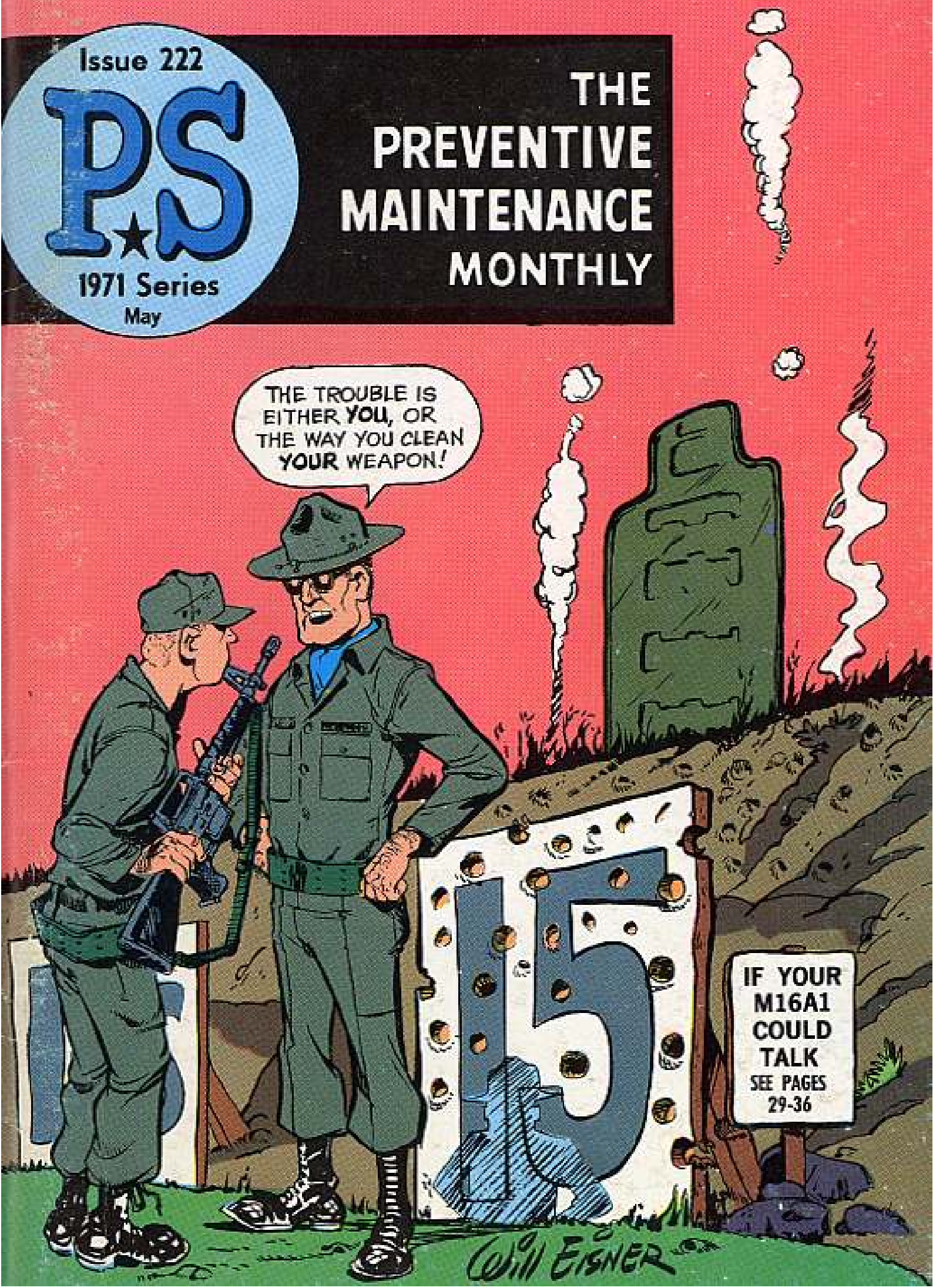
Issue 222
PS
1971 Series
May

THE PREVENTIVE MAINTENANCE MONTHLY



SUPPLY PROBLEMS?

TRY CSDP

Ever hear of "C S D P"?

Don't let it worry you, 'cause a lot of guys haven't either.

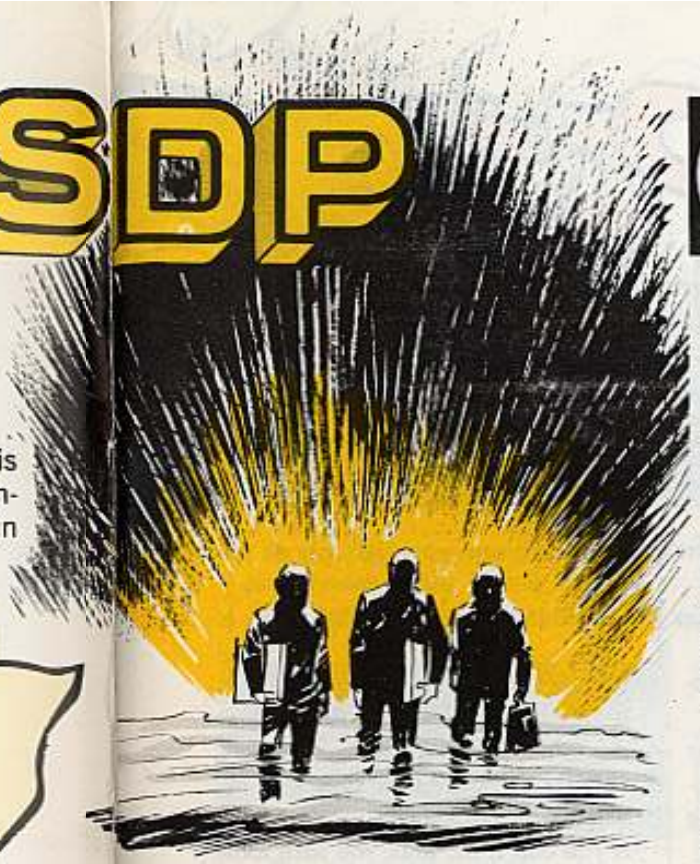
It means Command Supply Discipline Program and the word on it is in AR 700-87 (11 Feb 70). Under this deal your command sets up a command supply review team. This team is made up of specialists in supply whose job is

> to perform intensive supply assistance visits throughout the command to assist operating units in identifying supply problems and resolving difficulties before they become serious or chronic.
>
> AR 700-87

You can't beat that for help in your supply problems.

If your command's team hasn't been to your supply operation now's the time to get them involved. Your own S-4 or G-4 can give you the word on when they will be around.

The team is there to help you. Call on 'em if they've not called on you. The results can be real good.



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IN THIS ISSUE

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

MSG Hall-Mast,
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Fort Knox, Ky.
40121

FIRE POWER

PUT ZAP IN YOUR CHAP

Your Chaparral guided missile system maintains its zap potential only as you maintain your Chaparral.

There are things you gotta do; things you shouldn't do, and the right way to do or not to do 'em.

So, prepare to launch these precautions and suggestions.

Excessive use of water makes for soggy components, wet contacts, corrosion. Be tight with the liquid during clean-up.

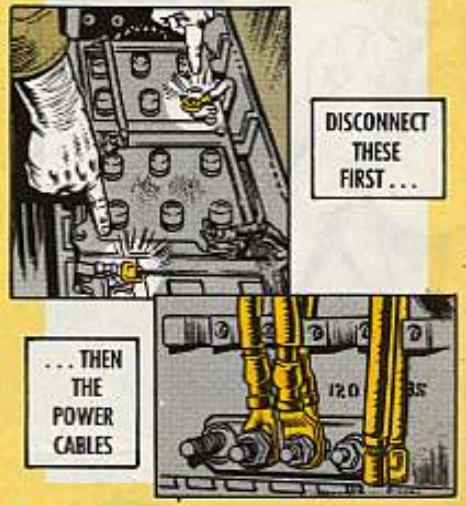
'Specially vulnerable are the generator set control box and the vent area over the master control panel.

And, uh, keep water out of the crew compartment. There's no drain to let it escape or help it dry up. It's a real killer on the erect/retract motor.

POWER OFF

Before disconnecting the power cables in the generator set control box, disconnect the 2 negative cables on the battery.

If you don't, the juice you turn loose can damage the control box, the cables and connectors, or anything else they touch.



Go easy with the screws on the control box panel. Prevents binding, breaking and panel repair. Snug 'em up, but no muscle is necessary.

The nuts holding the control box cables are a different story. Tighten 'em to 120 in-lbs. Otherwise, they arc.

SWITCHES

Careful with those No. 12 boondockers when you put 'em down in the gunner's compartment. Big feet break toggle switches, and the compartment's got 'em (switches).

MATING BOLT

The tension, or mating bolt, which secures the launching station to the vehicle requires some brief but special attention when you're about to remove it.

The sunken allen fitting in the bolt head fills with dirt and other road debris . . . and it's gotta be clean so that Wilt-

the-Stilt size wrench will fit all the way down.

Gouge the gook with a stick, blow it out with air, or use anything else that'll do a proper cleaning job.

Otherwise, the terrific torque which must be applied to free the bolt can strip the fitting. And that, friend, means a major project in getting to the bolt and getting it out. Many, many hours of work are required.

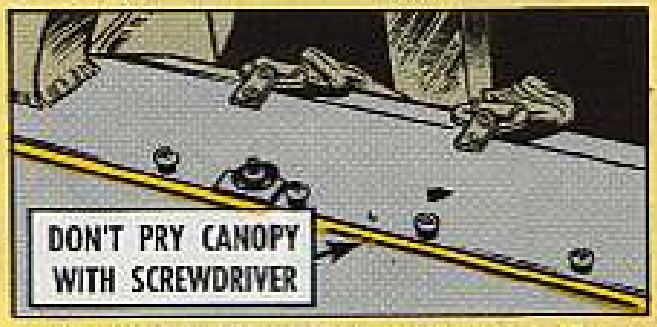
So, it's better to use a few minutes and clean the fitting.

CANOPY CARE

Desist with the screwdriver when removing the canopy assembly. Prying

PS MORE

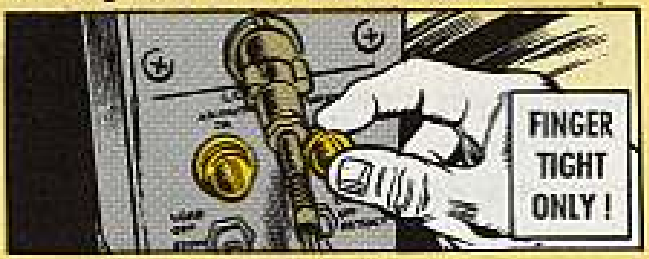
at the base tears the rubber gasket. That breaks the seal . . . and allows missile fumes to enter the cockpit and get at you . . . or your buddy.



'Nother rubbery area to worry about is the rubber on the air conditioner filter. Adjust the filter carefully so's you don't tear it up.

LAMPHOLDERS

Lampholders in the control panels should be finger tight . . . and that's all. If the lampholder turns after you screw it all the way down, go inside the panel and tighten it from the rear.

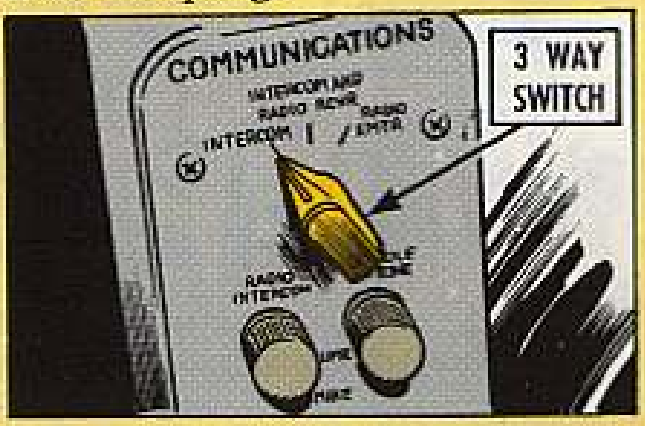


The only bulb that goes in the lampholders is Type 313. No subs. Otherwise, you foul up your test results.

SWITCH PITCH

That 3-way switch at the top of the COMMUNICATIONS (right hand) panel is spring-loaded in the RADIO XMTR position.

Meaning, you've got to hold it in position when you're transmitting. If you try to force it to stay put, you'll break the spring.



It does stay put in the INTERCOM and INTERCOM/RADIO RCVR positions, however.

CABLES

No matter which cable you're hooking up, do it carefully. Line up the guide key, then turn the connector. Connect and disconnect at the connector; don't yank cables off, or twist them into place.

TEST SET

Keep that lock ring on the connector of the AN/DSM-79 test set! Otherwise:

1. Bearings can fall out.
2. The seal is gone.
3. You have a dangerous condition.
4. A possible air leak can give you the wrong indication on the test set.
5. The connector can snap off and hit you in the head!

BLUE LINE

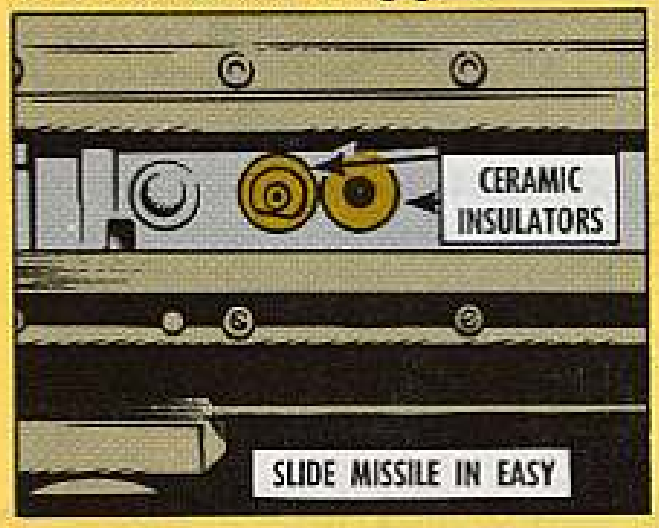
Line up the blue line on the P103 plug of the test set with the blue line on the electronics section . . . and you won't have to force the plug into place. Beneficial? You know it.

While you're steered toward doing it the easy way, consider the O-ring on the air purification filter.

A dab of silicone grease KEL-F90 before you install the O-ring will allow it to seat properly . . . and save you problems.

THE RAIL ROAD

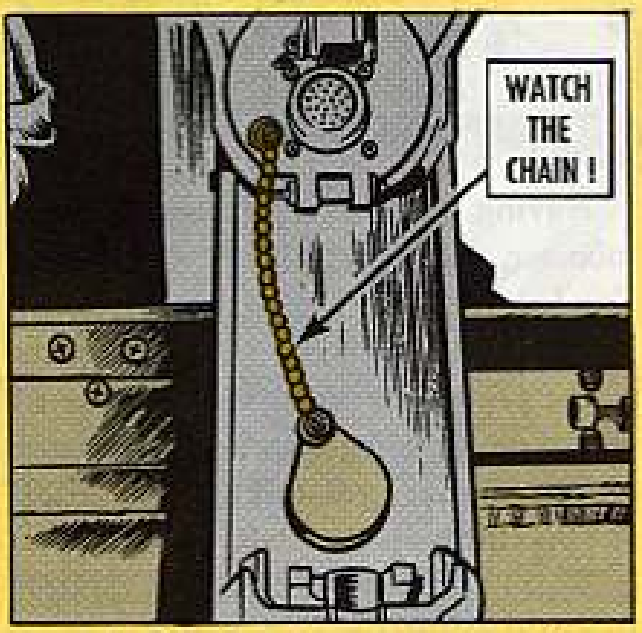
Slamming the missile into place on the rails damages the ceramic insulators of the detent and firing pins.



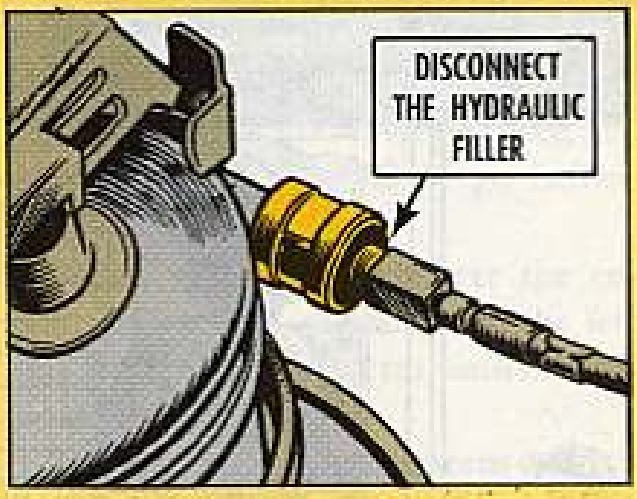
Which means an abort . . . and a repair job.

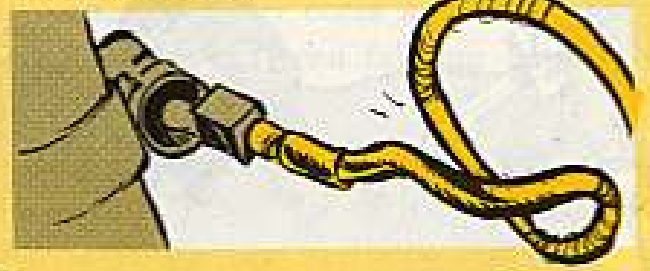
So, push it firmly into place . . . but resist the grand slam.

Also, it's not necessary to swing the launch rail door wide. You break off the cap chain.



And, before you go away, disconnect the hydraulic servicing unit before you start the system. Otherwise, you'll blow it — the servicing unit that is. And don't forget to re-connect the low pressure fluid return line to the hydraulic pumping unit. If you forget, you can rupture the hydraulic fluid cooler in the heat exchanger.





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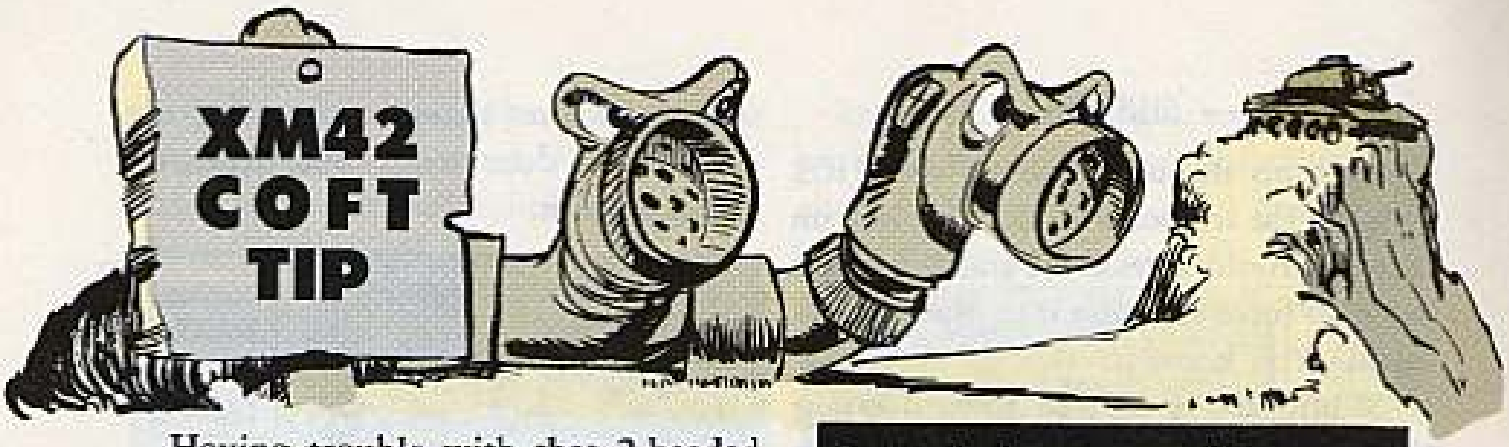


Having trouble with that 2-headed monster, the W4 cable on your XM42 Conduct Of Fire Trainer?

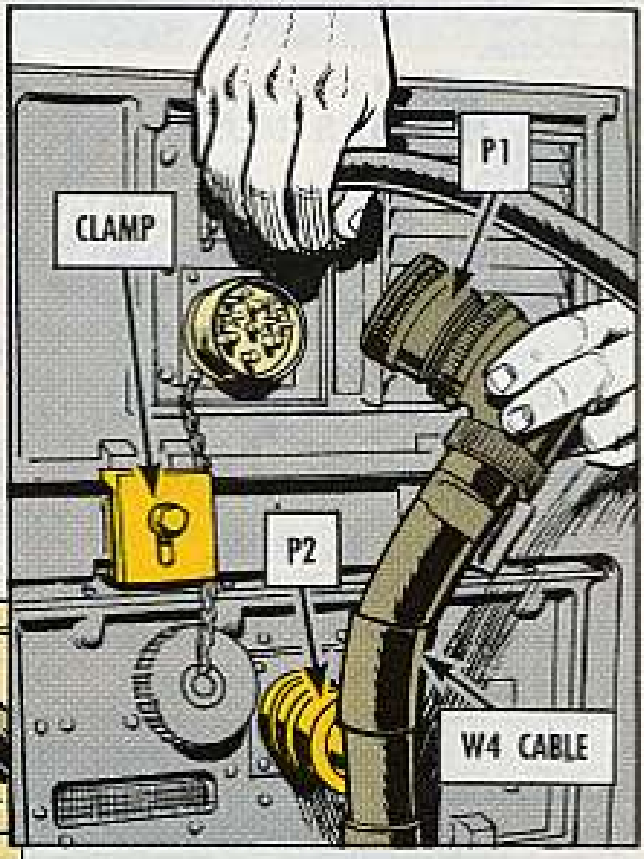
Fitting the P2 connector into the prime power supply (PPS) and the P1 connector into the power control unit (PCU) can have you talking to yourself as you climb up the wall.

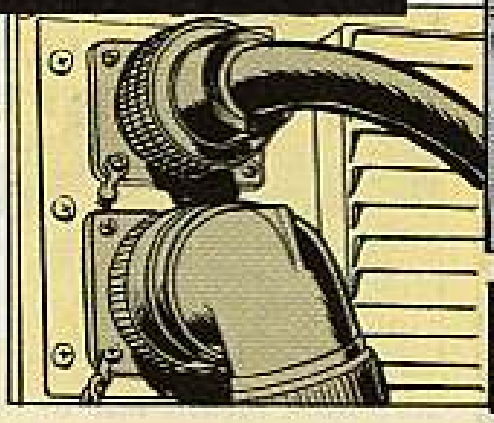
There's an easy way to do it, though, like so . . .

1. Hook up the P2 connector of the W4 cable to the prime power supply (lower box) and screw it securely in place.

2. Now loosen the 2 clamps holding the power control unit (upper box) secure in the housing adapter.

3. Wiggle the power control box around until you can easily mate up the receptacle with the P1 connector on the W4 cable.





4. Now center the power control box and tighten the clamps. Mission accomplished!

WHEN VANES ARE SWITCHED...

SOMETHING'S GONNA HIT THE FAN

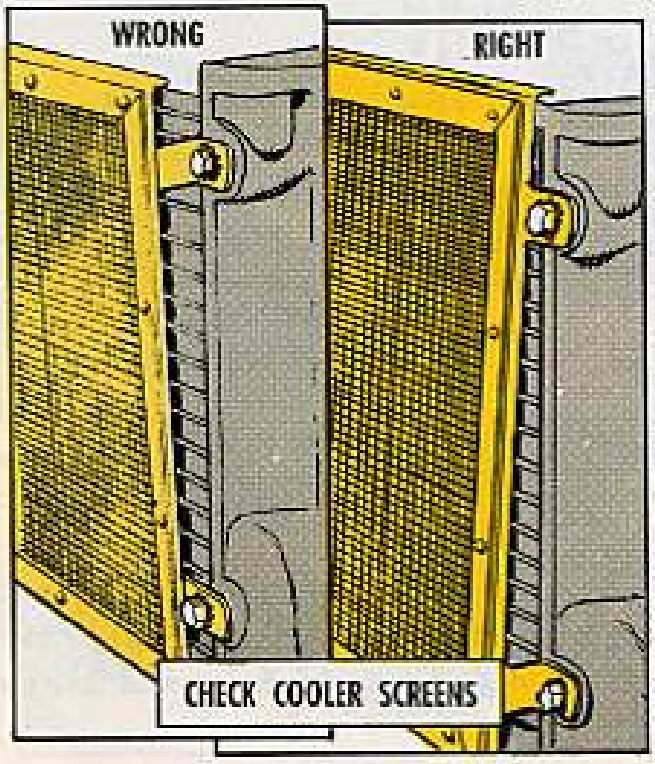
Here it is for all you AVDS 1790-2 and -2A engine fans. . .Both the cooling fan vane housing and the rotor housing on the rear fan are different from the vane housing and rotor housing on the front fan.

These 4 housings have got to be used with the proper (rear or front) cooling fans or you can get interference with the fan or maybe it won't even run.

So-o-o-o, here's what to look for . . . The rear (flywheel end) cooling fan vane housing is the deep one and measures about 2¼ inches thick at the outer rim, while the front (accessory end) cooling fan vane housing is a full inch thinner, measuring only 1¼ inch thick.

Same goes for the rotor housings. The one for the rear fan tapes in at 2-11/32 inches while the front one is only 2⅛ inches.

Give these housings a good sharp look and if they seem in the wrong place, get your battalion mechanic to help you put 'em the way they should go before something gets broken.



While you're looking over the engine, give a blow of the eye to the left and right engine and transmission oil cooler screens.

The idea is to have the screens overlap the cores at the top which keeps junk and crud from falling between the screen and the core. However, if anything should get drawn through the screen, the cooler cores are tilted in at the bottom so it can fall out between the screen and the core.

If the screens aren't right, your battalion mechanic will help you get 'em that way.

M551 LATE NEWS FLASHES

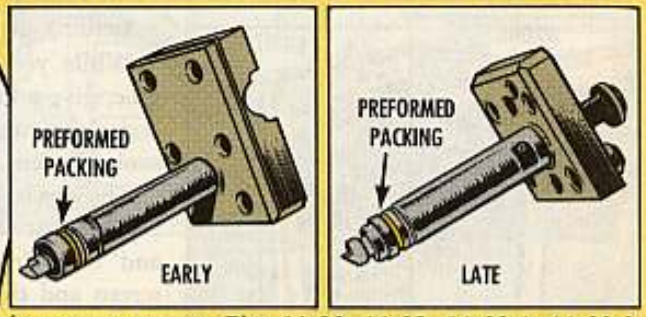
AMMUNITION DETENT PIN

A dirty ammunition detent can give you problems so clean it after every 40 rounds of conventional ammo you fire.

It's a good idea to use DA Form 2408-4 to record the date and number of rounds fired. Like, say, it is February 28, 1971 and you have just cleaned the detent.

This is what you'd enter on the 2408-4 . . . Detent assembly serviced 2/28/71—94 rounds.

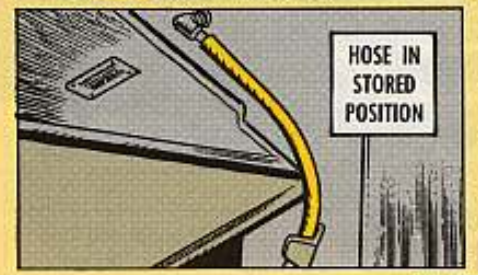
Whether you have the early or late model detent it needs to be cleaned right and you have to replace the preformed packing FSN 5330-169-0953 (P/N 11578 420). After the detent is cleaned it must be tightened to



the correct torque. Figs 11-22, 11-23, 11-23.1, 11-23.2, and 11-23.4 in your TM 9-2350-230-12 (Jun 66) give you the scoop on doing this.

Regardless if you've got the early or the late model detent it has to be maintained right or you could have gas leakage which erodes sealing surfaces and causes early failures.

FUEL FILTERS



Like it says on page 4-4 of Ch 8 to your -12 TM, draining your fuel filters, both primary and secondary, is a before-operations service. This is real necessary so don't sluff off on it. Also, pump condensation from the center fuel tank. (No use doing one without the other.)

AIR CLEANERS

There are 3 right ways to clean your air cleaners and a couple of wrong ways.

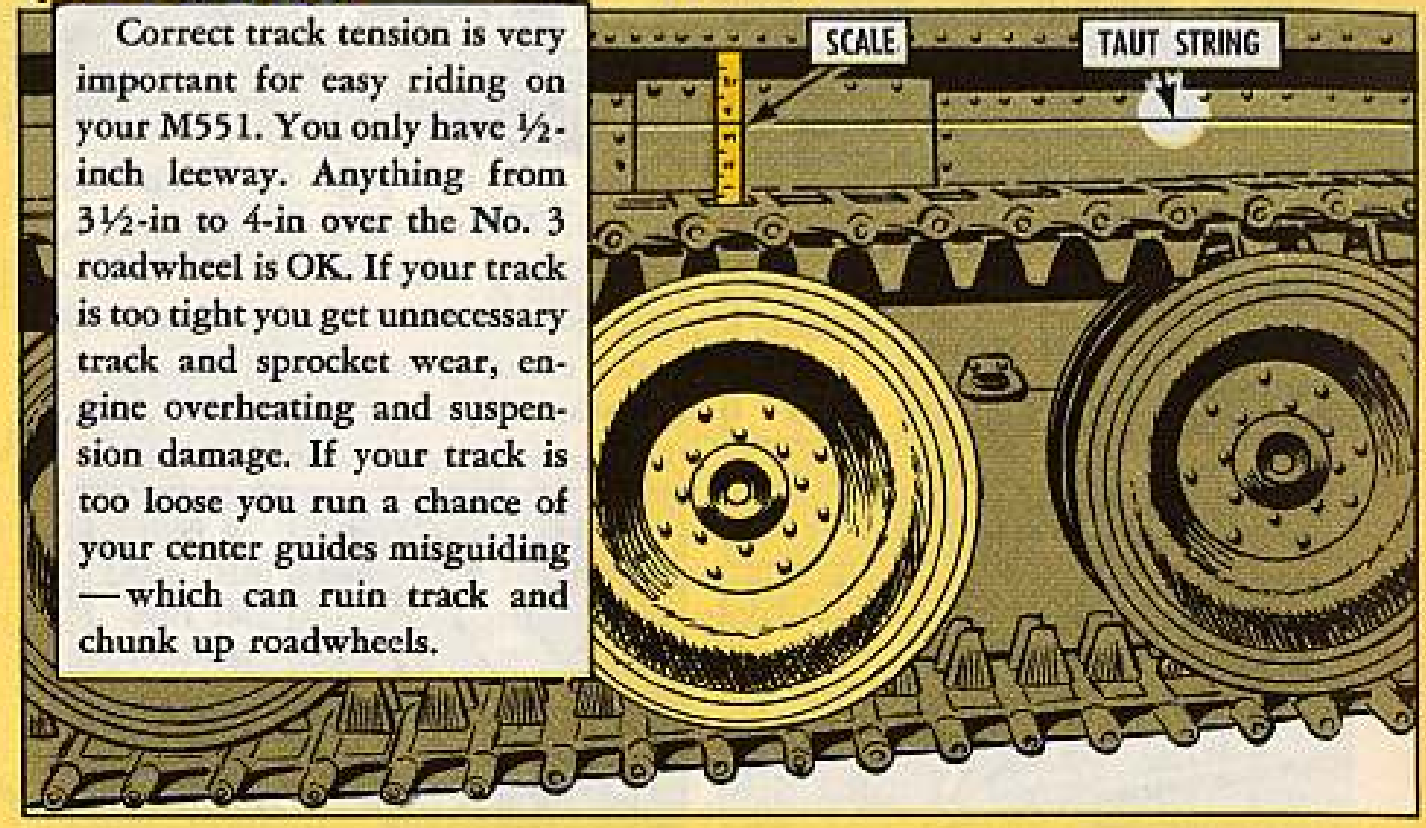
PS MORE

HERE'S WHAT YOU **DON'T** DO:

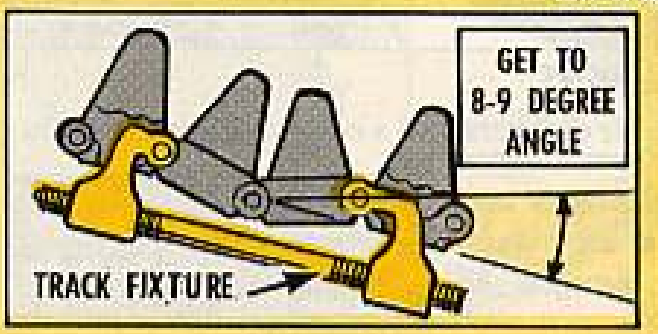
1. Beat the element on the front or rear deck of the vehicle.
2. Hold the element near the engine exhaust and let it blow the dust out (and some diesel oil film in).

TRACK TENSION

Correct track tension is very important for easy riding on your M551. You only have ½-inch leeway. Anything from 3½-in to 4-in over the No. 3 roadwheel is OK. If your track is too tight you get unnecessary track and sprocket wear, engine overheating and suspension damage. If your track is too loose you run a chance of your center guides misguiding —which can ruin track and chunk up roadwheels.



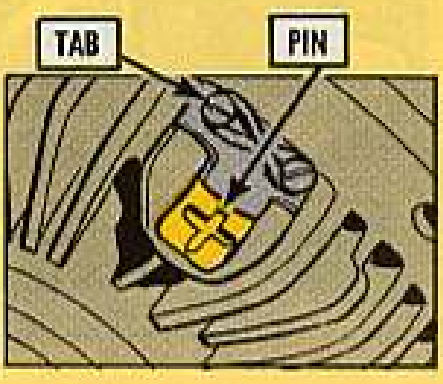
BREAKING TRACK



When you break or connect track, do it so you get an 8 to 9 degree angle like it shows in fig 5-5 of Ch 8 (page 5-14) of your -12 TM. That way you won't wind up with a bad bushing.

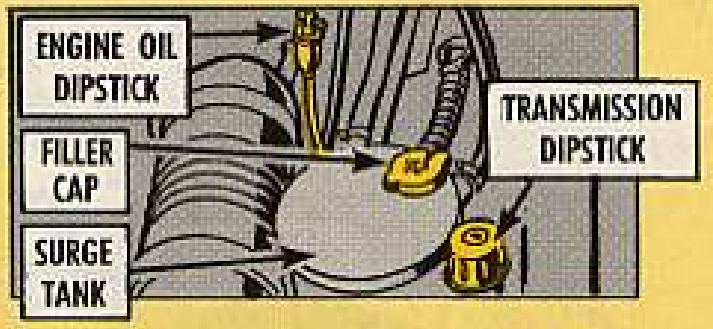
ENGINE OVERHEATING?

Page 5-11 in your -12 TM clues your talented turret mechanic how to manually lock up the cooling fan drive. This is called an "emergency procedure" but if you're in a place where your engine runs hot all the time, that is an emergency. So have him lock up the fan.



CHECKING THE LEVEL

Checking for correct level of coolant in the radiator and oil in both transmission and engine is a before-operations must. Skipping it is a No No.

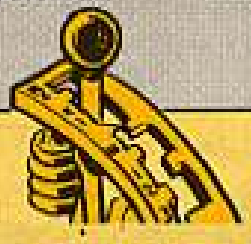


OPERATING RANGES

To be an easy rider on your M551 you need to know when to shift from one range to another. Grinding along in too low a gear or too high a gear, in relation to the vehicle speed, heats up the engine because the engine and transmission have the same cooling system. Remember, this is not an automatic transmission.

Pick out the right shift range according to the ground you'll be operating over from this table. (Always start off in the low range.)

KIND OF TERRAIN	SHIFT RANGE	MINIMUM FULL THROTTLE SPEED	MAXIMUM SPEED
Mud, deep sand, high hills, steep grades	1st (Low)	3 MPH	7 MPH
Moderate slopes, semi-hard ground	2nd (Low-Intermediate)	5 MPH	10 MPH
Hard surface and rolling ground	3rd (High-Intermediate)	8 MPH	19 MPH
Flat, hard surfaces	4th (High) 1st reverse 2nd reverse	19 MPH	43 MPH 5 MPH 9 MPH



DECONTAMINATION UNIT

The M11 decon unit can be mounted on your M551 if your CO gives the OK. TM 3-4230-204-13 (Oct 69) tells you how it works. Mount it on the left hand side of the air cleaner access door at the left-rear of your M551. Use the bracket as a template to drill the necessary holes. The mounting hardware—screws, lockwashers and nuts—does not come with the unit. You'll have to get your own.

END

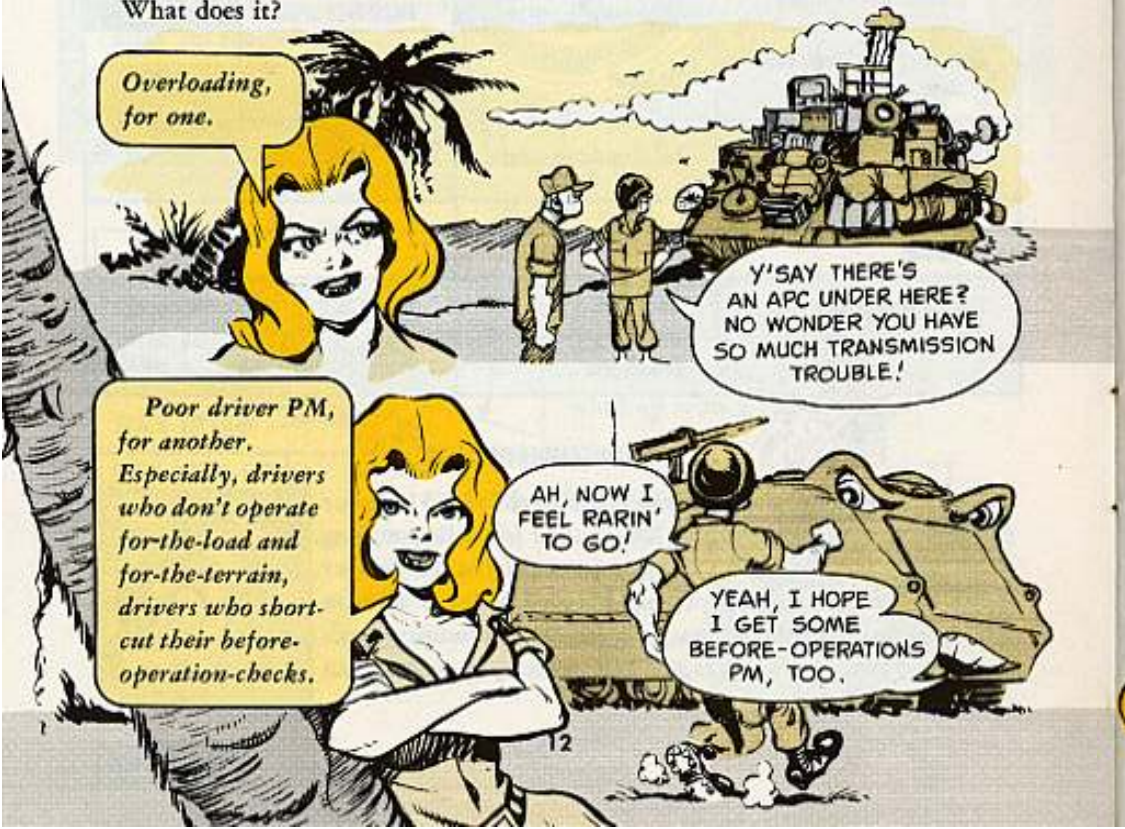
A lot of M113A1 transmissions are dying too soon.

You know you've got a sick transmission when it won't shift . . . or it slips now 'n' then . . . or it won't drive your APC at all. Sure, it could be just a case of your shift linkage being out of adjustment. So you report your trouble. Get it fixed — adjusted.

But that's not what most of the transmission trouble is.

Too many of 'em are cut down in the prime of life . . . blasted . . . all tore up inside.

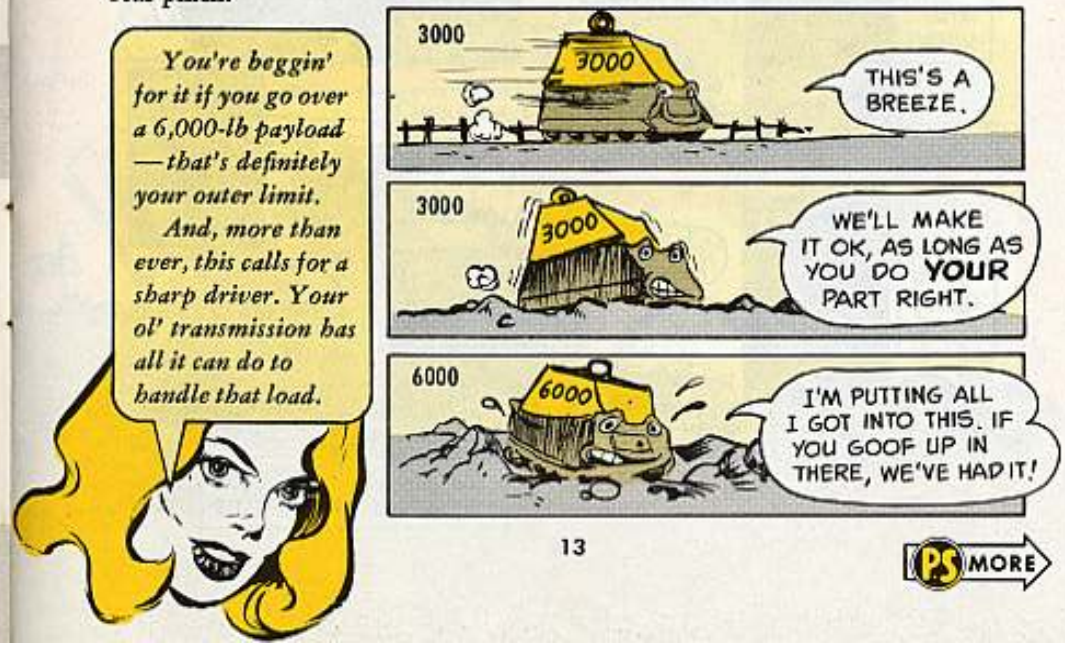
What does it?



Like anything else, your M113A1 has its limits. Sometimes, when there's a real need, you can even push it a little over the limit. If you handle 'er right, she can take it.

Like weight.

A payload of a li'l over 3,000 pounds is what your M113A1 is built to carry. That's s'posed to be the limit. But you may have a need to jack up that load in a real pinch.



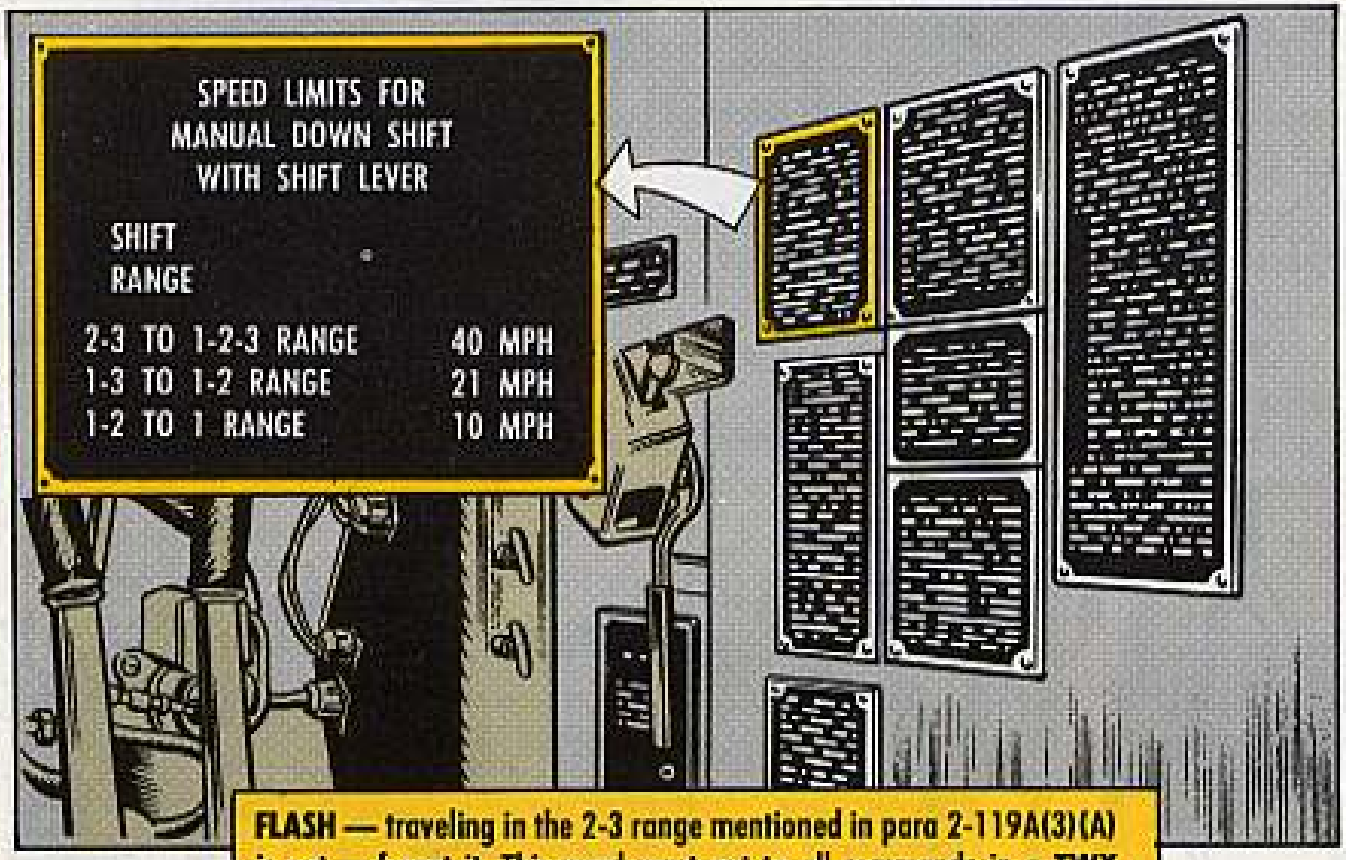
Your M113A1 is tough, all right, but a li'l ol' 90-lb weakling can bust it up. You've got a lot of horses in that diesel engine. It just doesn't know when to quit—but you should. Your engine rams power through your transmission to make you go. It's up to you how your transmission handles that power.

Just because you've got an automatic transmission doesn't mean you can sit back and let it shift for itself—not quite. It shifts automatically only inside the range you set it at.

Which range you pick depends on your operation. Figure 2-86 in your TM 9-2300-257-10 w/Ch 1 (Feb 70) shows you the range-for-terrain. And para 2-119 gives you more poop on Range Selection and Shifting.

YOU ALSO USE 1 RANGE FOR ENTERING OR LEAVING WATER

The health of your transmission depends, too, on your shifting manually when it's needed—eyeball para 2-119a(2) in your -10 TM. And, mighty important, along with manual shifting is down-shifting at the right speed—like it says on that plate just to the right of your nose.

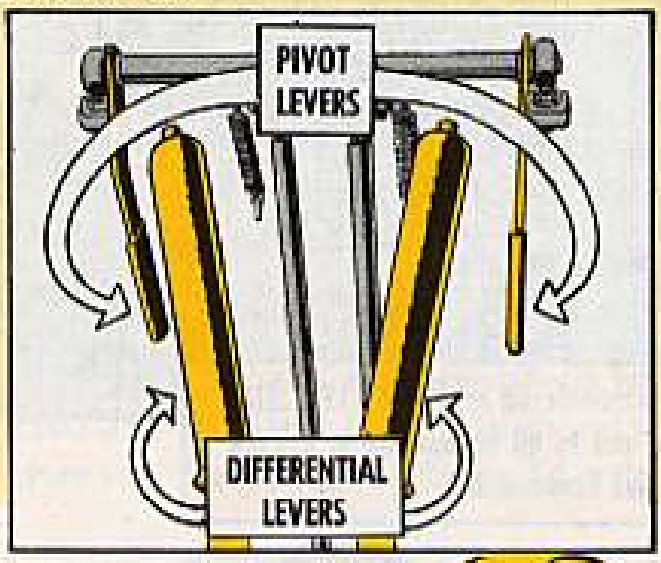


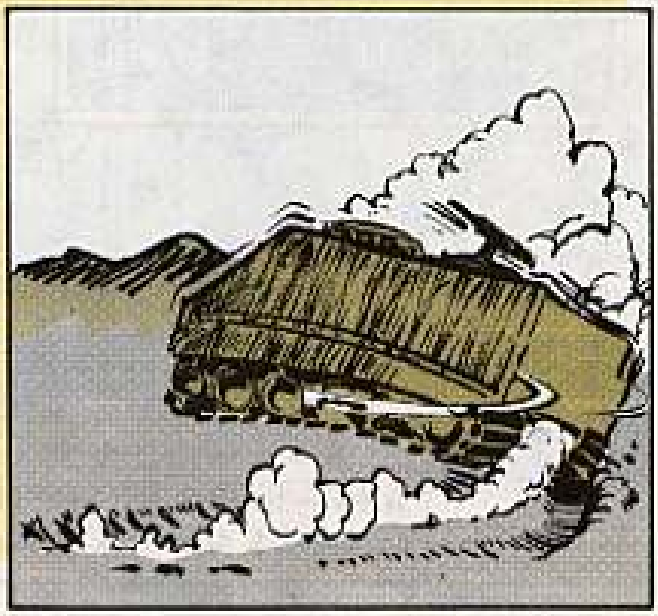
FLASH — traveling in the 2-3 range mentioned in para 2-119A(3)(A) is out — forget it. This word went out to all commands in a TWX from the U.S. Army Tank - Automotive Command.

PS MORE

That transmission is sure between a rock 'n' a hard place with a cowboy driver at the controls. Besides letting the engine tear up his transmission from the power side, he's likely to do some dirty work from the other end—sudden stops under a heavy load and sharp turns at high speed.

Some guys seem to forget they're operating a tracked vehicle when they handle those steering levers—either the differential levers or those hot-shot pivot levers.





It's nothing like steering a car or truck. You're not just turning free-rolling wheels to make a turn.

When you steer your M113A1, you're putting the brakes on—either on the right side or left side, depending on which way you want to turn.

Now you get the idea of what a shock you're throwing on your power train—including your transmission—when you make a sharp turn . . . at high speed . . . with a heavy load. Especially when you give a yank on one of those pivot steer levers!

So then what do you think happens when you make a sudden stop . . . at high speed . . . under a heavy load? You're slammin' the brakes on both sides at the same time!

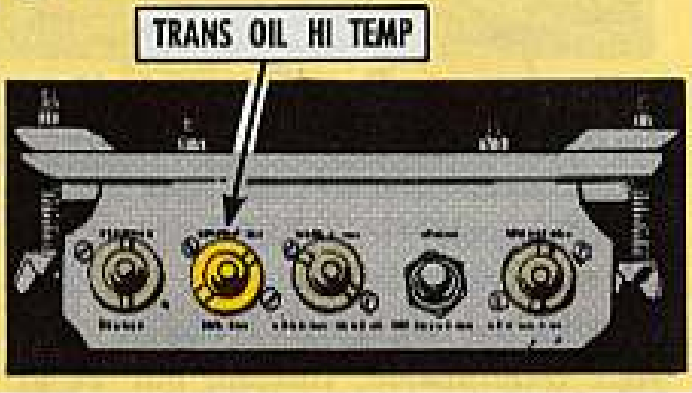
But you'll see some guys making jack-rabbit turns at high speed and making sudden stops when there's no real need for it at all.

Those beat-up transmissions tell the story.

When that heat climbs over 300°, your clutch plates start to crystalize. You'll get slippage and jerky shifting when your transmission's about ready to give out altogether.

So what's an M113A1 driver s'posed to do about heat inside his transmission —especially when he's operating in an oven like Southeast Asia?

First off, you stop—right now—if that TRANS OIL HI TEMP light goes on. It comes on at about 300°. There's no sense to keep pushin' on—you won't get much farther anyway.

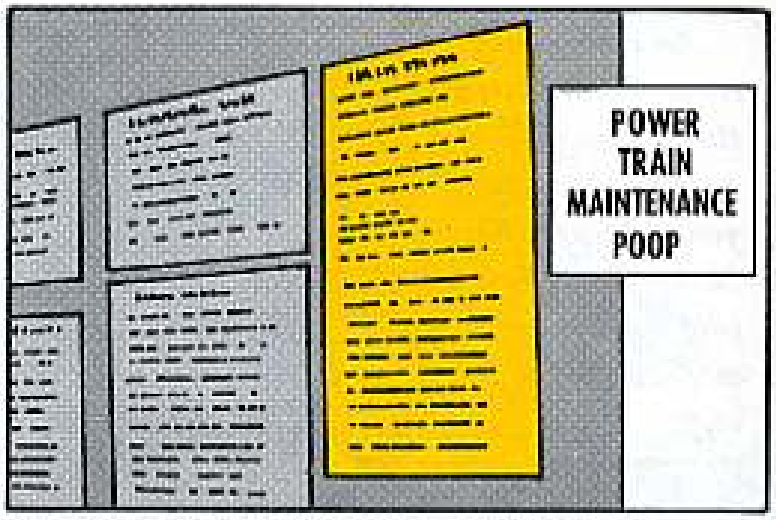


Could be your transmission's low on oil.

Did you check it before you started out? This's one of those before-operation checks you, the operator, have to make. Nobody else's going to do

PS MORE

it for you. You're goin' to have the headache when your transmission gets a tummy ache out in the boonies. Your transmission oil check procedure is spelled out under Sequence 4 in Table 3-5 of your -10 TM. And the same poop's on the POWER TRAIN MAINTENANCE plate a few inches from your right ear.

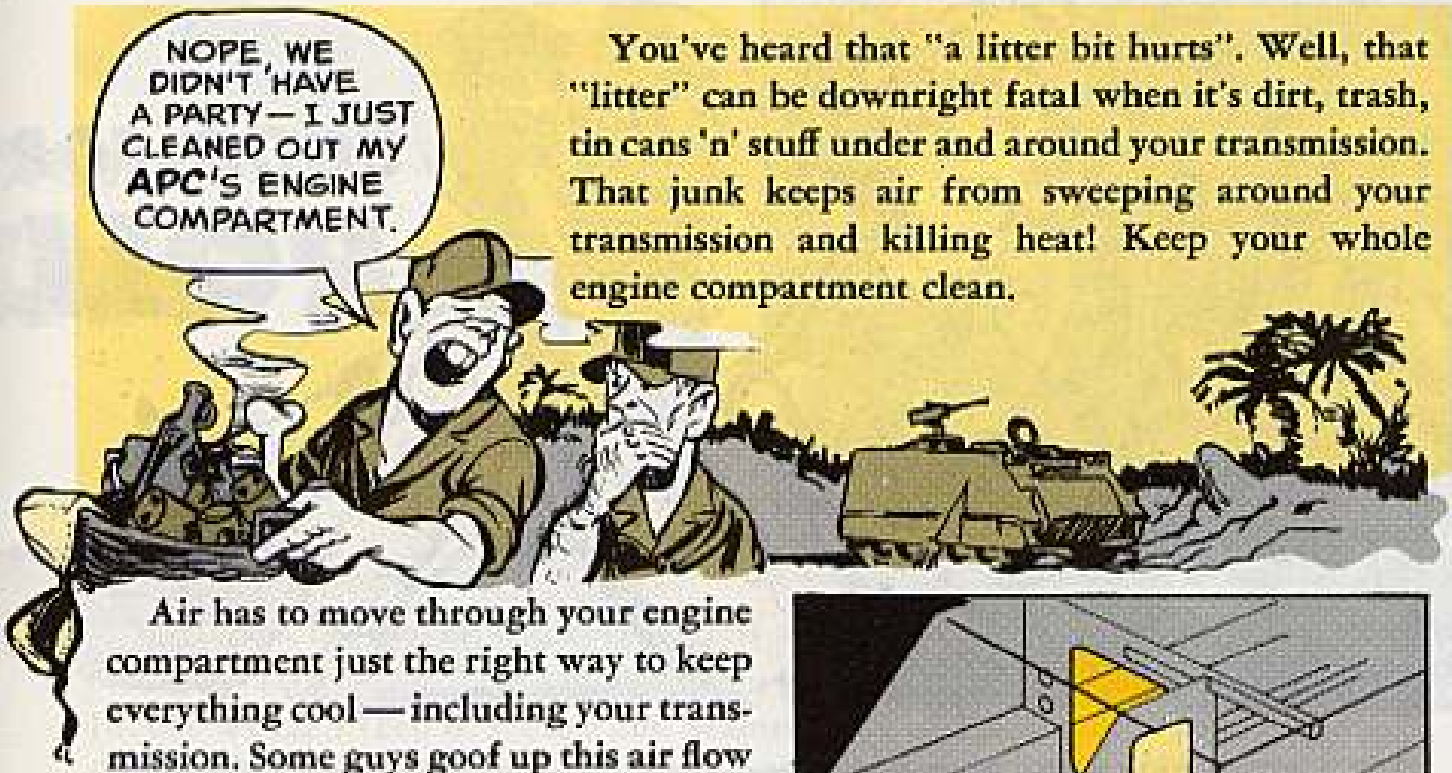


Did you know that too much oil in your transmission can cause just about as much trouble as not enough oil? It's a fact. So when you're adding oil, bring it up to the FULL mark — no more, no less.

Wrong oil, dirty oil and a dirty oil filter are other sure-fire transmission troublemakers. LO 9-2300-257-12 (Nov 68) gives all the straight poop on when, how 'n' what for reg'lar transmission service.

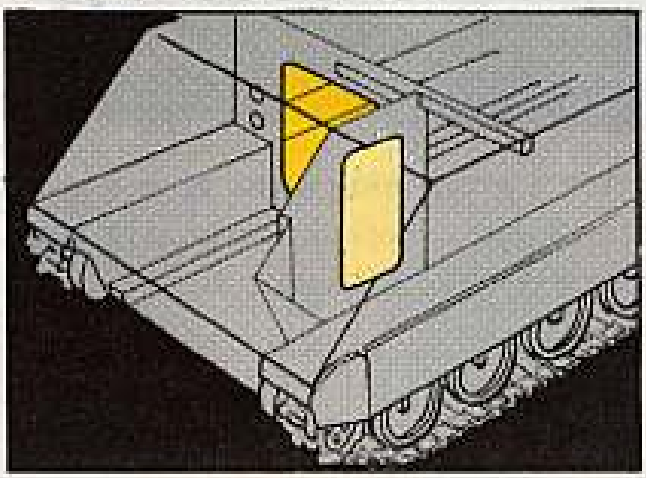
You may see that HI TEMP light go on, too, if you're sittin' on a slope, using your transmission to hold your M113-A1. No good. Heat. Fact is, your -10 TM tells you real plain (in para 2-122g) that this's a mighty poor way to treat your transmission. Instead, put 'er in NEUTRAL, if you've got to keep your engine running, and put your brakes ON.

SLEEPIN' ON THE JOB IS BAD ENOUGH, BUT HE FORGOT TO SHIFT ME INTO **NEUTRAL** AND PUT MY BRAKES **ON**.



You've heard that "a litter bit hurts". Well, that "litter" can be downright fatal when it's dirt, trash, tin cans 'n' stuff under and around your transmission. That junk keeps air from sweeping around your transmission and killing heat! Keep your whole engine compartment clean.

Air has to move through your engine compartment just the right way to keep everything cool—including your transmission. Some guys goof up this air flow by leaving off the inside panels. Oh yeah, you'll pull a nice draft through to cool you and your passengers—while your transmission cooks to death.



Leaving your drain valves open also goofs up the air flow.

If you've got to take those inside panels off to get to your engine compartment, put 'em back on when you're through. And make sure you close the drain valves after draining.

There'll be no problems of somebody "curing" your transmission trouble if you do everything you can to "prevent" it—that's what's known as PM—preventive maintenance.

You learn best by experience. And, if you're really interested, you never quit learning. Even some of you guys who've been runnin' M113A1's for quite a while should take another look at para 28 in TM 21-306 (Aug 64), Manual For The Tracked Combat Vehicle Driver:

PS END

GOOD FOR ROLL

It's a good thing some guys don't treat their girl friends like they do their tires. Those sweet chicks would be worn to a frazzle and then tossed out on their assets—with no chance to freshen up and come back for more action. What a waste!

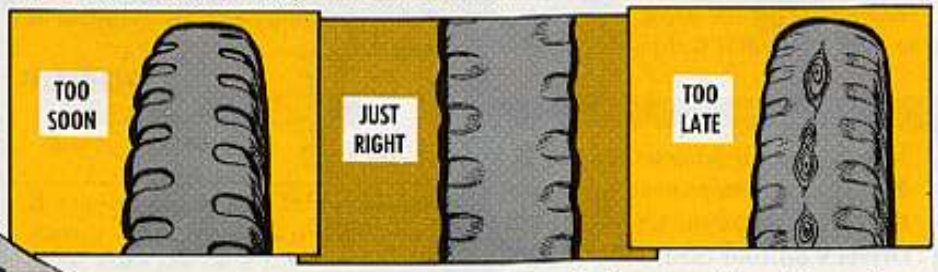
A lot of tires are being wasted. Too soon, their rolling days are over. With a second chance—retreading—they would've been good for plenty more travel. Like a second life.

But somebody's goofin' up. They don't catch those tires in time. When a tire reaches that ol' point-of-no-return, it's had it. Too late for retreading.

The most expensive part of a tire is what's left after the tread is worn down. Besides all that rubber, there're several layers of fabric and a bunch of bead wires. All this stuff may still be good. It just needs new rubber wrapped around it, if it's caught in time.

MORE ING

You don't have to be an expert to tell when a tire has reached just the right point for retreading. The whole story—with pictures—is in Sect III, TM 9-1870-1 w/Ch 3 (Feb 67), Care and Maintenance of Pneumatic Tires.



Everybody gets a piece of the action—

You drivers, look your tires over with a sharp eye every time you pull your before-operation inspection. If you think you've got a tire that's ripe for retreading, jot it down on your DA Form 2404.

You mechanics, while you're checking that tire reported by the operator, back him up with a doublecheck of all the tires. You may spot one he missed. Especially, when you're making the rounds in a periodic PM service, sharpen your eyeballs for any tires that're getting close to that point-of-no-return.

Spot one? Quick-like . . . pull it off and turn it in so it can go to the retread shop.

MULTIFUEL OPERATION

Dear Half-Mast,

How do we get the decal, logbook insert and driver's billfold card for multifuel engine truck operation? Our local command wants us to use 'em.

CW3 J. A. H.

Dear Mr. J. A. H.,

You can get all 3 items in a kit, FSN 7690-402-5218.

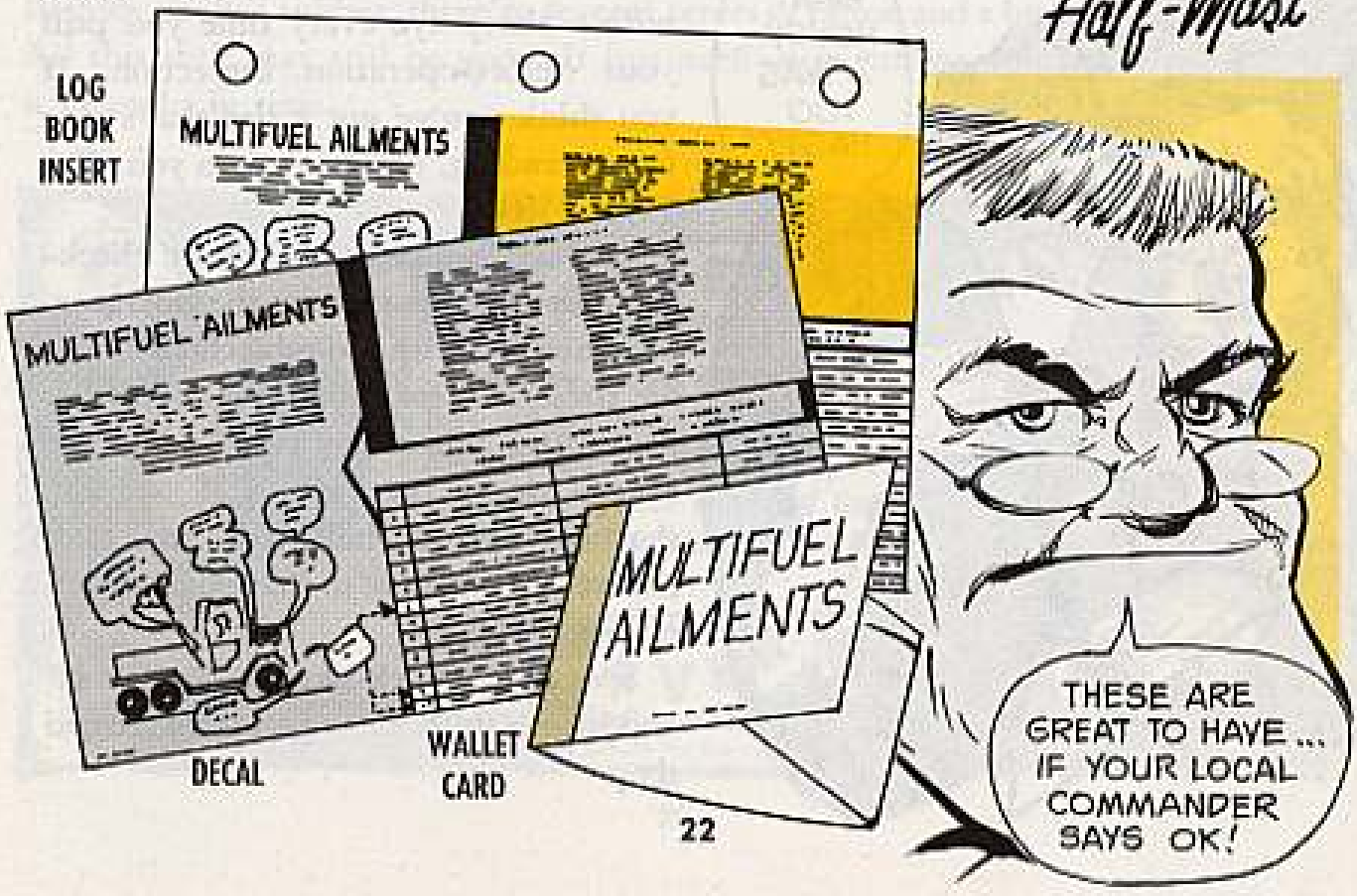
For replacement, you can get 2 of those items separately:

Decal (it goes on the left door), FSN 9905-403-0950.

Driver's billfold card, FSN 7690-406-1529.

This is strictly a local command deal now. There's no DA requirement for them — yet.

Half-Mast



RIVETS AND YOU

Dear Half-Mast,

What's loose rivet and what's not on our truck and trailer frames, crossmembers and brackets?

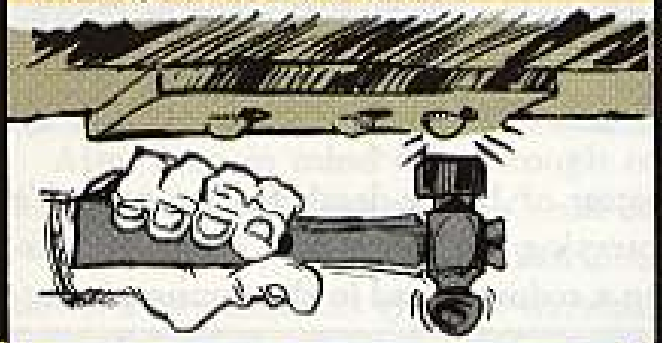
SP6 D. M.

Dear Specialist D. M.,

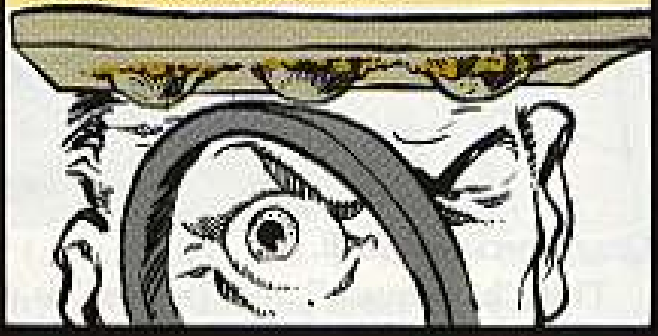
If a rivet can be turned or wiggled with your fingers, it's loose as a goose.

1 *But you should hone your rivet inspection down to a keener edge to get those sneaky ones.*

Give each rivet a rap with a hammer and listen for a dull sound that usually means it's loose.

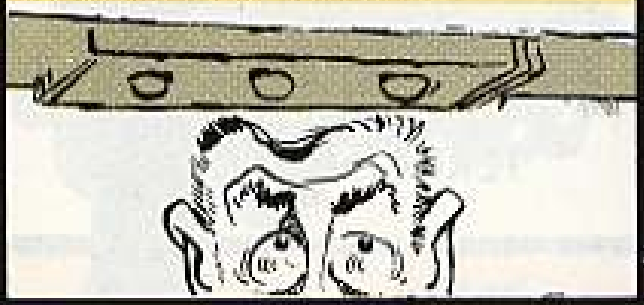


2 *Rust or corrosion around the edge of a rivet doesn't always mean it's loose, but it's a good reason to check it out real close.*

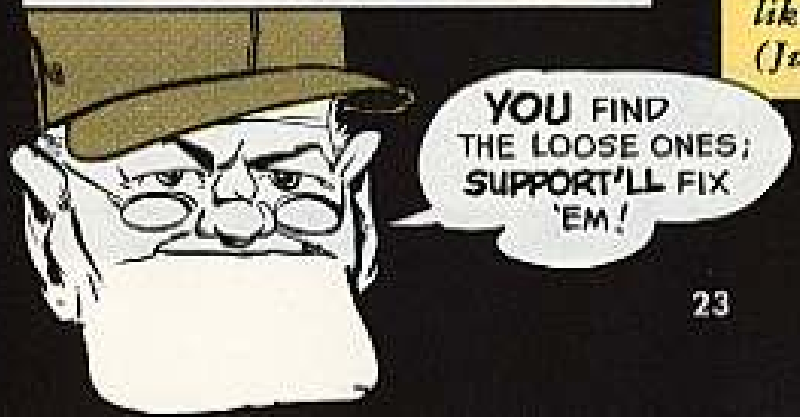


3 *Double check a suspicious rivet. Run a little light oil around the edge. Give the oil a few seconds to soak in and then wipe all the oil off with a rag. Then give the rivet another good kiss with your hammer. If oil shows up around the edge of the rivet, you know the rivet is a bum one.*

4 *Put your eagle eye on the edges of those parts that're riveted together. Look for signs of movement between the parts—bare, shiny places or other wear.*



5 *Don't bang your brain on the frame repairs, though. That's your support's job. You just find those loose rivets and report 'em. They'll replace bad rivets with bolts, lock nuts and hardened steel washers like it says in TB 9-2300-247-40 (Jun 61) and its four changes.*



Half-Mast

2½-TON TANK TRUCK LOADS . . .

HOW MUCH 'N' WHERE

Dear Half-Mast,
What's the straight poop on load limitations for the 2½-ton tank trucks—both the fuel tankers and the water tankers?
I know we're supposed to travel lighter for cross-country operations, but I'm not sure how this reduced load should be split among the compartments.
Can you reduce the load on my brain?
SP6 R. E. T.

Dear Specialist R. E. T.,

This "how much" and "where" is a matter of life-or-death for your truck's frame. Cracked frames often come from carrying too much of a load on cross-country operations. Just as bad is carrying a reduced load in the wrong place.

Also, keep in mind that a rough road (chuckholes, ruts 'n' so on) can be as hard on your tanker as travelin' cross-country—over ditches, rocks and such.

So here's the load and its distribution for all the 2½-ton tankers—broken down into 3 different types of terrain.

2 1/2-TON TANK TRUCK LOAD FOR TERRAIN

M49C, M49A1C fuel tanker

M49A2C fuel tanker

M50, M50A1, M50A2 water

Operation	200-gal forward tank	400-gal center tank	600-gal rear tank	600-gal forward tank	600-gal rear tank	400-gal forward tank	600-gal rear tank
Unlimited off-road (rough terrain, no roads)	200	400	0	600	0	400	0
Limited off-road (not-so-rough terrain, unimproved roads)	200	400	200	600	200	400	200
Improved roads (highway)	200	400	600	600	600	400	600

M123A1C 10-TON TRUCK . . .

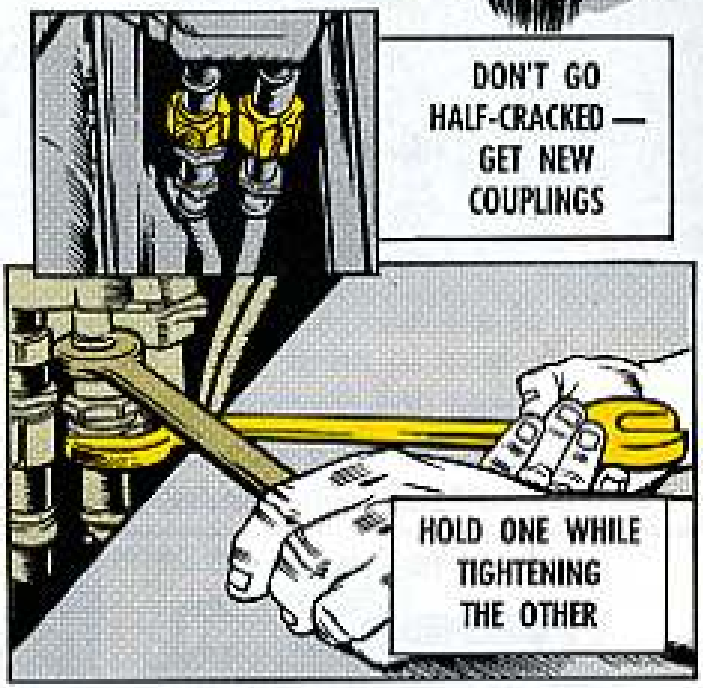
FILTER FITTINGS

Come and get 'em, you guys with the cracked oil filter hose couplings on the M123A1C 10-ton truck tractors. New fittings are now in the stock bins under FSN 4730-930-0421.

Be careful when tightening the coupling nut.

You'll have to use an open-end wrench on the flats of the upper brass section as you work your wrench on the nut.

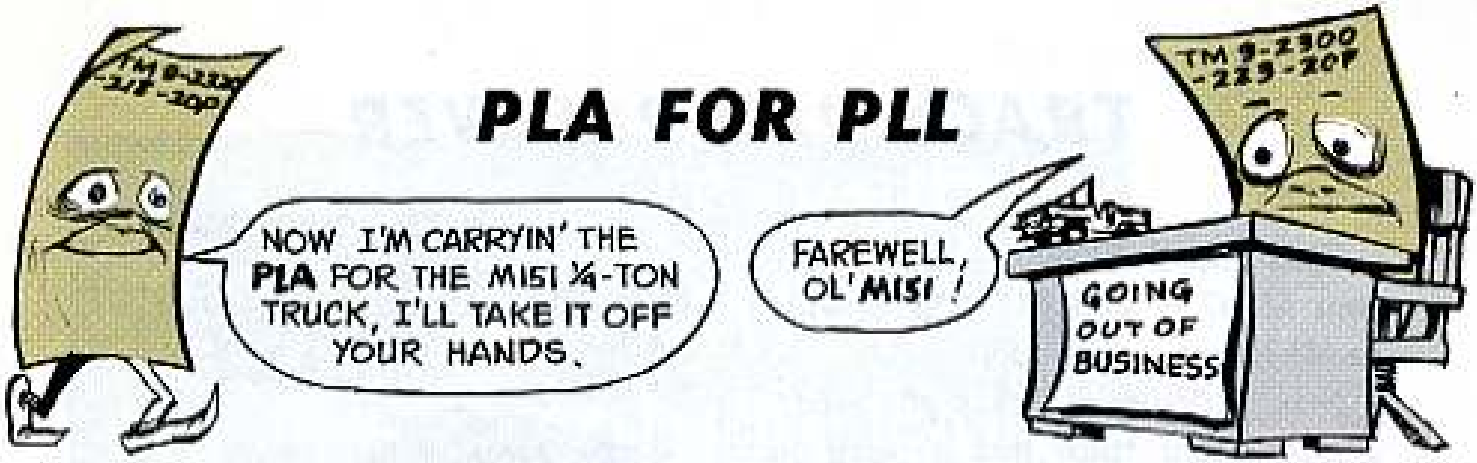
This way you won't drive the brass section deep on the nipple and bust the coupling.



5-TON STEERING NUT NOTE

Those 3 nuts and bolts on your power steering for your 5-ton truck may be about to trip you — so check. Some early models got issued with bum ones that work loose. Replace with new nuts, ⅝ x 18, FSN 5310-982-5009, torqued to 140-170 lb-ft. And even if you have a late model, check the torque.

PLA FOR PLL



You'd better make sure you've got the latest organizational repair parts manual—and all its current changes—for your tactical and combat vehicles. You may find your vehicle has a new PLA (Prescribed Load Allowance).

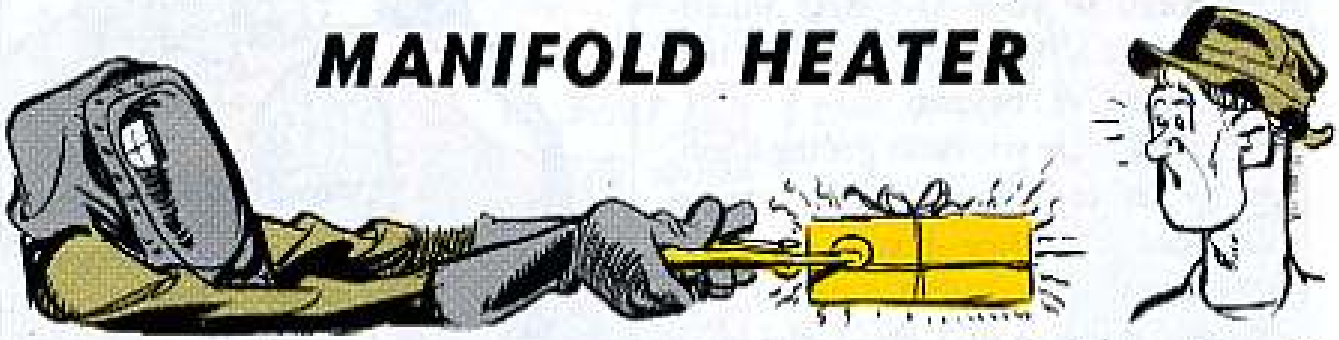
For the Active Army, this listing replaces TM 9-2300-223-20P, the Consolidated Authorized Organizational Stockage List of Repair Parts for Tank-Automotive Material (CAOSL). Watch close, though—the new PLA may not say it has replaced the CAOSL dope for that vehicle. If your parts manual has a PLA, you don't use the CAOSL to figure your initial PLL on that vehicle.

What's PLA got to do with PLL? Like it says in AR 735-35 (Nov 70), Para 6-2c . . . when a PLA takes a vehicle out of the CAOSL, you use the PLA to compute the initial prescribed load list for that vehicle.

SEMI TRAILER FLAPS

You say you're in a flap 'cause your ol' 6-ton and 12-ton semi-trailers don't have mud flaps? Article 3-14 in TB 750-981-2 (Apr 70), the U.S. Army Tank-Automotive Command's EIR Digest, has all the poop you need for fabricating those mud flaps and supports.

MANIFOLD HEATER



Make a note for the latest FSN's for manifold air heater ignition units. All multifuel and diesel trucks use FSN 2990-927-9384. For track-laying vehicles, order FSN 2990-770-1641. That last baby has a radioactive component, so check with your radiation protection officer for the word he got in USATACOM Msg 031355Z Nov 70.

TRACK PAD PALAVER

This goes for the T132E1 track on your M107 SP gun, M110 SP howitzer or M578 recovery vehicle. . . .

Why get more of it than you need?

If only the track pad is worn out, then just ask for replacement track pad FSN 2530-780-5216 (P/N 10934893).

No sense getting the whole track shoe set, FSN 2530-076-7115 (P/N 10934639). It's harder to install and costs a lot more money.

So many guys have been over-ordering this way that supplies of the track shoe set are low.

Plenty of track pads, though. So if you need 'em, ask for 'em.

SNUG 'EM UP

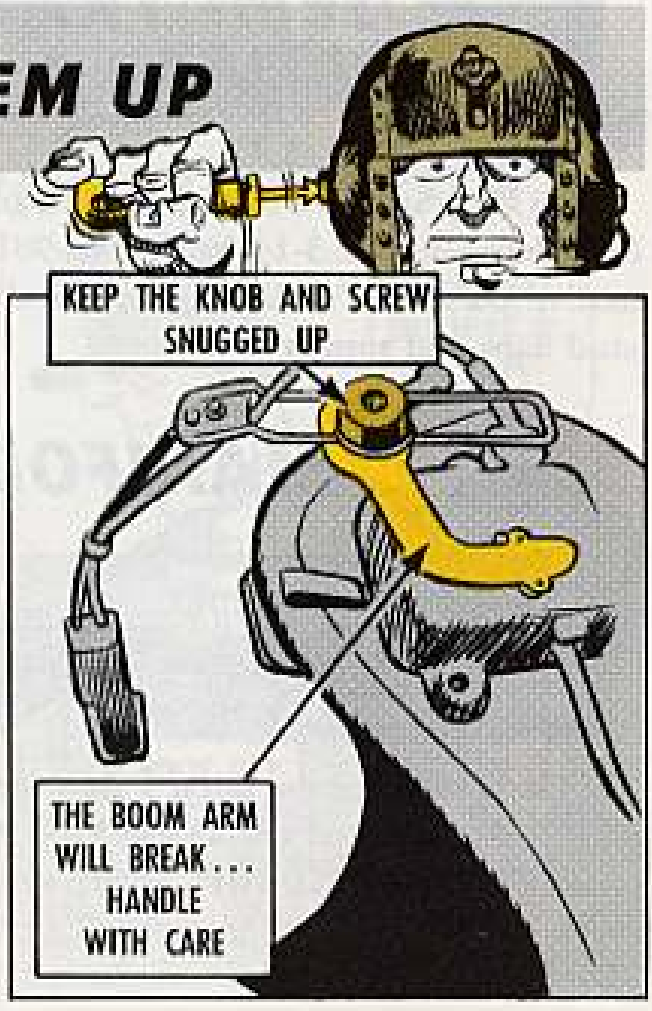
In the words of the sage: "Snug 'em up!"

Otherwise, you're gonna lose the retaining knob, screw and washer on the mike boom of your M-138/G microphone. Which'll hamper the effective use of your CVC helmet.

Why? Because you can't get the knob, etc., by its lonesome. You've got to order the complete boom assembly (mike, etc.).

So like the man said, check the knob occasionally . . . and tighten the screw.

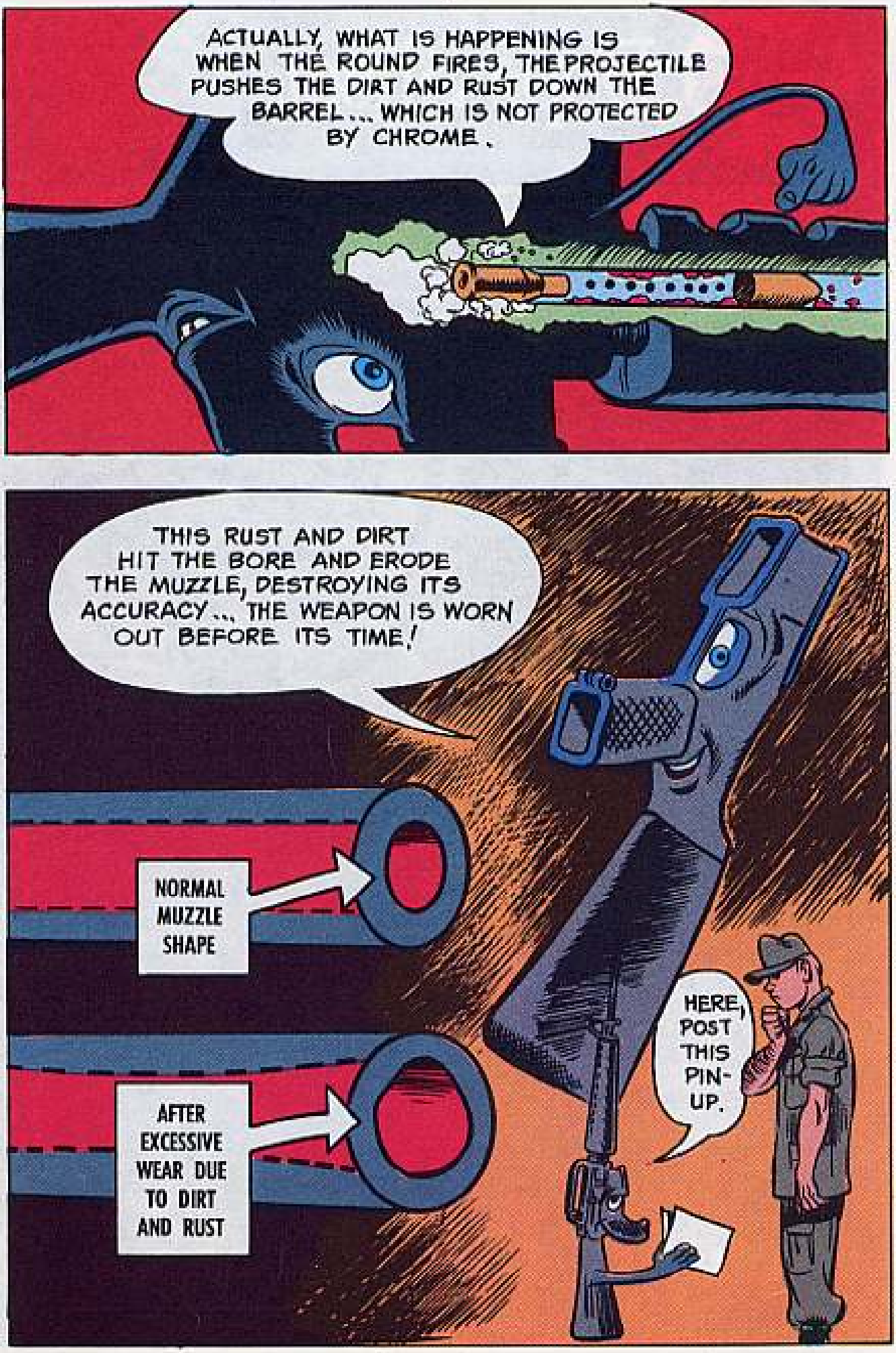
And a point about the MK-526A boom arm: It breaks. Lay the helmet down carefully, and keep the boom arm up.



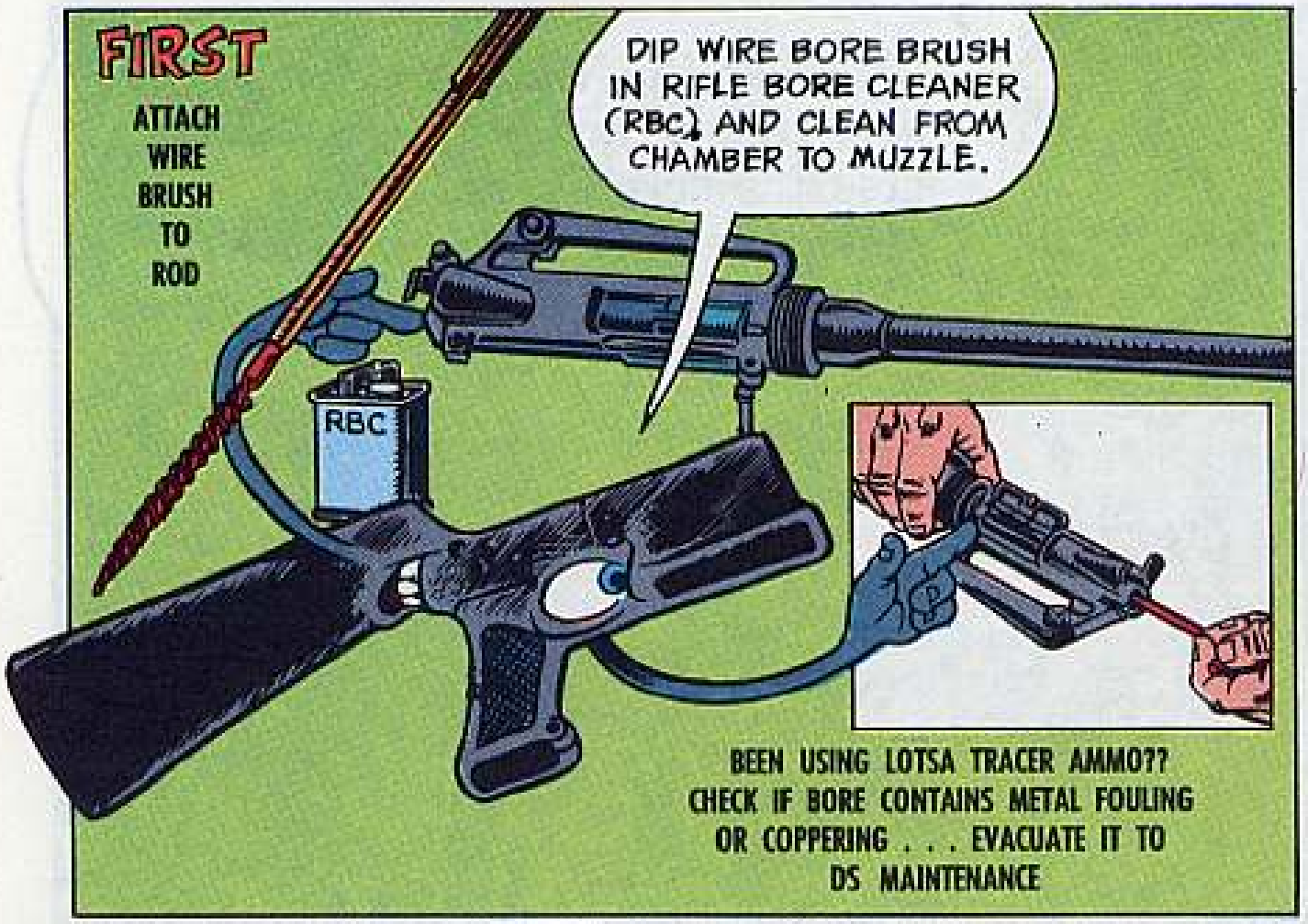
JOE'S DOPE

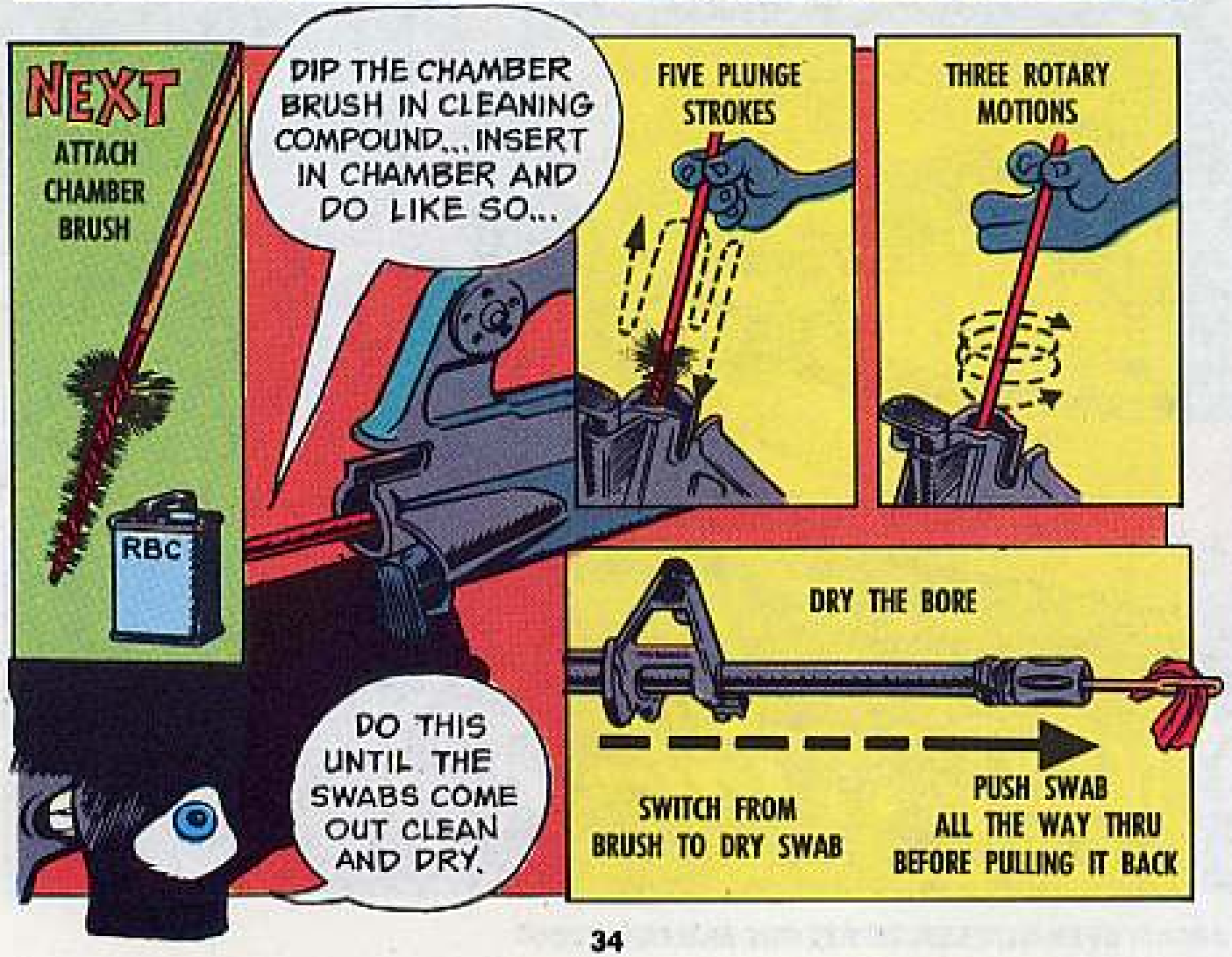
IF YOUR M16A1 COULD TALK

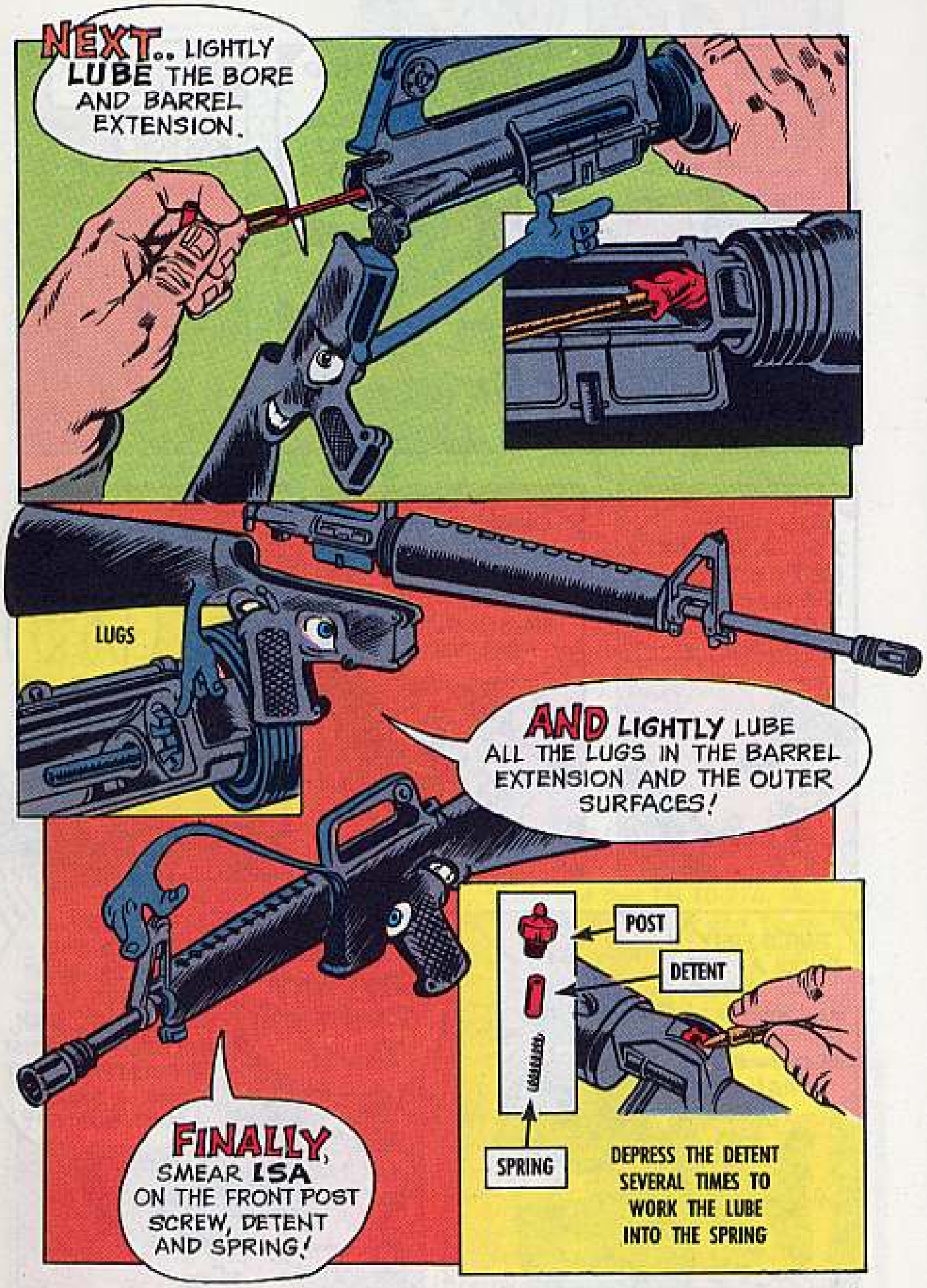

HEH, HEH... COOL!! ANYBODY KNOW YOU CAN TALK?
NEVER HAD THE OCCASION... IT SO HAPPENS I'M TALENTED... IF THE OTHER M16'S COULD TALK THEY'D SAY THE SAME THING!
YEAH, THE ACCURACY MY ZAPPERS BEEN GETTING ON THE PRACTICE RANGE IS LIKE ZERO, AFTER A SHORT USE!
NATCH, IT'S A SIMPLE MATTER OF PROPER CLEANING.
MAN, MY TROOPS CLEAN THEIR WEAPONS! LIKE, REGULAR!
NOT HOW MUCH, HOW WELL!
THE BIG PROBLEM IS... YOUR GRUNTS NEGLECT THE BORE!
NEGLECT THE BORE? LOOKS T'ME LIKE METAL IN THESE WEAPONS NEVER NEEDS CLEANING -- ALWAYS LOOKS SO SHINY!
YOU ONLY SEE THE CHAMBER!
AHH, CAAMAN! AS LONG AS THE ROUND CHAMBERS AND FAHRS, IT'S OKAY, RIGHT?
NEGATIVE... LET ME SHOW YOU!


ACTUALLY, WHAT IS HAPPENING IS WHEN THE ROUND FIRES, THE PROJECTILE PUSHES THE DIRT AND RUST DOWN THE BARREL... WHICH IS NOT PROTECTED BY CHROME.
THIS RUST AND DIRT HIT THE BORE AND ERODE THE MUZZLE, DESTROYING ITS ACCURACY... THE WEAPON IS WORN OUT BEFORE ITS TIME!
NORMAL MUZZLE SHAPE
AFTER EXCESSIVE WEAR DUE TO DIRT AND RUST
HERE, POST THIS PIN-UP.

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


FIRST
ATTACH WIRE BRUSH TO ROD
DIP WIRE BORE BRUSH IN RIFLE BORE CLEANER (RBC) AND CLEAN FROM CHAMBER TO MUZZLE.
RBC
BEEN USING LOTSA TRACER AMMO??
CHECK IF BORE CONTAINS METAL FOULING OR COPPERING . . . EVACUATE IT TO DS MAINTENANCE


NEXT
ATTACH CHAMBER BRUSH
DIP THE CHAMBER BRUSH IN CLEANING COMPOUND... INSERT IN CHAMBER AND DO LIKE SO...
FIVE PLUNGE STROKES
THREE ROTARY MOTIONS
RBC
DRY THE BORE
SWITCH FROM BRUSH TO DRY SWAB
PUSH SWAB ALL THE WAY THRU BEFORE PULLING IT BACK
DO THIS UNTIL THE SWABS COME OUT CLEAN AND DRY.


NEXT.. LIGHTLY LUBE THE BORE AND BARREL EXTENSION.
LUGS
AND LIGHTLY LUBE ALL THE LUGS IN THE BARREL EXTENSION AND THE OUTER SURFACES!
POST
DETENT
SPRING
DEPRESS THE DETENT SEVERAL TIMES TO WORK THE LUBE INTO THE SPRING
FINALLY, SMEAR LSA ON THE FRONT POST SCREW, DETENT AND SPRING!


YOU MEAN THAT'S ALL THERE IS TO IT??
SURE... IN PM, SIMPLE ACTS DONE RIGHT ARE WHAT COUNTS!
SAY... WOULD YOU GIVE THIS LECTURE TO A COUPLE OF RIFLEMEN I KNOW??
SURE.
A FEW MINUTES LATER . . .
HSST- OKAY, NOW THEY'RE COMIN'.
TALK LOUD! I GOT A 50 BUCK BET ON THIS... IT'S A POOL AND I CAN MAKE A BUNDLE.
OKAY, MEN, JUST PUT YOUR MONEY IN THE HAT AND LISTEN... TELL 'EM, LI'L OL' RIFLE... TELL 'EM.
I SAID, TELL 'EM.
TALK!
I SAID, TALK!
THAT'S FIFTY BUCKS A PIECE ... HAW, THANKS! MAN, WHAT A TRIP YOU MUST BE ON!- SO LONG!!
OKAY, WISE GUY! WHY DIDN'T YOU TALK!
Y'GOTTA BE KIDDIN'... SOON AS YOU TOL' ME IT WAS A BET I HAD TO CLAM UP... MAN, BETTING IS AGAINST REGULATIONS-YOU WANT I SHOULD GET BUSTED?

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Jun 70), and Ch 2 (Oct 70), TM's, TB's, etc., DA Pam 310-6 (Jul 70), and Ch 2 (Jan 71), SC's and SM's; DA Pam 310-7 (Nov 70), MWO's; and DA Pam 310-9 (May 69), COMSEC Pubs.

TECHNICAL MANUALS

TM 3-1040-219-20P, Nov, M4A2 Service Unit, Flame Thrower.
TM 3-6665-272-14, Nov, TS-2895/ASM Personnel Detector Test Set.
TM 5-3800-200-ESC, Jan, Loaders.
TM 5-3805-218-20P, Nov, Scraper.
TM 5-3805-250-14, Dec, Scoop Type DED Loader.
TM 5-3810-233-20P, Nov, Crane-Shovels, Wheel Mtd.
TM 5-385-340-12, Dec, Roller, 5-8 Ton, Tandem 2-Axle, GED.
TM 5-4110-203-20P, Dec, 9,000 BTU Mech Panel Type Refrig Unit.
TM 5-4120-270-20P, Nov, 60,000 BTU Air Conditioners.
TM 5-4220-201-12, Dec, Helmets, Flying.
TM 5-4310-251-24P, Dec, 15CFM Air Compressors.
TM 5-4610-222-20P, Jan, Water Purification Unit.
TM 5-5430-209-12, Nov, Storage Tanks.
TM 5-6115-376-23P, Dec, 45 KW 60 Cyc Trlr Mtd Gen Sets.
TM 5-6115-428-20P, Dec, 100KW 60 Cyc Gen Sets.
TM 5-6675-224-10, Nov, Surveying: Dumpy Telescopic, 32 Power.
TM 5-6675-224-24, Nov, Survey Equip.
TM 5-6675-303-25P, Jan, Theodolite.
TM 9-207, Dec, Operation and Maint of Ord Materiel in 0° to −65°F Weather.
TM 9-1005-298-ESC, Dec, Armt Subsys XM27E1.
TM 10-3930-621-20P, Dec, 4,000 Lb Gas Forklift Trucks.
TM 11-2300-359-15-3, Nov, Install AN/VSC-3 in M577A1.
TM 11-5820-552-15, Nov, AN/PRC-64A Radio Set.
TM 11-5820-640-25P, Jan, Radio Set AN/URC-10A.
TM 11-5830-241-15, Dec, Public Address Set AN/UIH-6 (V).
TM 11-5840-281-12, Nov, Radar Set AN/TPN-18.
TM 11-6625-2385-15, Dec, Multimeter ME-333/U, J-Omega Volt-Ohmeter, Types 213A, 215A, 219A.

URGENT MWO'S

9-1285-200-50/1, Feb, AN/VPS-2 Radar.
9-2320-206-30/10, Jan, M123A1C & M123E2 10-ton Tractor Truck.
9-5410-272-50/1, Feb, Shelter, AN/TSM-115 w/Test Equip AN/TPM-22, AN/TPM-23, AN/TPM-100, Voltmeter E95008-1400.
C2, (Jan 71) to MWO 55-1520-228-30/3, OH-58A.

MODIFICATION WORK ORDERS

5-3825-217-20/1, Jan, 900-Gal water distr.
9-1000-213-30/15, Jan, M60A1 Tank.
9-1440-585-30/1, Feb, Chaparral.
9-1440-585-30/2, Feb, Chaparral.
9-1440-585-30/3, Feb, Chaparral.
9-1440-585-30/4, Feb, Chaparral.
9-1440-585-30/5, Feb, Chaparral.
9-1440-585-30/6, Feb, Chaparral.
9-1440-585-30/7, Feb, Chaparral.
9-1440-585-30/8, Feb, Chaparral.
9-1440-585-40/1, Feb, Chaparral.
9-2320-206-30/10, Jan, 10-Ton Truck-Tractor M123A1C, M123E2.
9-2350-230-20/4, Jan, M551 AR/AAV.
9-2350-230-30/3, Jan, M551 AR/AAV.
9-4935-585-30/1, Feb, Chaparral.
9-4935-585-30/2, Feb, Chaparral.
11-5810-214-45/7, Nov.
55-1500-219-30/2, Jan, UH-1B, 1C.
55-1510-204-30/29, Jan, OV-1A, 1B, 1C.
55-1510-209-30/22, Jan, U-21.
55-1520-210-50/1, Jan, UH-1D.

MISCELLANEOUS

DA Cir 56-1 C1, Jan, Military Convoy Operations in CONUS.
DA Pam 750-31, M561 Truck & M792 Ambulance.
LO 5-6115-550-12, Dec, 150 KW and Up Eng Drvn Gen Sets.
SB 11-627, Feb, Cyclic Overhaul of Selected Electronics Equip.
SC 3433-95-CL-A09, Nov, Metallizing and Welding Torch Outfit.
SC 3610-97-CL-E14, Dec, Photomech, Topo Repro Set.
SC 3610-97-CL-E18, Dec, Reproduction Expendable Supply Set.
SC 6675-97-CL-E11, Dec, Plotting Instr Set, Stereoplotter, Multiplex Plotting Booth.
TB 9-2300-295-15/3, Jan, Vehicle Deficiencies During Warranty, M809 Series 5 Ton Truck.
TB 385-101, Jan, Cranes, RT.

Hey, Hawkeye!

Reponder that "TIME FOR A CHANGE" Hawk item on page 16 of PS 220. Table 2-2, page 2-2, of TM 9-1440-500-12/2 gives you a **total** leeway of 400 PSIG. So make a change on the decal to read ± 200 PSIG.

Hot Weather Clothing

You'll find that TM 10-276, (Aug 70) Hot Weather Clothing and Equipment, gives you good dope on how to wear or use this clothing and equipment. There's a chapter on cleaning and care, and a handy list of FSN's in Appendix B.

MWO of the MONTH

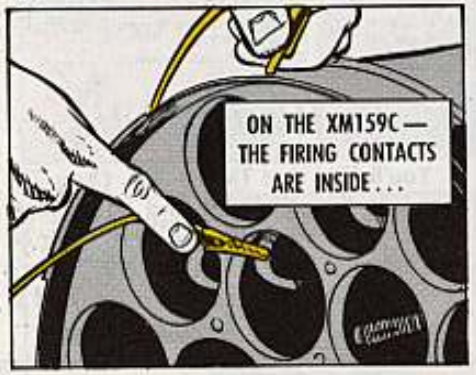
Oil can spill over and run around making a catch-all for dirt 'n' dust in the oil coolers. This collection of dirt cuts down the air-flow, and you get an overheated engine, its life span cut short. That's what can happen if you company mechanics don't apply MWO 9-2300-396-20 (18 May 70) to your M48A3 and M60/60A1 tanks and the M728 CEV. So order the kit, and relocate the oil filler tube — fast. The kit's free-issue till 30 June 71.

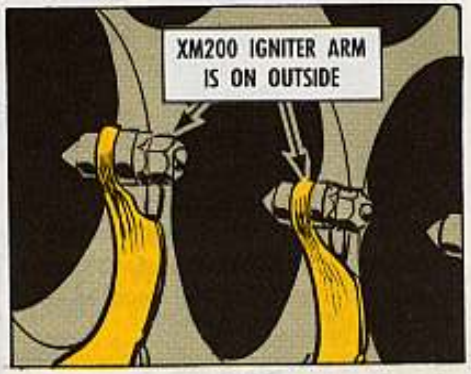
Been waiting for the newest rocket launcher to make the scene? Sweat it no more—it's here!

It's the XM200 rocket launcher . . . another 19 tube launcher with a big difference: Any tube can be repaired and replaced.

MOS 45 Juliet types will find the XM200 on the Snake (AH-1G) or on the Bravo and Charlie model Hueys (UH-1). It's the spittin' image of its mini-smaller sister—the XM159C—you've seen on these birds. Biggest change you'll notice right off is in the rocket firing contacts.

On the XM159C they are inside the tube . . . on the XM200 they're on a swivel igniter arm.

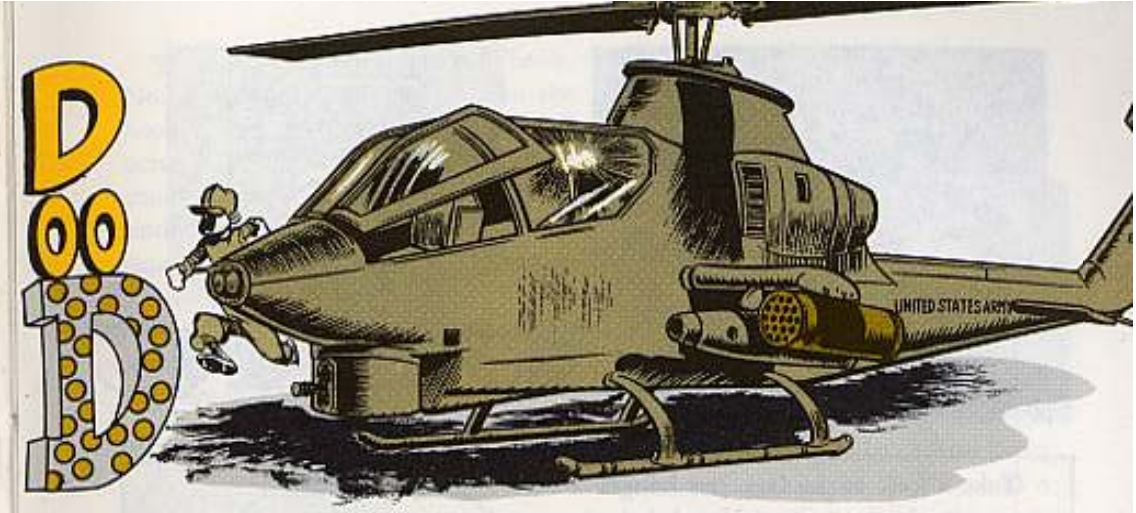




Another big PLUS . . . the cam-actuated firing arm and detent mechanism reduces time-to-load and unload rockets. Turn around time—reloading the launcher—is a f-a-s-t 15 minutes!

Each tube is designed to fire at least 100 rockets before repair—up to 250 rounds with tender lovin' care (TLC).

That's where you take over, Tender Lover No. 45J, with a copy of TM 9-1090-203-12 (Apr 70) and LO 9-1090-203-12 (Jun 70) in your mitts.



At 0-level, XM200 PM is limited to:

Visual inspection and cleaning,

Pulling electrical continuity and stray voltage checks with multimeter,

Performing firing voltage test with multimeter or rocket system tester, FSN 4933-133-9867, and

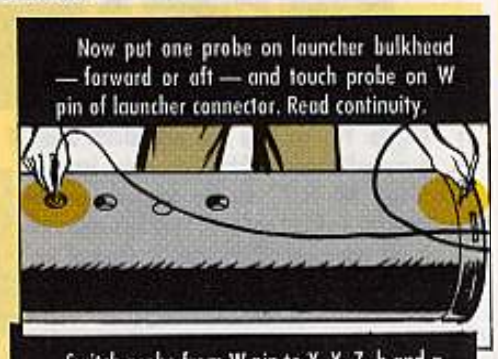
Removing equipment for evacuation to Direct Support.

PM UPON RECEIPT

First thing you do after uncrating your XM200 zapster is to pull a continuity check from connector to igniter arm contacts.

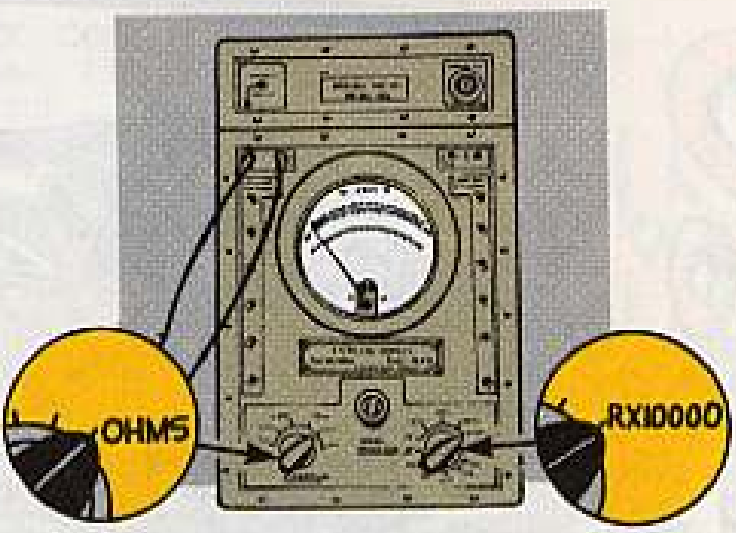
All 19 of 'em!

Use your standard ohmmeter and your TM guide. Check off each contact as you test it. Slipups and miscues here and you're in a heap o' trouble.



PS MORE

Put one probe on launcher bulkhead — forward or aft — and other probe on tube contact. Read open circuit. Repeat for other 18 contacts.

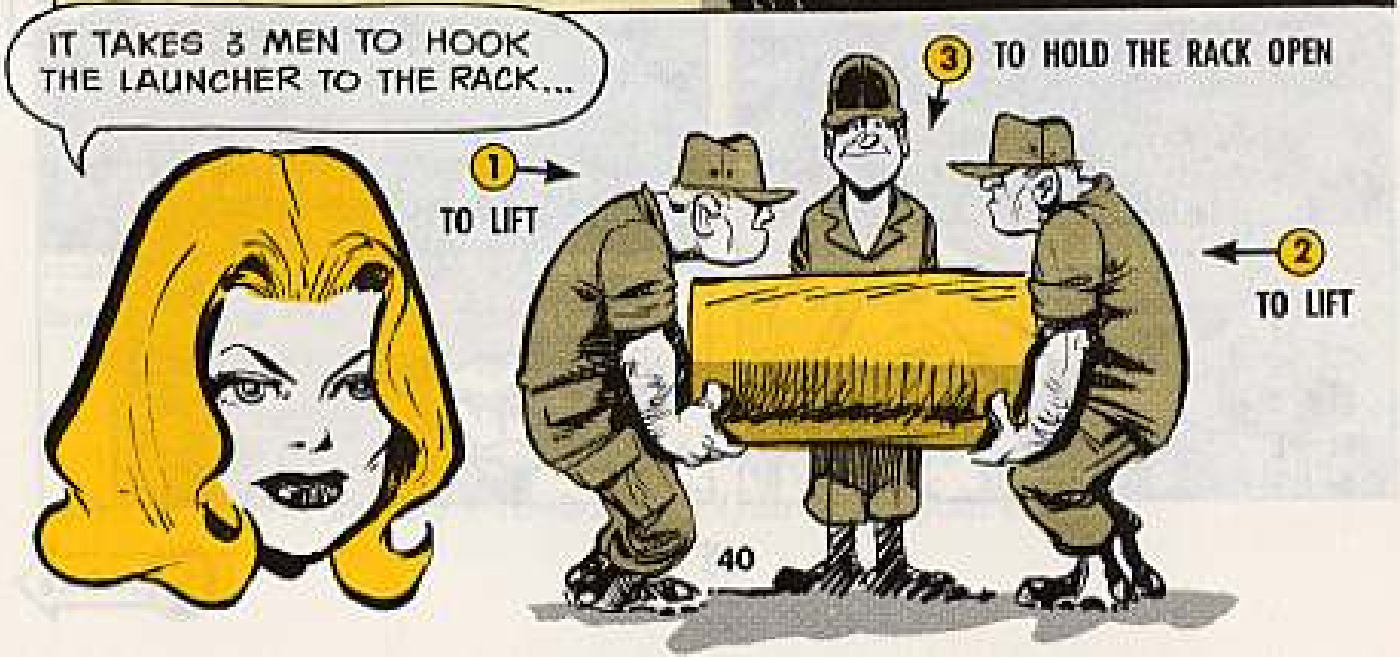


MOUNTING XM200 TO SUPPORT RACK

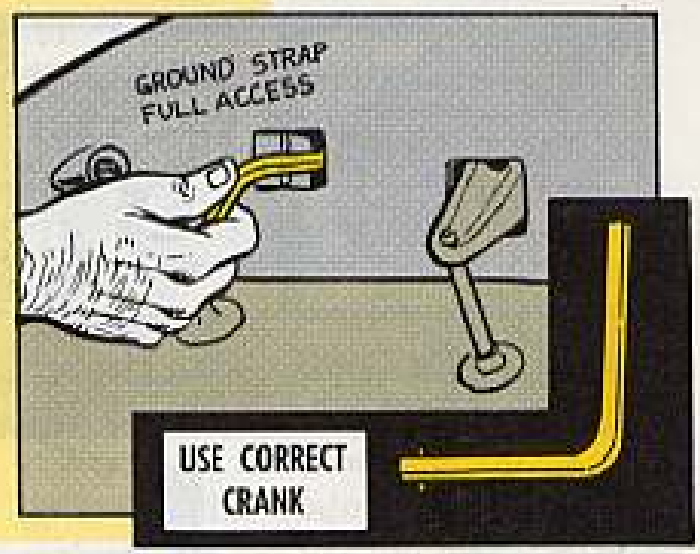
Take a look at the launcher hanger suspension lugs — waveguide adapters. They should be clean, no bends, twists, or burrs that would keep 'em from seating snugly on the aircraft pylon rack. Both lugs get same-same adjustment. No droopies allowed.

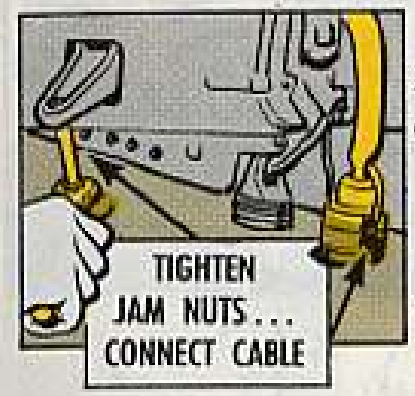
NOTE: You may see some unit using an extra long lug up front on the XM200 launcher. But you follow the -20 TM and use two short ones.

PM Tip: You can help stop wing stores sway-brace bolts from cracking or breaking by stenciling "NO STEP" on the top side of the launcher — front and rear. Your CO's approval is all you need. If launcher is stepped on, the boresight picture will be off target.



When the lugs are in the rack hook, No. 3 birdmec inserts crank into the hook manual release access door and turns it clockwise (left hand pylon)—counterclockwise (right hand pylon) until launcher is locked to the launcher support rack. Hold One, No. 3. Be sure you have a crank with roll pin. Otherwise the crank will go in too far and not lock the launcher to the assembly. A sure-fire launcher split bit.





Focus attention to the 4 sway-brace bolts. Adjust front 2 snugly against the launcher, then the back 2. Add a quarter turn to the bolts after they're seated.

Tighten jam nuts.

Connect the electrical cable assembly to the launcher.

To remove the launcher, do an about face with the procedures above. Make sure no rockets are left in a tube.

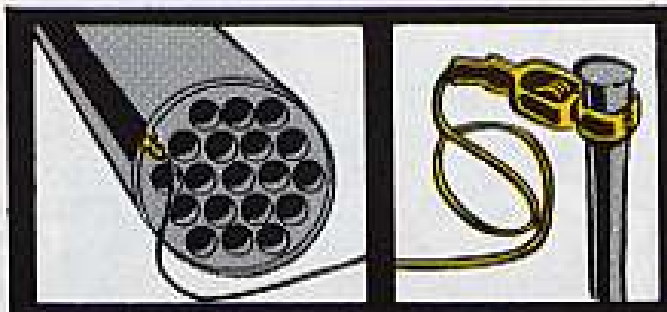
OPERATIONAL CHECK

Don't use any unauthorized tools.

Don't straddle rocket system.

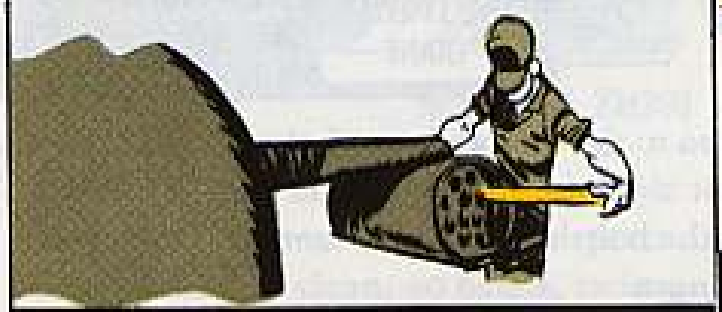
Don't mix rockets and aircraft within 300 feet of operating high frequency (hf) transmitters.

PS MORE



Do ground your bird . . . just like you do when fueling or defueling.

Do make certain that it's all CLEAR in front of your bird.



Do stand to one side of the rocket launcher to load or unload it.

Do pull a stray-voltage check of the mounted — but unloaded — launcher. Para 4.9 of the Dash 12 has the poop.

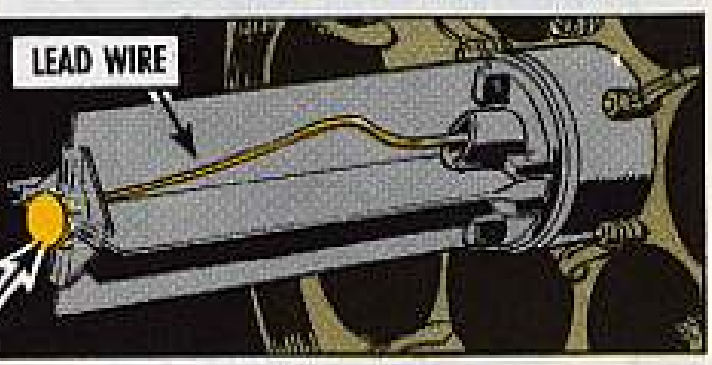
You'd best not forget the other armament on the pylons, either. If your blastin' beauty is totin' a Minigun or another rocket system, make ABSOLUTELY SURE that all tubes/barrels are empty.

You'd be embarrassed to death if an "empty" gun went berserk!

LOADING THE XM200

Your XM200 zapster is loaded from the FRONT ONLY . . . for safety reasons . . . to stop an accidental blast-off from a stray electrostatic charge.

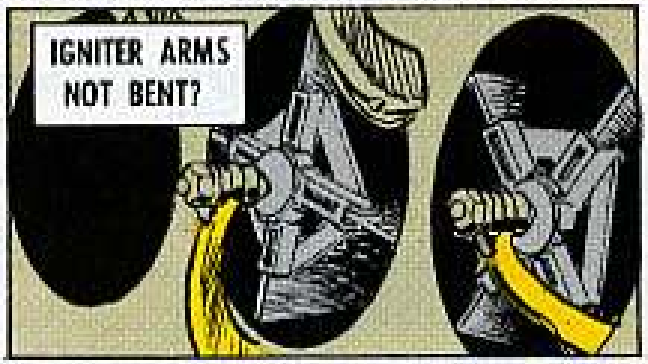
CAUTION: The rocket firing lead and firing button at the rear of the rocket fins should not be touched by any metallic object or human hands except to remove or replace the safety clip.



Touch the rocket fin to the launcher metal skin before you insert rockets into the tubes. This equalizes any electrical current between your bird and the rocket. Don't let the rocket firing button touch any metal on the launcher before sliding rocket into the tube. This is no time to be skylarking or joy jumping.

Be extra careful, too, that the detent is fully seated on the rocket and that the igniter arm assembly is not damaged.

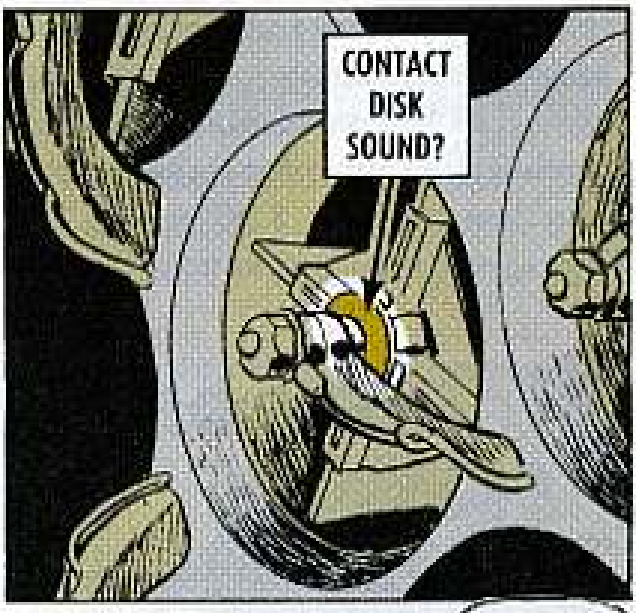
F'rinstance, if the igniter arm is in firing position, you can push a rocket past the detent and bend the igniter arm. That's guaranteed to keep the igniter head from touching the rocket contact disk! A sure-fire NO-FIRE deal!

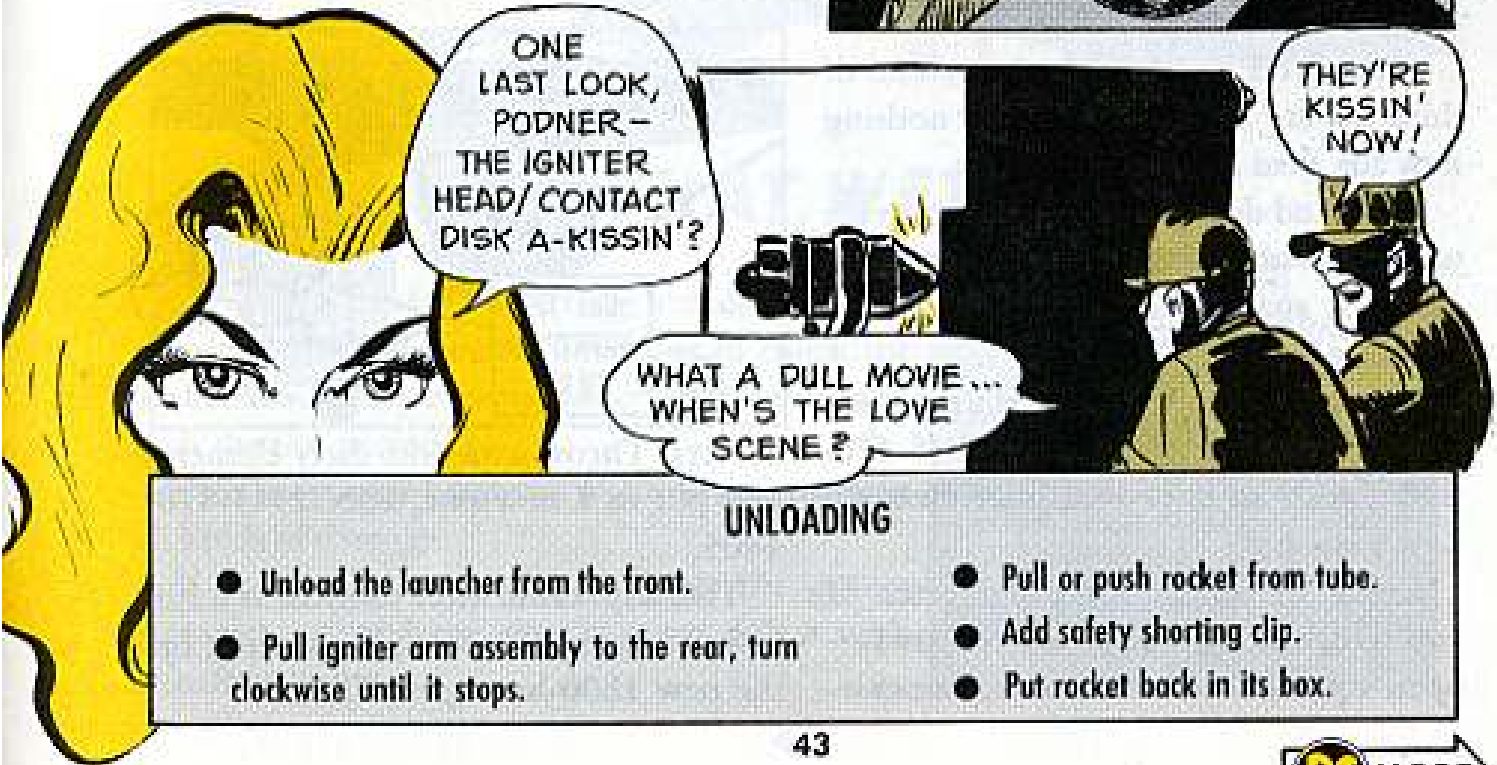


Try this PM loading tip. Rotate igniter to the loading position. Insert rocket until the fins are flush with the aft end of the launcher tube—about ¼-in from outside of aft bulkhead. Rotate igniter arm to FIRING POSITION.

Gently try to move the rocket to the rear, then forward to make sure the detent is seated. Fins should be flush with breech. Take a sharp eyeful of PM at the electrical contacts. No bent, broken, or damaged wires allowed.

You'll hear a CLICK when igniter arm is in place, but you still want to eyeball the contact disk. No cracks, dents, punctures here.





UNLOADING

- Unload the launcher from the front.
- Pull igniter arm assembly to the rear, turn clockwise until it stops.
- Pull or push rocket from tube.
- Add safety shorting clip.
- Put rocket back in its box.

PS MORE

PM CHECKS

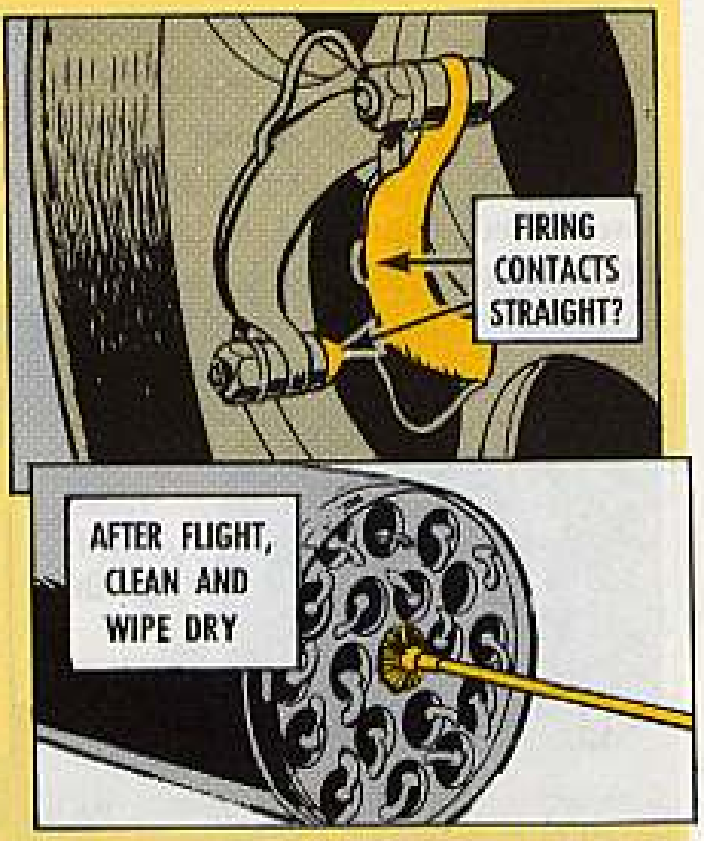
FIRING CONTACTS: When you look at 'em daily, be sure they're not bent, broken or damaged. Blast from rocket propellant can bend the contacts backward. Look for scorched or burned wires on the igniter arms. If they don't look right, call DS.

One thing you DON'T do is hit the igniter arm with hammer to straighten it! That'll knock off the end of the firing contact—you could push arm too far. Another DS job.

After each flight or firing, clean and lube 'em.

Remove moisture and rocket residue. Check for corrosion.

Every 25 hours examine igniter arm assemblies and tubes for rocket residue. Clean 'em up. Use RBC—rifle bore cleaner—or soap and water. Wipe 'em dry.



This new mod rocket launcher—like older models—needs TLC to keep it firing. Make professional rocket care your hangup, 45 J's . . . and those whirly wheelers will appreciate it a heap.

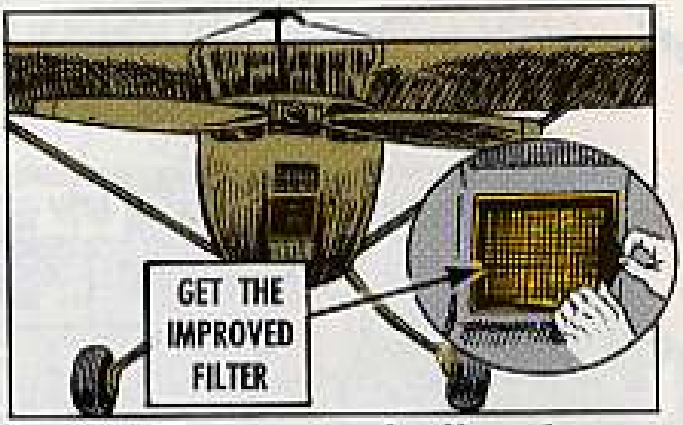
NEW DISPOSABLE FILTER

Taking off and landing in a cloud of dust during the dry season is nothing new for Bird Dog (0-1) drivers.

Sand and dust get thru the carburetor air filter and into the 0-470 engine. The result is spark plug fouling and high cylinder and piston wear.

What is new, tho, is carburetor air filter frame assembly, FSN 2945-470-4406, with an improved filter element. Latch on to it.

Every Periodic—or more often if you're operating out of a dust bowl—open up the 2-section frame, knuckle-busters. Throw away the dirty element, and put in a new one, FSN 2945-470-4405.



The disposable filter element is a big assist to maintenance types shooting for the new 1800-hr engine TBO.

FOR THE BIRDS . . .

PLEXIGLASS PROTECTION

Looking for something that'll protect your birds, plastic windows, doors, and bubbles from harsh elements . . . rotor or prop blast debris . . . and hold the scratches to a minimum?

Then here 'tis—Cloth, cotton duck, MIL-C-10799, Type II, Class I.

FSN	Color	Width	Price
8305-248-9574	Light green	51-in	0.88 yd
8305-248-9575	OD, Shade 7	61-in	1.54 yd

You'll have to use an exception data type requisition to get this cloth. Use S9T for the RIC on the paper work. Get ye olde tent maker to measure and sew the covers to custom fit the birds in your flock.

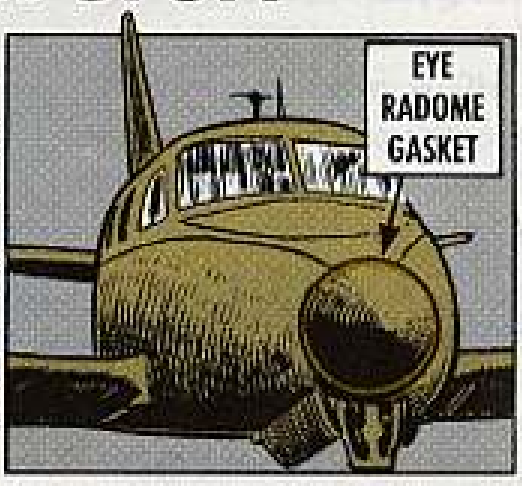
For the homework bit on how to care, use, repair and replace the covers, the poop's in TM 55-1500-204-25/1 (Apr 70) and TM 55-410 (Oct 69).

WATCH THAT WET STUFF

If your aircraft is sporting a radome in its nose, or wherever, make it a point to check the gasket around the radome for cracks, breaks and such during periodics.

That way, you keep the wet out and prevent all kinds of damage.

If you find a potential leak, get the gasket replaced . . . or have your support dab it with a sealant.



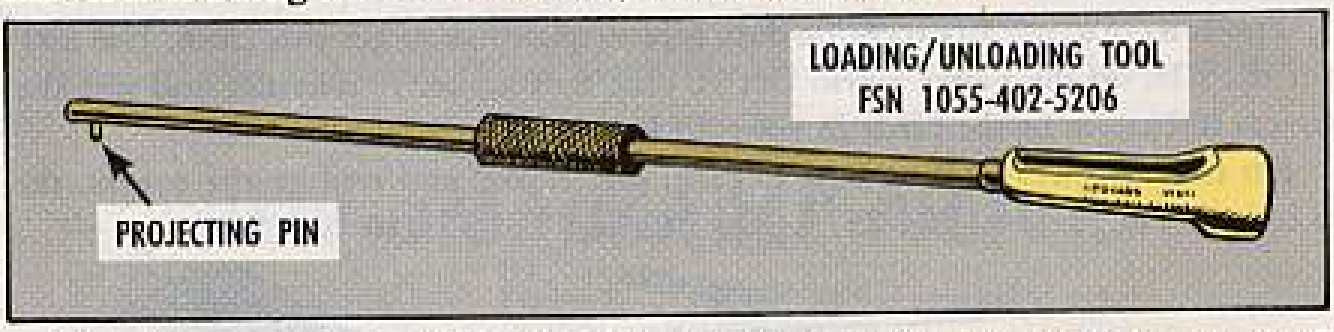
FOR XM159 LAUNCHER LOADERS...

NEW LOADING TOOL

Loading or unloading 2.75-in FFAR's from this 19-tube launcher can be a rocket-robbing experience.

F'rinstance, to down-load the launcher, a crew chief has to pry the launcher detent from the rocket-retaining groove before he can remove a rocket from its tube.

Trouble pops up when he uses the flat, blade end of the rocket loading and release tool or a long shank screwdriver, to release the detent.

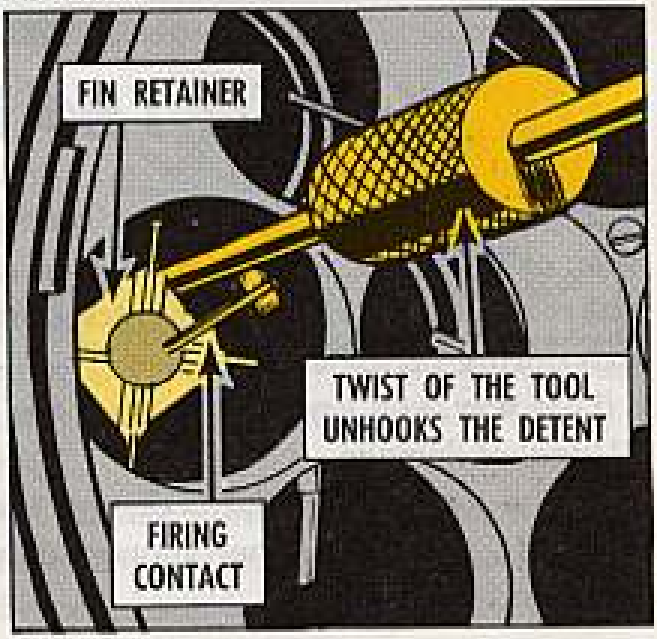


This takes more'n a smidgen of pressure so he uses the handiest fulcrum around —the rocket's plastic fin retainer. The result can be damaged fin retainers . . . broken electrical lead wires . . . dum dum rockets.

You can solve rocket bad trips by using a new loading/unloading tool, FSN 1055-402-5206. Instead of a blade tip it has a round one with a projecting pin.

Now, when you insert the tool along the side of the firing contact you don't have to touch the fin retainer. You slide the projecting pin under the detent, give the tool a ¼-turn, and release the launcher tube detent.

No strong arm stuff needed . . . no more freaked out rocket motors . . . empty tubes . . . misfires.



FOR UNIT DOING BOTH ORG/DS JOB...

NO MID-MONTH CLOSE OUT

Dear Windy,

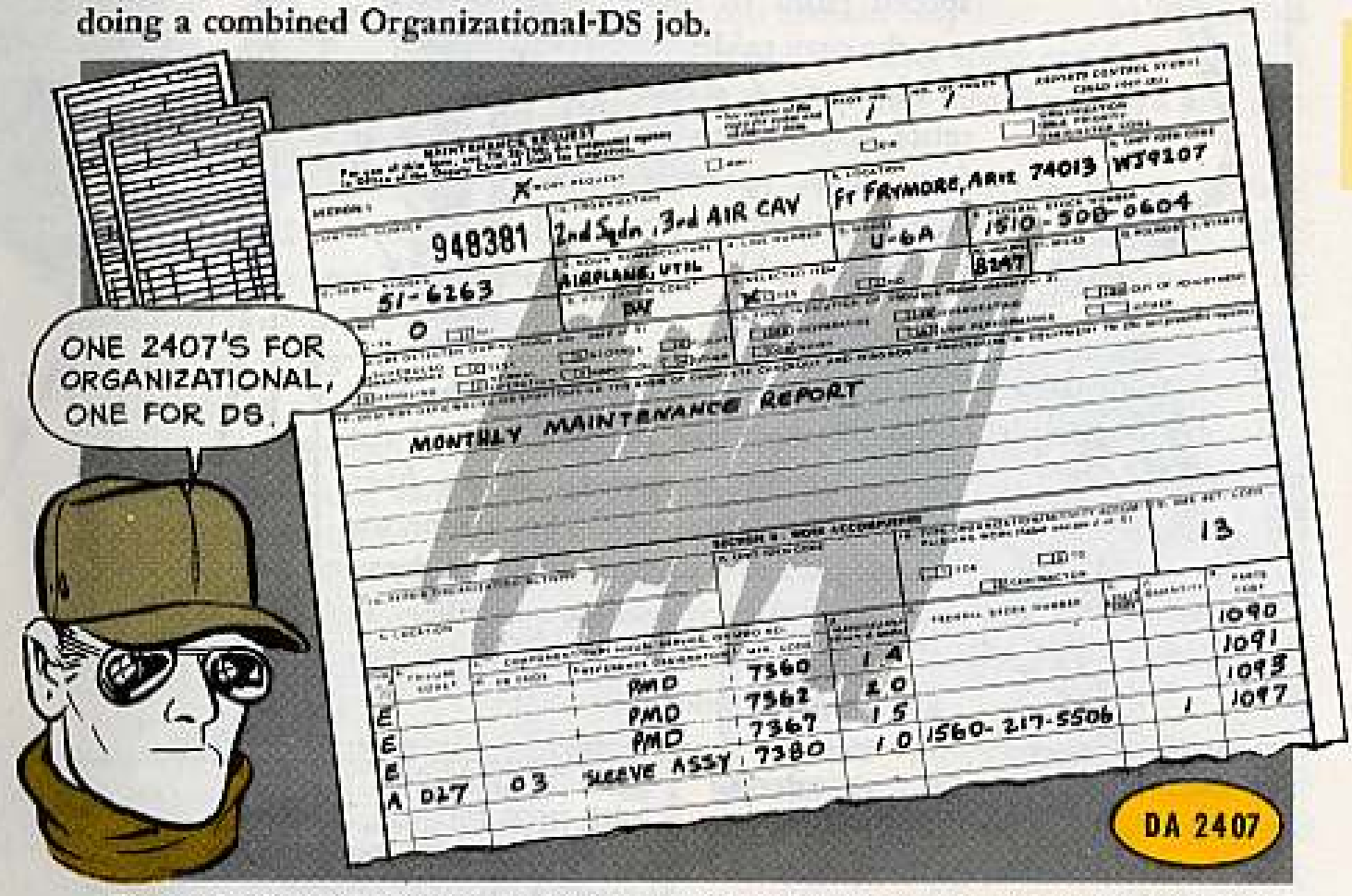
Our unit does both Organizational and DS aircraft maintenance.

When we switch from Organizational to DS work on an aircraft, must we make a mid-month close out of its monthly DA 2407 — then start another after the DS job is done, like TM 38-750 para 3-7.1.2b(2)(c) seems to say?

CW2 J. W. C. Jr.

Dear Mr. J. W. C.,

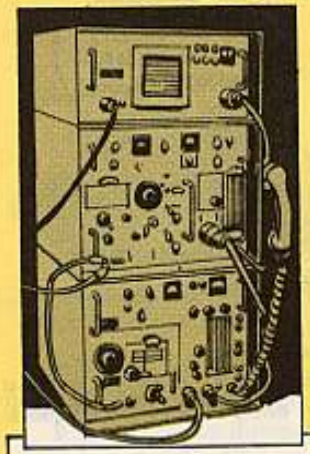
That close-out applies to aircraft "evacuated" to a separate support unit. So no closeout is required (before the end of the month) when the same unit is doing a combined Organizational-DS job.



But only Organizational maintenance is reported on that monthly Organizational maintenance DA 2407 report. Use a separate DA 2407 for the DS job.

Windy

TOGETHER



Get it all together, baby . . . all that basic PM that your AN/GRC-50 radio set needs to keep from going down.

. . . And while you're getting it together, put some stress on these repeat trouble spots:

When your antenna mast gets way up there, like at 70 feet or more, take some special pains to protect the coax cable.

Three or 4 strain relief grips, 15 to 20 feet apart, prevent damage to and distortion of the cable.

And, uh, before you connect the coax cable, eyeball the recessed area of the connector to be sure all of the fiber washer is removed. The connector comes packed with the washer, and you can tug it out with needle-nose pliers. If all or part of it is left inside, it's hard to get a tight connection.

If you've got to rig the coax cable in 2 or more lengths, wrap the connecting joints with electrical tape to keep out moisture, prevent corrosion and head off a short.

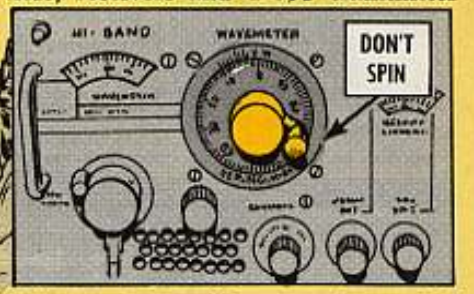
A thoughtful twist of a knob can save the 50 micro-amp multimeter of your R-1148/P or R-1331/P receivers.

All you gotta do is back the TEST TONE knob all the way off (to the left, or counterclockwise) before putting the multimeter selector switch in the TEST TONE CAL position.

Then, back it up till you get the "25" reading on the meter that you're after.

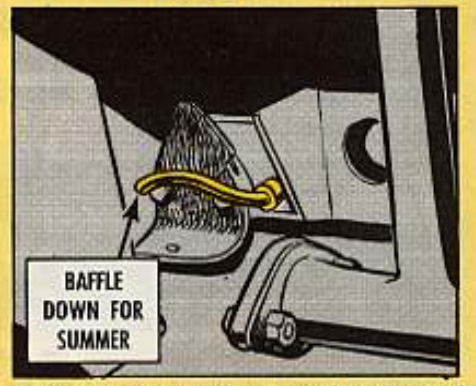
Otherwise, you can put 125 micro amps or more through the meter . . . and burn it out.

WAVEMETER dials on the amplifiers, receivers and T-893 transmitter



roll around easy like . . . so be careful about spinning them too fast or you'll bang the dials into their stops and jam or break them.

If you're supplying power with a generator set, be sure the oil pan baffle rod is in the right position (summer or



winter) to keep it from overheating and damaging the generator.

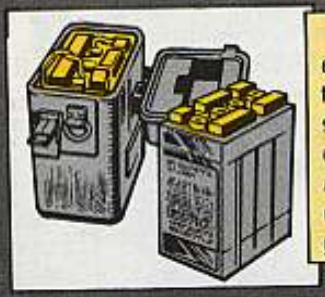
The baffle rod should be down and to the rear for summer operation.

RADAR REMINDERS

THE NIGHT HAS A THOUSAND EYES, ALL OF WHICH CAN BE MIRRORED IN YOUR RADAR'S CRT... PROVIDING YOU HELP WITH PM.

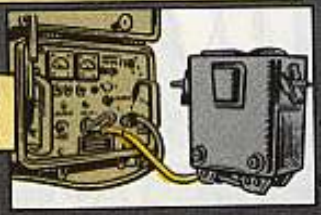
AN/PPS-5

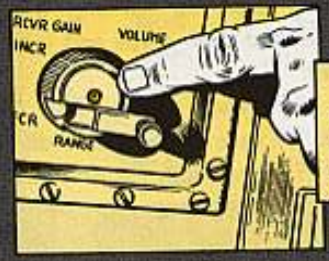
Protect circuitry from dirt and moisture by using silicone grease (FSN 6850-880-7616) on exposed gaskets, range crank shafts and access door rubber.



Eyeball BB-622 cells about every half hour during charging. If the cell gets hot, or gasses heavily, shut down the charger and have a repairman check out the battery. Also, keep the battery cover off during charging so you can see gas or smoke.

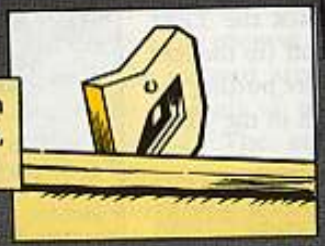
Never charge the BB-622 with anything but the PP-4127 charger.

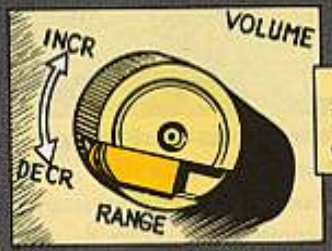




Check screws every now and then on the range crank, switches and other knobs. If they're loose, tighten 'em.

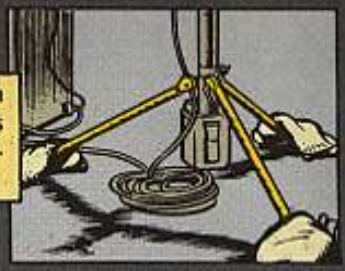
Take care of exposed feedhorn window. And, if it gets broken, replace the feedhorn.





Fold the range crank handle before you put the hood on the C-4610 control-indicator.

Secure the tripod legs with spikes, sandbags or whatever's handy to keep the set from blowing over.



Be sure the gear teeth on the tripod legs mesh before you tighten the wing bolts. Saves popped rivets, chipped teeth and broken bolts . . . in addition to keeping the radar set off the ground.

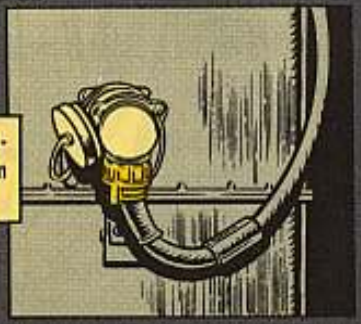
AN/PPS-4A

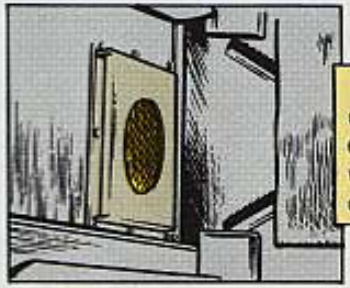
Several things to do before you connect a fresh battery: Be sure the power switch is off, and be sure the voltage adjust switch is in No. 1 position. Also, the voltage adjust switch must be in No. 1 position before you turn the set on. Saves damage to circuitry.

Broken cables and connectors are a sad old story. Troops turn connectors without alining the key and keyway; yank the cable instead of twisting off the connector, thereby pulling the cable apart; cables are dropped, stepped on, thrown around.

AN/TPS-33

Same old story with the connectors: match 'em up, twist 'em off. No yank.

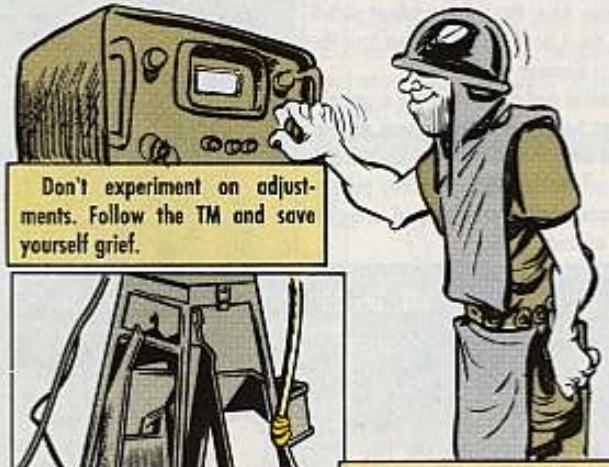




Keep filters clean . . . to prevent overheat damage. That goes double on the power supply filters, where you can burn up the motor or the rectifiers.

Don't let your mind wander long enough to forget about turning down the scope intensity control. Adjusting it all the way up . . . and leaving it there . . . can burn the scope.

Run up the speed adjust of the PU-422 generators slowly . . . to avoid burning out resistors in the radar transmitter . . . and, an often forgotten task, check the generator's oil level regularly.



Don't experiment on adjustments. Follow the TM and save yourself grief.

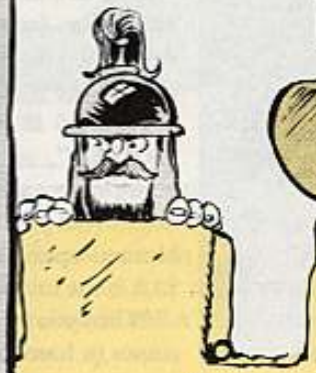
Tie the antenna cable down to keep it from flapping in the breeze — and breaking. Strap it to a leg, a guy wire, or whatever.

Enthusiasm is great, but not with the AT102 local oscillator attenuator screw. When you feel it stiffen, stop! Save a repair job by not turning it all the way down. Adjusting the AT102 is for fingers; not screwdrivers. Saves damage.

Lift the AB-658A antenna group by the base . . . and not by the feedhorn or pedestal, which can be damaged by the weight of the base.

Tie the set down during the field use. That'll keep it on its feet, so to speak.

Aline the white dots on the antenna pedestal and the base before you store the antenna group . . . to make it fit in the case and to save damage. And don't forget to put the cap on the waveguide before you store it.



These PM pointers, regular PM, and some forethought will keep your tactical radar equipment working for you.

PS END

SHELTER PUB

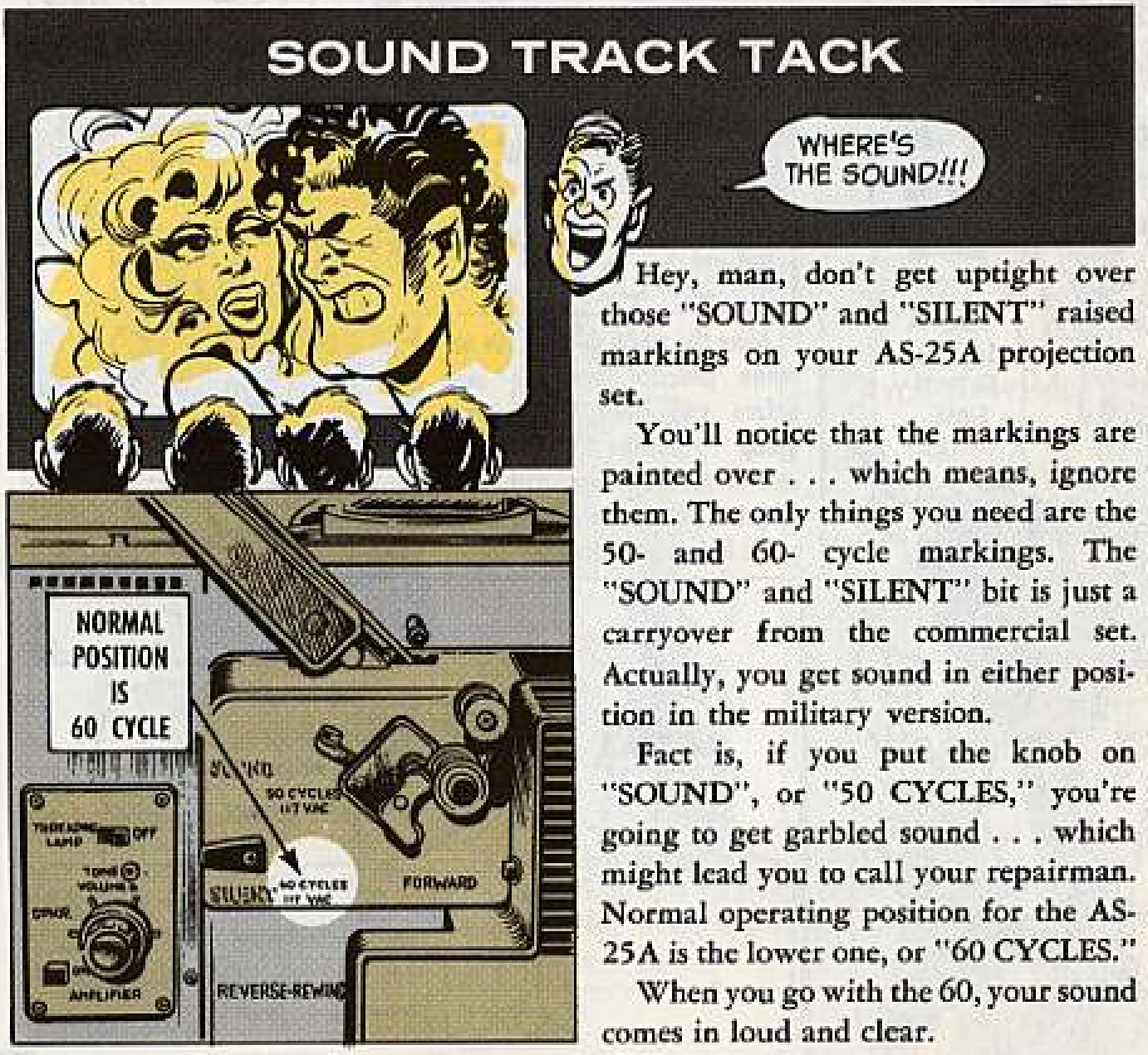
It may be hiding on a shelf somewhere, or you may never have gotten it, or it's leading some other kind of sheltered life, but if you own an S-141, -144, -250, -280 or -318 commo shelter, you also should have access to TB 750-240 (Jul 69).

The TB gives you the beautiful facts on repair and maintenance of the above basic shelters (which might take on another number, depending on what goes in them).

Among the good stuff are such items as emergency repair of badly damaged shelters, patching, lifting, parts replacement, painting and such at the organizational level.

Makes good reading on a rainy day.

SOUND TRACK TACK

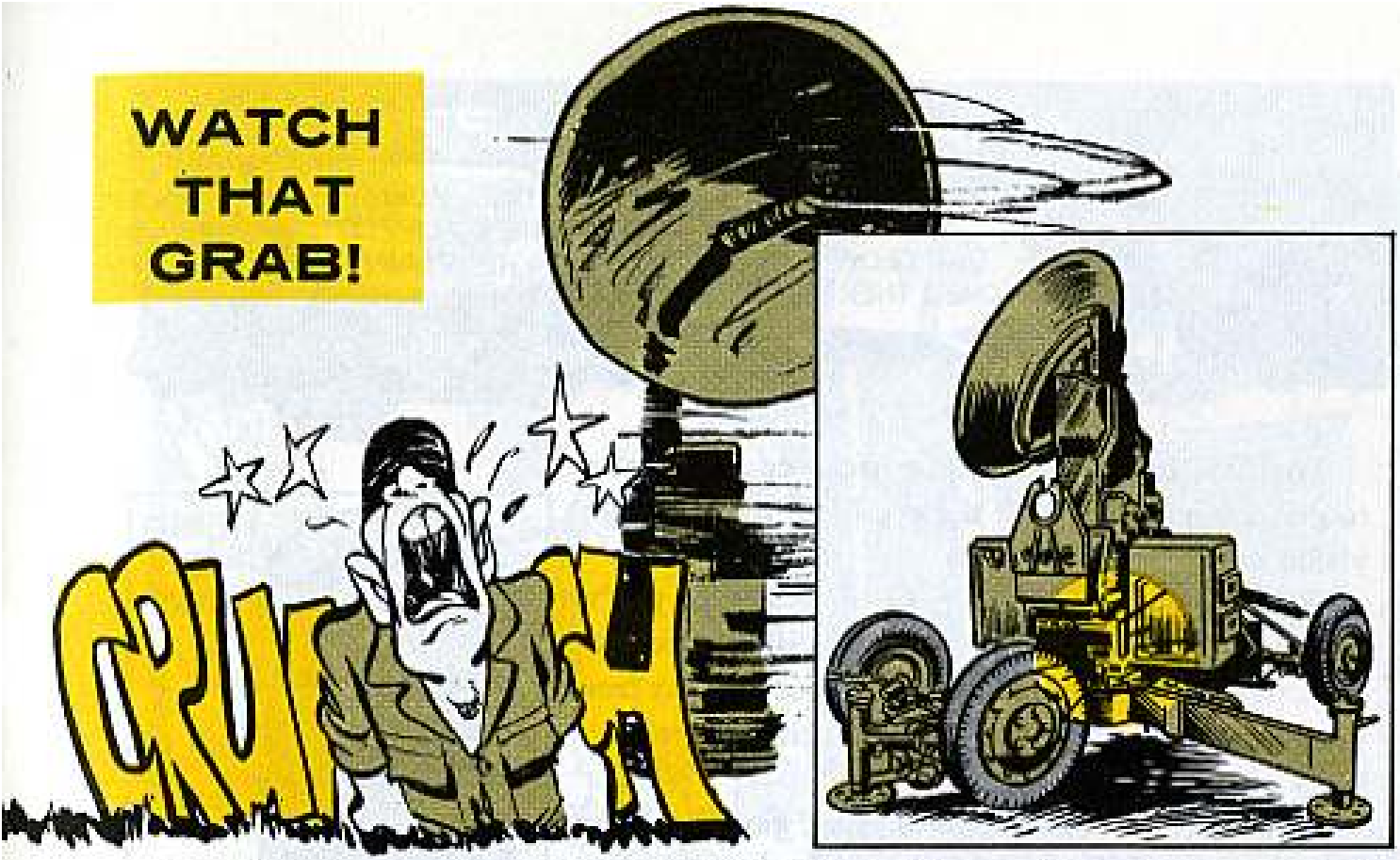


Hey, man, don't get uptight over those "SOUND" and "SILENT" raised markings on your AS-25A projection set.

You'll notice that the markings are painted over . . . which means, ignore them. The only things you need are the 50- and 60- cycle markings. The "SOUND" and "SILENT" bit is just a carryover from the commercial set. Actually, you get sound in either position in the military version.

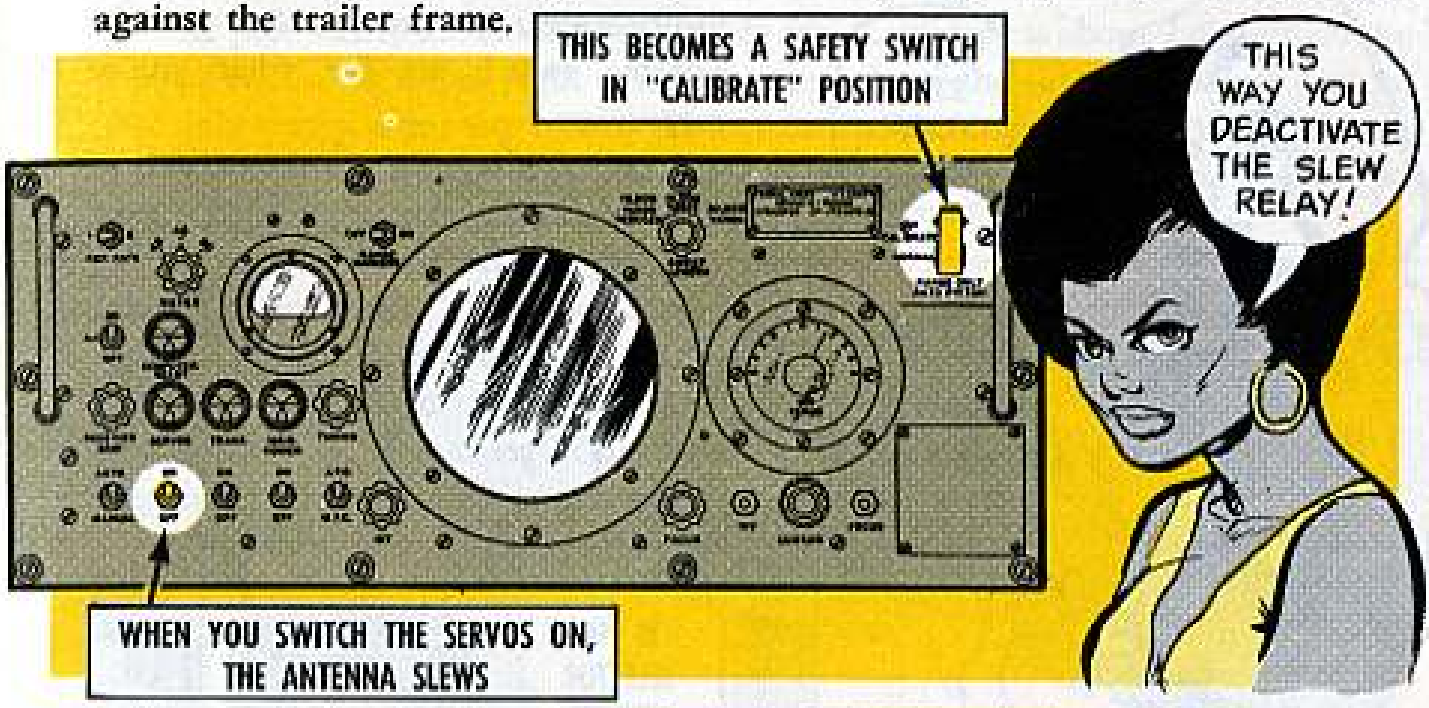
Fact is, if you put the knob on "SOUND", or "50 CYCLES," you're going to get garbled sound . . . which might lead you to call your repairman. Normal operating position for the AS-25A is the lower one, or "60 CYCLES."

When you go with the 60, your sound comes in loud and clear.



Hey, friend, you about to flip the SERVOS switch on the radar set control C-869 of your AN/MPQ-10A radar set?

Then first you better step out of the way of the antenna mount if you don't want the modulator or range computer housing to pick you up and crush you against the trailer frame.



Howcum? Simple. When you switch the SERVOS switch to ON, the antenna slews around to the position it was in before power was turned off.

When you're repairing the set, you can make a safety switch out of the RANGE ONLY AUTO SWITCH on the upper right corner of the azimuth-range indicator by keeping the switch in CALIBRATE position. That way you deactivate the relay that slews the antenna.

The flap, friend, could be a lifesaver if you want to get down to basics on the eyeshield flaps in night vision equipment eyepieces.

If your flaps are missing, for any reason, you've not only lost a dust lid, you've lost position security. Like, when you put your eye up to or pull it away from the eyepiece, you give Charlie a beautiful green glow reflection to aim at.

So, if your flap's damaged or gone, get it replaced. Better yet, don't let it get damaged in the first place.

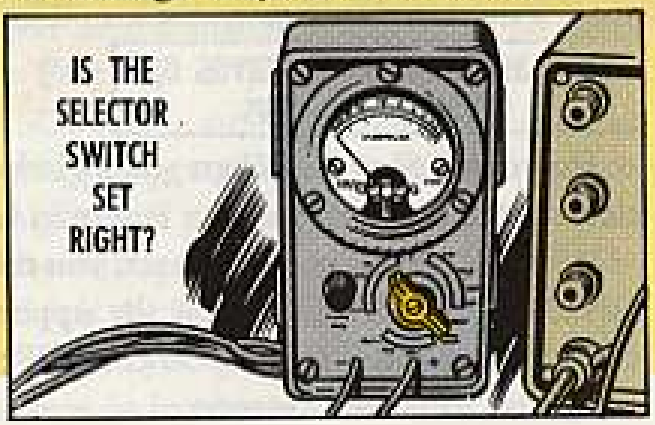
SET IT RIGHT!

Before you put the juice to your multimeters, be sure you've got the selector switch set for what you're measuring.

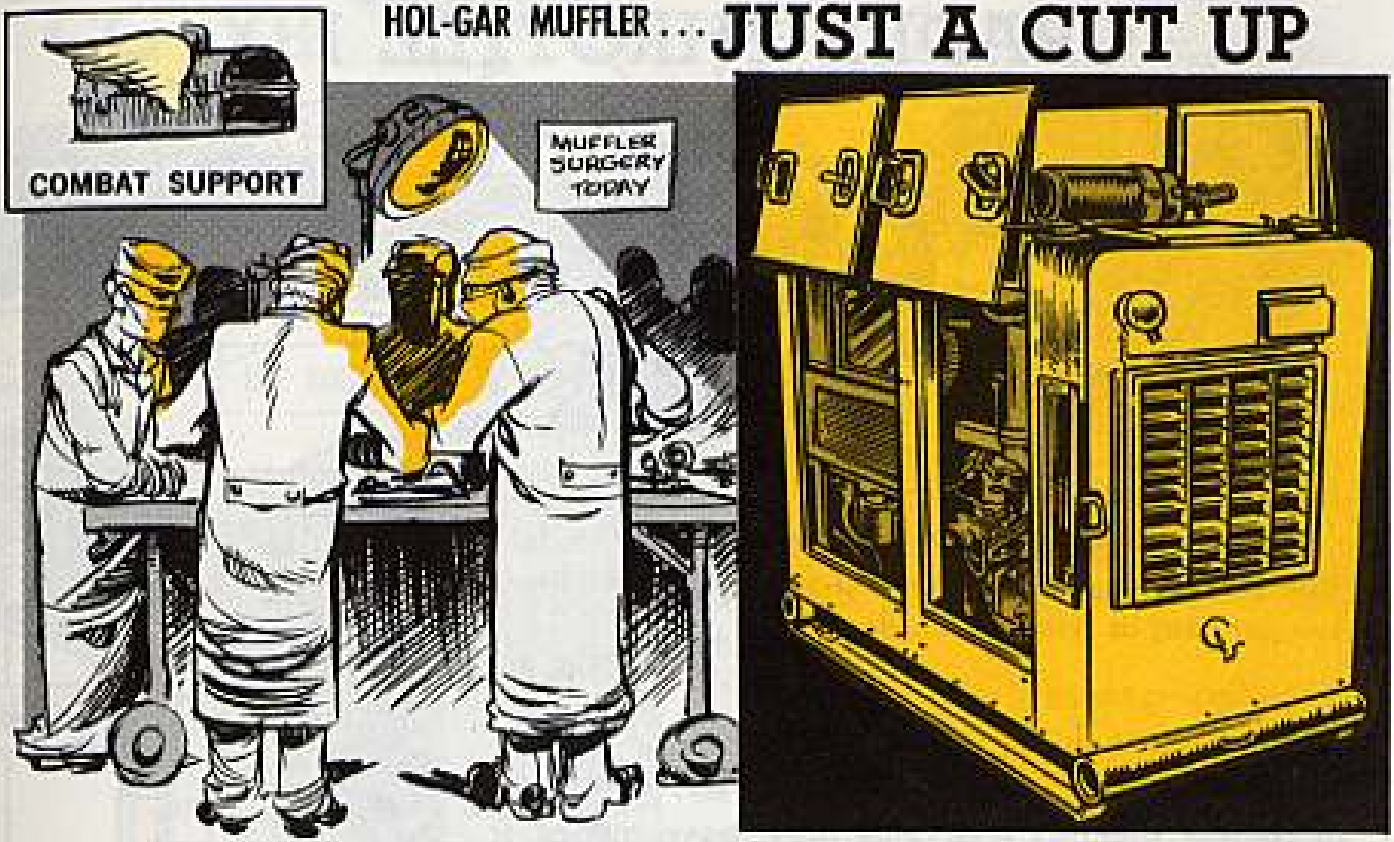
Like, if it's volts, set the switch to the correct range, etc. If you don't know the range, start at the highest setting and work down. Same goes for the ranges in the resistance (ohms) settings.

And, don't try to measure AC voltage with a DC setting.

Got the idea? Keep it . . . and head off damage to your test meter.

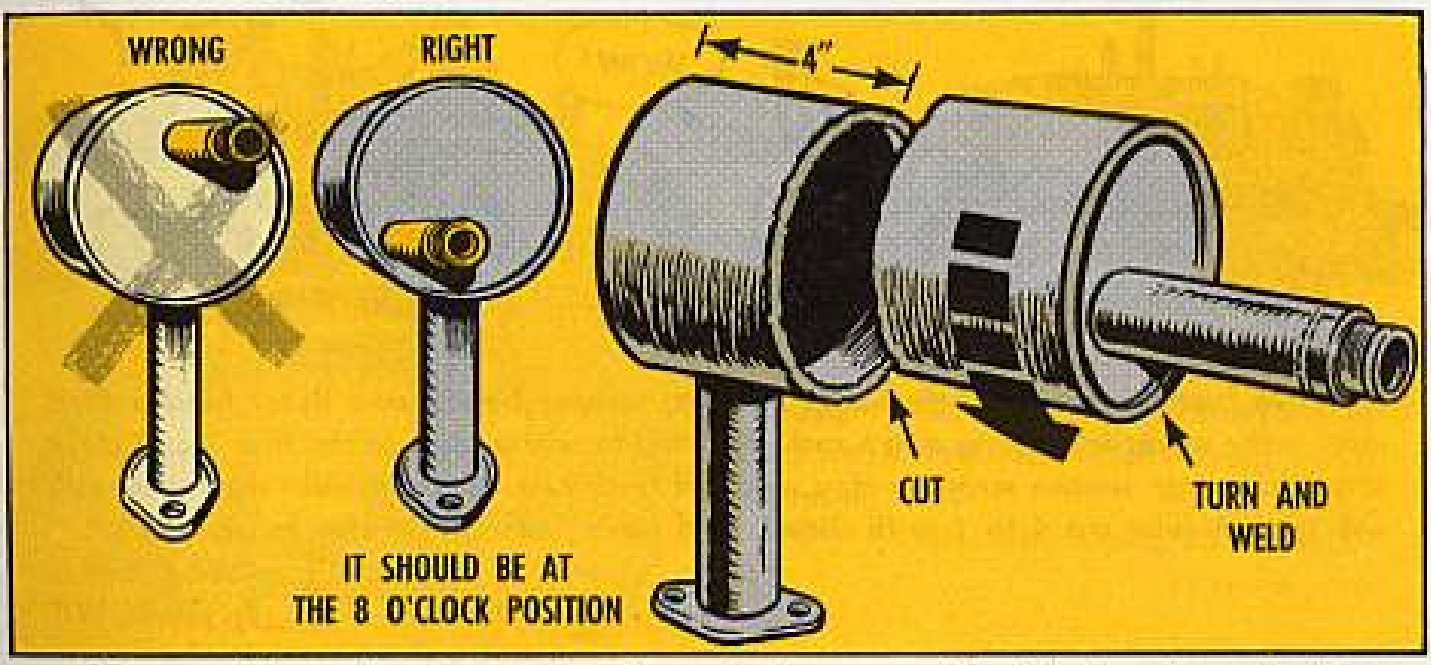


HOL-GAR MUFFLER . . . JUST A CUT UP



Fouled-up muffler assemblies have gotten in the supply bins for Hol-Gar 10-KW WK/9 generators sets. You can tell easily which is which, if you have to do a muffler switchout on that set. Here's how:

Turn the muffler so it stands on the manifold flange and so you can look right into the pipe where the exhaust gas comes out. If the pipe is about 2 o'clock on the muffler end, or at upper right when you see it from the side, you have a lemon. The only way you can use it is to get it turned so the exhaust outlet will lead past the hole cut out for it at the side of the radiator. You want the completed muffler to look like this:



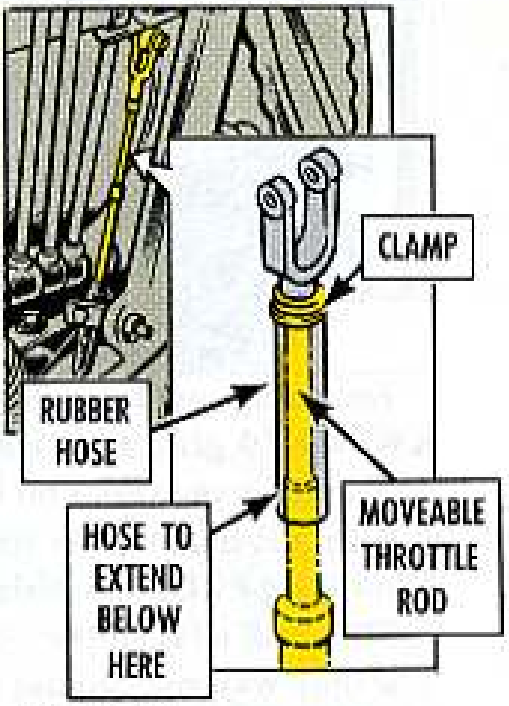
You get it into shape by cutting through the outer skin 4 inches from the inlet end. Then turn the cut-off part half way around, weld it back, and install.

GRADER THROTTLE FIX

Dear Half-Mast,

Throttle cables stick on our Huber Warco Model D graders. Water gets in at the top cable neck. In summer we get rust; in winter, ice. Ideas?

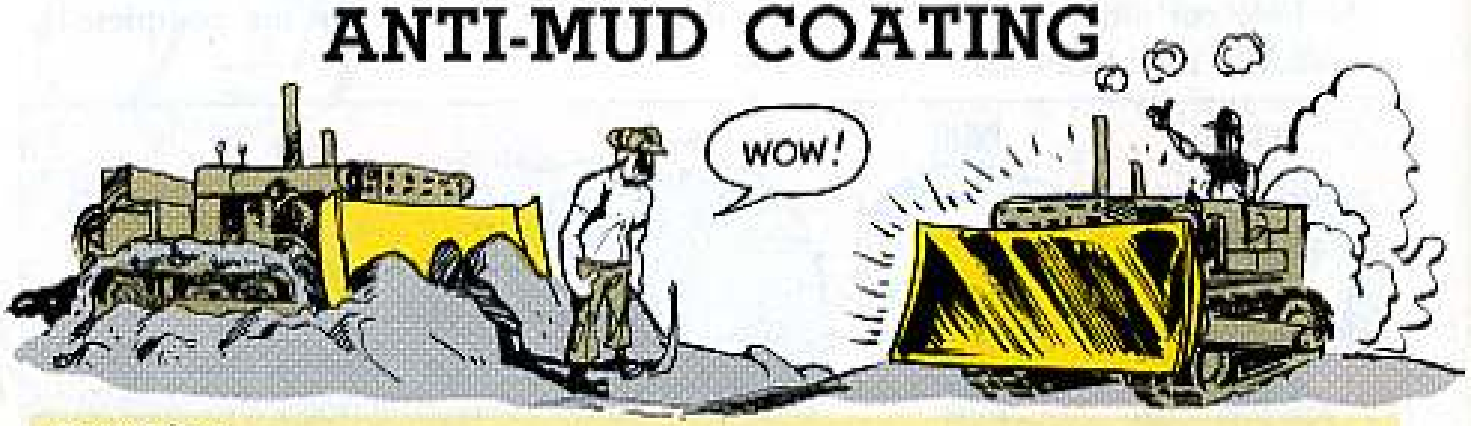
SFC R. S.



Dear Sergeant R. S.,

Old MWO 5-3805-210-35/1 (Sep 64) was meant to correct that, so your rigs must have missed it. Clean the cable and housing, and take off the yoke. Slip on rubber hose, 4-3/4-in long x 3/8-in inside diameter, like P/N (24161) 4450. Attach the hose to the yoke with clamp, FSN 4370-289-5935. Refasten yoke to cable. Periodically lube the cable in the housing with light oil, like OE 30. *Half-Mast*

ANTI-MUD COATING



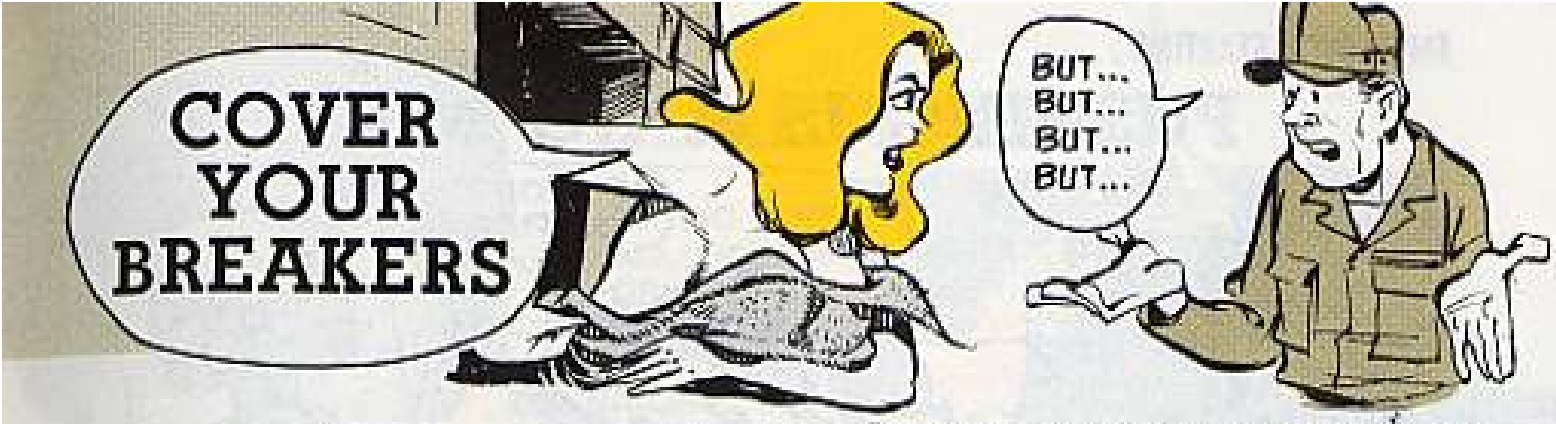
Dear Editor,

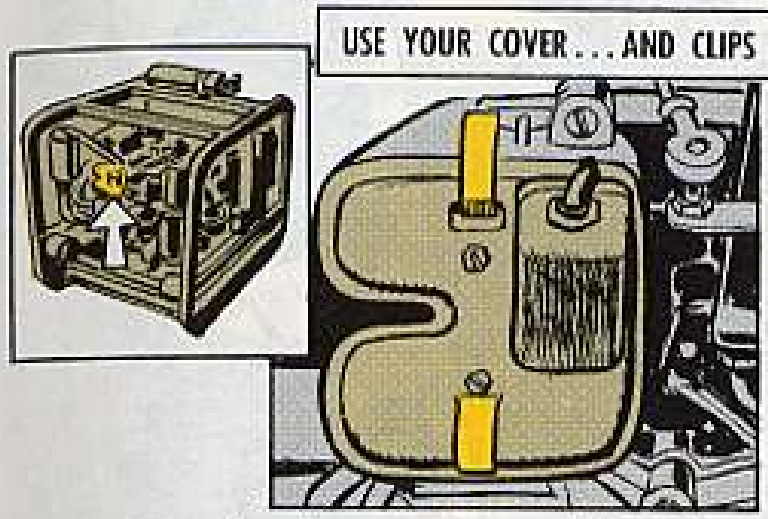
We've found a trick to help scoop buckets, scraper bowls and dozer blades shed mud—the secret is keeping down rust. We used to waste most of the first 2 or 3 days after the soggy season scraping clay mud off thick rust. Now we coat the faces with CW type A lube cut 4 to 1 with diesel, and ho-ho, no rust for clay to glue to.

CW4 R. Earick
Ft Lewis, WA

(Ed Note—Under those circumstances, I'm with you. Ordinarily, mere beauty-parlor coating is never justified, but that clay can be down right miserable.)

COVER YOUR BREAKERS





It only takes you a snap (of 2 clips) to put back the breaker point cover on your 6-HP Mil Std Engine after you've worked on the breakers. Why, then, are so many covers being left off?

Sure, you may have a bag of excuses to leave the cover off when you're in a hurry. Maybe, you gotta lube the magneto cam wick soon or the starter switch was put on backwards or you're going to replace the contact points soon and so forth.

But think of the breaker points being wide open to dirt, water and corrosion. In this shape it won't be long before you lose the use of the engine or a generator or any other equipment it's with.

You'll find the lowdown on how to take off and put on the breaker cover on page 4-18 of TM 5-2805-203-14 (Dec 69).

TOO MANY KNOCKS...

BLOWN-AWAY TOOL BOX

Dear Editor,

The tool box on the rear of our 58SH-G Euclid scraper got smashed regularly. Constant repairing was not worth the effort so we took it off and welded a fairing plate where the box had been.

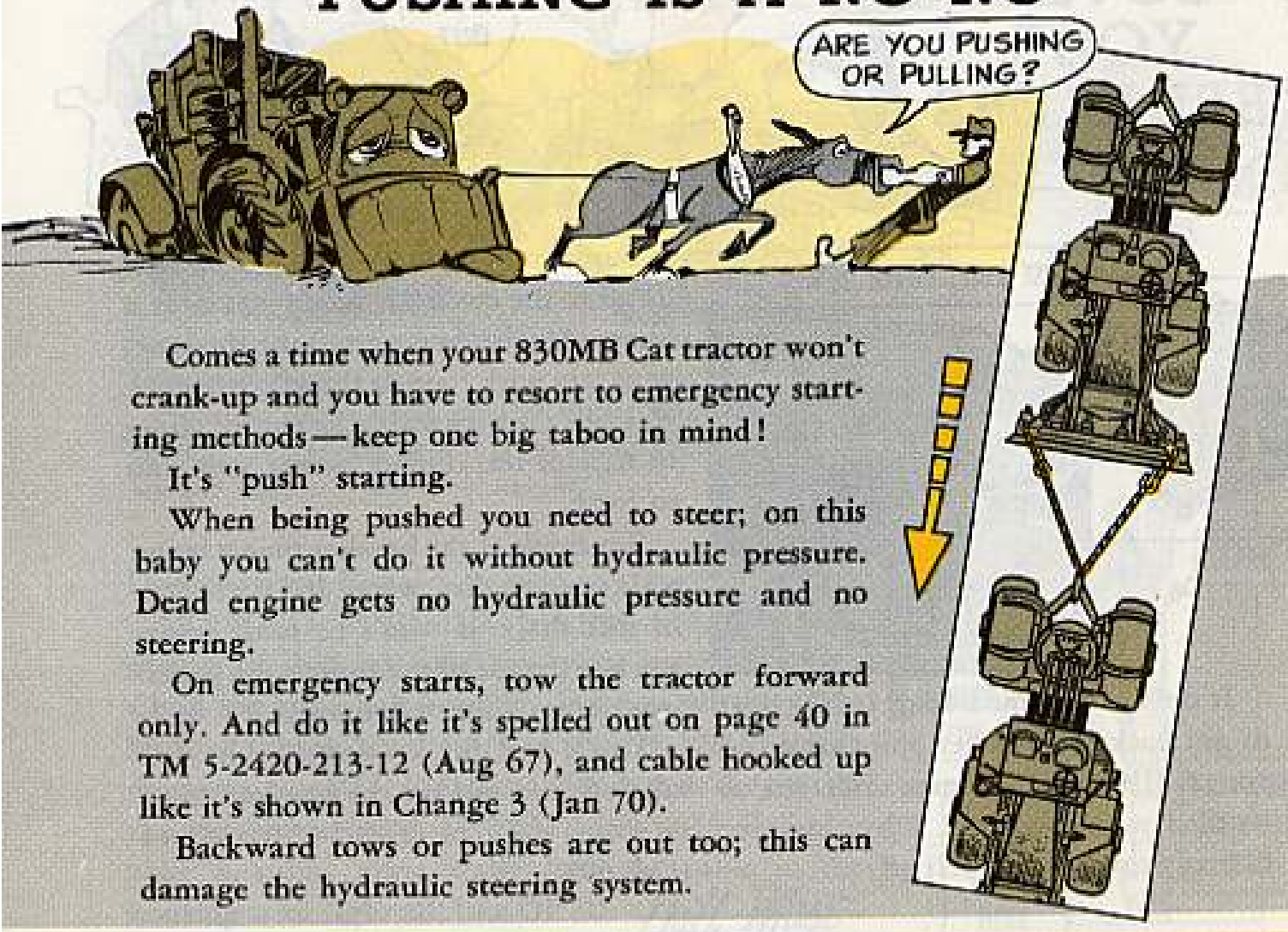
Thought other engineer battalions would like to know about this effort-saving minor alteration.

The Shop Gang, 339th Engrs.
Ft Lewis, WA

(Ed Note—Good deal—and in case anyone asks, minor equipment alterations are covered in AR 750-35.)

EMERGENCY STARTING . . .

PUSHING IS A NO NO



Comes a time when your 830MB Cat tractor won't crank-up and you have to resort to emergency starting methods—keep one big taboo in mind!

It's "push" starting.

When being pushed you need to steer; on this baby you can't do it without hydraulic pressure. Dead engine gets no hydraulic pressure and no steering.

On emergency starts, tow the tractor forward only. And do it like it's spelled out on page 40 in TM 5-2420-213-12 (Aug 67), and cable hooked up like it's shown in Change 3 (Jan 70).

Backward tows or pushes are out too; this can damage the hydraulic steering system.

HOLD TILL FURTHER WORD

Dear Half-Mast,

I have a question concerning the automotive mechanic's tool kit, FSN 5180-754-0641. When SC 5180-97-CL-E50 was published it authorized several additional items to our kit. The new SC 5180-90-CL-R16 (Jun 70) deletes all the tools that were added in 1968.

Do we turn in those tools? We still need some of 'em.

CW2 H. W. B.

Dear Mr. H.W.B.,

I'd suggest you go a little slow in turning in your tools. There's a new catalog in the mill, so wait until you find out what's in it.

Half-Mast

HONEST IPD'S

HERE'RE SOME BAD THINGS YOU'LL CAUSE:

1. Over-load and bog-down priority issue operations at your support unit.

2. Delay priority issue on your real legitimate emergencies.

3. Slow-up issue on your routine requests.

4. Cancel out the IPD system (for yourself and everybody else).

5. Get gigged for abusing the IPD system.

NEVER LEAVE

Whenever your equipment moves, make sure—**double sure**—its historical (log) records go along.

Leaving some records behind—or losing 'em—can be downright destructive—and maybe dangerous for the man who next uses the equipment.

That's true of DA Form 2408-5, with its record of MWO's due or applied. It's especially true of the DA Form 2408-4, with its EFC rounds fired record that tells you how much longer a weapon tube is safe to use.

When a gun tube stays on a weapon, its DA 2408-4 stays in the weapon log.

If a serviceable tube is removed from a weapon, mark "Removed from weapon" in column h and submit the form to U.S. Army Weapons Command (see TM 38-750 for address).

END ITEM: HOWITZER, SP, M109, SN 313
BREECH RING SN: 3136
RETUBINGS: 1

1. CANNON TUBE SERIAL NUMBER	2. TYPE	3. ORGANIZATION	
18251	M126E1, 155MM	BTRY B, 7TH BN	WCX06A

a. DATE	b. CHANGE IN ZONE	c. PROJECTILE TYPE AND WEIGHT FIRED	d. ACCUMULATIVE ROUNDS FIRED (1) THIS PERIOD	d. ACCUMULATIVE ROUNDS FIRED (2) THIS EFC	e. RECOIL EXERCISE	f. BASE OR VELOCITY MEASURE	g. ESTIMATED REMAINING LIFE (EFC Rounds)	h. REMARKS	i. SIGNATURE
1086			411	611	RE 0362	BORESCOPE 0279	4445	BGT FWD FRM PREV. 2408-4	P.C. Tingle ILT ARTY
1088	7	M107 HE 23		644			4422		P.T. Brown SFC
1090								REMOVED FROM WEAPON	P.C. Tingle ILT ARTY

2408-4

THIS FORM FORWARDED TO USAWECOM IF SERVICEABLE TUBE IS REMOVED FROM WEAPON

— AFTER DATA IS TRANSCRIBED TO NEW DA 2408-4

END ITEM: HOWITZER, SP, M109, SN 313
BREECH RING SN: 3136
RETUBINGS: 1

1. CANNON TUBE SERIAL NUMBER	2. TYPE	3. ORGANIZATION	
1825	M126E1, 155 MM	BTRY B, 7TH BN	WCX06A

a. DATE	b. CHANGE IN ZONE	c. PROJECTILE TYPE AND WEIGHT FIRED	d. ACCUMULATIVE ROUNDS FIRED (1) THIS PERIOD	d. ACCUMULATIVE ROUNDS FIRED (2) THIS EFC	e. RECOIL EXERCISE	f. BASE OR VELOCITY MEASURE	g. ESTIMATED REMAINING LIFE (EFC Rounds)	h. REMARKS	i. SIGNATURE
1090			411	644	RE 0362	BORESCOPE 0279	4422	BGT FWD FRM PREV. 2408-4	J.C. Tingle ILT. ARTY

2408-4

THESE BEHIND

But first, before you submit that DA 2408-4, transfer accumulated EFC rounds, borescope and recoil exercise info, breech ring serial number and number of retubings, and any other needed data to a new DA 2408-4—and pack this new DA 2408-4 with the tube.

The DA 2408-5 stays with the equipment as long as it's kept by the Army, and then it goes to the commodity command.

1. NOMENCLATURE	2. REGISTRATION NUMBER	3. SERIAL NUMBER
TANK, COMBAT, FT, M60A1	981188	2210

a. MWO NUMBER	b. DATE OF MWO	c. PRIORITY	d. SCH	e. MWO TITLE AND KIT NUMBER	f. DATE MWO APPLIED	g. MAN-HRS	h. ORGANIZATION APPLYING MWO	i. SIGNATURE (Certification of MWO Application)
9-2350-215-30/25	16MAR66	N	F	STEERING & SHIFT LINKAGE KIT-11590366	8NOV66	42	11TH OS BN	B.C. Carter, CPT Maint. officer
9-2350-215-30/26	15MAR66	N	F	M6 AMMO BOX-105 AMMO RACK. KIT-10940156	16JAN67	105	11TH OS BN	Andrew Jackson, SSG Maint Supervisor

2408-5

THIS FORM STAYS WITH EQUIPMENT THROUGHOUT ITS SERVICE LIFE. FORWARDED TO COMMODITY COMMAND WHEN TURNED IN TO PDO.

The only DA 2408-5 you remove from a log is a DA 2408-5 that applies only to a specific component. The component DA 2408-5 must be removed to accompany a component removed from an end item (or it may be removed and destroyed if the DA MWO requires marking the component with the DA MWO number or with a redesignated FSN).

A component DA 2409 also must be removed to accompany the component.

1. NOMENCLATURE	2. REGISTRATION NUMBER	3. SERIAL NUMBER
ENGINE, AVDS-1790-2		1366

a. MWO NUMBER	b. DATE OF MWO	c. PRIORITY	d. SCH	e. MWO TITLE AND KIT NUMBER	f. DATE MWO APPLIED	g. MAN-HRS	h. ORGANIZATION APPLYING MWO	i. SIGNATURE (Certification of MWO Application)
9-2815-200-30/6	27JAN66	N	F	INSTALL CENTRAL SECONDARY FUEL FILTER KIT-10935365	10APR67	1.5	11TH OS BN	Andrew Jackson, SSG Maint Supervisor

2408-5

THIS FORM STAYS WITH END ITEM LOG WHILE ENGINE IS INSTALLED IN END ITEM. WHEN ENGINE IS REMOVED, TAKE FROM LOG AND PACK WITH ENGINE. GOES TO COMMODITY COMMAND WHEN ENGINE GOES TO PDO.

LO SYMBOLS ARE BEST

Dear Half-Mast,

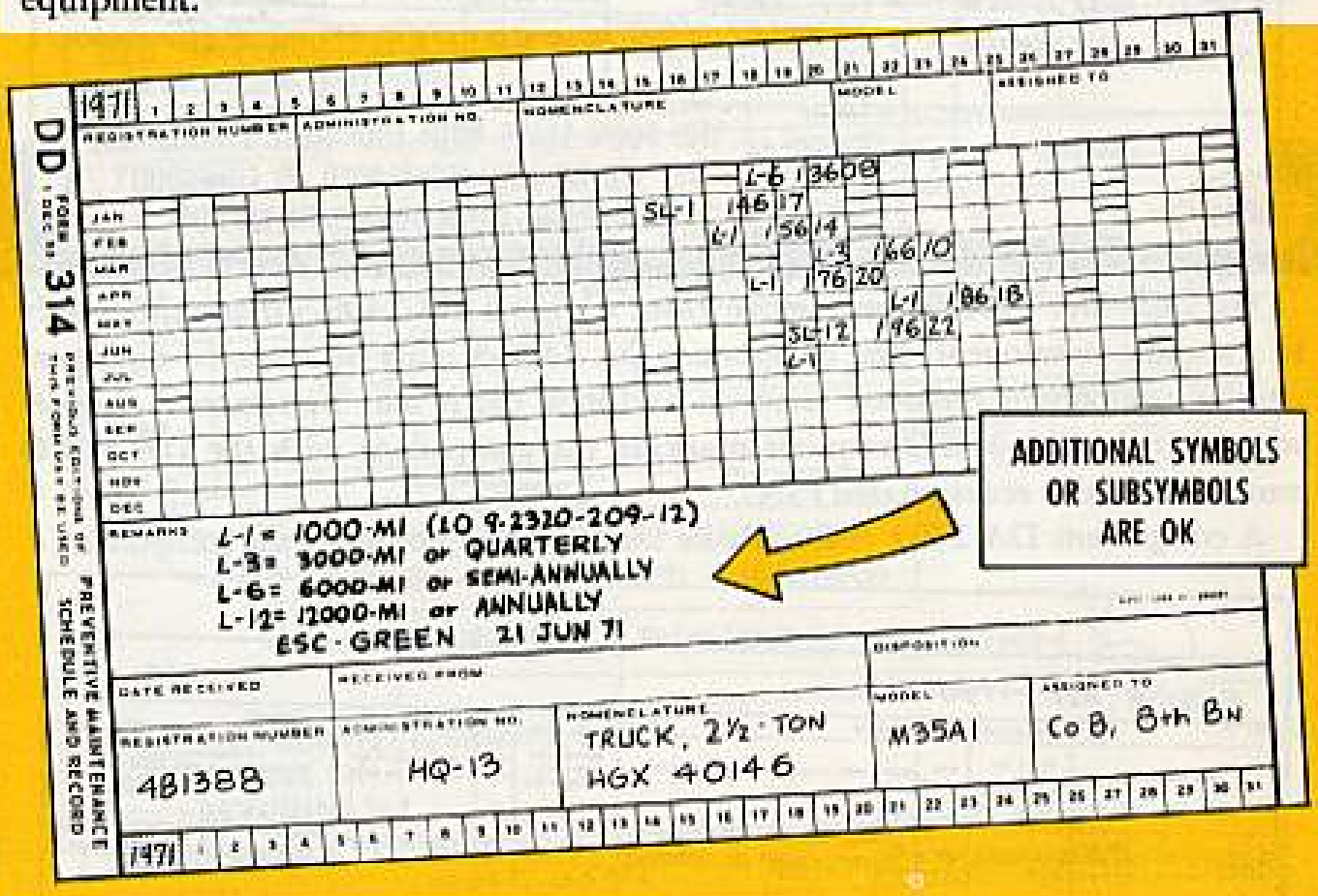
TM 38-750 lists only L as the symbol to be used for lubrication scheduled on DD 314. What's the best way to identify the different lube intervals as listed on equipment LO's?

MSG J. F. C.

Dear Sergeant J. F. C.,

Your clue is found in the note in para 3-3c(3)(k) in the TM.

This permits "subsymbols and prefixes" and additional symbols as long as they don't conflict with the required symbols such as L for lubrication. The note also says the intervals scheduled will be obtained from the TM or LO for the equipment.



Your best bet on lubrication intervals is to use the interval identification from the LO as an additional symbol or subsymbol.

Here's one approved way to identify those lube intervals—using additional symbols 1, 3, 6, and 12 from LO 9-2320-209-12 for 2½-ton trucks. Make sure they're explained in the remarks block of DD 314 or in the unit SOP.

Half-Mast

Connie's Mini Mini's

Coolant Test Kit

Test Kit, reserve alkalinity, FSN 6630-169-1506, is what you need to check your engine cooling system this spring. TB 750-651 (22 Jan 71) is your authority to request the kit. Each kit is good for testing 25 cooling systems, so get enough kits to do your checking this spring.

Less Distraction

For "the word" on removing scratches in aircraft transparent acrylic plastic, which distract a pilot from his duties, eyeball a copy of TB 55-1560-276-24/1 (23 Nov 70). Polish 'em out with Polish Kit, Glass, FSN 1560-450-3622, authorized in bird parts manuals.

M108/M109 Lube News

Worried because you can't get the Nylube 150 that LO 9-2350-217-12 (May 69) calls for in the steering shaft bulkhead bushings of your M108/M109 howitzers? Well, worry no more. The engineer and petroleum types have OK'd the use of good old GAA grease instead.

Lighter is Better

Never burden your baby with extra weight — cargo or passengers — during test flights, airplane drivers. That's the word in TB 55-1500-311-25 (Nov 70) on test flights.

Alternator Rebuild

If you've got a "sick" 60-amp alternator, handle it with care when you pass it on up to your support. It may be going to the "hospital" — factory rebuild. This service was offered only in CONUS, Hawaii and Alaska, but now it applies worldwide — applicable, so far, just to the Leece-Neville alternator, FSN 2920-909-2483. The word went out in USATACOM TWX 182030Z Nov 70.

Aircraft Report Speedup

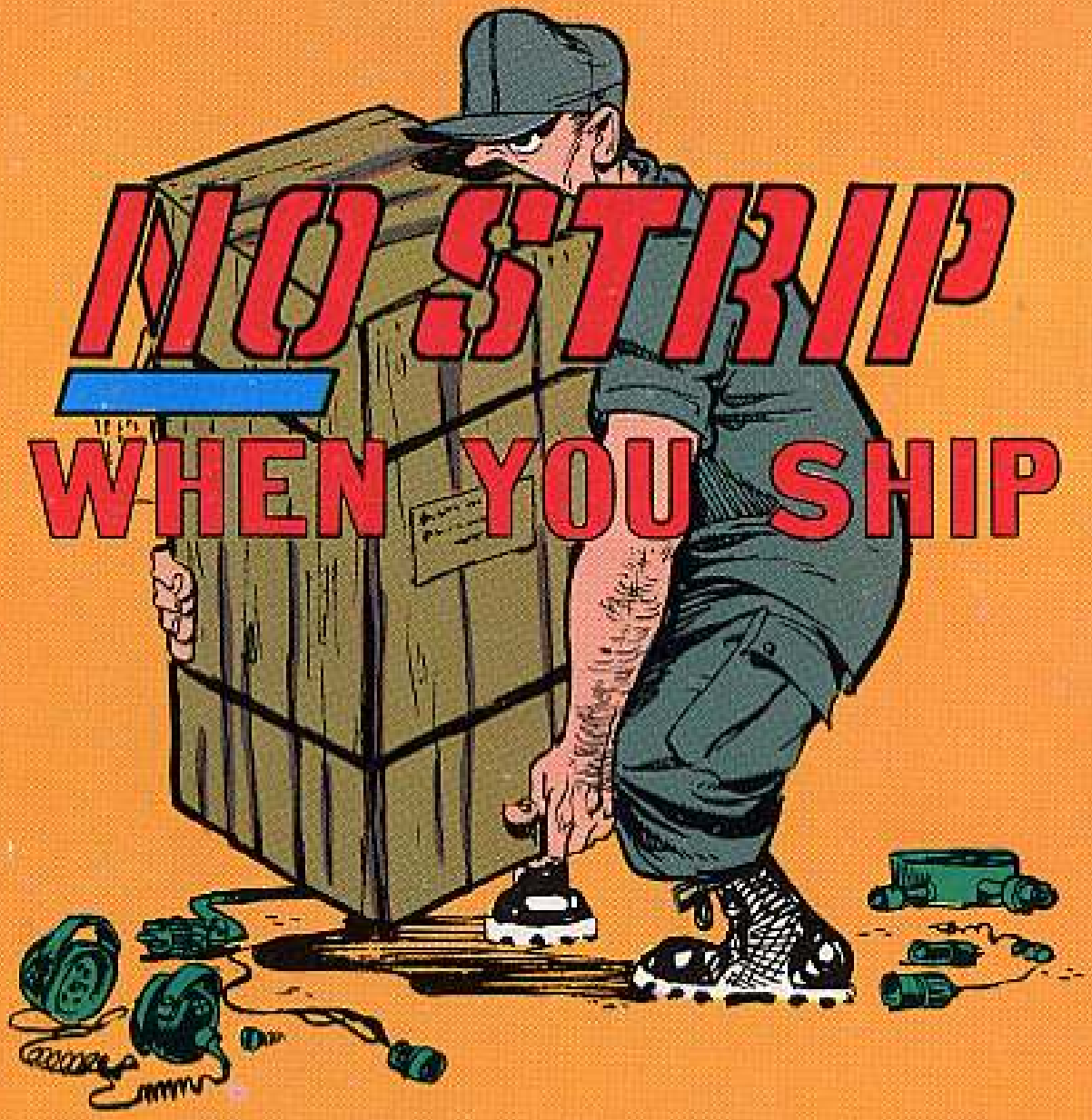
For 5 types of aircraft (OV-1C, CH-47B, OH-6A, AH-1G and UH-1H), maintenance manhour reports on DA 2407 must be speeded up for evaluation under AR 11-10. Get 'em to your command data center fast. If there's no local data center, airmail to LDC, Lexington, within 5 working days of monthly close-out. Word went out in DA Msg LOG-DAL-PRRO 232202Z Dec 70.

On The Air Sooner

Sure, you Kiowa (OH-58A) throttle jockeys crank up your bird engine and then wait to turn on the radios so current surges won't damage the avionics gear. No need to wait until the generator output drops to 10-20 amps, tho. Turn 'em on at 50-60 amps, per para 3-21, Ch 1 (Jan 71) of TM 55-1520-228-10 and you still won't get damaging surges.

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

NO STRIP WHEN YOU SHIP



When you pack an item for shipment or turn it in for repair — make sure you include ALL its components.

Include Everything covered by the FSN

That means ALL components:
parts, cables and connectors, brackets and BII . . . .

ALL OF IT... MAN!