

Issue 142

PS

1964 Series

**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

HE SAID A
DINOSAUR THREATENED
TO SIT ON HIM IF N
HE DIDN'T LUBE HIS
VEHICLE ACCORDING
TO THE L.O.

HMMM...
TYPICAL FOOD
POISONING
SYMPTOMS
HALLUCINATIONS.

Will Eisner

SPECIAL ARTICLE
YOUR M35A1 TRUCK
SEE PAGE 2

TIMES HAVE CHANGED

Time was when a good soldier was one who always made reveille, drilled well, performed chores he was told to do and, above all, kept his '03 rifle maintained and ready.

But times have changed since your dad or granddad wore OD. Along with the new Army green, we've got scads of equipment that you and everybody up the line have got a part in keeping ready to fight.

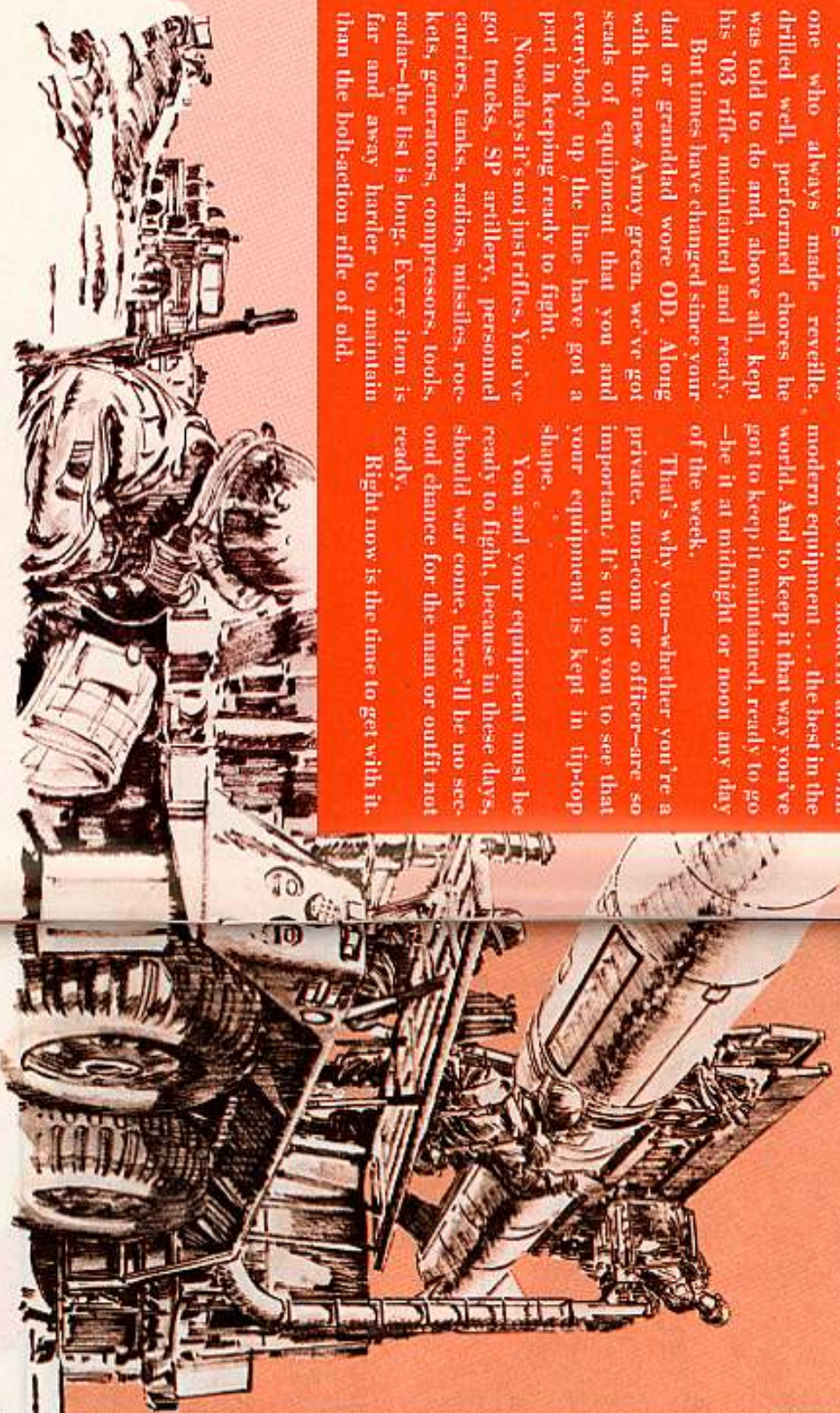
Nowadays it's not just rifles. You've got trucks, SP artillery, personnel carriers, tanks, radios, missiles, rockets, generators, compressors, tools, radar—the list is long. Every item is far and away harder to maintain than the bolt-action rifle of old.

You're in a modern army with modern equipment . . . the best in the world. And to keep it that way you've got to keep it maintained, ready to go —be it at midnight or noon any day of the week.

That's why you—whether you're a private, non-com or officer—are so important. It's up to you to see that your equipment is kept in tip-top shape.

You and your equipment must be ready to fight, because in these days, should war come, there'll be no second chance for the man or outfit not ready.

Right now is the time to get with it.



PS

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Sgt. Stalk, Wash, DC
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#0121



THAT MULTIFUEL...
A REAL JEWEL—

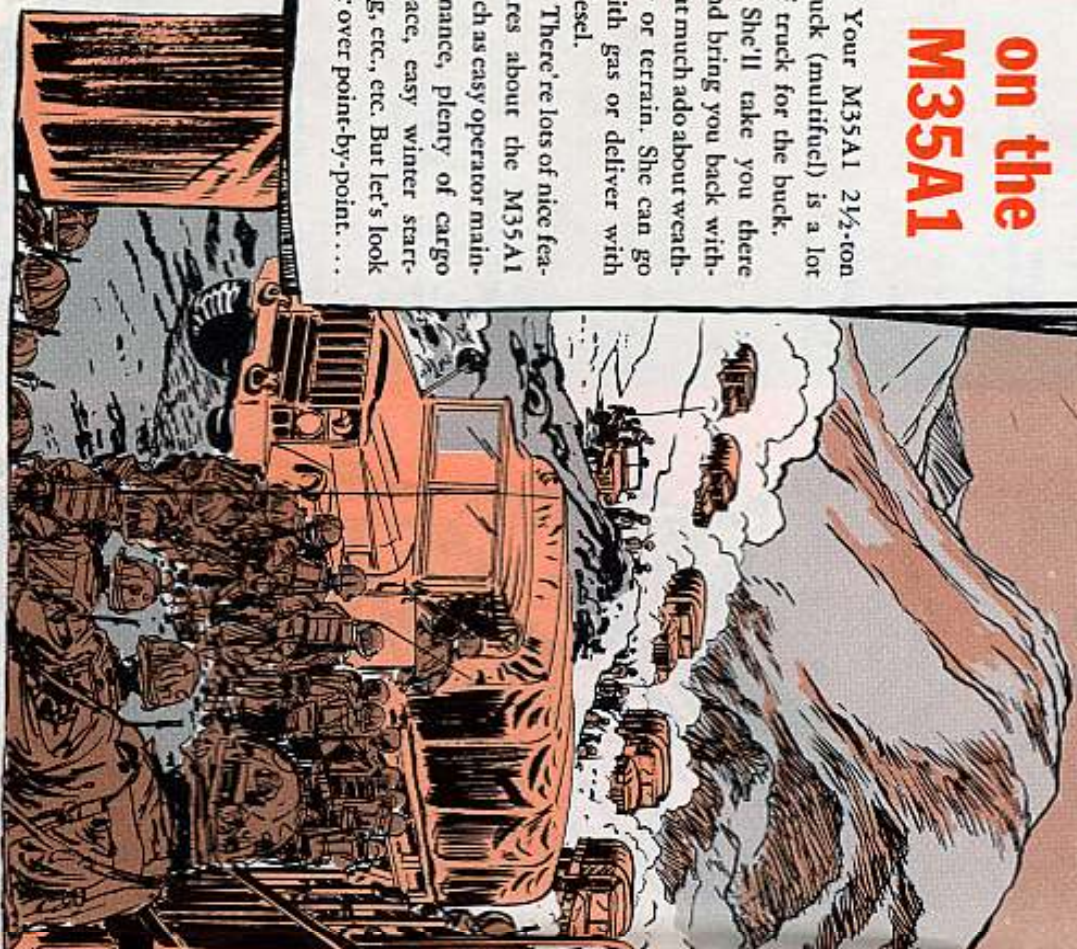
Notes on the M35A1

Your M35A1 2½-ton truck (multifuel) is a lot of truck for the buck.

She'll take you there and bring you back without much ado about weather or terrain. She can go with gas or deliver with diesel.

There're lots of nice features about the M35A1 such as easy operator maintenance, plenty of cargo space, easy winter starting, etc., etc. But let's look 'er over point-by-point....

GROUND MOBILITY



2

IF YOU'RE USED TO PILOTING AN M35, YOU'LL FIND A FEW THINGS DIFFERENT ON THE M35A1... LIKE SO...

TIPS
for the
DRIVER

LIKE TWINS... BUT—

From far off the M35A1 looks a lot like an M35, but you can tell 'em apart because the M35A1 has an air intake rain hood sticking out the right side of the engine.

FIRST GEAR—

On the M35A1 you always... but always move out in the first gear. On other trucks you can sometimes get away with moving forward in second but don't try it on the M35A1 because you could cause power train trouble.

CLUTCH—

The clutch is plenty strong enough to do what it's supposed to do but it won't take much "riding." If you ride the clutch you can burn up the clutch disk, and the pressure plate can heat up and crack. This'll cost you over \$50 to repair, so keep your foot off the clutch, Dutch. Be sure the clutch pedal doesn't ride the floor board. If it does, notify your unit mechanic.

3

25 MORE

SHIFT PATTERN—

The shift patterns of the M35 and M35A1 are the same except for 4th and 5th gears which are the opposite.

M35A1 SHIFT PATTERN	R	2	5
	1	N	3
		4	
M35 SHIFT PATTERN	R	2	4
	1	N	3
		5	

HYDROSTATIC LOCK—

A common cause of hydrostatic lock is forgetting to turn the accessory switch OFF after you stop the engine. If the accessory switch is



left ON it'll keep fuel pressing against the manifold heater valves. If these valves leak, even a little bit, and the accessory switch is left

ON for a long time, you'll have a hydrostatic lock.

So-o-o-o, be sure you turn the accessory switch OFF when you shut down the engine.

If you have hydrostatic lock and try to start without taking any precautions you can cause a lot of damage to your engine or even ruin it entirely.

Be sure to crank the engine first with the ENG STOP handle pulled entirely out like it says on page 25 of TM 9-2320-235-10 (Dec 61).

FUEL FILTERS—

You've got to check your fuel filters every day. This is as important as checking the oil level. Before you start your check, turn



your accessory switch ON. This puts pressure on the fuel system

and makes it easier to check the filters. Draw off about a pint of liquid into a clean can. (Be sure to turn the accessory switch OFF after you get your pint.)

After you draw off the fuel see if there's any water or gook with it.



Remember, Change 1 (May 62) to TM 9-2320-235-10 gives you more to do. You check the first- and second-stage filters and also the third-stage filter if necessary. If you find a lot of water or gook in the third stage tell your mechanic.



If your first-stage fuel filter is OK you don't need to check the second-stage filter.

Be sure you have the right kind of filter elements. The wrong kind could do serious damage to the injection pump, which would reduce engine life and cut down on engine performance. Use only fuel-filter element kit ESN 2910-710-9267.

MANIFOLD HEATER—

Page 27 of TM 9-2320-235-10 (Dec 61) tells you not to operate the manifold heater unless the engine is being cranked or is idling. This is for serious. If you operate the manifold heater with the engine going at a high RPM you can blow out the turbosupercharger seal. If this happens, engine oil gets sucked up from the crankcase through the turbocharger and into the combustion chamber. With this extra fuel coming in, the engine runs wild . . . maybe big damage.



Also, never use the heater over long periods. The best method is to use the heater intermittently during cranking or idling, otherwise all the oxygen in the manifold will be burned out and the engine won't start.

ACCESSORY SWITCH—

If you leave the accessory switch on overnight it'll drain your battery and wear out your fuel pump. When your air pressure falls under 60-65 pounds, the low-air-pressure warning buzzer will come on; this'll put more drain on the battery. So-o-o-o, be sure that accessory switch goes OFF before you get OUT—of the truck for the night.





VIBRATION -

You get a lot of vibration with the M35A1. That's why the headlight bulbs burn out oftener than on most other trucks. One thing you can do to help is keep the vehicle from operating at a low idle for longer than absolutely necessary. Keep your idle speed between 650-700 RPM to cut down on vibration.

SELF-STARTING -

This vehicle can start off all by itself. This has happened. A parked M35A1 with the engine turned off but the transmission in gear and the hand brake not set was accidentally nudged by another truck. It started off by itself and kept going until it wrecked itself against a utility pole.



To keep this from happening to you, any time you're stopped with your engine off, leave her parked with the shift lever in neutral and with the hand brake set.

NEW DIPSTICK -

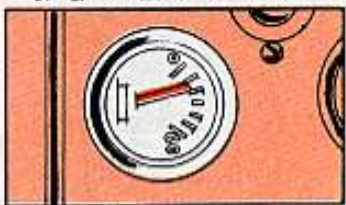
Late production M35A1's have a new dip stick with revised markings which provide for additional oil capacity and two-quart increment marks to help you estimate how much to add. The new dip stick has the same number as the old stick (Part No. 10912158, FSN 6680-887-1334).

Before starting the engine, make sure the oil level is above the full mark. Add oil to bring it up to this mark if necessary. You then start the engine and after the oil pressure's up, shut off the engine and wait for one minute (count to 60 slowly) before making the oil-level check.



OIL PRESSURE -

On page 26 of TM 9-2320-235-10 (Dec 61) Step 9 says your oil-pressure gage should read above 15 PSI. Actually, 10-15 PSI is normal oil pressure during idle and 50-60 PSI is normal during operating conditions. If the pressure reads a little high at idle, don't worry; this is OK.



FORDING PLUG -

The flywheel drain-plug hole is left open during normal operation. The only time it's closed is when you go fording. Then you unscrew the plug from the blind boss and put it in the flywheel drain hole.



FUEL TANK -

Keep enough fuel in the tank so it shows at least 1/4 full at all times. Your gage shows the total amount in the tank, not the amount you can use. When it's under 1/4 it's dangerously low. Also, keeping the fuel tank full helps prevent condensation.



ENGINE STOP CABLE -

Quite a few of these cables have been broken, so pull g-e-n-t-l-y, like e-a-s-y, man. Save the muscle for something else.

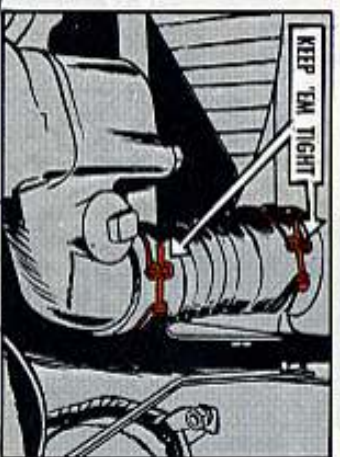


HOSE CLAMPS —

Because of the engine vibration the coolant hose-clamps can work loose. Check 'em often, particularly in winter, and keep 'em tight. The air induction hose-clamps also need frequent checking.

TOW STARTS —

Tow starting works OK with the M35A1, if you do it the way it says on page 29 of TM 9-2320-235-10 (Dec 61). Often a towed vehicle will kick right off after you tow it no more than 10 feet.

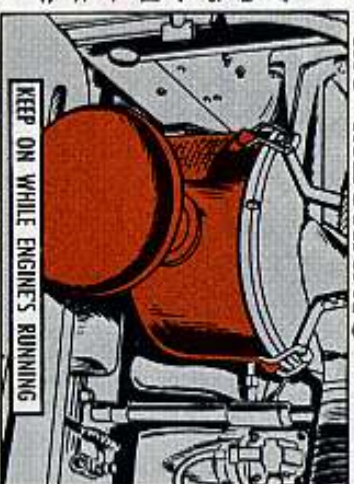


KEEP 'EM TIGHT

AIR CLEANER —

On other trucks you're probably used to running the engine with the air cleaner off for short periods during servicing. The M35A1 supercharger makes such a powerful air flow that the supercharger intake pipe has been known to suck up tech manuals sitting on the fender.

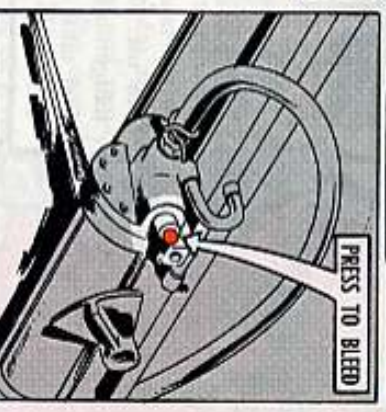
Of course, TM's are wonderful but they're a little hard to read if the supercharger grinds them into hamburger . . . so don't run the engine with the air cleaner off. You're also likely to suck dirt into the engine which can ruin it.



KEEP ON WHILE ENGINE'S RUNNING

TIPS for the MECHANIC

○ You may wonder what the button is for on your windshield wiper motor. You press it to bleed the air pressure in the wiper motor so that you can position the wiper blade out of your line of vision.



PRESS TO BLEED

○ With the air pressure bled off, the blade will stay put and won't creep back across the windshield.

WINDSHIELD WIPER —

There've been some changes in the fuels recommended for the M35A1. The latest poop is in LO 9-2320-235-12 (Nov 63):

FUEL —

- Grade D72 Fuel (Spec VV-F-800)—not to be used below +32°F.
- Grade D71 Fuel (Spec VV-F-800)—not for use below -10°F.
- Grade D7A Fuel (Spec VV-F-800)—all temperatures.
- Gasoline (MIL-G-3056)—all temperatures.
- DE fuel (MIL-F-46005)—all temperatures.
- Aviation gas is OUT. You NEVER use it.



In servicing the air cleaner, you first inspect the seals on both ends of the element for cracks, warps and signs that dirt is passing into the engine. If the seals look like they're in good shape, then clean the element. Use an air gun if you can. Never strike the air-cleaner element on its lip because this can damage the lip seal. A damaged lip seal can let dirt leak in and ruin the engine.

○ If you can't use compressed air, hold the element vertically and gently pat the sides. Don't beat it to death. Before you assemble it again, clean the air-cleaner base and canister with a rag. When you put the element back in, take special pains to get it seated right on the upper and lower seals.



AIR CLEANER ELEMENT P/N 29-40-804-7898

If you have trouble clamping the canister to the base assembly, check to be sure the element is seated right. Otherwise, you could seriously damage the element.



WATCH IT!
THIS COULD HAPPEN TO YOUR ELEMENT



Overcleaning the air cleaner and changing the element when it's not necessary leads to damaging the seals. Most trucks now have an air-cleaner restriction gage on the dashboard.



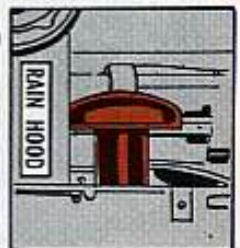
GULP!
I GOT A MIDGET IN MY AIR CLEANER GAGE.



Don't clean the air-cleaner until the red flag in the gage is over half-way up. The mechanic can check if the gage is working right by partly blocking the air-cleaner inlet. This should make the flag rise in the gage. The filter element is authorized for replacement at company level. Ask for Filter, element: air intake cleaner, FSN 2940-804-7898, as listed on page 50 of your TM 9-2300-223-20P (Dec 63).

RAIN HOOD -

There's no FSN in the -20P for the air-cleaner rain hood so be sure you don't lose it. If it's already lost, submit a complete written justification through your normal supply channels. Ask for Hood: intake air cleaner, FSN 2940-876-8544 Part No. 10917048.

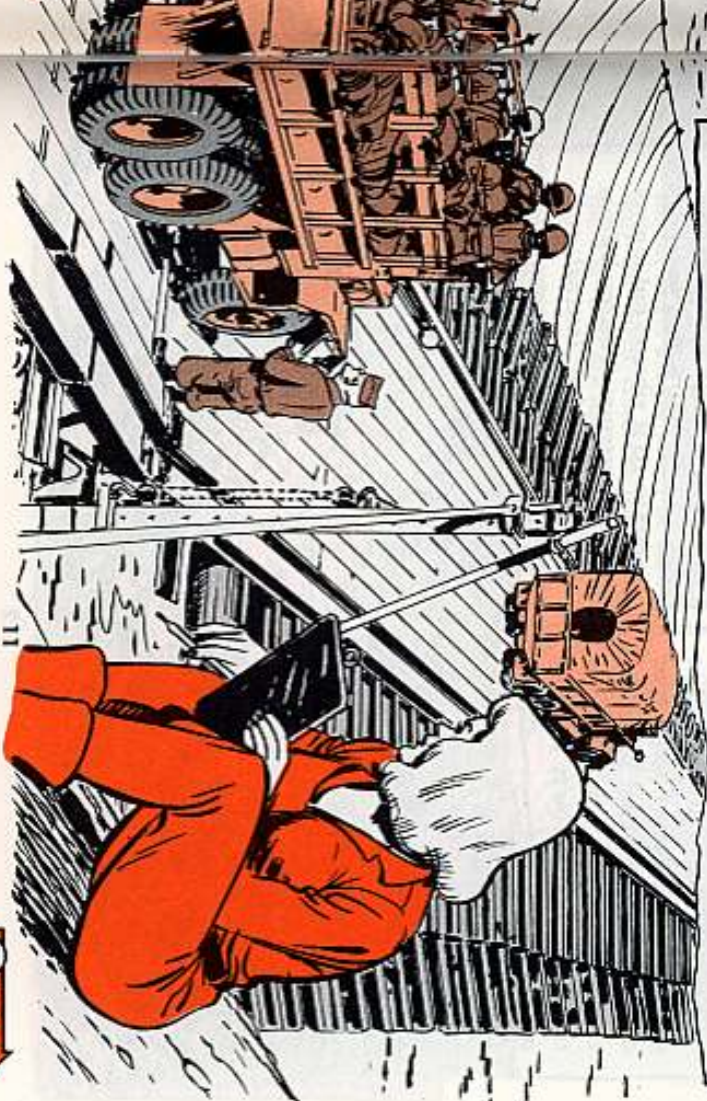
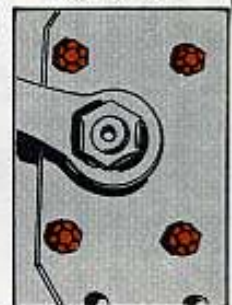


NO LUBE NECESSARY -

Don't be trigger-happy with your grease gun. You don't lube the generator, the starter, the clutch pilot-bearing, the clutch release-bearing or the speedometer drive shaft. These parts are taken care of by field or depot maintenance. Watch about too much grease on the clutch-fork rod because some can get to the clutch and make it slip.

MOUNTING BOLTS -

The steering-gear mounting bolts sometimes work loose. So keep an eye on 'em and keep 'em tight. Replacement bolts, FSN 5306-022-0724 listed in TM 9-2320-235-35P are stronger. Ask your support to get them for you.



AIR COMPRESSOR STRAINER—

The strainer shown on page 138 of your TM 9-2320-235-20 (Jan 62) is no longer on the vehicle. The one you now have is a composition



type. To service it you reach into the housing with a small screwdriver and pry gently along the edge of the disk to get the filter out.

After you clean it, drop the filter into the housing first and make sure it's seated in the recessed top of the housing before you put the plate over the filter.

It's important to keep the filter clean because a dusty filter can cut down on your braking power by shutting off some of the air. Clean this filter often if you're in dusty terrain.

AIR COMPRESSOR WRENCH—

A pulley adjusting air compressor wrench has been issued for the M35A1.

IT'S AVAILABLE UNDER FSN SIZE-O70-7809 (PART NO. 10935289).



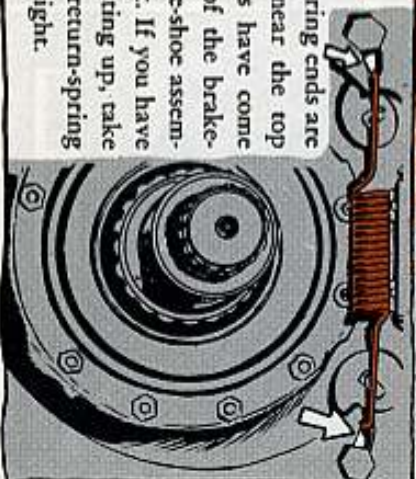
AIR GOVERNOR—

The locking nut can vibrate loose and change your adjustment. As the nut vibrates in it raises the pressure. As it vibrates out it gives you less pressure. To keep it from vibrating put an internal star-washer on the locking nut.



BRAKE-SHOE RETURN SPRINGS—

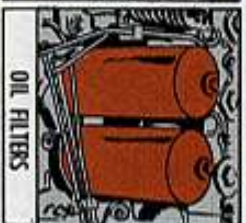
Make sure your brake-shoe return-spring ends are positioned in the two oblong holes near the top brake-shoe anchor-pins. Some vehicles have come from the factory with one or other of the brake-spring ends positioned in the top brake-shoe assembly and your brakes won't release right. If you have brake troubles such as your brakes heating up, take off the wheel and check the brake-shoe return-spring ends to make sure they're positioned right.



LOOK ALIKES—



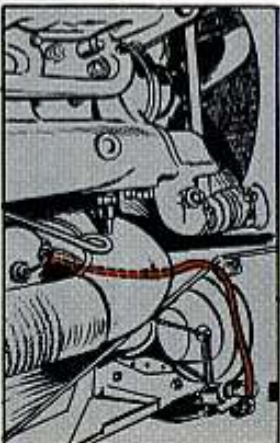
The front and rear cylinder-heads are alike and the cylinder-head covers and the cylinder-head water-outlet manifolds are made so the front and rear ones are interchangeable.



The second and third stage fuel filters are both alike and both of the oil filters are the same. Be sure only the right elements listed in the TM -20P are used for replacement.

LIGHT CABLE—

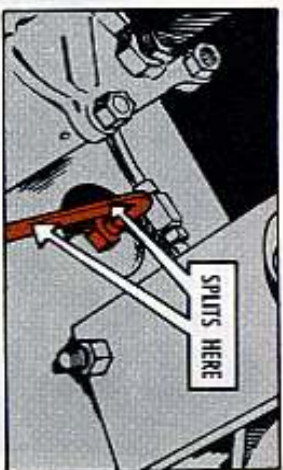
The cable leading to the right headlight gets snagged between the lower radiator and grill brace



and the light-mounting panel. The vehicle vibration moves the cable until it gets cut through and your right headlight goes out. Try to tape the cable in place so it won't get snagged. Check it every now and then to be sure it's OK.

BRAKE FLUID LINE —

The line from the master cylinder to the air-over-hydraulic unit sometimes cracks at the master-cylinder end. This is a steel line and it splits along the seam. Check this line for leaks every time you get under the vehicle.



AIR LINE FIX —

There's only 1/16-in clearance between the main air line from the air compressor and the upper radiator brace. The twisting of the radiator when the vehicle is in motion can rub the line against the brace and cut it. This is a copper line and your best bet is to twist it out of the way so it clears the brace by about 1/2 inch. Use a line-bending tool so you can bend the line without crimping it.



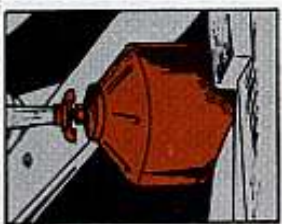
FILTER LINES —

The fuel-filter inlet and outlet lines get rubbed by their holding clamp and then they leak. To prevent this, be sure you got enough slack and position 'em so they don't rub against sharp edges that would damage them. Check them often for chafing and rubbing.



FUEL PUMP —

If you want to know if the in-tank fuel pump is working, all you have to do is open the drain-cock on the first-stage primary filter—after turning the accessory switch ON. If the pump is working it'll squirt the fuel out under pressure. When you're operating on gasoline you can have vapor lock on your fuel-injection pump if the in-tank fuel pump is not working right.



INJECTOR LEAK-OFF LINE —

This is plastic, but since it's painted you can't tell. It's fragile and you can break it real easy if you pull on it or step on it when you're working around the engine.





RADIATOR BRACKET —

The lower bolt on the right radiator bracket has to be installed so the nut is facing away from the engine or the fan blades can hit the nut. Check this because some vehicles have been coming through with the bolt in wrong.

RADIATOR MOUNTING —

With your vehicle on level ground the edge of your engine fan blades must miss the radiator by $\frac{1}{8}$ inch. Some radiator mounting brackets are twisted so the blade hits the radiator core. If this happens—or seems likely to happen—this is what you do:

1. Raise the radiator by putting one shim (FSN 2990-752-9294) under the radiator at each mounting bolt.
2. Add another shim—if needed—to the left-side mounting bolt to make the fan blades fit the shroud opening.
3. Reverse the direction of the right stay rod mounting bracket lower bolt and cut off about $\frac{1}{2}$ inch.
4. Adjust the radiator mounting springs (FSN 5340-752-1979) to one inch between the mounting bracket and the upper edge of the lower spring-retaining washer.
5. Adjust the radiator so the fan blade will clear the radiator core by $\frac{1}{8}$ -in.

... LIKE SO



OIL-FILTER DRAIN-PLUG —

You drain oil filters and replace the filter elements. The recessed pipe-plug, FSN 4720-289-0591, (Item 18 on page 13 of your -20P) is hard to get out because you have to work from the bottom instead of the top like you do with most other military vehicles. Late production vehicles have a new plug that you can remove and install with the $7/16$ -in open-end wrench in the general mechanics tool set.

When you take out the old plug to service the oil filter during normal maintenance, replace it with the new plug, FSN 4730-080-7044, (Part No. 444783).



OIL FILTER —

Change the oil filters when you drain the crankcase. You do this semi-annually (or 6,000 miles).

NOW THAT'S
SIMPLE PM FOR
YOU! ONLY TWICE
A YEAR SO
REMEMBER!

FUEL LINE —

The fuel line from the main tank to the injector pump can wear out in a hurry if you let it rub against the winch drive-shaft. If you see it's rubbing, put a clamp on it or tape it to keep it out of the way.

DIFFERENTIAL DRAIN PLUGS —

The differential drain-plugs are hard to screw in and out. The best way is to stick in a close-fitting wrench the full depth of the recess in the plug. Keep a 90° angle between the wrench handle and the recess in the plug to keep the wrench from slipping and damaging the plug.

HOOD BRACE GETS SMASHED HERE

HOOD BRACE —

On most M35A1's the right rear hood brace hits the air cleaner when you close the hood. There's no MWO authorizing you to gouge out a chunk of the brace, but sometimes the brace gets accidentally mashed a bit and then it works better.





NEW CLUTCH—

There's a new and stronger clutch disk in the supply system but it goes under the same FSN—2520-870-3744—as the old clutch disk. You can tell the new one with the improved clutch lining because it has a paint mark on the exposed metal surface of the disk or hub.

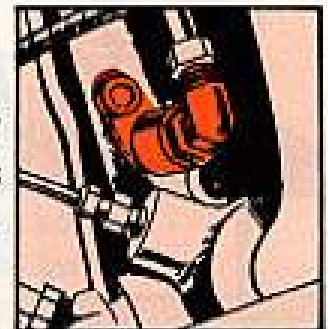
SUPPLY CHANGES

HOSE ASSEMBLY—

The hose assembly fuel-injector-overflow-and-return-line-to-fuel-filter inlet (Part No. 7748985), Item 19 on page 13 -20P (Jan 62) rubs on the engine block and wears out quickly. There's a new replacement ready for this under FSN 2910-081-4211. With this you also need Tee, FSN 4730-088-8666; Elbow, FSN 4730-851-0174; and Elbow, FSN 4730-851-0173. With these parts you route the hose so it misses the engine block.

INLET ADAPTER—

Been having trouble with the turbocharger inlet-adapter cracking at the mounting flange? Well, give this happy news to your support . . . an improved inlet-adapter can be requisitioned as FSN 2990-992-9266.



NO G863 LISTINGS—

The G863-series listing for the M35A1 has been changed. Now all 2½ ton trucks that were formerly listed as G863 have been merged into the G742-series listing.



RECEPTACLE COVER—

There's a new FSN for the receptacle cover on your rear wiring harness. The old number is listed on page 28 (Item 3) of your -20P but the new number is FSN 5935-773-1428.

LEAF SPRING—

If your support has to order a No. 1 leaf for the rear spring assembly on your M35A1 they're going to have some trouble if they order it from TM 9-2320-235-35P (Jan 62). 'Course it's listed on page 66 as Item 14 but the FSN's wrong. It should read FSN 2510-087-2635.

TWO-WAY SAFETY

AIR
MOBILITY



WIRE 'EM
RIGHT AIR-
TYPES, 'CAUSE
TH' GROUND
IS A LONG
WAY DOWN.



Why is a pitch change link like a turnbuckle?

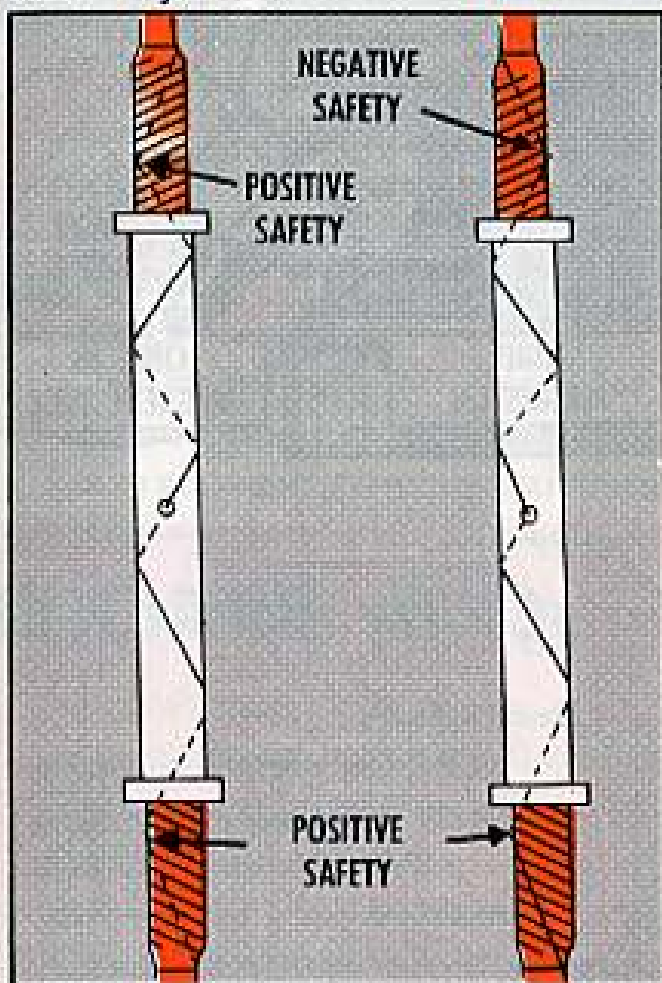
Because they're safetied the same way—naturally.

Take the tail rotor pitch change link on the Mojave (CH-37), for example.

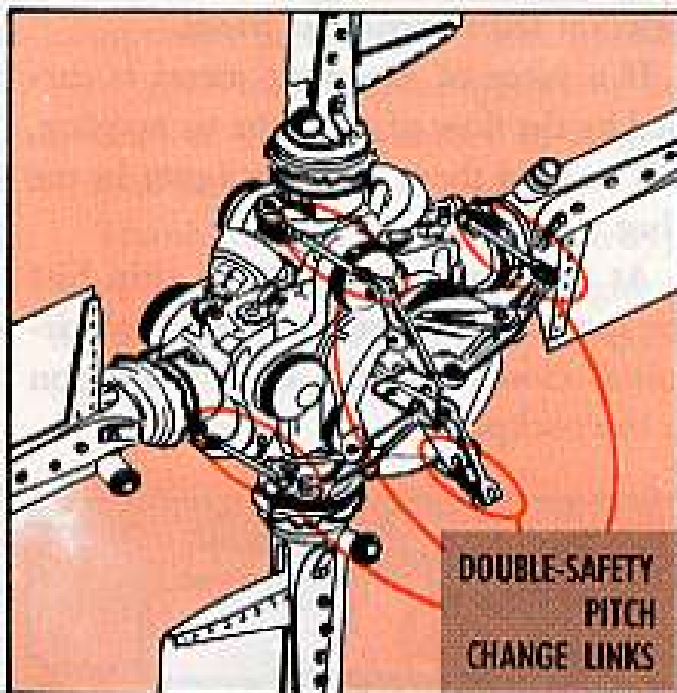
You wouldn't want to use a positive safety. Wrapping the lock wire around the barrel would prevent it from turning one way, but it still could turn the other way.

would shorten the pitch control link. You know what this can lead to . . . a tail rotor out of rig!

Sure the negative way wouldn't let the barrel turn either way, because half of the wire will tighten if the barrel turns one way and the other half will tighten if the barrel turns the other way. But an in-flight break in the single strand could toss the whole shebang into next Tuesday.



The jam nut doesn't have a lock wire hole in it, so if it should get loose, the barrel could turn in the direction that



You wouldn't want to use the negative safety either.

To make doubly sure the barrel stays put, your best bet is to use the two-wire turnbuckle safety, sure 'nough. You'll find it in Chap 2, Sec 1, Para 1-5 of TM 55-1520-203-20 (20 Jan 64).

ENGINE CHIP DETECTOR
THROWS NEW LIGHT ON...

METAL

FATIGUE



COISES!
CAUGHT BY
THAT ENGINE
CHIP DETECTOR.



Let's face it—the yellow glow of a chip detector **WARNING** light in the cockpit can give the pilot an extra margin of safety. That's why all birds are being equipped with a simple type of detector.

Take the Chickasaw (UH-19) hook-up, for example. One end of the electrically charged wire is hooked into the front and rear oil sump magnetic plug, and the other end into the warning light on the instrument panel.

If a piece of magnetic metal is carried by the flow of oil to the sump plugs, it'll be held there by the magnet in the plug.

At the same time that the chip hits the magnet, the detector electrical circuit is closed and the light flashes on in the cockpit.



Course this light isn't a signal for the pilot to hit the panic button. A normal landing is called for. Rotary wing birds to the nearest open field—fixed wing birds to the nearest airfield.

'Tis easy to figure the reason for a normal landing. After all, the light could be a false alarm, caused by a short in the electrical circuit. The detector could also be set off due to ordinary engine wear. This comes about over a period of time, as metal particles build up on the magnetic plug. When this fuzz forms a bridge from the outer rim of the plug to the magnet, on goes the light.

No matter what the reason for the detector flashing on, however, the bird has to get a going over by maintenance.

Cleaning the sump plug may be all that's needed.

A more thorough check on the condition of the engine can be made by having the oil checked in a laboratory. An oil sample will show by the amount of metal molecules in the oil, whether the engine's about to fold up.

The lab report, plus other poop such as the total engine time listed on the component record, DA Form 2408-16, will give maintenance-types the info needed to decide whether to keep the engine running, or to pull 'er.

Thanks to the chip detector, air-types now have a new weapon to fight the never-ending battle against metal fatigue.

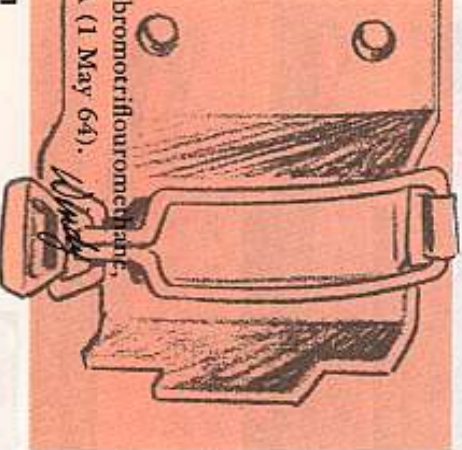


CF₃Br BRACKET

Dear Windy,
Checked out all available
pubs concerning new type
CF₃Br fire extinguisher.
Nobere can I find an FSN
for our broken mounting bracket.
Any help will be appreciated.
SFC H. H. L.

NUMBER

Dear Sergeant H. H. L.,
Don't sweat it! FSN 4210-440-3222
(Fire Guard P/N BF 13305)
should bring you:
Bracket, Fire Extinguisher,
horizontal and vertical surface
mounting for Extinguisher, Fire, Monobromotrifluoromethane,
2.75 lb. It's in DoD Catalog C4210-II-A (1 May 64).



CHECK YOUR TOOLS



Any time you caress your favorite airframe, your hands know what tool you're lookin' for . . . but can you find it in your tool box?

Just to be sure you've got what you're supposed to have in your personal kit, here's a picture inventory of your:

TOOL KIT, AIRCRAFT MECHANIC'S: General

FSN 5180-323-4692

You'll find these tools in SM 55-4-5180-AOI (30 Mar 62) and its Change 1 (9 Sep 63). But since no kit stays the same forever, a lot of the tools are changed in nomenclature, FSN or appearance. So if your tools don't look exactly like these, don't sweat it—as long as they do the job.

By the way, most of these tools are now GSA supplied except where it says otherwise here.



ADAPTER, SOCKET WRENCH: 1/2 in sq male end, 3/8 in sq female end.

FSN 5120-240-8703



AWL, SADDLE'S PAO: 4 in lg blade.

FSN 5120-223-8191

BIT, SCREWDRIVER: flat tip, 3/4 in male hex drive.



FSN 5120-293-2057
FSN 5120-690-7273

HEY, CONNIE! HOW ABOUT EYE-BALLIN' THESE PERSONAL TOOL KITS FOR US?



CHECK YOUR TOOLS



WOT'S TH' SCOOP TRZOP?

WHO CARES! THAT'S CONNIE... LET'S GO!

BRUSH, PAINT: oval, synthetic filament, chisel edge, 1 1/2 in w, 1 1/2 in thk, 2 3/8 in exposed lg.



FSN 8020-297-6557

ENG

CROWFOOT ATTACHMENT, SOCKET WRENCH: non-ratcheting, open end type, 2 drive openings, 3/8 in drive, wrench openings:



FSN 5120-184-8383 3/4 in
FSN 5120-184-8384 1/2 in
FSN 5120-184-8384 3/8 in
FSN 5120-184-8397 3/8 in
FSN 5120-184-8398 3/8 in
FSN 5120-184-8400 3/4 in
FSN 5120-293-2567 1 3/4 in

EXTENSION, SOCKET WRENCH: flexible, 3/4 in sq drive, 6 in lg.



FSN 5120-240-1532

EXTENSION, SOCKET WRENCH:

1/4 in sq drive

FSN 5120-227-8105 2 in lg
FSN 5120-243-7325 6 in lg

3/8 in sq drive

FSN 5120-243-1689 3 in lg
FSN 5120-227-8107 6 in lg
FSN 5120-243-1693 9 in lg



EXTRACTOR, COTTER PIN: 6 in lg o/a.



FSN 5120-222-4284

FILE, HAND: American pattern, half-rd, double cut, bastard face, 6 in lg heel to point.



FSN 5110-241-9147

FILE, HAND: Amerc pat, half-rd, double cut, smooth faces or dbl cut, sm face, single cut, sm face, 6 in lg heel to pt.



FSN 5110-241-9149

FILE, HAND: Amer pat, rd, sgle cut, sm face, 8 in lg heel to pt.



FSN 5110-234-6553

FILE, HAND: Amer pat, 3 sq, dbl cut, sm faces, 8 in lg heel to pt.



FSN 5110-241-9163

FINGER, MECHANICAL: flexible, 14 $\frac{3}{8}$ in reach.



FSN 5120-629-6258

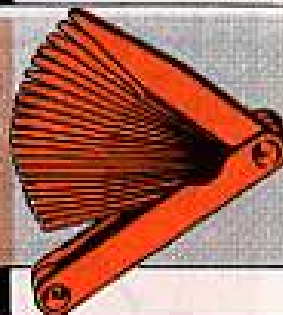
FLASHLIGHT: tubular case, rubber, straight, fixed focus, 2 cell, glass lens, colorless.



FSN 6230-519-2109

ENG

GAGE, THICKNESS: English system, 26 blades, 3 in lg, $\frac{1}{4}$ in w at tip, 0.0015 to 0.025 in thk, w/blade lock.



FSN 5210-221-1999

GAGE, TIRE PRESSURE, SELF-CONTAINED: for general testing air inflated tires, calibrated 10 to 160 lb range, 1 lb smallest graduated div, stem calibrated 2 sides, dual ft chuck, w/6 in lg straight extension, 12 $\frac{1}{2}$ in lg o/a.



FSN 4910-273-3662

ORD

HAMMER, HAND: machinist's ball-peen, 8 oz nom head wt.



FSN 5120-242-3913

HANDLE, FILE, WOOD:



FSN 5110-263-0349 medium size, 1 $\frac{1}{4}$ in hand grip dia, 4 $\frac{1}{2}$ in lg.

FSN 5110-263-0342 small size, 1 in hand grip dia, 4 in lg.

HANDLE, SOCKET WRENCH: brace type.



FSN 5120-288-6539 $\frac{1}{4}$ in drive end, 14 $\frac{1}{4}$ in nom lg.

FSN 5120-063-5824 $\frac{3}{8}$ in drive end, 16 in nom lg.

HANDLE, SOCKET WRENCH: hinged type.



FSN 5120-221-7960 $\frac{1}{4}$ in drive end, 5 $\frac{1}{4}$ in nom lg.

FSN 5120-240-5396 $\frac{3}{8}$ in drive end, 8 $\frac{1}{2}$ in lg.

HANDLE, SOCKET WRENCH: ratchet type, reversible.



FSN 5120-221-7957 $\frac{1}{4}$ in drive end, 4 $\frac{1}{4}$ in lg.

FSN 5120-240-5364 $\frac{3}{8}$ in dr end, 6 in lg.

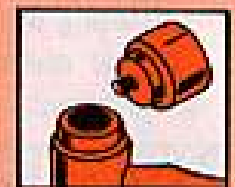
HANDLE, SOCKET WRENCH: spin type.



FSN 5120-242-3256 $\frac{1}{4}$ in dr end, 5 $\frac{3}{4}$ in lg.

FSN 5120-288-6514 $\frac{3}{8}$ in dr end, 5 $\frac{1}{2}$ in lg.

HOLDER, INSERTED HAMMER FACE: Screw-in type face accommodated, 1-in dia face, $\frac{3}{8}$ lb nom wt, 2-in nom hd 11-in handle lg.



FSN 5120-541-8117

HOLDER, SCREWDRIVER BIT, FEMALE SQUARE DRIVE:

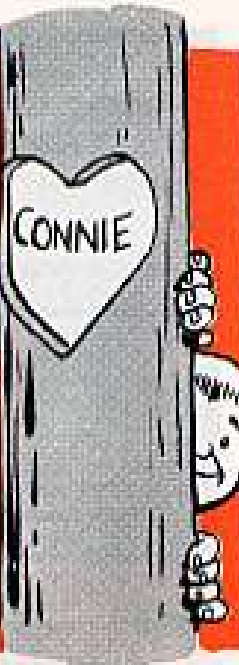


FSN 5120-528-2891 $\frac{1}{4}$ in dr, $\frac{1}{4}$ in hex socket.

FSN 5120-528-2892 $\frac{3}{8}$ in dr, $\frac{1}{4}$ in hex skt.

FSN 5120-331-5502 $\frac{3}{8}$ in dr, $\frac{3}{8}$ in skt.

HMMM...
WONDER IF HE
USED KNIFE,
POCKET FSN
7340-240-5943.



KEY, SOCKET HEAD SCREW: hex, L-type handle.



FSN 5120-240-5292 1/8 in across flats, 2 1/4 in nom arm lg.

FSN 5120-240-5300 3/8 in across flats, 2 3/4 in nom arm lg.

FSN 5120-224-4659 1/4 in across flats, 3 1/4 in nom arm lg.

KNIFE, POCKET: two 1 3/4 & one 2 1/2 in lg cutting blades.



FSN 7340-240-5943

MIRROR, INSPECTION: 6 3/4 in lg, 1 1/8 in w, 25/32 in h, 1 1/8 in dia mirror.



FSN 5120-448-2455

PADLOCK: pin tumbler mechanism w/dead bolt locking construction, 9 in lg chain, brass case and shackle w/clevis.



FSN 5340-682-1509

ORD

PLIERS: duckbill, short nose, w/o cutter, 8 in nom lg.



FSN 5120-595-9519

PLIERS: lg rd nose, w/cutter, 6 in nom lg.



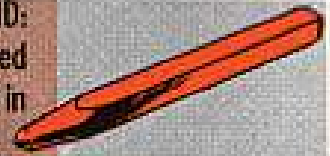
FSN 5120-247-5177

PLIERS, DIAGONAL CUTTING: 6 in nom lg.



FSN 5110-239-8253

PUNCH, CENTER, SOLID: 1/8 in dia at top of tapered point, 3/8 in dia stock, 4 in lg o/a.



FSN 5120-293-3509

PUNCH, DRIVE PIN: straight

FSN 5120-240-6082 1/8 in dia point, 1/2 in lg point.

FSN 5120-242-5966 1/8 in dia pt, 3/4 in lg pt

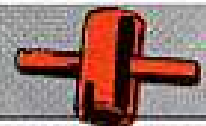


PUNCH, DRIVE PIN: tapered, 1/8 in dia pt, 2 3/4 in nom taper lg.



FSN 5120-222-1906

REPAIR TOOL, PNEUMATIC TIRE VALVE:



FSN 5120-308-3809

RULE, STEEL, MACHINIST'S: 6 in lg, 1/4, 1/2, 3/4 & 1 in graduated units, rh & lh reading.



FSN 5210-687-3089

SCREWDRIVER, CROSS TIP: Phillips, plastic handle.



FSN 5120-240-8716 no. 1 tip, 3 in lg blade.

FSN 5120-234-8913 no. 2 tip, 4 in lg blade.

FSN 5120-234-8912 no. 3 tip, 6 in lg blade.

FSN 5120-224-7375 no. 4 tip, 8 in lg blade.

SCREWDRIVER, CROSS TIP: Reed & Prince, plastic handle.



FSN 5120-596-0866 1/8 in dia tip, 3 in lg blade.

FSN 5120-237-8173 1/4 in dia tip, 4 in lg blade.

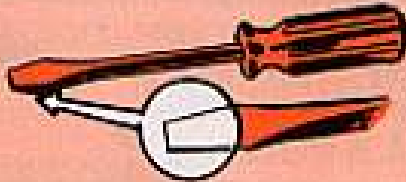
FSN 5120-237-8172 3/8 in dia tip, 6 in lg blade.

SCREWDRIVER, FLAT TIP: plastic handle, $\frac{3}{8}$ in w flared tip, 1 in lg blade (formerly CLOSE QUARTERS).



FSN 5120-222-8866

SCREWDRIVER, FLAT TIP: plastic handle, wrench grip.



FSN 5120-278-1282

$\frac{1}{4}$ in w flared tip, 4 in lg blade.

FSN 5120-278-1283

$\frac{3}{8}$ in w flared tip, 6 in lg blade.

FSN 5120-278-1280

$\frac{3}{8}$ in w flared tip, 8 in lg blade.

SCREWDRIVER, OFFSET: double end, common slotted screw type, $\frac{1}{4}$ in w tip, 4 $\frac{1}{4}$ in lg.



FSN 5120-287-2130

SCREW STARTER, HAND: rotating wedge grip, plastic handle, $\frac{3}{8}$ in w tip, 1 in lg blade.



FSN 5120-278-0325

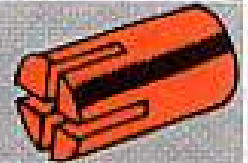


SCRIBER, MACHINIST'S: double point, adj sleeve style, 1 straight & 1 regular bent point, 8 to 9 in lg o/a.



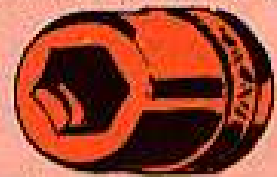
FSN 5120-221-7063

SOCKET, SOCKET WRENCH: hose clamp, $\frac{1}{4}$ in sq drive.



FSN 5120-303-4892

SOCKET, SOCKET WRENCH: $\frac{1}{4}$ in sq drive, hex openings ...



FSN 5120-236-2262

$\frac{3}{8}$ in

FSN 5120-236-2264

$\frac{1}{2}$ in

REMEMBER, SOCKET WRENCHES ARE POOR SUBSTITUTES FOR A HAMMER...SO DON'T USE 'EM AS SUCH.

SOCKET, SOCKET WRENCH: $\frac{1}{4}$ in sq dr, 12 point openings ...

FSN 5120-235-5878

$\frac{3}{8}$ in

FSN 5120-242-3351

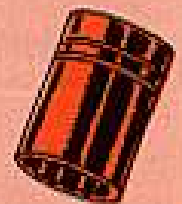
$\frac{1}{2}$ in

FSN 5120-242-3352

$\frac{3}{8}$ in

FSN 5120-235-5869

$\frac{3}{8}$ in



SOCKET, SOCKET WRENCH: $\frac{3}{8}$ in sq dr, 12 point openings ...

FSN 5120-227-6702

$\frac{3}{8}$ in

FSN 5120-227-6703

$\frac{1}{2}$ in

FSN 5120-237-0977

$\frac{1}{2}$ in

FSN 5120-227-6704

$\frac{3}{8}$ in

FSN 5120-237-4973

$\frac{5}{8}$ in

FSN 5120-232-5706

$\frac{1}{2}$ in

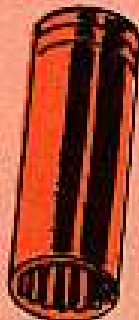
FSN 5120-227-6705

$\frac{3}{4}$ in



SOCKET, SOCKET WRENCH: 3/8 in sq dr, deep style, 12 point openings . . .

- FSN 5120-277-1463 3/8 in
- FSN 5120-277-1464 3/4 in
- FSN 5120-241-3185 1/2 in
- FSN 5120-239-0017 3/8 in
- FSN 5120-239-0018 3/4 in
- FSN 5120-277-4252 1/4 in
- FSN 5120-235-5879 3/4 in



SOCKET, SOCKET WRENCH: 1/2 in sq dr, deep style, 12 point openings . . .



- FSN 5120-243-7345 1/4 in
- FSN 5120-243-7342 3/8 in

TAPE, MEASURING: steel, 1/2 in w, 1/8, 1/4 & 1 in graduated increments, 72 in lg.



FSN 5210-287-3335

TOOL BOX, PORTABLE: steel, 18 in lg, 10 1/2 in w, 13 in h, w/4 fixed trays & nameplate.



FSN 5140-289-8911

TOOL KIT, AUTOMOTIVE ELECTRICAL: 9 double head, open end midget wrenches, w/ignition pliers & screwdriver, all in roll.



FSN 5180-422-8594

Consisting of:

FSN 5120-540-2464 PLIERS

FSN 5120-236-2140 SCREWDRIVER: Flat tip, flared, plastic hdlie, 1/8-in tip width, 2-in blade lg.

WRENCHES	Length, inches	Thickness of head, inches	Openings, inches
FSN 5120-277-3414	..3....	3/4...	1/4 & 1/4
FSN 5120-277-8308	..3....	3/4...	3/2 & 1/4
FSN 5120-277-8309	..3....	3/4...	3/2 & 1/4
FSN 5120-277-8310	..3....	3/4...	1/4 & 1/4
FSN 5120-277-8311	..3 1/2...	3/2...	3/2 & 3/4
FSN 5120-277-8312	..3 1/2...	3/2...	3/2 & 3/4
FSN 5120-277-8313	..3 3/4...	3/2...	1/2 & 3/8
FSN 5120-277-8314	..3 3/4...	3/2...	1/2 & 3/8
FSN 5120-596-4421	..4 1/4...	1/4...	3/4 & 1/2

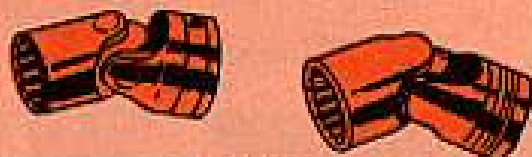
UNIVERSAL JOINT, SOCKET WRENCH:

FSN 5120-243-1686 1/4 in sq drive.

FSN 5120-224-9215 3/8 in



SOCKET, SOCKET WRENCH: 3/8 in sq dr, universal joint, 12 point openings . . .



- FSN 5120-235-5872 3/8 in
- FSN 5120-242-3354 3/4 in
- FSN 5120-242-3355 1/2 in
- FSN 5120-237-0978 3/8 in
- FSN 5120-237-4974 3/4 in
- FSN 5120-237-0979 1/4 in





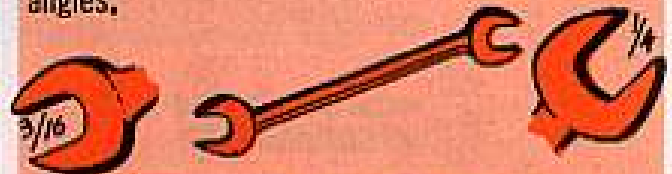
WRENCH, OPEN END, FIXED: double head, 15 & 75 or 80 deg angles.



FSN 5120-184-8444
 FSN 5120-184-8541
 FSN 5120-288-8216
 FSN 5120-184-8543

openings	hd thk	lg (all inches)
1/4	3/4	3
3/8	1 1/4	4
1/2	1 3/4	4
5/8	2 1/4	4 1/4

WRENCH, OPEN END, FIXED, dbl hd, 15 deg angles.



FSN 5120-228-9527
 FSN 5120-277-2307
 FSN 5120-187-7123
 FSN 5120-187-7126
 FSN 5120-184-8558
 FSN 5120-187-7129
 FSN 5120-187-7131

openings	hd thk	lg (all inches)
3/8 & 1/4	1 1/4	3
3/8 & 3/8	1 3/4	3 3/4
3/8 & 1/2	1 3/4	5
3/8 & 5/8	2 1/4	6 (2 ea)
1/2 & 5/8	2 1/2	7 3/4
3/4 & 1 1/4	3 3/8	8 3/8
3/8 & 1 1/2	4 1/2	10

WRENCH, BOX: angular offset double head, hex or 12 point, 3/8 & 3/4 in openings, 4 in lg o/a.



FSN 5120-184-8602

WRENCH, BOX: angular offset double head, 12 point, openings & lengths ...



FSN 5120-224-3146	3/8 & 3/4 in	6 1/2 in
FSN 5120-277-3364	1/2 & 3/4	8
FSN 5120-293-0081	5/8 & 3/4	9
FSN 5120-222-1592	3/4 & 7/8	11
FSN 5120-222-1593	7/8 & 7/8	12
FSN 5120-204-2670	1 1/4 & 1	13 1/2

WRENCH, CONNECTOR NUT: single open end, T-handle, 3/4 in opening.



FSN 5120-546-5518

WRENCH, DZUZ FASTENER: steel, 1/4 in sq drive, 5/8 in socket w, 1 1/2 in lg.



FSN 5120-321-4508

WRENCH, TORQUE: rigid frame center drive style, built-in ratchet, preset sealed torque mechanism, audible indicator, 1/4 in sq male drive, 1 to 35 in-lb capacity.



FSN 5120-293-0849

WRENCH, TORQUE: rigid frame end drive style, adjustable setting torque mechanism, audible or slip clutch indicator, 3/8 in sq male drive, 100 to 750 in-lb capacity, w/case.



FSN 5120-595-9073

NX

WRENCH ASSEMBLY, SPARKPLUG: single open end, T-handle, 3/4 in opening.



FSN 5120-131-9554

JOE'S DOPE



AND ITS USES

You are falling through a dimension, not of sound or substance, but . . . of ideas . . . you are falling . . .



NOW REMEMBER! YOU WILL SEE OIL DO FOUR VITAL JOBS, WITHOUT WHICH Y'R ENGINE IS JUST A LUMP OF METAL!

TELL ME! ALREADY.



IT **LUBES**...
IT **COOLS**...
IT **CLEANS**...
AND, IT **SEALS**
NOW... LET'S SEE ALL THIS... IN THE FLESH!
JUMP!



ALL THE WAAAY

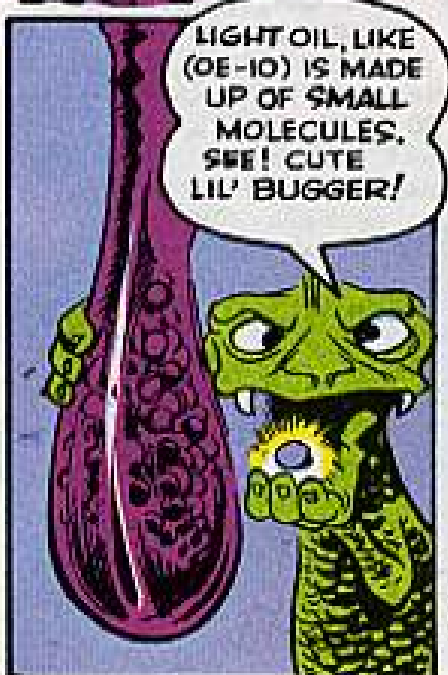


WALP!

WHILE WE GET PUSHED UP THROUGH THE OIL PASSAGES LET ME TELL YOU ABOUT OIL MOLECULES.



THE DIFFERENT GRADES OF OIL ARE MADE UP OF DIFFERENT SIZE MOLECULES SLICK... HUHI!



LIGHT OIL, LIKE (OE-10) IS MADE UP OF SMALL MOLECULES. SEE! CUTE LIL' BUGGER!



MEDIUM OIL, LIKE (OE-30) IS MADE UP OF MEDIUM SIZE MOLECULES... NATURALLY.



HEAVY OIL LIKE (OE-50) ... YOU GUESSED IT... LARGE MOLECULES... LOOK!

- HEAVY 
- MEDIUM 
- LIGHT 
- NOTICE THE DIFFERENCE!



HEY! WHERE WE GOING NOW? IT'S GETTIN' WARM.

NATURALLY... WE'RE HEADING UP THROUGH THE "CONNIE ROD" HEH, HEH TO THE PISTON PIN. FROM THERE WE CAN SEE THE PISTON AT WORK!...



...AND REALLY SEE THIS MOLECULE BIT IN ACTION! LIKE THE IMPORTANT JOB OF LUBING.



WOW! HEY...LOOK WAY UP THERE... TH' VALVES!

RIGHT! WE'RE ON TOP OF THE PISTON! NOTICE THE CYLINDER WALLS...



HEY! IT'S OIL.

YUP!...



...AND IT'S GOTTA BE THE RIGHT GRADE TO DO Y'R ENGINE ANY GOOD!

WATCH!



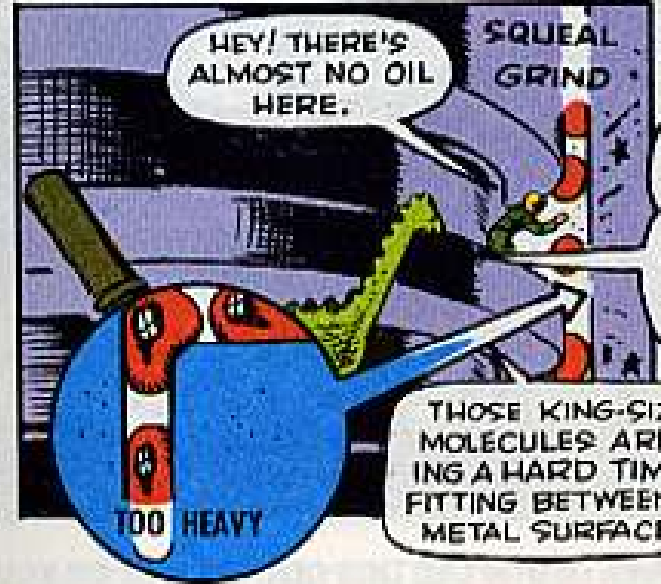
THESE MOLECULES FIT RIGHT IN...N' KEEP THAT CUSHION BETWEEN THE METAL SURFACES...

THIS OIL'S KINDA THIN!



YUP! MOLECULES TOO SMALL TO FORM A CUSHION TO KEEP METAL FROM METAL.

YES... THIS IS WOT WOULD HAPPEN IF YOUR OIL IS TOO THIN.



HEY! THERE'S ALMOST NO OIL HERE.

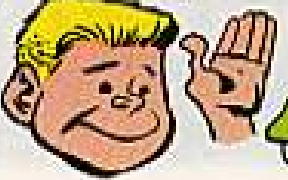
SQUEAL GRIND

RIGHT! HERE'S WOT HAPPENS IF YOUR OIL IS TOO HEAVY.

THOSE KING-SIZE MOLECULES ARE HAVING A HARD TIME FITTING BETWEEN THE METAL SURFACES.

C-CRAZY! SO THAT'S WOT ALL THEM DIFFERENT SIZED MOLECULES ARE FOR!

THAT'S NOT TH' HALF OF IT... THEY ALSO COOL! LET'S GO!



JOE'S

Dope Sheet

Without this most vital smear,
There would be no mechanized gear.
You'd be armed...so I'm told,
Like the cave-man of old;
Know your oil 'n' its uses...y' heari!



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.



HOLD IT!
I THOUGHT
THE COOLING
SYSTEM DID
THAT!!
WATER JACKET
'N' ALL THAT
JAZZ...

?



NOT QUITE
GOOD ENOUGH...
WATCH THIS
FUEL EXPLOSION...
NOW!!



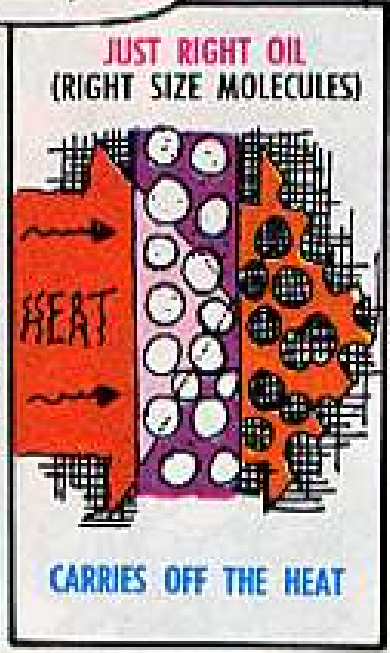
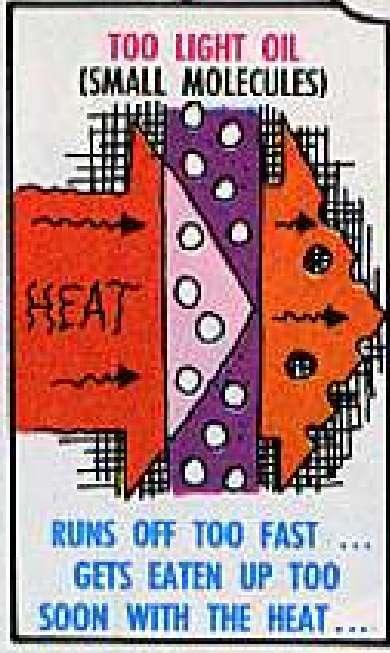
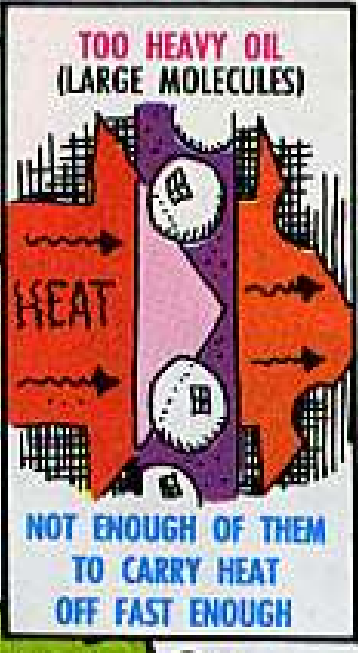
YIPES!

GIVES OFF
ENOUGH HEAT
ENERGY TO
MELT STEEL.

SO YOU SEE,
MOLECULE
SIZE IS STILL
THE TOP
HONCHO FOR
CARRYIN'
OFF HEAT!!



NOTICE...



OHHH...
MY POOR
HEAD! LET'S
GET OUTTA
HERE!

WAIT!
REMEMBER
YOUR "TEMP"
GAGE WILL
SHOW IF Y'R
COOLANT AND
OIL ARE ON
TH' BALL...
AND NOW...



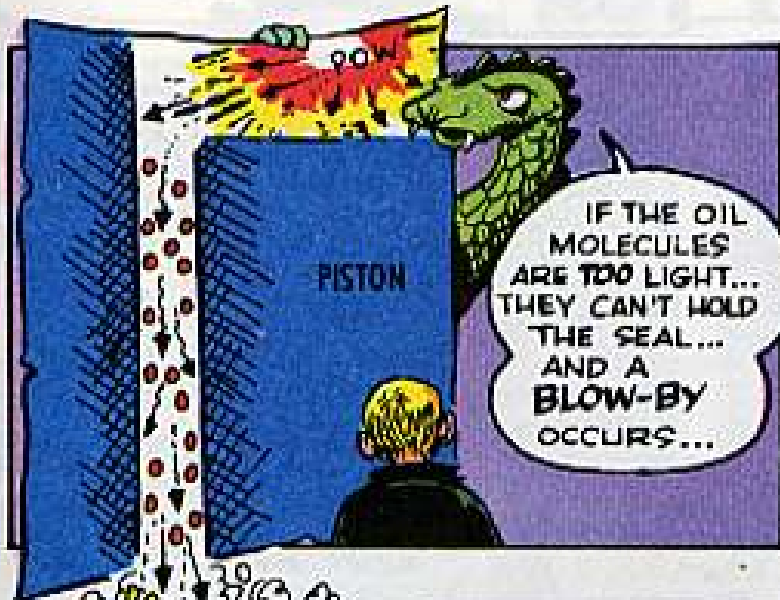
...WE'LL SEE HOW
THEM MOLECULES
SEAL IN THE
POWER...
WE STAY HERE,
ON THE PISTON.

MY
POOR
EARS...



THE RIGHT
SIZE MOLECULES
OF OIL FORM A
SEAL BETWEEN
THE RINGS 'N'
CYLINDER WALLS,
KEEPING ALL
THE "BANG"
UP THERE...

OHHH
MY HEAD.



IF THE OIL MOLECULES ARE TOO LIGHT... THEY CAN'T HOLD THE SEAL... AND A **BLOW-BY** OCCURS...



...AND THAT CONTAMINATES Y'R OIL SOME-THIN' AWFUL... ACIDS AND SUCH JAZZ.

WOW!

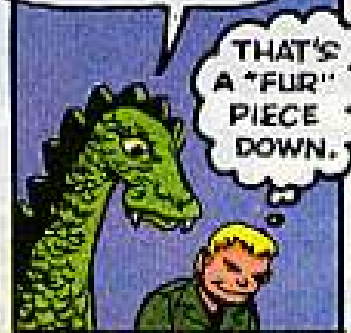
NOW!... DIRT-COVERED OIL MOLECULES WORK JUST LIKE AN ABRASIVE.



THEY WEAR AWAY CYLINDER WALLS, PISTON RINGS ... REAL BAD, BAD, BAD! ALSO CLOG OIL LINES.

WOW!

OK... DIVE BACK DOWN INTO THE CRANKCASE... CAREFUL THO! DON'T GET HIT BY THE CRANKSHAFT.



THAT'S A "FUR" PIECE DOWN.



"WHEW" LOOKIT! THIS STUFF IS PARTLY BLACK!

GLAD YOU SAID THAT... 'CAUSE OIL'S ALSO GOTTA **CLEAN!** THAT STUFF IS "DE" DETERGENT TYPE OIL.



THE DARK COLOR SHOWS IT'S DOIN' ITS JOB... **CLEANING!**



WHEN Y'R DRAINING... BE SURE TH' OIL IS HOT! TH' DIRT 'N' GOOK WILL COME OUT WITH THE OLD OIL THAT WAY...

BLUB



SEE THAT STUFF? MOISTURE!! IT'S FORMED BY COMBUSTION.



THIS HAPPENS WHEN VEHICLES ARE NOT RUN ENOUGH TO DRIVE OFF THE WATER. A GOOD RUN USUALLY CURES THIS.

BLUB



SO, FOR THE BEST JOB, CHECK Y'R LO FOR THE RIGHT VISCOSITY OR GRADE OF OIL.

!?

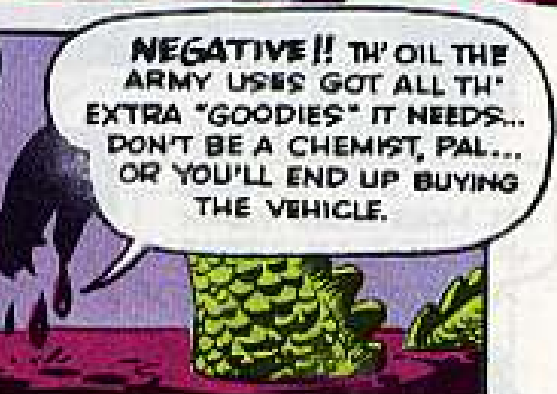
HEY! WOT'S VISCOSITY?



EASY! THAT MEANS "RESISTANCE TO FLOW"... LOW VISCOSITY = THIN OIL, HIGH VISCOSITY = HEAVY OIL... ALSO... IN COLD WEATHER USE THIN OIL, HOT CLIMATES, THE HEAVY STUFF.



SHOULD I DUMP IN THEM NEW JAZZY SOUNDIN' ADDITIVES?



NEGATIVE!! TH' OIL THE ARMY USES GOT ALL TH' EXTRA "GOODIES" IT NEEDS... DON'T BE A CHEMIST, PAL... OR YOU'LL END UP BUYING THE VEHICLE.



NO ADDITIVES! HUH?

ROGER!...GET HOLD OF TM 9-273, TM 9-8000, AND TM 9-207...THEY REALLY GO INTO DETAIL ON ALL THIS STUFF...REAL HANDY.



WOTCHA DOIN' DOWN THERE?

OPENING TH' DRAIN PLUG!



HALP! I'M BEING SUCKED DOWN...BLUB...



ADIOS!



Much later

OK, OK! LET'S GET WITH THAT OIL CHANGE.

WOT!

@*!! CRUMMY OIL CHANGE.



WOT A SHOT! HOW COME TH' VIOLENCE BIT?

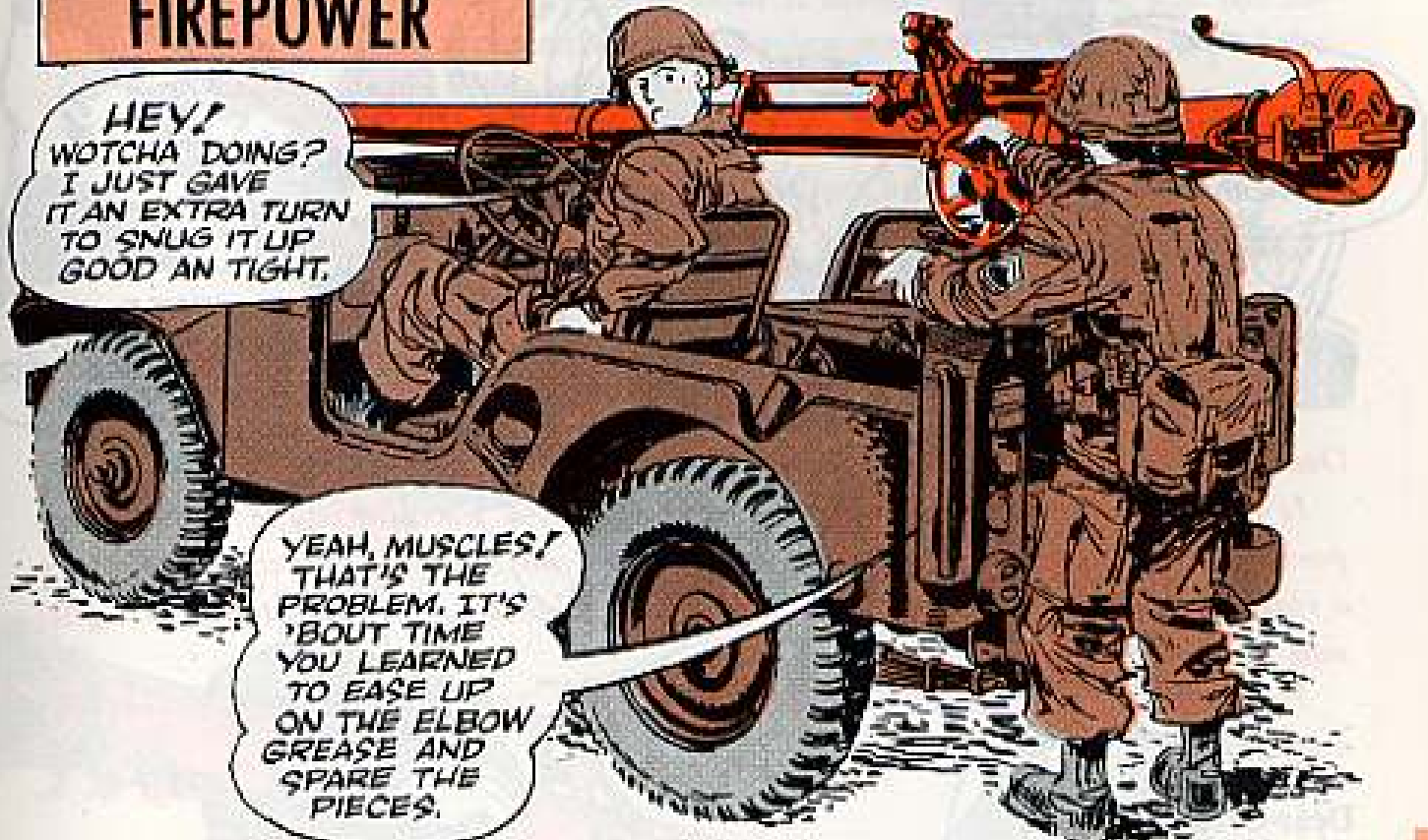
GROANNN SOMETHING ABOUT HAVIN' A DINOSAUR IN HIS CRANKCASE THEN...POW!



NOT TOO TIGHT, PLEASE!

HEY!
WOTCHA DOING?
I JUST GAVE
IT AN EXTRA TURN
TO SNUG IT UP
GOOD AN TIGHT.

YEAH, MUSCLES!
THAT'S THE
PROBLEM. IT'S
'BOUT TIME
YOU LEARNED
TO EASE UP
ON THE ELBOW
GREASE AND
SPARE THE
PIECES.



Hey, there, you with the red face. Any time you go too far, you're in trouble, right?

Like the guy who doesn't know when to stop after he has his 106-mm rifle loaded for travel on a ¼-ton truck.

He follows all the poop in para 34b of TM 9-1000-205-12 (Mar 59), with changes, right up to the point where he aligns the rifle barrel with the traveling lock and pushes down on the clamp locking handle.

That should do it . . . BUT he doesn't stop there. He gives the traversing or elevating handwheel (or both) another nudge to make sure the rifle's good and tight.

And, brother, that does it! The first bump the vehicle hits, wham! The planetary elevating gear assembly takes a damaging jolt.



SO, YOU REMEMBER NEXT TIME:
LEAVE IT A LITTLE LOOSE...
WITH ENOUGH PLAY TO HANDLE
THE HARD KNOCKS OF TRAVEL.



HITCH-HIKING M67



Dear Half-Mast,

Is there any one "best" way to protect an M67 recoilless rifle when transporting it in a vehicle? The CO's livid 'cause our weapons sometimes wind up a ride with broken lock rings, damaged hinge blocks, busted instrument lights and telescopes, and so on.

Neither TM-9-1015-223-12 (Feb 62) nor TC 23-5 (2 May 62) is much help on this.

Sgt C. S.

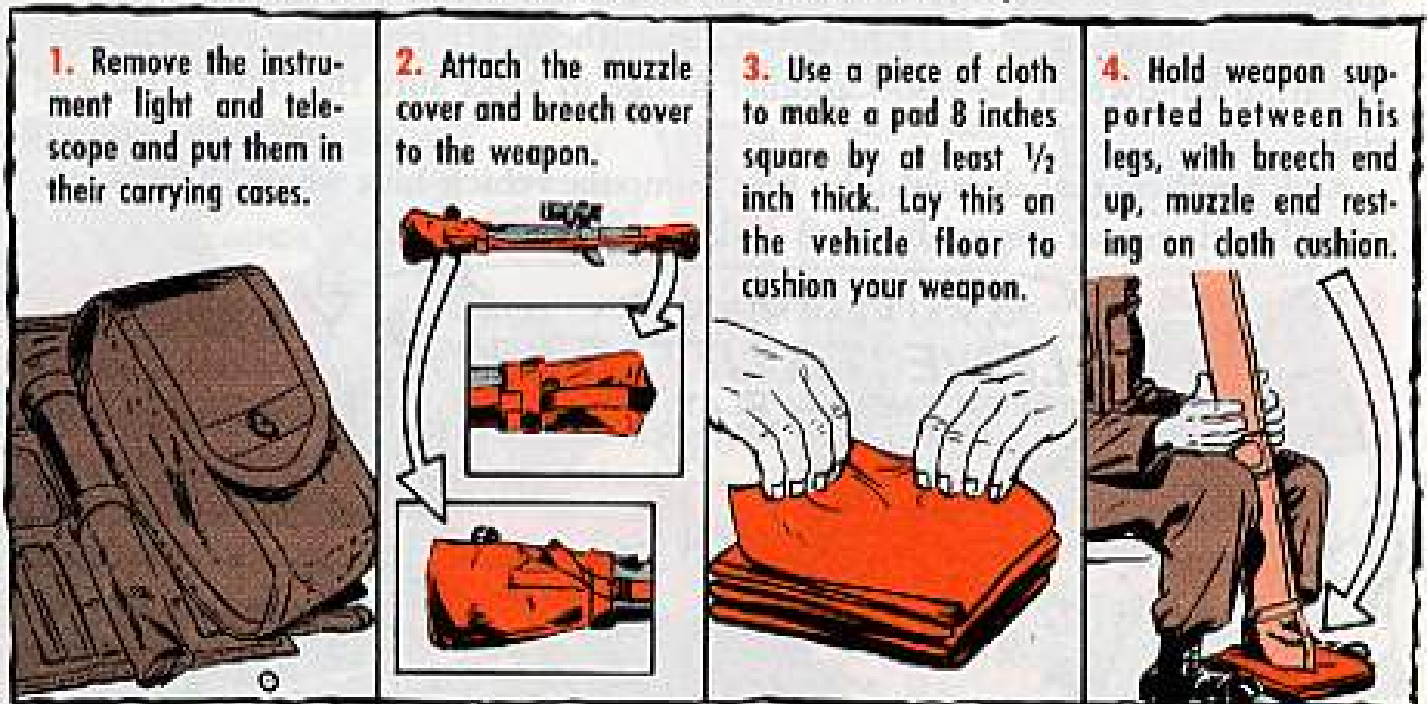
Dear Sergeant C. S.,

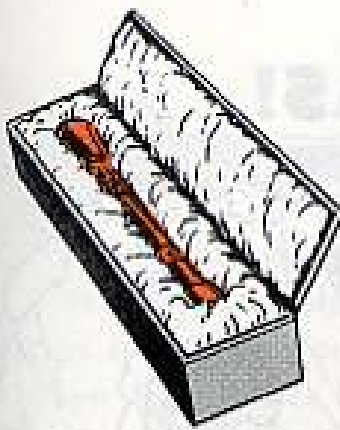
Y'r right, Sarge. About all the pubs do is to imply that the best way to get a weapon from here to there is in good condition.

But, here're some tips you might find helpful, depending on how you plan to transport your M67.

Natch, the best way to carry any man-transportable shoulder weapon on a vehicle is for the gunner and loader to sit with it in their laps.

If one man's stuck with the chore, he can do it this way.





For unattended transporting, either put the gun in its shipping container the way it came, or make a box big enough to hold it safely. Either way, put the instrument light and telescope in their cases and pad the inside of the box with rags or paper.

Anyway you do it is right, Sarge, as long as the weapon comes through in fighting condition.

Half-Mast

BETTER'N AN EAR PLUG

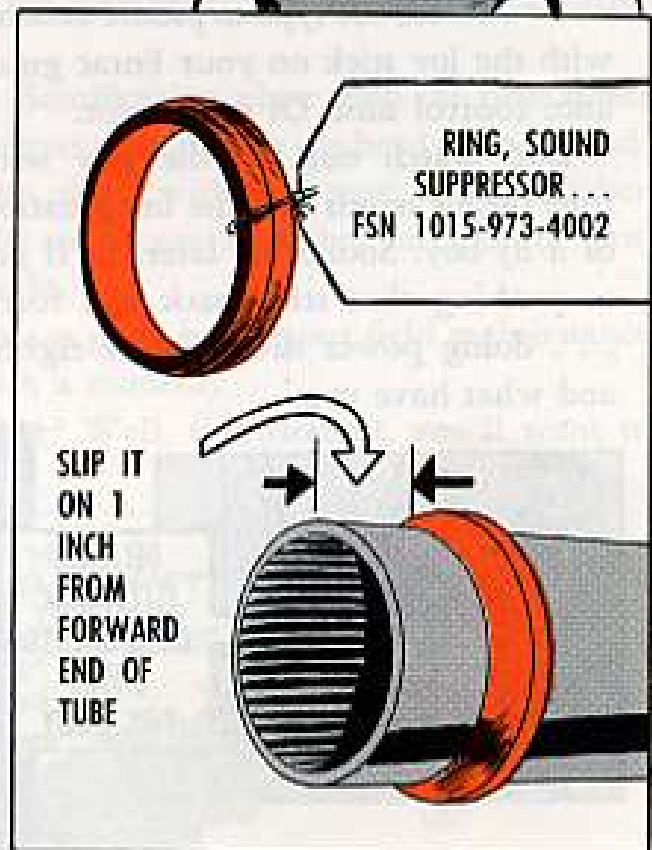


Here's good news for you guys who get that ol' ringing in your ears every time your M67 recoilless rifle goes off.

Your M67 was supposed to come equipped with a neoprene sound suppressor ring. But, if it didn't—or you got short-changed—you can still get one easy. Just fire off a requisition asking for: Ring, Sound Suppressor . . . FSN 1015-973-4002.

When you get it, slip it over the muzzle end of your rifle—one inch from the forward end of the tube. It'll deaden the noise when the weapon's fired or is accidentally struck.

This ring's mentioned in Change 1 (23 Jul 63) to TM 9-1015-223-12 (2 Feb 62).



NE TOUCHEZ PAS!

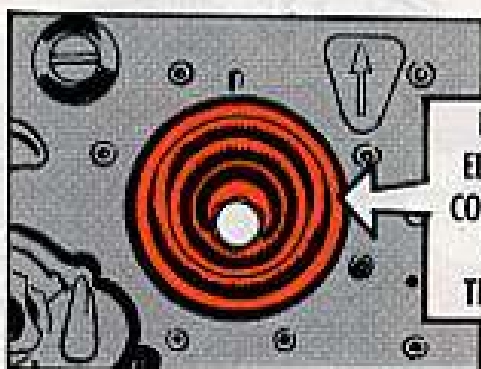


You're not the type to piddle around with the joy stick on your Entac guidance control unit. Of course not.

But, watch out for the guy with time on his hands and the imagination of a fly-boy. Sooner or later, he'll get to yanking that stick back and forth . . . doing power dives, figure-eights, and what have you.

Yeah, what, indeed! A kaput GCU, that's what!

That stick fits into a rubber boot. The boot protects the electronic components that guide the Entac to the target. Rough treatment of that stick weakens or loosens the boot. This lets dirt and stuff into the electronic parts. Like said—kaput!



DELICATE
ELECTRONIC
COMPONENTS
UNDER
THIS BOOT

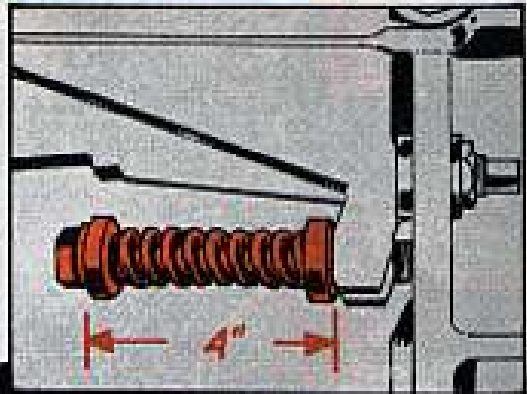
SO-O-O,
IN ANY
LANGUAGE
TELL HIM
"HANDS
OFF!"



THE BIG FOUR

Hold every pickle-pickin' thing!

When you're adjusting the cam tension spring on your M109 howitzer, allow four inches between the spring cap ends instead of the 3-13/16 inches shown in Fig 313D, TM 9-2350-217-20 (Oct 62).



THE EXPERTS FIND FROM EXPERIENCE THAT THIS EXTRA 3/16 INCH WILL ADD A LOT TO THE BREECH OPERATING CAM'S LIFE.



WHAT'S YOUR NUMBER?

Most every piece of equipment in this man's Army has a serial number that's used to keep track of it. That goes double for modified equipment like the MG M2 tripod mount, which is converted to the MG M122 for mounting your M60 machine gun.

Some of the modification kits have an identification plate with the new serial number right on it. No sweat. The plate gets tacked on to the head of the tripod.

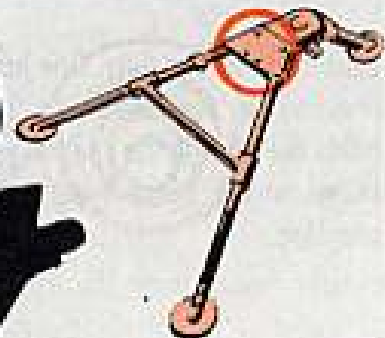
But other kits have a conversion poop sheet with the new serial number stamped on it. The old M2 number on the tripod gets scratched out and the new one added, along with the other M122 info.

'Course if this new poop sheet gets lost, as some have, your field maintenance support is going to have to come up with a number.

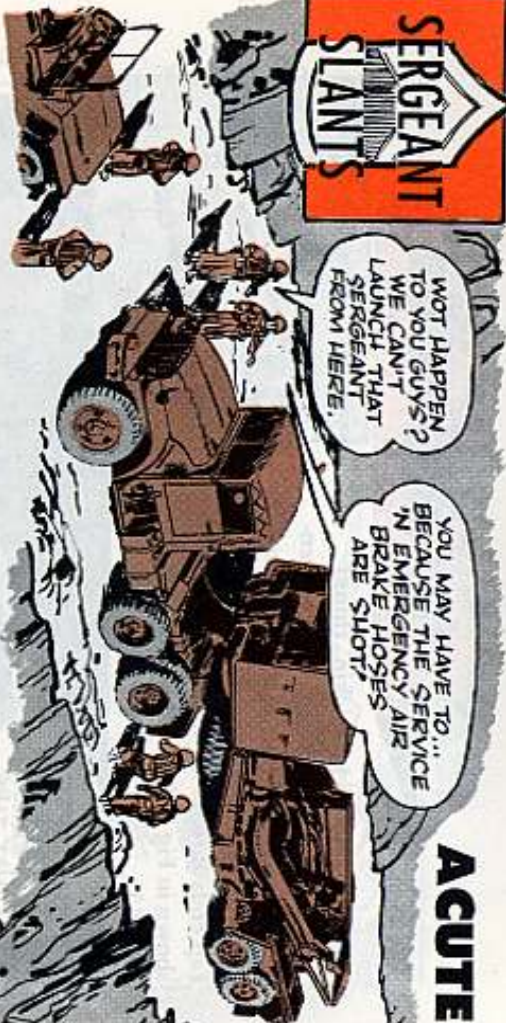
Does your M122 have its serial number? Well, if it doesn't, you'll want to check with your support—soonest.



IF YOUR TRIPOD DOESN'T HAVE THE NEW SERIAL NUMBER, CHECK YOUR SUPPORT.



SERGEANT SLANTS



WOT HAPPEN TO YOU GUYS? WE CAN'T LAUNCH THAT SERGEANT FROM HERE.

YOU MAY HAVE TO... 'CAUSE THE SERVICE 'N EMERGENCY AIR BRAKE HOSES ARE SHOT!

ACUTE

COUPLE HEX



REPOSITIONING THE COUPLINGS LIKE THIS, MAKES IT EASY TO GET AT, TOO.

Do it right the first time and you'll save time, sweat and equipment. OK, OK. So you've heard this oldie before! But, since when have you stopped tuning in Golden Platters?

Especially when the lyrics have to do with something romantic like repositioning the coupling on the XM504 launching station.

Yep, it's phonier'n a disk jockey's payola pitch to think you can short-cut an operation like this. 'Cause, unless you position those couplings just right, you'll end up with frayed or damaged hoses—and an earbound Sergeant.

So, once and for all, whenever you reposition the couplings you'd best go through the entire refrain, but softly, like so:

1. Release the brake system air pressure by opening the drain cock on the air reservoir.

2. Loosen these two nuts. One holds the emergency coupling to the mounting bracket; the other holds the tube to the coupling. Then do the same thing to the same type nuts on the service coupling.



3. Turn the service coupling 90 degrees counterclockwise (to the left) and the emergency coupling 90 degrees clockwise (to the right).

4. Tighten those 1-in tube nuts that hold the service and emergency coupling to the mounting bracket. Torque tight, that is, say about 80-100 foot pounds.

That's it.

STICK TO THE CHART, ART!

Nope. Like never! That's the word on substituting OHC for OHA in the hydraulic system of your XM504 Sergeant launching station.

Like why? First, because your lube chart says so, you gotta use fresh OHA. Second, 'cause the preservatives in OHC foul up the delicate felt strip wipers in the actuators and jacks.

So, what d'ya do if you run out of OHA? You don't, that's all! You keep



enough on hand at all times. However, don't use anything but a quart (FSN 9150-252-6383) or a gallon can (FSN 9150-223-4134). If you open a 55-gal drum, chances are what's left over will spoil before you get to use it—and contaminate your launcher's hydraulic innards.

You can order all you need through TM 9-1440-301-12P/1 (25 Mar 63).





ON THE LEVEL

Dear Half-Mast,
*How about unconfusing a situation?
 Just how much oil do we put in the AG data converter in our Nike-Hercules
 launcher section control indicator?
 I read one thing in one place . . . and another in another place.*



Sgt H. M.
**FILL 'TILL
 YOU CAN SEE
 THE LEVEL.**

Dear Sergeant H. M.,
 You can't go wrong if you go along with what it says on page 210 of TM 9-1440-250-20.
 That is—"Fill variable resistor so that oil level is visible in the oil gage glass."

Half-Mast



DON'T TRY IT

Dear Half-Mast,
*About our Nike-Hercules missiles . . . we notice that corrosion is developing
 inside the waveguide horns—around the iris.
 What should we do to get rid of the stuff?*

Dear Sergeant H. L.,
 Send the horns back up the line—to the depot.
 That's right . . . they're the only people who're supposed to put the horns back
 in shape when they become corroded or start to peel.

DON'T RUSH IT

Word's getting around that at least one Nike-Hercules outfit has been giggled
 because its launcher shock absorbers were short of oil.
 What hurt is that the men in the unit had been following TM 9-1440-250-20
 . . . LO 9-1440-250-20A . . . and the plate on the front of each shock. That is,
 they thought they had been.

If there's a sure way of being fooled into thinking that you have enough oil
 in the shocks, it's to pour oil into 'em like you're trying to put out a fire.



The biggest letters on the plate for each shock spell it out clear and simple:
Fill Slowly. And the plate explains why . . . to bleed air in the shocks completely.
 When you pour in the oil slow-like—as if you're loading a stack of flap-jacks
 with syrup—it's safe to figure the shocks are filled once the oil starts to run
 out the overflow hole.

The rubber covering on your Nike-Hercules launching and handling rail quick disconnect cables sure take a beating.

MWO 9-1440-252-30/10 (22 Mar 62) helps the situation by fixing things so's you don't have to twist the cables to get 'em in the dummy receptacle. But the MWO doesn't get rid of the problem of shot cable covering—not entirely.

The answer would be new cable assemblies . . . and that's just what you'll be getting. Cable assemblies (FSN 1450-987-9052) with a new, tougher covering are replacing the cables you've been using.

Don't be in a rush to requisition the new assemblies, tho. They won't be heading your way until the new ones now in use disappear from the supply system.

Meanwhile, you'd be helping things by making your cables last as long as possible. When they develop small cracks in the covering, wrap some electrical insulating tape around 'em. But,

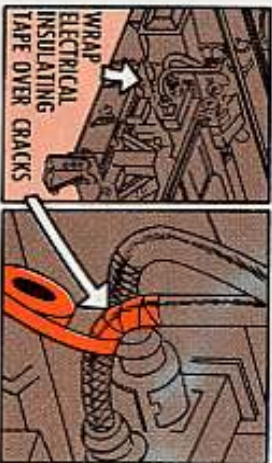


WHAT'D HE SAY?

Dear Half Mast,

It's probably nothing to sweat about, but I thought I'd check it out anyway. The surface of the propellant grain on some of our Nike-Hercules XM30 rocket motors has developed a coating of white stuff that reflects light. Do you know what it is?

MSGT N. W.



if the cracks are so deep you can see the wiring, get rid of the cables. Taping cables that're in this shape could mean sealing in moisture . . . and that'd be worse'n no tape at all.

Dear Sergeant N. W.,

You asked the question . . . so here's the answer: ammonium perchlorate crystal deposits generated as a result of a "leaching" process common to such propellants.

Despite the highfalutin name, the crystals are nothing to worry about. They won't bother you and won't foul up the motor.

Half-Mast

COOPERATION & COORDINATION

Those're the two things to remember if you're going to help your support unit do what it says in TB 9-1400-250-34/1 (21 Nov 63).

The TB tells your support people about the inspections, testing and maintenance they have to take care of to keep your missiles and launching rails up to snuff.

When they take off with a missile and rail to give them the once-over, you'll get replacements to keep your outfit at full strength.

It's your job to deactivate the missile before it's taken away. And you want to bring the log book for the missile up to date before it heads up the pike for your support unit's shop.



THE RIGHT ONE


You can come up with a choice by flipping a coin.

But that's not the best way to decide which 5847 tube to use in the external guidance equipment in your Nike-Hercules and improved Nike-Hercules systems.

Do what the slide rule guys say. Use the electron tube that's listed under 5960-897-8354, not the one that comes under 5960-892-3351. There's just enough difference between the two to make a difference in the job they'll do for you.

NEED GROUND-TO-AIR?
YOU'RE THERE
—WITH A VRC-24!

COMMUNICATIONS



Remember when it used to be like a game of chess trying to figure out how to communicate from ground to air?

Like, you were just about voiceless when you had to contact an AM set in an aircraft when all you had was your ground- or vehicular-based FM radio.

Or, if the aircraft had a UHF radio, you'd have to play all kinds of games to get to it with your land-based VHF set.

And, maybe, the frequencies of your set didn't match those in the aircraft.

Or, trying to contact Air Force or Navy support aircraft on their frequencies really worked up a sweat.

Well, that was "remember when" time. Along came the AN/VRC-24 and the AN/TRC-68 radio sets, featuring UHF and 1750 AM channels... and some dreary days were brightened quick-like.

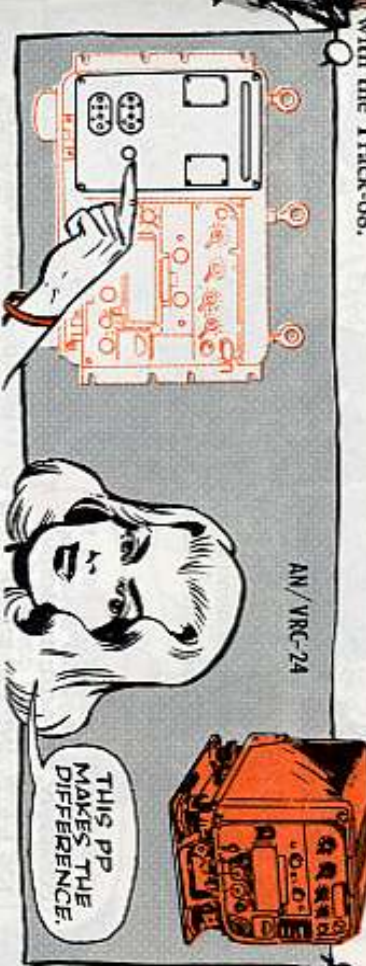
For just about the first time, the VRC-24/Track-68 ground-to-air "twins" provides the means for good ground-air communications.

The VRC-24, which does the vehicular ground-to-air work, even gives a

bonus. It can retransmit from those old faithfuls, the AN/GRC-3 thru -8 series radio sets.

The Track-68 also rates a double bow. It makes with the ground-to-air talk from a fixed location—and, it can be vehicle-mounted if an AC 115V or 230V power source is available.

Don't let the different nomenclature throw you, though. Major components of both sets are nearly identical. The big difference is the PP-1494/U, used only with the Track-68.



AN/VRC-24

THIS PP
MAKES THE
DIFFERENCE.

Both sets feature a frequency range from 225.0 mc to 399.9 mc, which really gets you up where the birds are... and that includes Air Force and Navy-type birds.

Persistent though it may be, there's no basis to the scuttlebutt that the new sets replace any existing sets. That includes the ARC-27, which'll stay up where the birds fly. Fact is, the ARC-27 is one of the jobs the new radios are designed to net with.

About the only thing the VRC-24/Track-68 replaces is a big hole in the Army's commo system.

So-o-o, grab another eyefull of some unmentioned prime purposes of the ground-to-air sets:

First 'n foremost, they're designed to give continuous transmission and reception during air-strike operations. Those jobs can be done under extremes in temperature, weather, terrain and what-have-you.



Like, those two medium-range jobs are ground terminals in a commo setup which controls tactical aircraft in close support of ground forces.



A sweet point is that most audio accessories and controls used with 'em are old standbys which've been around long enough for you to know them.

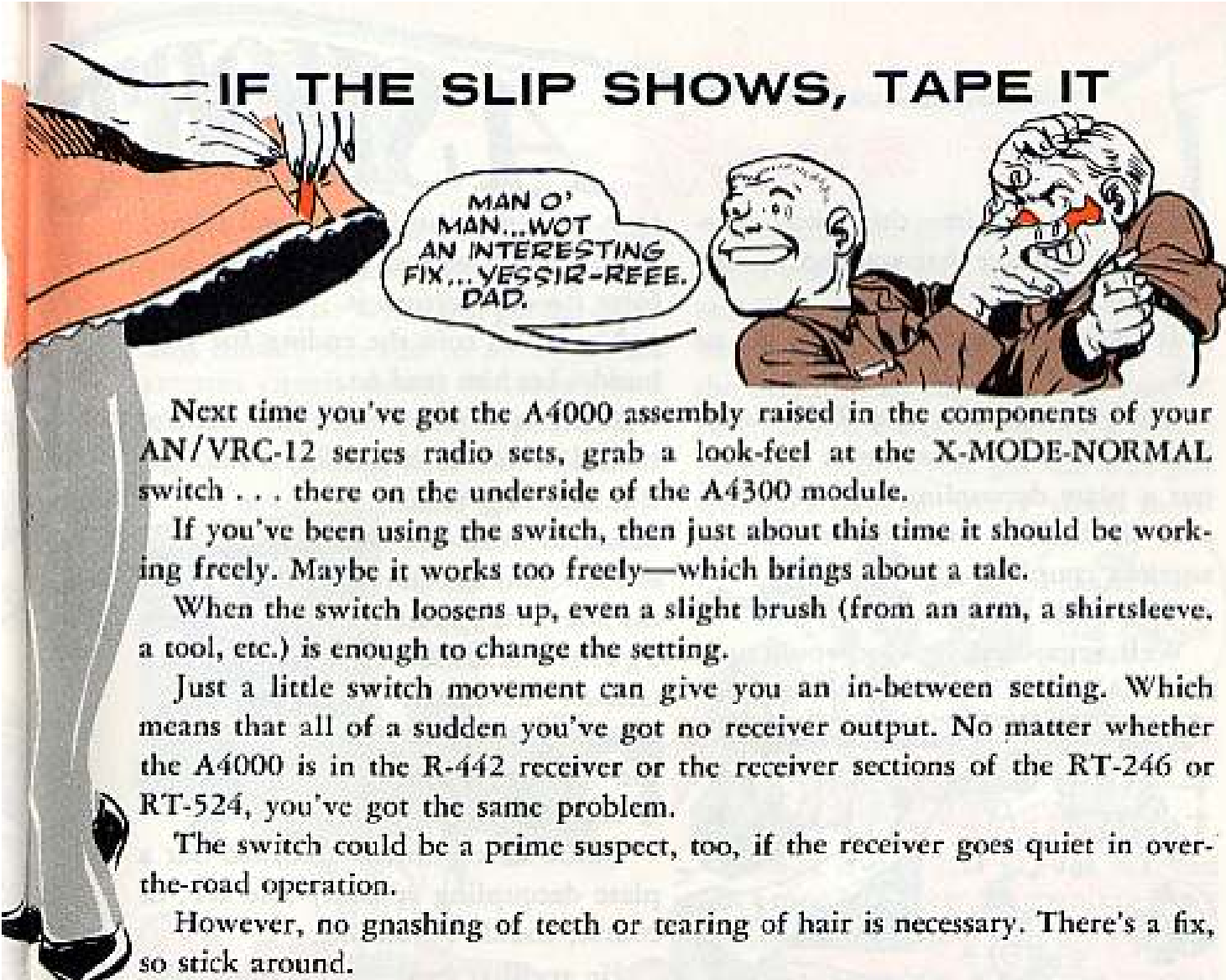
Also, about the only maintenance using units have to bother with includes replacement of tubes, fuses, knobs and a few other easy items which require no major take-down of the equipment.



The sets do need some special test equipment, but not at the organizational level. All you need is the AN/URM-105 multimeter, the TV-7/U electron tube test set and the TK-115/G tool kit. They've been around, too.

Ground-to-air, you've got it made.

IF THE SLIP SHOWS, TAPE IT



MAN O' MAN...WOT AN INTERESTING FIX...YESSIR-REEE. DAD.

Next time you've got the A4000 assembly raised in the components of your AN/VRC-12 series radio sets, grab a look-feel at the X-MODE-NORMAL switch . . . there on the underside of the A4300 module.

If you've been using the switch, then just about this time it should be working freely. Maybe it works too freely—which brings about a tale.

When the switch loosens up, even a slight brush (from an arm, a shirtsleeve, a tool, etc.) is enough to change the setting.

Just a little switch movement can give you an in-between setting. Which means that all of a sudden you've got no receiver output. No matter whether the A4000 is in the R-442 receiver or the receiver sections of the RT-246 or RT-524, you've got the same problem.

The switch could be a prime suspect, too, if the receiver goes quiet in over-the-road operation.

However, no gnashing of teeth or tearing of hair is necessary. There's a fix, so stick around.

To make sure it won't happen the first time, or again, set the switch where you want it (NORMAL, most likely). Then spread a piece of tape across the switch, anchoring each end of the tape to the circuit board shield of the A4000.



And since you're here, you might as well note this dope on the R-442, RT-246 and RT-524 antenna connectors.

Like you already know, the connectors are pretty much the same as those on other radio equipment—meaning they're of soft metal and not up to rough handling.

So-o-o, have a care when you hook the coax cables to them, and watch so's you don't bang 'em when they're sticking out naked-like.

You need 'em, so help 'em stick around.

A SHORT

Once upon a time there was a receiver-transmitter that was short-prone shafted.

It coulda' been your RT-66, -67 or -68.

Anyway, it seems this RT's owner just couldn't get away from knockin' out a plate decoupling resistor whenever he fiddled with the transmitter antenna coupling.

You heard this one before?

Well, regardless, this Joe would turn his TRANS ANT COUPLING control



like so when he was tunin' his antenna circuit. If the circuit still wasn't tuned,

even with the coupling control turned as far in as it was supposed to go, he'd force it—or overturn it.

No. Don't ruin the ending for your buddy. Let him read on.

Now, natchery, with the control turned as far as it possibly could go, the coupling shaft touched the T9 transformer. Or maybe it stopped against the RT chassis. Natchery again, when it hit the T9 or chassis it shorted.



Quick as it shorted it burned out a plate decoupling resistor. The RT, of course, couldn't transmit.

He got that message real quick-like. Normally, that'd be the end of this shorted story. But since somebody

STORY

may've missed the moral, stick around a mo' while it gets elaborated.

The point is: When you get the coupling control screwed in to where the antenna circuit should be tuned—and it's not—stop! Get your support to eyeball the coupling. And don't force it.

The newer versions of the I23 coil—on the coupling shaft—have a plastic cover on 'em to avoid shorting; but lots of the old ones are still on the RT's—and they short out quick-like.



Onward. There's always the possibility that somebody didn't adjust the coupling right in the first place...

which could mean you'd have to turn the coupling all the way in to tune it. Normally, if the coupling was adjusted properly before you got the RT, you wouldn't have to worry about shorting it.



So-o-o, if you just got the RT and can't tune it, suspect the coupling is not adjusted right. Same goes after you've used the set awhile. Have your support check out the coupling.

The End

MARK-69

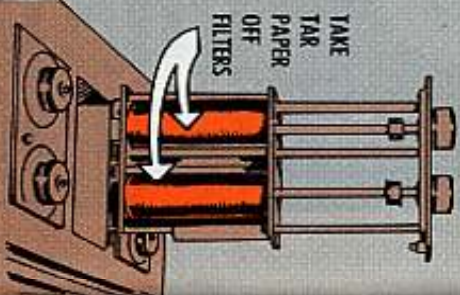
When it comes to the filters on your AN/MRC-69(V) radio terminal set, don't be like the Joe who kept his shiny new hotrod locked in the garage because he didn't wanna get it dirty.

If a hotrod doesn't go, it's useless.

You'll get just about as much use out of the new filters for the MK-124/TRC filter kit if you don't take off their car-paper covers before you install 'em. In other words the filters can't do their job if you keep 'em in their paper "garage."

Besides, leaving that wrapping on the filter could be a fire hazard.

Sure, the filters will stay shiny as long's the covers are on. But remember this, the filter metal is expected to get a little



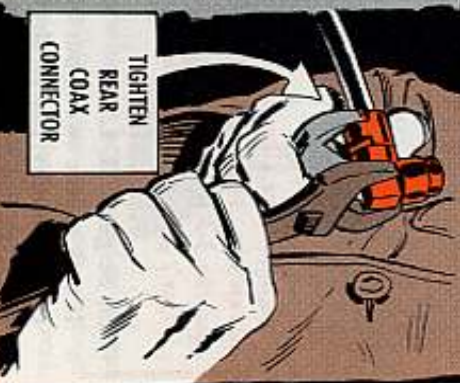
FILTER FOLLY

tarnished. And nobody's gonna gig you because it does.

Besides, the Mark-69's too important to be declaired just because some Joe wanted to keep a filter shiny.

Here's another point that'll keep a Mark-69 part out of the repair shop. You operators should reach over and tighten the rear coax connector occasionally.

It comes loose. If it gets too loose, the connector'll come apart. That means a job for third echelon that a little operator PM would've prevented.



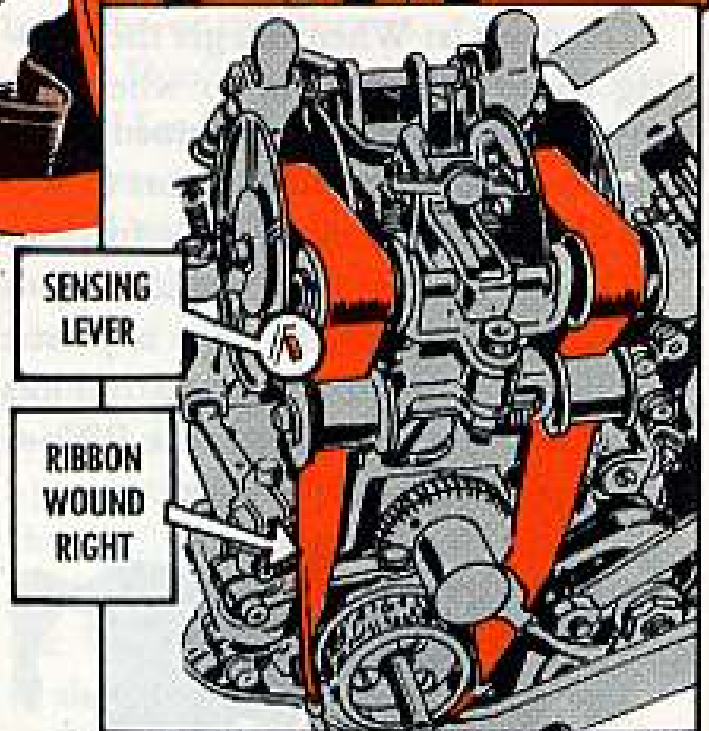
TRY A REWIND



Colorful cussin' notwithstanding, there's another good way to attack the problem of ribbon trouble on the TT-365 reperforator of your AN/FGC-70 teletypewriter set.

What probably caused the trouble was that the ribbon was wound on the spool wrong at the factory. Sad though it be, too many Joes are finding it out after the bad wind bends the reverse sensing lever so's the lever can't do its job.

That unhappy story has its beginning when the first wind of the ribbon is looped through the sensing lever window of the spool. When you use it, the ribbon catches the end of the lever and bends it.



So-o-o, the next spool you get (Ribbon, FSN 7510-292-9047 from GSA) look for a loop through the lever window (inside the spool). If the loop's there, rewind the ribbon by hand on an empty spool till it's unlooped.

Then, put it on the TT-365. Your troubles should be over.

WHERE'S THE CABLE?

Dear Half-Mast,

Would sure like to get the power cable between the AN/GRC-46B radio teletypewriter and the 3-KW generator, FSN 6115-975-8382.

Can't find anything on it in our pubs.

SFC R. L. M.

Dear Sergeant R. L. M.,

It took a little sweat, but here's the baby you want:

Cable assembly, power, electrical, CX-7898/U (25 feet), FSN 5995-889-0647.

It's in the newest Basic Issue Items List for the Angry-46.



Half-Mast

BRACE YOURSELF FOR THIS

Dear Half-Mast,

How're chances of getting a word or two in PS on the cross-braces of the newer model RL-31 reel units?

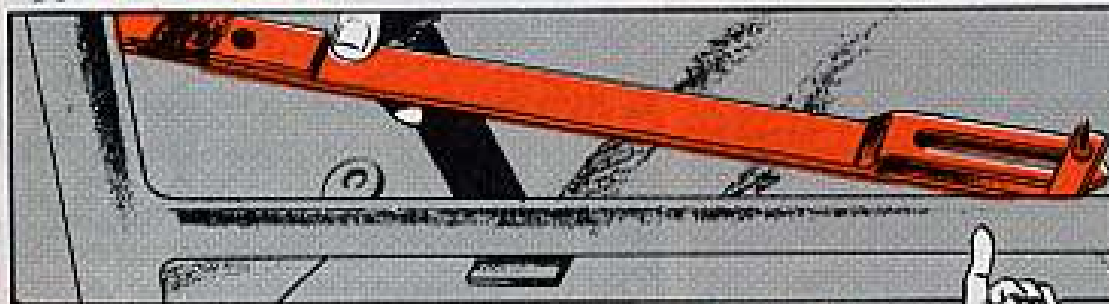
Too many users forget to slide the brace forward before swinging it out to lock it in place. Result: The ends are spread wide open, which means the brace has to be repaired before it can be slid out and locked.

We didn't have this problem with the old brace. It swung out—with no sliding required. That's probably the reason for the damage, since a lot of us are used to the older type.

Sgt J. P. M.

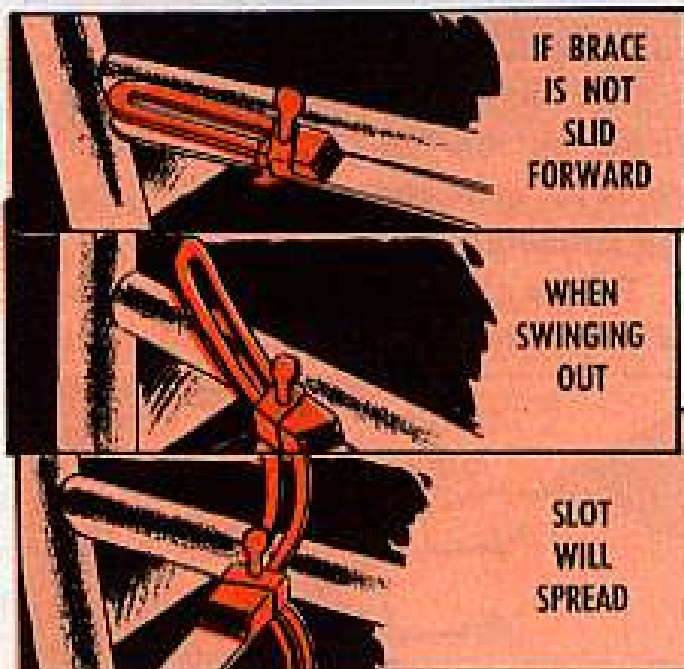
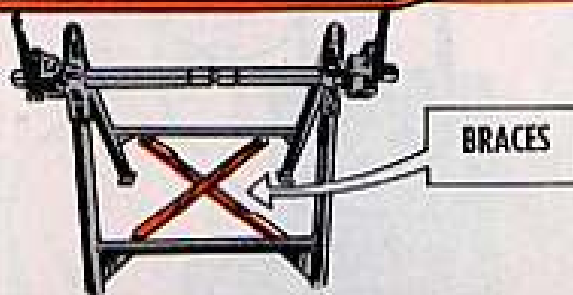
Dear Sergeant J. P. M.,

Sounds like a word or two is needed. The point on the brace being slid forward is mighty important to prevent damage . . . and that means all the way forward, parallel with the crossarms, before swinging the brace to the opposite crossarms.



'Nother point: When the reel unit's to be stored, you release the brace from the opposite crossarms, swing it all the way back to the arm that anchors it, and then slide it back so it can be pinned in storage position.

Finally, when the reel unit's used as a wheelbarrow, make sure the brace is pinned in storage position.



IF BRACE IS NOT SLID FORWARD

WHEN SWINGING OUT

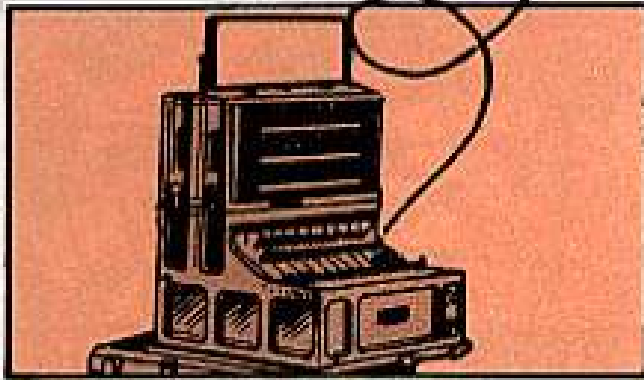
SLOT WILL SPREAD

SLOT MUST BE ALL THE WAY OUT OR IT WILL BEND WHEN BRACE IS SWUNG EITHER WAY.



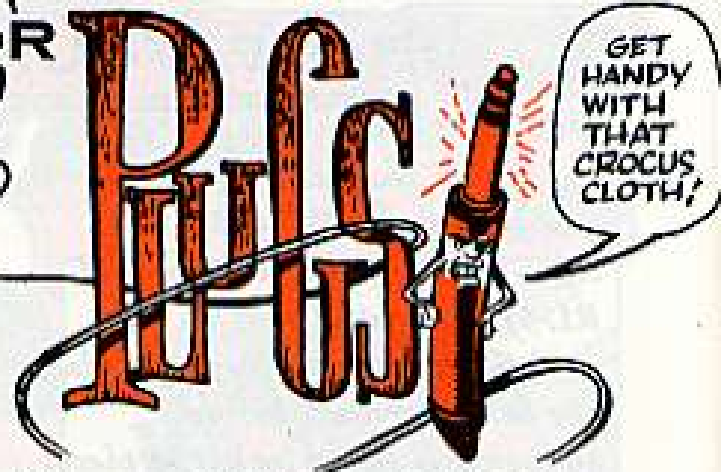
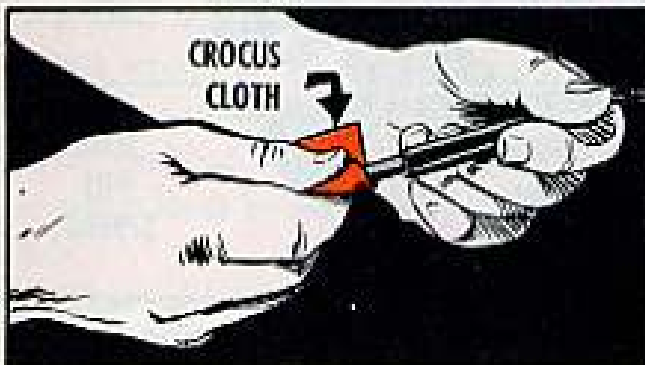
Otherwise, the brace could swing out and possibly injure the user, damage itself, or damage the wire on the reel. I think we've about covered it, Sarge.

A PLUG FOR



You have connector plugs—like those on an SB-22/PT or SB-86/P portable switchboard—within reaching distance?

Take a close look at the brass end of one of the plugs. Does it look clean?



OK . . . maybe it does. Just for kicks, tho, take a piece of crocus cloth and rub it over the end of the plug for a few seconds.

You can see that what you thought was clean wasn't. The crocus cloth sure works wonders.

So keep a piece of the stuff handy . . . and every few days go to work on the plugs. It doesn't take long—even on the SB-86 with its 32 plugs.

You might even find that the clean plugs will give you increased signal strength.

SO NOW YOU KNOW

When it comes to electrical and electronic wiring for aircraft, it's hard to get off the ground without a copy of TM 11-530 (3 Dec 59).

It's called, real shrewd-like, "Installation Practices for Aircraft Electric and Electronic Wiring," and it gives you more general poop on the subject than you'll probably know what to do with.

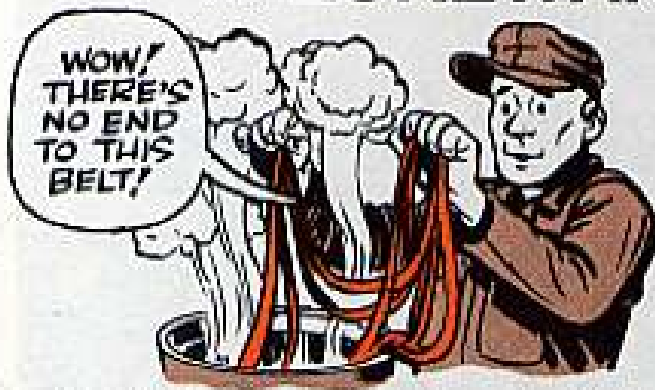
It's not exactly a new TM, but it's one that could easily have been lost in the shuffle somewhere and never reached your hot little plier-calloused hands. It gives you the real low-down



on such things as safety wiring, grounding, bonding, splicing, soldering, lacing and tying, and some emergency repairs.

All in all, a real handy little pub for general reference and for filling in the occasional gaps between your 55- and 11-series TM's.

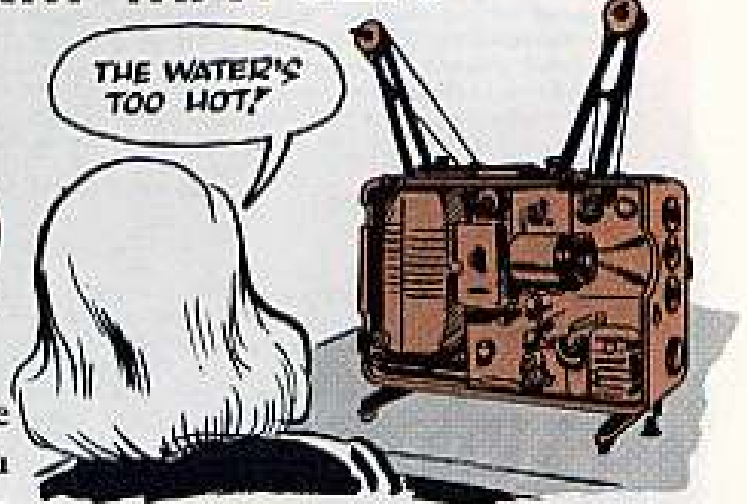
A LUKEWARM MATTER



There're a coupla' things about the older AN/PFP-1 projector set you shouldn't ever get more'n lukewarm about.

Like, when you're washin' the take-up and rewind belts of the projector itself, lukewarm is as hot as you should get. In other words, don't use anything hotter'n lukewarm water.

Hot, or almost hot water stretches the fiber belts of the older issue projectors. Sometimes the belts can grow as



much as an inch when they dry out from a hot bath. And that's not so hot.

Naturally, oversized belts don't do much for the take-up and feed reels. So-o-o, lukewarm's the word. Everybody'll understand.

The current issue PFP-1 has metal spring take-up and rewind belts which don't need washing.

THIS STUD CAN'T TAKE IT



Tiedownwise, the base plate stud on the portable mast of your AN/PMQ-6 wind measuring set is mighty handy. Unfortunately, it's more handy than hardy.

The slotted plate of the rear tiedown assembly will chew the threads right off the stud when the mast is carried in a jeep or $\frac{3}{4}$ -ton truck.

To keep from bugging the stud threads, get a D-ring welded to the base plate and use an S-hook on the tiedown assembly to hold the mast assembly in place.



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 Form 310-4 with latest changes.

TECHNICAL MANUALS

TM 1-108-5, Apr.
 TM 3-2420-200-20P, Apr Tractor, Wheeled, Ind: DED, Cate Mod 830M.
 TM 5-2693-207-13, Apr Saw, Chain, Gas Eng; Whitehead Chain Saw Co. Mod 207M.
 TM 5-3805-203-20P, Mar Grader, Road, Motorized: DED, Gallon Model 118.
 TM 5-4310-227-25P, Apr Compr, Recip: Air Gasoline Driven, 15 CFM; 175 PSI.
 TM 5-4610-205-20P, Mar Water Purification Unit; Met-Pro Mod 3000-2700A.
 TM 5-6115-305-20P, Apr Sel: DED 15-KW; Skid Mid Winpower Mod D15H18Z.
 TM 9-1400-378-20, May Parshing, Msl Operation & Maint.
 TM 9-1430-510-12P/1, May Hawk, Ground Con Equip.
 TM 9-1440-301-12P/1, May Sergeant, Ground Handling.
 TM 9-4935-500-12P/1, May Hawk, Test Equip (Ord).
 TM 9-4930-310-12P/1, Apr Sergeant, Tng Device (All), (Pro-rated).
 TM 10-3930-333-20P, Apr Truck, Lift, Fork, Gas, Pneu-Tired Wheels, 6,000 lbs. Capacity, Army Mod MHE-183 Allis-Chalmers Mod FP60-24PS.
 TM 10-3930-333-20P, Mar Truck, Lift, Fork, Gas, 2,000 lbs. Cap, Army Model MHE-182 Allis-Chalmers Mod FT20-24PS-100, FT20-24PS-127.
 TM 10-3930-334-10, Apr Truck, Lift, Fork, Gas Pneu-Tired Wheels, 4,000 Pound Cap, Army Mod MHE-188.
 TM 10-7400-201-10, Apr Office Machines.
 TM 11-1320-204-25/1, May OH-13.
 TM 55-1510-206-20P, Apr CY-2.
 TM 55-1520-301-30, Apr UH-19.

TM 55-1520-210-10CL, Mar UH-19.
 TM 55-2210-203-20P, Apr Roll.
 TM 55-2300-224-12-1, Apr APC M-113 Transported by C-130 Airplane.
 TM 55-3803-224-12-1, Apr Scraper, Earthmoving, Murray Model AR 775, Air-Drop, Transported by C-130 Airplane.
 TM 55-4920-221-15, Apr Tester.

TECHNICAL BULLETINS

TB 9-1400-299-10/1, Apr Nike-Ajax, Nike-Herc, Nike-Herc (Imp), Msl Operation & Maint.
 TB 9-1400-299-10/2, Apr Nike-Ajax, Nike-Herc, Nike-Herc (Imp), Msl Operation & Maint.
 TB 9-1400-299-10/3, Apr Nike-Herc, Nike-Herc (Imp), Operation & Maint.
 TB 9-1400-324-10, Apr Sergeant, Msl Operation & Maint.
 TB 9-1400-399-10, Apr Parshing, Msl Operation & Maint (Pro-rated).
 TB 9-1400-549-10/1, Apr Hawk, Msl Operation & Maint.
 TB 9-1400-549-10/2, Apr Hawk, Msl Operation & Maint.
 TB 55-100, Apr Transportability Criteria, Shock and Vibration.
 TB 55-1500-200-20/2, Jun OH-23.
 TB 55-1510-201-20/5, Apr U-8.
 TB 55-1510-204-20/11, Jun OY-1.
 TB 55-1510-206-10/3, Apr CY-2.
 TB 55-1510-206-20/12, May CY-2.
 TB 55-1510-204-20/13, May CY-2.
 TB 55-1510-206-20/14, May CY-2.
 TB 55-1510-206-34/8, May CY-2.
 TB 55-1510-206-34/12, Jun CY-2.
 TB 55-1510-206-34/17, May CY-2.
 TB 55-1520-201-20/2, Apr UH-19.
 TB 55-1520-206-34/1, Apr OH-23.
 TB 55-1520-216-34/1, Apr OH-23.

MODIFICATION WORK ORDERS

MWO 9-1100-250-20/1, May Nike-Herc.
 MWO 9-4935-500-20/29, May Hawk, Test Equip (Ord).
 MWO 11-5841-217-35/1, May OY-1.
 MWO 55-1510-204-20/3, May OY-1.

MWO 55-1510-204-34/3, May OY-1.
 MWO 55-1510-206-34/10, May CY-2.
 MWO 55-1510-204-34/41, Jun OY-1.
 MWO 55-1520-204-34/19, May OH-13.
 MWO 55-1520-204-34/20, May OH-13.
 MWO 55-1520-205-34/10, May CH-21.
 MWO 55-1900-202-30/1, Apr Marine.
 MWO 55-1905-202-30/3, Apr Marine.
 MWO 55-2210-203-30/4, May Roll.

MISCELLANEOUS

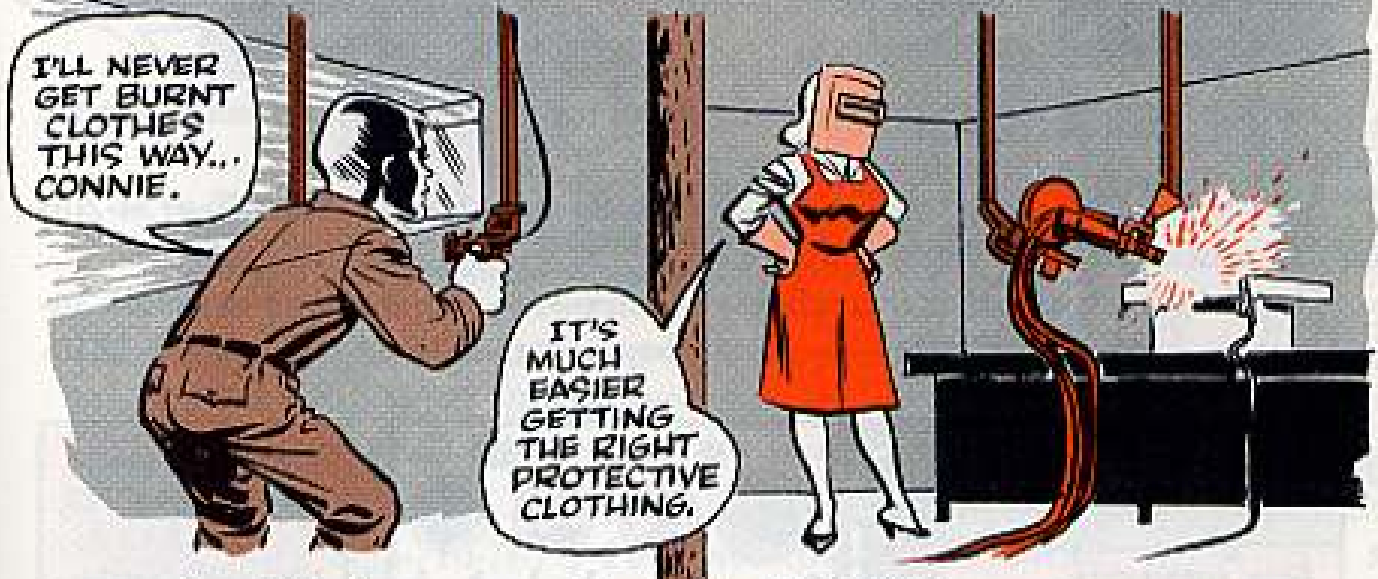
DA Cir 310-10, May Piepoint Distribution of Federal and Department of the Army Supply Catalogs (Active Army, NG & USAR; DA Form 12-9 Administration — A).

LO 5-6115-315-15, May Gen Sel, DED 30KW, AC, Skid Mid.
 LO 9-1005-247-12, Apr Twin XM2 MG.
 LO 10-3530-201-20, Apr Trailer, Shoe-Repair, Hyde and McCabe Powers Models.
 LO 10-3930-329-20-2, Apr Truck, Lift, Fork, Gas, Pneu-Tired Wheels 15,000-pound Cap; Clark Mod Yardlift 150-53rd, Army Mod MHE131.
 LO 10-4930-204-12, Apr Tank and Pump Unit, United Mfg and Engineering Corp. Mod: Style 1,2519, 2938 and Browser Inc. Mod 36W50.
 SM 5-4-5180-522, Apr.
 SM 5-4-6675-552, Apr.
 SM 5-5-3210, 20, 30, Apr.
 SM 5-5-3415, 16, 28, 31, 49, 3610, 35, 55, 95, Apr.
 SM 5-5-4120, 30, Apr.
 SM 5-5-4220, 30, 40, Apr.
 SM 5-5-4910, 20, 30, 35, 40 Apr.
 TA 50-941, Apr LCM and LCU Type Vessels.
 TB AVN 23-16, C1 May.
 TB AVN 24-16, C1 May.
 TB AVN 25-8, C2 May.

PM GUIDE READY

Keep your scout eye out for the new DA Pamphlet 750-1, "PM Guide for Commanders." It's hot off the press.

MORE ABOUT YOUR MIG



Sometimes it's the operator who needs a little PM.

Like when you're the operator of a MIG (Metal Inert Gas) Arc Welder, FSN 3431-691-1415, found in your No. 2 Supplemental Tool Kit. There're some things to keep in mind for your own protection.

There'll be less danger from sparks and burns if you wear light leather clothing. There're two welder's aprons (leather) listed in DOD Catalog C8405/25-IL-A (1 Jan 64)—

APRON, WELDER'S, leather, any acceptable color, bib type, button closing at side, without tapes or pockets, 36-in long, 24-in wide, universal size, FSN 8415-255-4558.

APRON, WELDER'S, leather, any acceptable color, bib type, strap with metal fastener closing at back, without tapes or pockets, with split leg, 42-in long, 26-in wide, Fed KK-C-450, Type I, class 2.

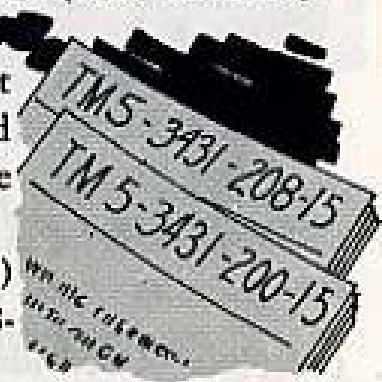
If you don't have leather clothing, then wear heavy, dark-colored clothing. Make sure that your neck area's not exposed.

You need good ventilation (but not a draft) to protect yourself against ozone gas poisoning. It's a good idea to take a fresh-air break every hour.

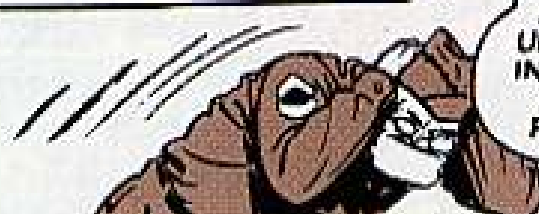
Make sure your welding helmet has a No. 10 shade (FSN 4240-273-8590), when you're using from 75 to 200 amps, and a No. 12 shade (FSN 4240-273-8591), when using over 200 amps.

Your welder has a selenium rectifier. If it works wrong it might give off selenium oxide, which is dangerous. Should this happen, don't breathe the fumes coming from the "burned-out" rectifier. Report it pronto.

You'll want to have a copy of TM 5-3431-200-15 (Aug 62) handy if you have a Westinghouse MIG, or TM 5-3431-208-15 (Jul 63) if you have the Linde.



LOOK, MAN! NO 'EYES'



HIT TH' DIRT! UNTIL THAT INSTRUMENT PANEL'S FIXED...

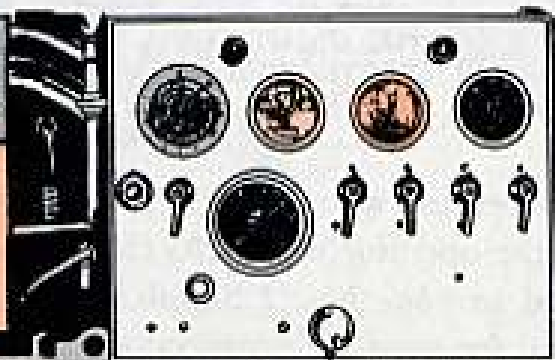
Flying blind—even on the ground—is not for the birds. It's for nobody, man, nobody.

And you're flying blind with that Gar Wood crane-shovel M-20A(F) or M-20B if your instrument panel is out of whack.

Here're some parts that're available in supply to put those on-the-blink instruments back into service—even tho they're not yet listed in the TM 5-3810-203-20P (26 Feb 59).

Switch, pressure (for hour-meter), FSN 5930-501-1706.

Gage, temperature, FSN 6685-523-7155.
Transmitter, temperature, FSN 6685-530-4186.



Gage, oil pressure, FSN 6685-663-8320.

Transmitter, oil gage, FSN 6620-514-4097.

And, if you need the electrical lead for connecting the crane lights to the carrier, you ask for Lead, electrical, FSN 6220-976-4501.

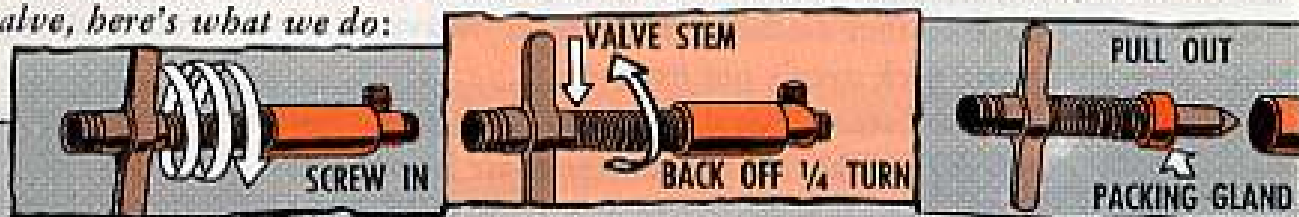
These'll help you to "see" what's going on.

WHAT'S COOKIN'?

Dear Editor,

We've solved a problem we had with the M1937 field range.

In order to remove the packing gland from the valve stem body of the fuel valve, here's what we do:



Take the air input valve stem and screw it into the packing gland as far as it will go. Then back it off one-fourth turn to be sure the threads aren't engaged with valve stem threads. Pull the old packing gland out with the T-like end of the valve.

When ice picks, pocket knives, etc., are used for this job, they can slip and cause an injury and they can also damage the equipment.

SFC Robert L. Powers
Fort Knox, Ky

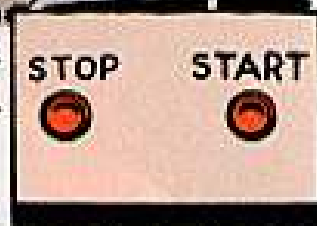
(Ed Note—Good idea.)

NOW HERE'S A SWITCH



You say you're not exactly getting what you want when you order the engine start and stop switch for your HOL-GAR Model CE 106AC/WK9 10-KW generator set?

So OK. Relax. With a little sweat it's yours.



Like you know, the old switch went like so: Switch, Push, FSN 5930-710-7657, Part No. (04009) 80514CES, Arrow-Hart & Hegeman. You can't hardly get that kind no more for your engine control panel.



But—there's a ready-made substitute, which has screws for the wire instead of slip-on clamps. It does the job fine. You gotta local purchase it with the new A-H & H part number, 80513CE. It costs 68 cents.

FIGHTING FUEL

Dear Half-Mast,

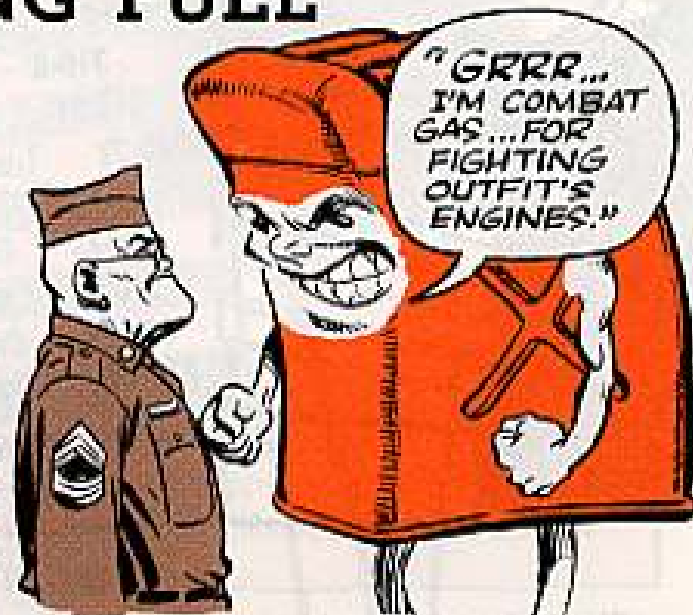
Where can I pick up some quick info on "combat gasoline?" And just how does it differ from the filling-station variety?

Capt H. E. B.

Dear Captain H. E. B.,

Supply info on both "combat" and non-combat gasoline can be found in Federal Supply Catalogs C9100-IL (1 Dec 63) and C9100-ML (1 Dec 63).

Briefly, the "combat" type gasoline is made by a different formula. This is spelled out in specification MIL-G-3056. This formula gives it three distinctive characteristics. It makes start-



ing easier over a wider temperature range; it's uniform in volatility; and it has additives to retard gum deposits and permit long-term storage.

MAKE LIKE A PRO!

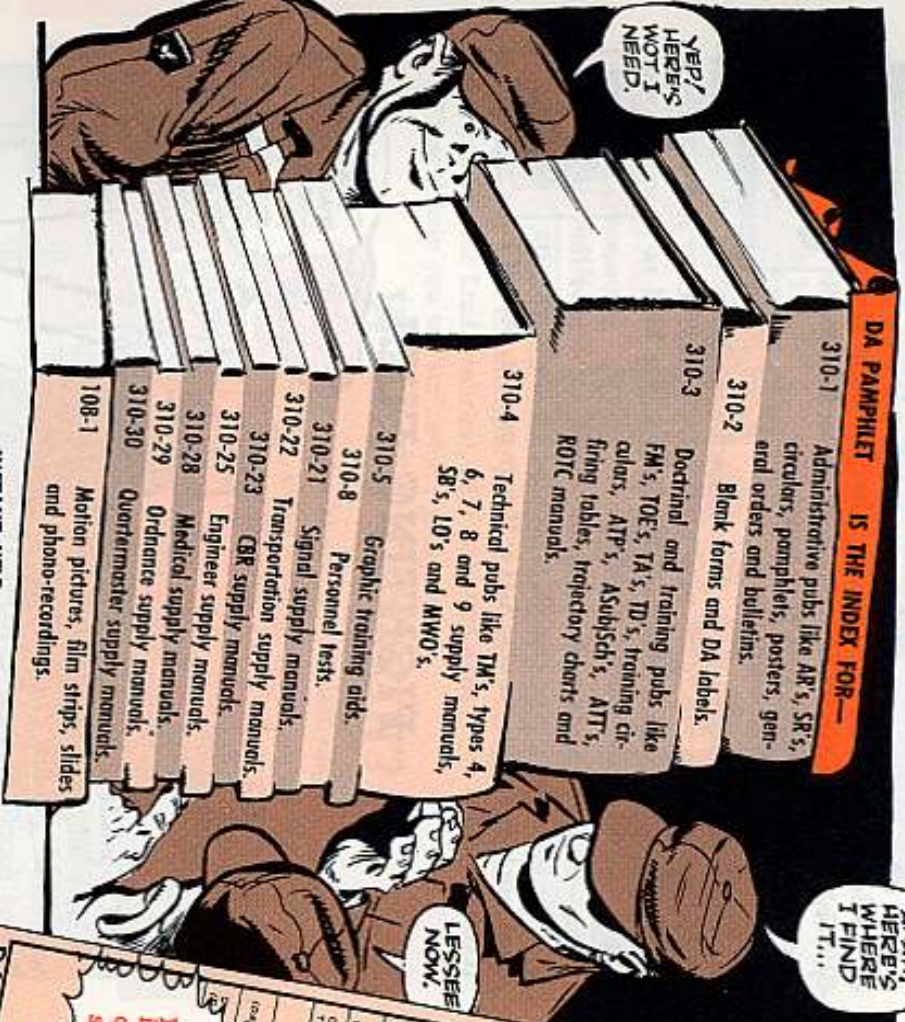
USE YOUR TO FIND

ARMY INDEXES THAT PUB

Whatever in this man's Army you're responsible for (care, use and feeding), anxious about or interested in . . . make it easy on yourself . . . dig out the know-it-all publications and get 'em working for you.

That's what the publication indexes are for . . . to tell you what pubs are available to help you do your job right.

Take a look:



DA PAMPHLET IS THE INDEX FOR—

- 310-1 Administrative pubs like AR's, SR's, circulars, pamphlets, posters, general orders and bulletins.
- 310-2 Blank forms and DA labels.
- 310-3 Doctrinal and training pubs like FM's, TOF's, TA's, TD's, training circulars, ATP's, Assault's, ATT's, firing tables, trajectory charts and ROTC manuals.
- 310-4 Technical pubs like TM's, Types 4, 6, 7, 8 and 9 supply manuals, SB's, LO's and MWO's.
- 310-5 Graphic training aids.
- 310-8 Personnel tests.
- 310-21 Signal supply manuals.
- 310-22 Transportation supply manuals.
- 310-23 CBR supply manuals.
- 310-25 Engineer supply manuals.
- 310-28 Medical supply manuals.
- 310-29 Ordnance supply manuals.
- 310-30 Quartermaster supply manuals.
- 100-1 Motion pictures, film strips, slides and phono-recordings.

INSTANT HELP

Keep the ones you need the most real handy, or know where you can get your hands on 'em quick-like. Every company or battery ought to have a complete set. Up-to-date, too.

These indexes are mailed to any outfit that needs 'em on pin-point distribution. Your unit orders the number of each one it needs on DA Form 12-4.

DA FORM 12-4

REQUIREMENTS FOR DEPARTMENT OF THE ARMY ADMINISTRATIVE PUBLICATIONS OTHER THAN REGULATIONS AND CIRCULARS (AR 210-1)

1. TITLE: Commanding Officer, 18th Armor Bn, APO 6792, New York, N.Y.

2. TYPE OF REQUIREMENT: INITIAL RE-ORDER

3. DATE: 3 Jul 64

4. QUANTITY: 200

PUBLICATION	QUANTITY REQUIRED	PUBLICATION	QUANTITY REQUIRED
ARMY AVIATION DIRECTORY		INDEX OF ARMY PERSONNEL (1964)	2
ARMY INFORMATION DISSEMINATION LETTER		INDEX OF ARMY PERSONNEL (1963)	2
ARMY PERSONNEL LETTER		INDEX OF ARMY PERSONNEL (1962)	2
ARMY 2-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1961)	2
ARMY 3-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1960)	2
ARMY 4-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1959)	2
ARMY 5-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1958)	2
ARMY 6-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1957)	2
ARMY 7-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1956)	2
ARMY 8-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1955)	2
ARMY 9-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1954)	2
ARMY 10-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1953)	2
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ARMY 65-D DRAWING MAGAZINE		INDEX OF ARMY PERSONNEL (1898)	2
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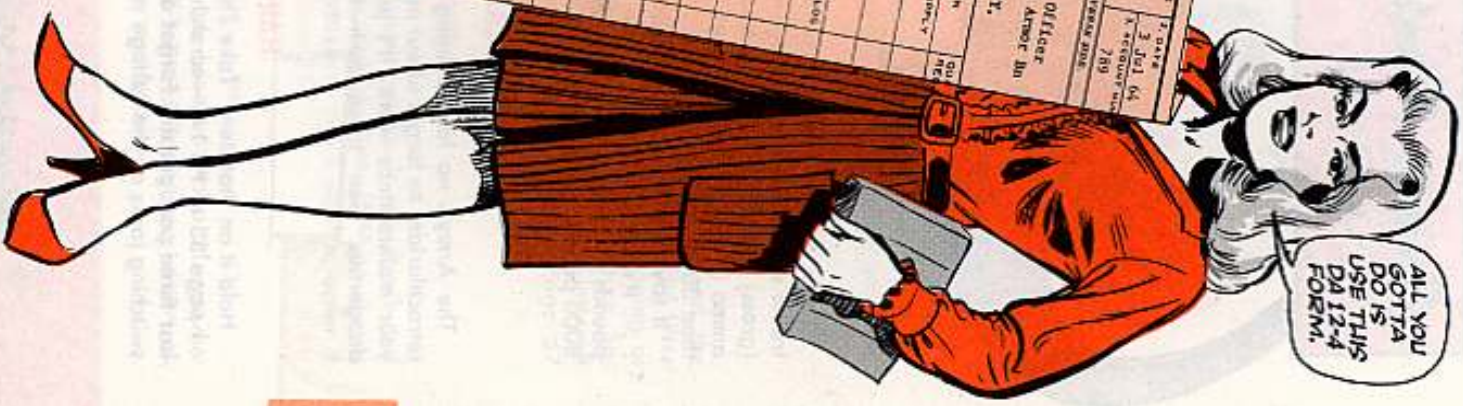
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You order the indexes your unit needs by filling in these blanks. These quantities are just samples.

Howard S. Wiley
Capt., Armor



Connie Radd's BRIEFS



M332 LOAD LIMIT

Your M332 1½-ton ammunition trailer's cross-country and highway total (gross) weight is 5800 pounds. Your ammo (payload) should never be more than 3000 pounds.

It says this on the M332's data plate . . . it's correct. Ammo loads of 5800 pounds and maximum loads of 7000 and 8000 pounds are too much.

Remember, ammo payload should not be more than 3000 pounds, the lunette weight no more than 440 pounds and the trailer's total gross weight should not exceed 5800 pounds.

Slick to the M332's data plate regard- less of what's been said before . . . even in PS Issue 138.

CARBON TET'S GONE

The Army's no longer using carbon tetrachloride, so forget about using it in your maintenance work. It's just plain dangerous. See these tech bulletins

HARK, YOU HAWKMAN!

Hold it on that item "Take The Lead" on page 53 of PS 141—scratch out the last three paragraphs. Forget all about switching jacks on the voltage regulator

or you might foul up other checks you'll be making with the same equipment. The dope in the first two paragraphs is OK, tho.

JAZZY POSTERS

If your outfit needs those jazzy posters on equipment readiness and maintenance, here's what to do: Whip out a new DA Form 12-4 and fill in all the blanks your present 12-4 has. Then, do one more thing—fill in an open line with "38-Series Posters" and the quan-

tity your unit needs. Send the revised 12-4 off to the Army Publications Center, 2800 Eastern Blvd., Baltimore, Md., 21220. They'll mail 'em direct to you. DA Circular 750-12 (Aug 63) gave the word.

YOU CAN MIX 'EM

On your M17 field protective mask use inlet-valve cap FSN 4240-893-3697 with the face-piece that has a bead around the collar, or use inlet-valve cap, FSN 4240-678-0730, with the face-piece that has a collar that is smooth on the outside.

Mixing the caps won't cause agent

leaks. Any air that gets around the inlet valve cap comes through the filter anyway, but it might cause fogging of the lenses at sub-zero temperature. So, please cross out Percy's red-lettered comments under the pix on Page 57 in PS 135.

HOW YOU GET PUBS

The handiest pamphlet these days is DA Pamphlet 310-10, "Guide for Publications Supply Personnel" (May 64). It gives the scoop on how the publications

supply system works. It was distributed according to DA Form 12-9, so if you didn't get yours you'll want to order it on DA Form 17.

THE REPORTABLES

Have you seen the new AR 711-140 (list of reportable items) dated June 64?

It's distributed all the way down to company and battery.



HEY CONNIE!
WE GOT A...

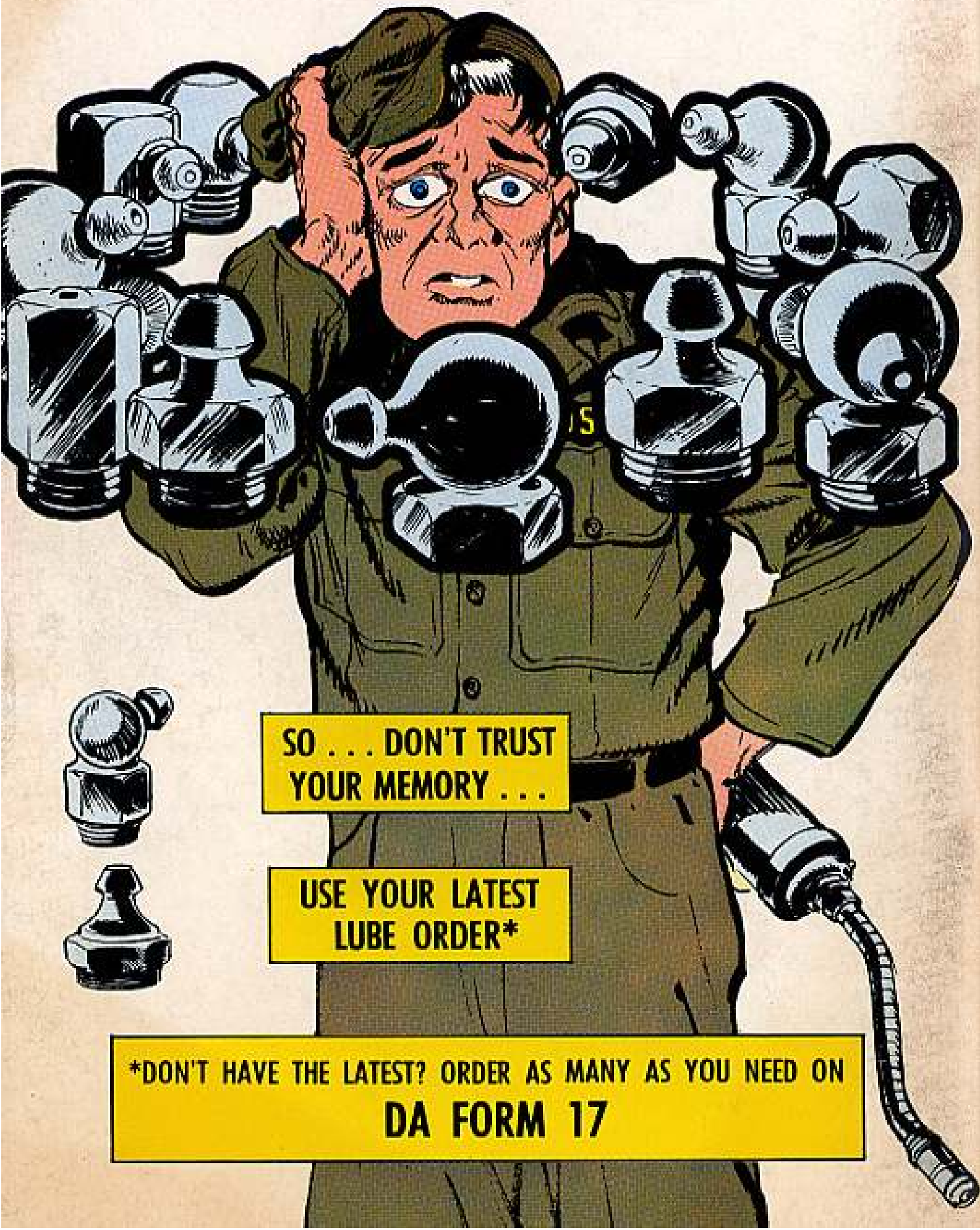


FORGET IT!
TRY THAT M88
TANK RETRIEVER
OUTFIT DOWN
THE ROAD..

Would You Stake Your Life ^{now} on

the Condition of Your Equipment?

'To Ere is Human...'



SO . . . DON'T TRUST
YOUR MEMORY . . .

USE YOUR LATEST
LUBE ORDER*

*DON'T HAVE THE LATEST? ORDER AS MANY AS YOU NEED ON
DA FORM 17