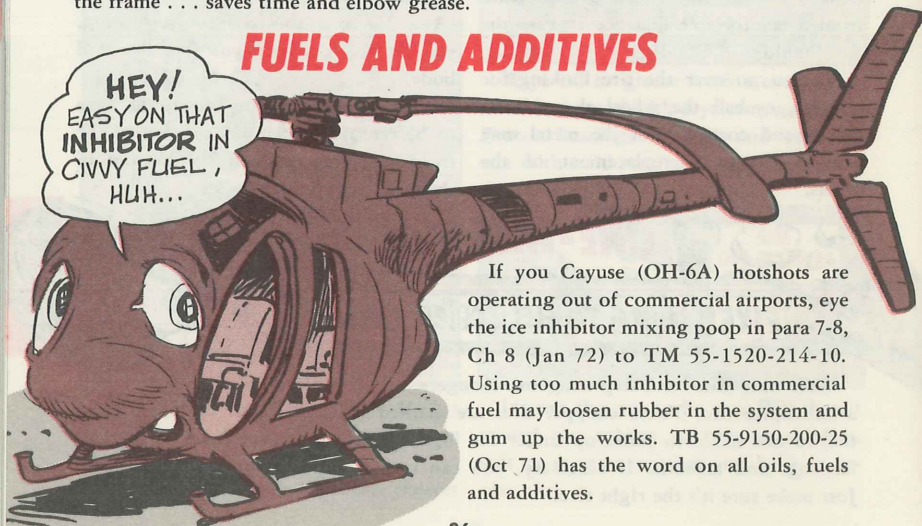
EEK! HE'S TH' ONE WITH TH' COLD HANDS.



Hold one, Seminole (U-8) mechs, when replacing the new polyurethane carburetor filter every second Periodic. Change only the filter element, FSN 2945-080-7783, not the frame . . . saves time and elbow grease.

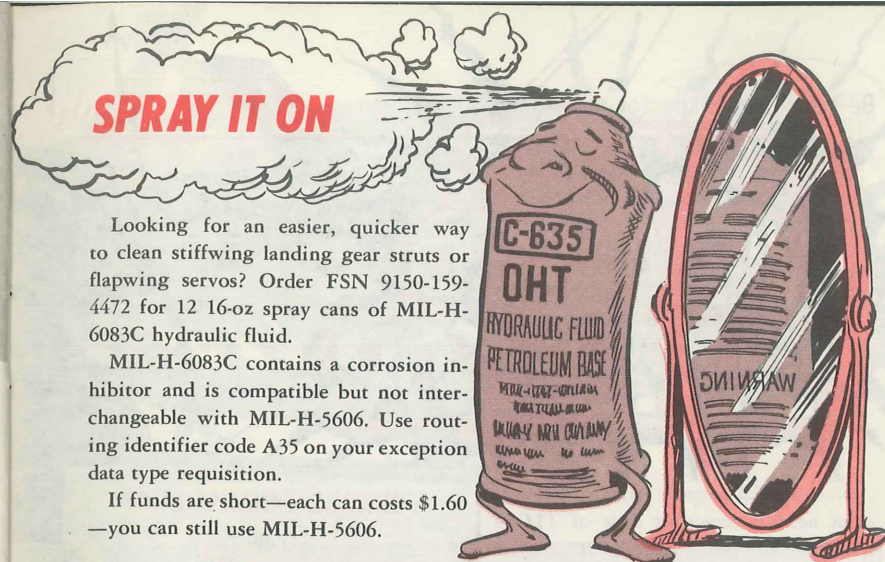
FUELS AND ADDITIVES

HEY! EASY ON THAT INHIBITOR IN CIVVY FUEL, HUH...



If you Cayuse (OH-6A) hotshots are operating out of commercial airports, eye the ice inhibitor mixing poop in para 7-8, Ch 8 (Jan 72) to TM 55-1520-214-10. Using too much inhibitor in commercial fuel may loosen rubber in the system and gum up the works. TB 55-9150-200-25 (Oct 71) has the word on all oils, fuels and additives.

SPRAY IT ON



Looking for an easier, quicker way to clean stiffening landing gear struts or flapwing servos? Order FSN 9150-159-4472 for 12 16-oz spray cans of MIL-H-6083C hydraulic fluid.

MIL-H-6083C contains a corrosion inhibitor and is compatible but not interchangeable with MIL-H-5606. Use routing identifier code A35 on your exception data type requisition.

If funds are short—each can costs \$1.60—you can still use MIL-H-5606.

SAMPLE HYDRAULIC FLUID

When you Huey, HueyCobra and Chinook mechs take oil samples from an engine, transmission or gear box, focus in on the hydraulic system. A routine 25-hr sample (100-hr for CH-47) of hydraulic fluid from the bird reservoir also goes to the lab, per Table 1 of TB 55-6650-300-15 (Aug 70) on ASOAP.



ACCIDENT SAMPLES



Any time you air types take oil samples following a bird crash or accident check block 6i—the aircraft crash block—on the DA Form 3253. In addition, give any known contributing factors in the remarks column of the form. Any component failure info will aid the lab types in their oil analysis.

Be-Your-Own-Inspector . . .

EXHAUST INFRA-RED SUPPRESSOR

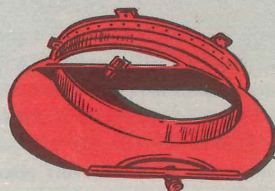
New, special-purpose Armybird equipment needs a generous dose of TLC—tender lovin' care—to keep it mission ready.

So-o-o-o, here're some PM tips on the components for the AH-1G and UH-1H model Hueys in your flock that've been MWO'd with the exhaust infra-red suppressor.

THESE AIR
INLET SCOOPS
ARE FOR THE
AH-1G ONLY!

Eye-ball these items daily and following any mission where your bird has battle damage. Any crack or hole gets repaired **SOONEST**—like right now.

FORWARD EXHAUST DUCT Ejector



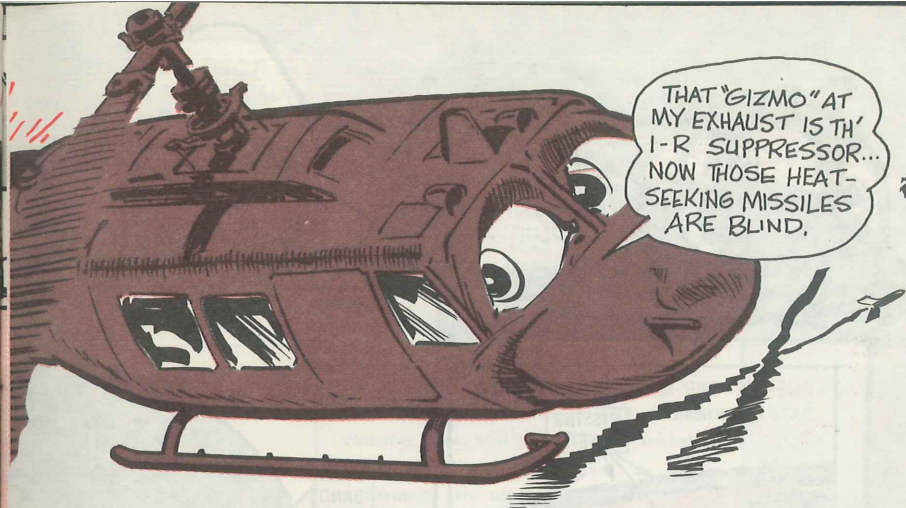
NUTS, BOLTS, LOCKPINS—Loose, broken, stripped threads, missing.

AIR INLET SCOOPS—These air scoops keep your 'Cobra cool man, like real cool! Never fly an IR MWO'd Cobra without 'em.



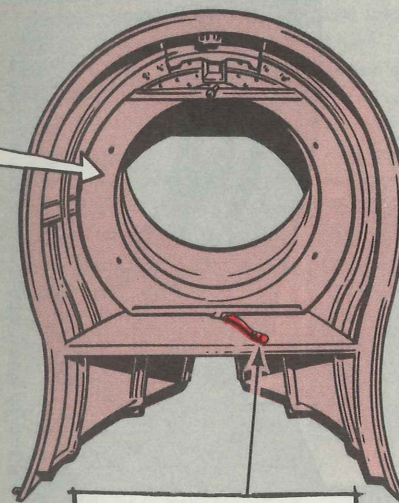
Damage limits are the same as for the forward exhaust duct.

THAT "GIZMO" AT
MY EXHAUST IS TH'
I-R SUPPRESSOR...
NOW THOSE HEAT-
SEEKING MISSILES
ARE BLIND.



ATTACHING SCREWS—Loose, broken, missing.

DUCT (Ejector)—Cracked, dented, overheated.



DRAIN HOSE—Missing, loose.

Cracks 'n' holes shouldn't be over 3 inches in diameter after you get it ready for repairs. And you need a minimum of 2 inches of the original bird skin between patches. Never patch over another patch.

Discolored metal is OK. Just be sure you're not about to get a burn-through.

Dents are OK as long as the surface is not broken. Sharp creases or protrusions into the exhaust stream are not allowed.

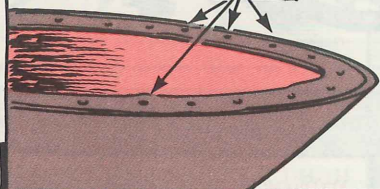
Use your own judgment about repairing the mounting frame. Replacing it is not practical.



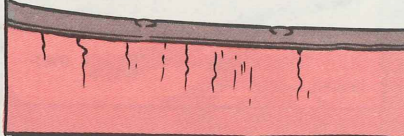
AFT EXHAUST

INTERIOR SURFACE—Cracked, dented, nicked, overheated.

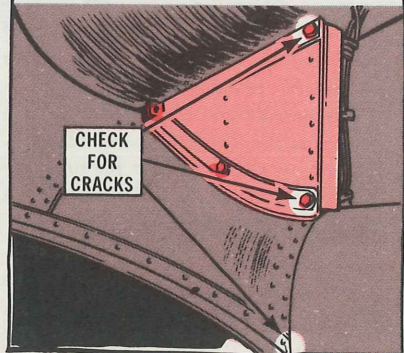
MISSING RIVETS



EXTERIOR SURFACE—Cracked, dented, overheated.



DUCT AND SUPPORTING FAIRING—Loose mounting. Loose or missing bolts, rivets.



THIS DUCT SECTION REALLY TAKES A BEATING. HEAT PRESSURE, BLAST... EYE-BALL IT CAREFULLY.



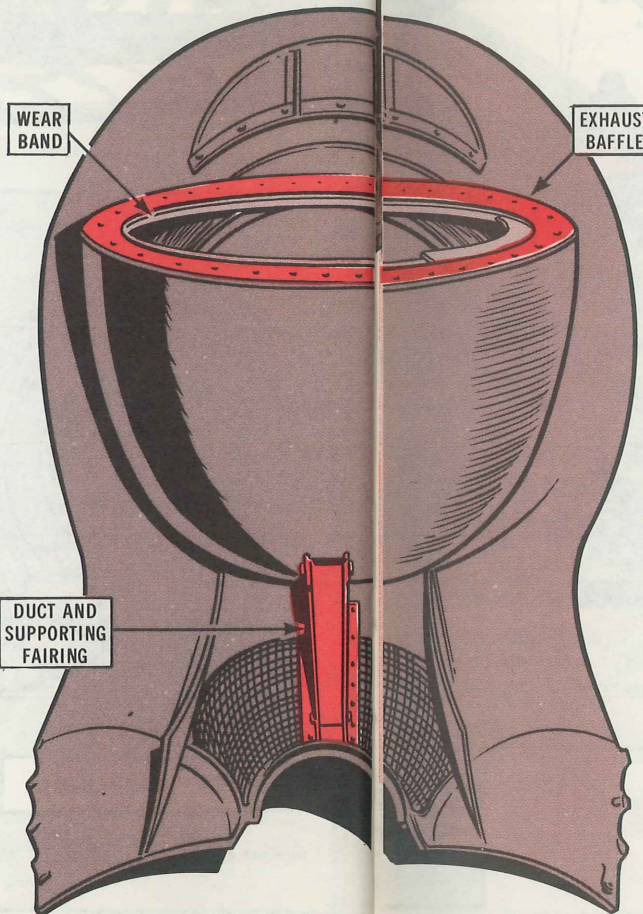
ANY CRACKS AND HOLES GOTTA BE CHECKED OUT! NO IF'S, AND'S OR BUTS.

DUCT

WEAR BAND

EXHAUST BAFFLE

DUCT AND SUPPORTING FAIRING



Same damage limits to interior surface as for the Forward Exhaust Duct.

Cracks 'n' holes in the exterior surface can't be over 4 inches in diameter after cleanup. You still gotta have 2 inches of parent metal 'tween patches.

Damage to temp-mat insulation between interior and exterior surfaces can't be more'n 4 inches in diameter after clean-up.

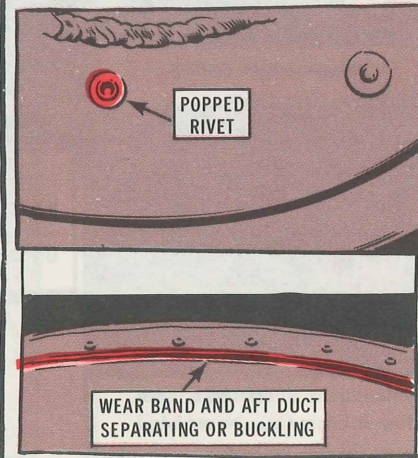
Interior and exterior surface dents are OK as long as their surfaces aren't broken. Sharp protrusions into the exhaust stream are not allowed.

Damage to the exhaust baffle and wear band of the duct is a be-your-own-judge deal for repair or replacement. Replace any missing or loose rivet.

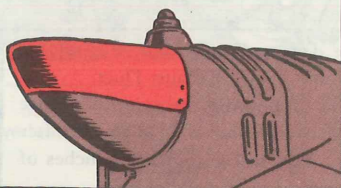
POPPED RIVET



WEAR BAND AND AFT DUCT SEPARATING OR BUCKLING



AFT DUCT COVER—When your bird's a-roosting, use the cover that came with the kit. It'll protect the aft duct, sure 'nuff. 'Course you have to wait until the tailpipe cools before tying it on.



HERE'S THE CLOSE-UP OF THE AFT SECTION... DIG ALL THIS INFO CAREFULLY...

LATCH ON TO THESE SPECIAL ITEMS.

You'll need these special items for repairs: Kit, FSN 1560-103-3459, P/N 205-706-083-1, which contains:

| UNIT | FSN/P/N | NOMENCLATURE |
|------|---------------|----------------------|
| 1 | 205-706-083-3 | Patch |
| 1 | 205-706-083-5 | Patch |
| 1 | 205-706-083-7 | Patch |
| 1 | 8040-105-0254 | Adhesive (16-oz kit) |

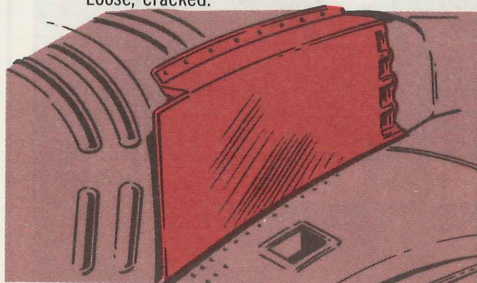
Items you'll need that don't come with the kit:

| UNIT | FSN | NOMENCLATURE |
|------|---------------|----------------------|
| 1 | 8040-664-2912 | Adhesive (50-gm kit) |
| Gal | 6810-281-2785 | Solvent (MEK) |
| 5-lb | 5320-639-2697 | Rivet |

There you have it, Birdkeepers. Now bone up on your sheet metal work with TM 55-408 (Jun 65), TM 55-1500-204-25/1 (Apr 70), and the Dash 20's for the 'Cobra and Hotel model birds.

Hang onto the instructions you get with the MWO. "What you sees is all you gets," until the bird pubs are up-dated with the inspection and repair poop.

SIDE SHIELDS (Upper engine cowlings)—Loose, cracked.



OIL COOLER SHIELD (Engine and transmission oil cooler)—Loose attaching bolts. Cracked welds on supporting braces (On UH-1H only).

NOTE: Side shield interference with engine cowling latch is OK. Never bend or trim the side shields, podner!



COMBAT SUPPORT

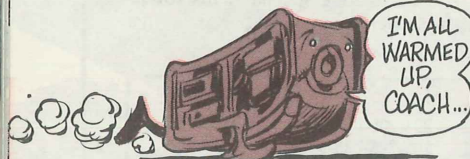
Military Design Generators, 1.5 thru 10 KW . . .

CHUG
CHUG
CHUG

WARM UP

Like most gasoline-engine-driven pieces of equipment, the Military Design generators also get a warm-up period at the start—and a cooling period at shutdown.

Warm-up to assure a smooth running engine before it's put under load . . .



Cooling to offset thermal shock and continued running by "dieseling" after shutoff.



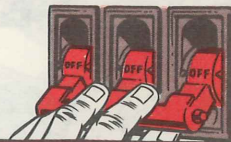
And this is done with the engine running at idle speed with circuit switch OFF.

Idling RPM blows the rotating rectifier diodes and the regulator if load remains connected.

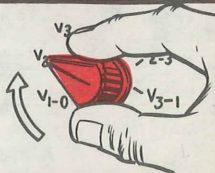


STARTING

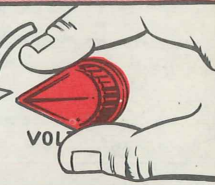
1. Set the circuit breaker in OPEN or OFF.



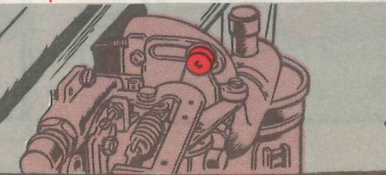
2. Phase selector to desired voltage output.



3. Turn voltage rheostat fully counterclockwise.



4. Place throttle control in START position.



5. Start the engine.

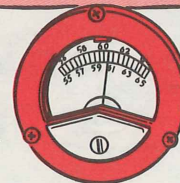


6. Put throttle control in RUN position.



7. Let engine warm up at rated RPM speed for 3 to 5 minutes.

8. Adjust voltage rheostat for needed voltage output.



9. If frequency meter does not show 61 Hz, adjust the throttle control/governor until it does.

10. Throw the circuit breaker switch ON.

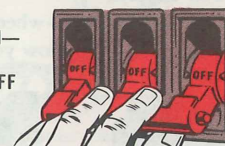


COOLING

AHHH HHH

SHUTDOWN

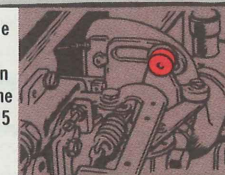
1. Remove load—flip circuit breaker to OFF or OPEN.



2. Turn voltage rheostat fully counterclockwise.



3. Place throttle control in IDLE position and let engine run for 3 to 5 minutes at idle speed.



4. Turn OFF engine.



Above all—operate the generator in a well ventilated spot. The engine is air cooled and can use all the fresh air it can get.

A WINDOW'S FOR SEEING THRU...

Just about every Military Standard engine plus many other types of engines have an air restrictor indicator built into their air intake system. It's there to let you know when the air cleaner is choking up with dirt and cutting down on the engine's air supply.

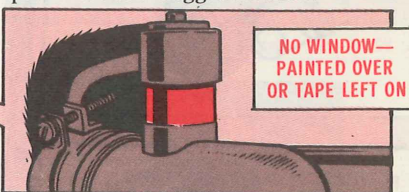
It's a fine gadget—when solid red shows through its window you know it's filter-cleaning time.



But what happens when your air restrictor has no window for the red to

show through? Your engine's in deep trouble.

Paint-happy spray-gun slingers are not masking the window with tape before painting. Result—no window . . . and an engine that's going to overheat and lack power due to a clogged air filter.



Eyeball all of your pumps, generators and compressors now. Any painted indicator must be scraped clean pronto. Also, check the air cleaner; it may be over-due for a cleaning.

WELL OILED, BUT...

Is your Mil Std engine oilcoholic?

If it gulps too much oil, reform it or replace it.

Yell for your unit mech. If necessary, get your support unit in on it . . . or submit an EIR.

Never just ignore it.

It could louse up the whole end item, the generator, the pumping assembly or what-have-you.

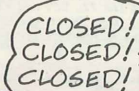
Thing about this type engine is you can't tell when the oil consumption will increase.

So, eyeball the dipstick, like the LO's say, to make sure the level is up to the full mark.

You never overfill the crankcase, either.

45-KW Generator Access Doors . . .

OPEN OR CLOSED?



Dear Half-Mast,

Which access doors are to be left open, or closed, when operating the Consolidated 45-KW Model 4060 generator is still a muddle—can you clear it up?

SP5 J. L. N.

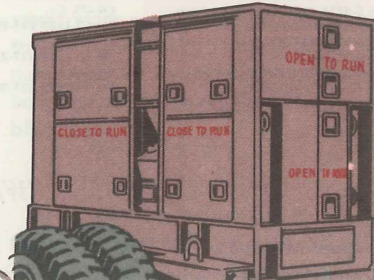
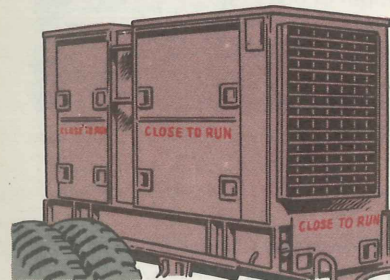
Dear Specialist J.L.N.,
Sure can.

All side access doors and the front heater door should be marked . . .

The rear control panel and fuel tank access doors should be marked . . .

... CLOSE TO RUN

... OPEN TO RUN



Changes 4 and 2 to TM 5-6115-235-10 clear up the muddle.

Generally, the position of the access doors depends on the "cooling" design of the generator. For those having a pusher type fan that forces air through the radiator from the inside, keep all of the side doors closed and the rear doors open. Air is sucked in from the rear, flows over and cools the main generator and the engine and is forced out through the radiator. An open side door will hamper the channeled air flow and cause overheating.

Almost all of the 45-KW 400-Hz generators have this type of air-flow cooling system. Generators that draw their air through the radiator from the front can have their side doors open or closed depending on the weather conditions.

But never guess—always position the doors like the generator's TM and its changes say.

Half-Mast

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 71), and Ch 5 (Apr 72), TM's, TB's, etc.; DA Pam 310-6 (Jul 72), SC's and SM's; DA Pam 310-7 (May 72), MWO's; and DA Pam (C) 310-9 (Nov 71), COMSEC Pubs.

TECHNICAL MANUALS

TM 5-764 May Elec Motor and Generator Repair
TM 5-2410-205-20P Jun Full Tracked Tractor Mdl TD-24-241
TM 5-2805-260-24P Jul Outboard Motor, Johnson Mdl RDSML 30A and RDSML-31M
TM 5-3810-233-12 Jun 5-Ton Wheel Mid Crane, Hanson Machinery Mdl H446
TM 5-3810-294-20P Jun 20 Ton Truck Mounted Crane, Harnischfeger Mdl AK32012
TM 5-3895-325-12 Jul Bitum Material Distributor, Seamon Mdl 800M
TM 5-4120-246-14 Jun 36,000 BTU/HR cooling Air Cond, Therm-Air Mdl HC 36-3-08-60
TM 5-4120-246-20P Jul 36,000 BTU/HR Air Cond, Therm-Air Mdl HC 36-3-08-60
TM 5-4310-227-20P Jul 15 CFM, 175 PSI Compressor, Champion Pnum Mdl OEG-458-ENG-1
TM 5-4310-345-14 Jun 250 CFM, 100 PSI Rotary Air Compressor: Trlr Mdl Davey Mdl 14M250RPV
TM 5-6115-586-12 Jun Utility Power Plant, Libby Welding Co. Mdl LPU-71
TM 9-2300-257-20 C3 Jun M113A1 Family Carriers
TM 9-2350-224-10 C10 Jul Tank, Combat, Full-Trkd: 90-MM Gun,



M48A3 W/E

TM 9-4935-542-24P Jul Shop Equip AN/TSM-112 Imp HAWK, Guided Msl Remote Control Sys
TM 11-1520-217-ESC Jul Electronic Equip Config in Army Mdl CH-54A, B
TM 55-1510-204-20/1-2 C4 Aug OV-1D Act
TM 55-1520-209-PMP C3 Jun CH-47A
TM 55-1520-209-10 C17 Aug CH-47A
TM 55-1520-210-PMD C4 Jun UH-1D/H
TM 55-1520-210-20P-1 C4 Aug UH-1B, C, D, H, M
TM 55-1520-214-PMD C1 Jun OH-6A
TM 55-1520-217-20P-1 C2 Aug CH-54A, B
TM 55-1520-219-PMI C2 Jun UH-1B
TM 55-1520-219-10 Jun UH-1B
TM 55-1520-219-20 Jun UH-1B
TM 55-1520-226-CL C1 Jun TH-13T
TM 55-1520-227-PMI C2 Jun CH-47B, C
TM 55-1520-227-PMP C3 Jun CH-47B, C
TM 55-1520-227-10 C2 Jun CH-47B, C
TM 55-1520-227-10 C4 Aug CH-47B, C
TM 55-1520-227-20-1 C4 May CH-47B, C
TM 55-1520-227-20-1 C5 May CH-47B, C
TM 55-1520-227-20-1 C10 Aug CH-47B, C
TM 55-2840-231-20P C1 Jul Gas

Turbine Act T-63-A-5A and T-63-A-700

MISCELLANEOUS

DA Cir 310-38 Sep Basic Issue Items (BII)
DA Cir 750-37-10 Aug Sample Data Collection Radio Set AN/GRC-143
DA Pam 310-7 May MWO's
MWO 9-2350-215-30/27 C1 Jul Tank, Combat, Full Trkd 105-MM Gun, M60: Instal of 5-Man, 20-CFM, Tank, Gas-Particulate Filter Unit Kit M13 (4240-601-8372)
MWO 9-2350-230-30-11 Aug Armd Recon/Abn Aslt Veh (AR-AAV): 152-MM, M551: Relocating Closed Breach Scavenging Sys (CBSS) Components and Instal Turret Cable Guards
SB 11-618 Aug Reusable Shipping and Storage Containers
SB 750-981-2 Apr EIR and Maint Serviceability Std for Radio Set AN/ARC-54
TB 703-1 Jul Spec List of Std Liq Fuels, Lubes, Preservatives and Related Products Auth for use by US Army
TB 750-981-2 Apr EIR and Maint Digest, Tank and Automotive Equip
TB 750-992-2 C9 Aug EIR and Maint Digest, Rotary Wing Act
TB 750-992-3 C1 Aug EIR and Maint Digest, RW Act

Connie's
Mini Mini's



Vent For A BA-4386

MWO 11-5800-211-30-1 (Sep 72), limited urgent application, modifies the CY-2562/PRC-25 battery box to prevent BA-4386 hydrogen gas build up. The MWO is for all boxes used with RT-505 and RT-841 receiver-transmitters. It must be applied by the end of February 1973 . . . or you can't operate your equipment after that date.

M816 Throttle Cable

So you get support's nod to replace that winch and boom throttle cable on your M816 5-ton Wrecker—and you get a cable that's too short. So ask your DSU to get FSN 2590-070-1003—not the one listed in TM 9-2320-260-35P/2, page 329. It's for older, G744-series 5-tonners.

New BII Rules

The Army's new policy on Basic Issue Items (BII) is spelled out in DA Cir 310-38 (Sep 72). It tells you what is and what's not BII. You'll need to know—whether you keep or turn in items removed from the BII list. Take no action, tho, till you get the revised BII in a -10TM change or revision.

Fuel-Lube Lineup

Got problems in identifying fuels and lubes authorized for Army use? Try TB 703-1 for the latest list with types, grades, names, NATO symbols and specs.

Nix On Parts Mix

If you have M31 14.5-MM field artillery trainers, train yourself to do this: Keep the bolt, barrel and receiver with the trainer it comes from. These parts are mated to control headspace and won't work well if changed from one trainer to another. The bolts are serial numbered to the barrel for identification, and you've got to keep the assemblies together.

Right On

Keep sending those aircraft subsystem maintenance reports on DA Form 2407 (except on actions reportable on DA Form 2410). DA Cir 750-35 has expired—but DA Cir 750-40 (20 Sep 72) calls for these reports to continue. So keep right on reporting all maintenance actions—on the aircraft or in the shop. Even for items reportable on DA Form 2410, report removal and on-board maintenance on DA Form 2407.

☆U.S. GOVERNMENT PRINTING OFFICE: 1972 - 759-500/5

Hold Down Your End

Urgent MWO 55-1500-210-30/44 (28 Jul 72) gives you Chinook types the word on removing the overhead control centering switch on your CH-47A, B, C. For a good reason. The mod eliminates a feature which allows the cyclic stick to drift forward, raising the aft end, when operating at ground level.

MWO Of The Month

Snake handlers, if your AH-1G has been modified with the improved anti-torque system according to MWO 55-1520-221-40/3 (Oct 70), make sure you have all the changes incorporated . . . 1, 2, 3, 4—go!

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

**PACK
UP YOUR
TROUBLES** **AND
PACK
EM
WELL**



**AND A DEPOT-REPAIRED
ITEM MAY BE YOUR ONLY
SOURCE OF SUPPLY
TOMORROW!**