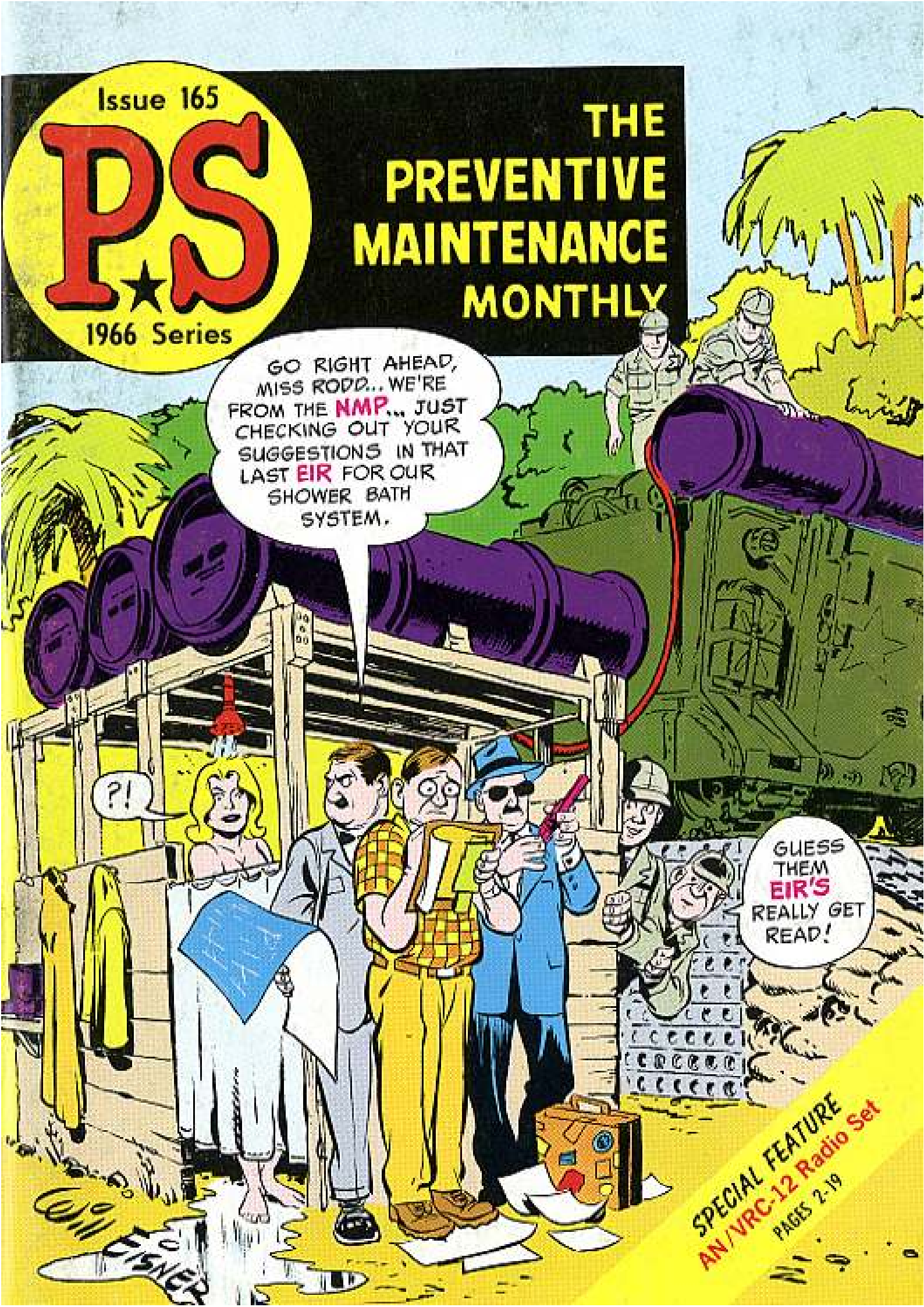
Issue 165
PS
1966 Series
THE PREVENTIVE MAINTENANCE MONTHLY
GO RIGHT AHEAD, MISS RODD... WE'RE FROM THE NMP... JUST CHECKING OUT YOUR SUGGESTIONS IN THAT LAST EIR FOR OUR SHOWER BATH SYSTEM.
?!
GUESS THEM EIR'S REALLY GET READ!
SPECIAL FEATURE
AN/VRC-12 Radio Set
PAGES 2-19

YOU AND THE SUPPLY SYSTEM

Every repair part or assembly you get thru supply is not new, fresh out of the factory.

Lots of 'em have been used, checked out, overhauled or otherwise fixed and put back in the supply channels. This is especially true of real expensive items on aircraft, missile systems and heavy equipment.

You turn in a repairable or recoverable defective part or assembly to your direct support unit, and they'll issue a good one. DS checks out the bad one and fixes it if they can.

If not, the item goes right along to the next level of maintenance and supply, the general support outfit. GS has more of the tools and parts that're needed to put the piece back in A-1 shape. (Some items go all the way to depot to be fixed.) When they get it in tip-top shape, they put it back on the supply shelf where it'll be ready when you (or your buddies in another outfit) need it.

So—what's in all this for you?

Just this—you have a real important part in keeping the supply system working. The defective parts and assemblies that you have parked on the shelf collecting dust don't do anybody any good.

Move them along . . . and one fine day they'll come back your way when you're really hurting for them.

Keep the defective parts and assemblies moving . . . it'll help you keep your fighting gear ready to go.

PS

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THE PREVENTIVE MAINTENANCE MONTHLY
Issue No. 165 1966 Series

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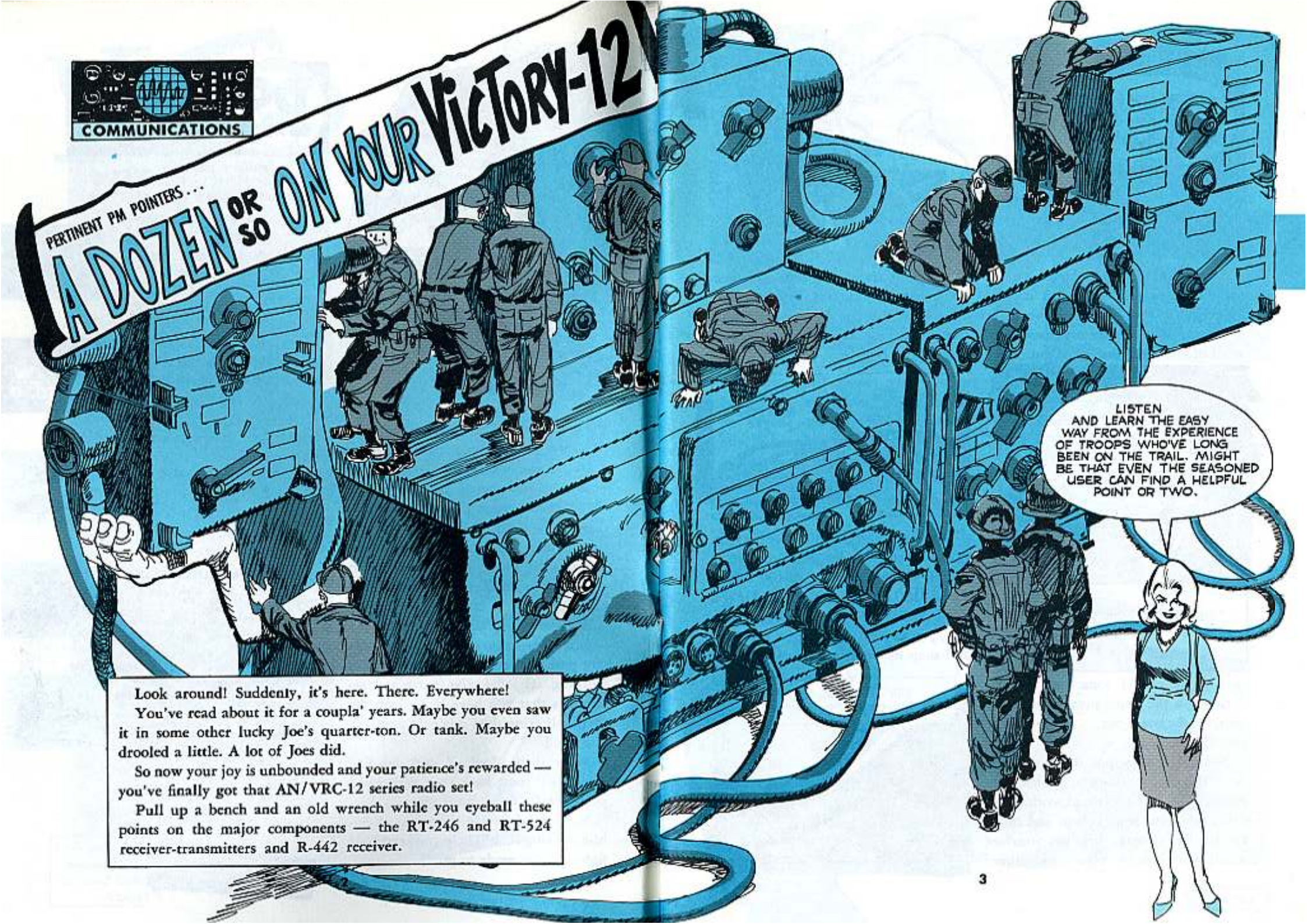


Look around! Suddenly, it's here. There. Everywhere!

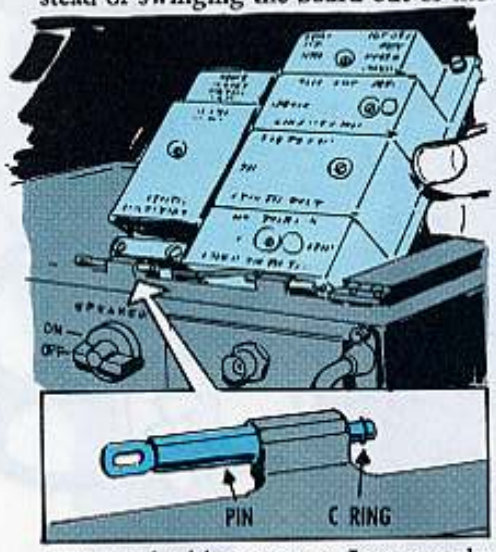
You've read about it for a coupla' years. Maybe you even saw it in some other lucky Joe's quarter-ton. Or tank. Maybe you drooled a little. A lot of Joes did.

So now your joy is unbounded and your patience's rewarded — you've finally got that AN/VRC-12 series radio set!

Pull up a bench and an old wrench while you eyeball these points on the major components — the RT-246 and RT-524 receiver-transmitters and R-442 receiver.

MAJOR COMPONENTS

The A8000 module board of the main components boasts a coupla' hinge pins that you should never have to remove — despite the temptation. Instead of swinging the board out of the



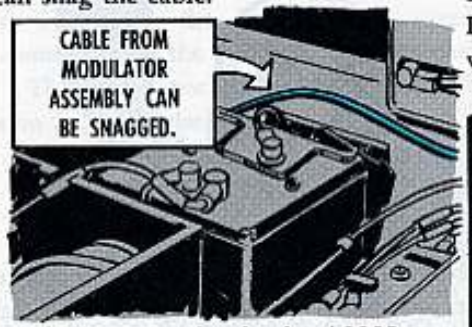
way on the hinges, some Joes pop the C-rings on the hinge pins, remove the pins, lift the board out . . . and lose those tiny C-rings.

Naturally, they put the pins back in without the retainers, which gets deadly. The pins are free to work loose, fall in the gear train below, and cause the kind of damage that has your set waving bye-bye for a good long time.

As a temporary fix (just in case somebody already lost your C-rings) you can loop wire through the eyes of both pins — or wrap fine wire in the C-ring groove and twist it.

While you're eyeballing the innards, stop at that green lead that runs from the FL-401 filter to the A8100 board. The A8100 is on hinges, too, and if you don't position the green cable carefullike, you can break or bruise the cable and snap its connector by snagging it.

Same deal goes for the lead from the modulator assembly. The hinged board can snag the cable.



The K9002 relay in the A9000 assembly can play games with your set by sticking and keeping your transmitter keyed — very undesirable, naturally. Your clue that it's sticking, yep, is a blower motor that won't quit.

A sometime cure is to remove the relay, give it a 180-degree turn (half-way, that is) and replace it. Otherwise, get a new relay.

And, say, when you're waiting that minute or so for the PA tube of your RT-524 or -246 to warm up, don't let the cutting in of the squelch fool you. It's no indication that the PA tube is warm.

If you wait about a half minute after the squelch rushing noise stops, however, the tube should be warm enough to let you key the set.

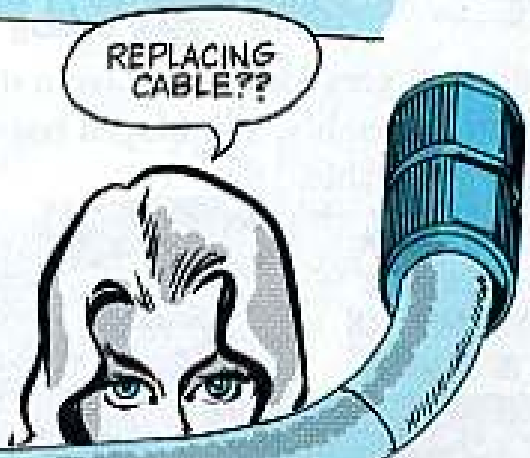
Another indicator that it's warm enough: The call light will stay bright when you key the set. If the call light dims so's you can notice, hold one with the keying. The tube's not warm, and you can make with the short life for some parts.

Watch with the stored gear, the feet or other handy but weighty items when you're around the CX-4722 cable to the ANT CONT receptacle on the panel of the receiver-transmitters. If you abuse that cable you might as well tack a "Going Out Of Business" sign on it.

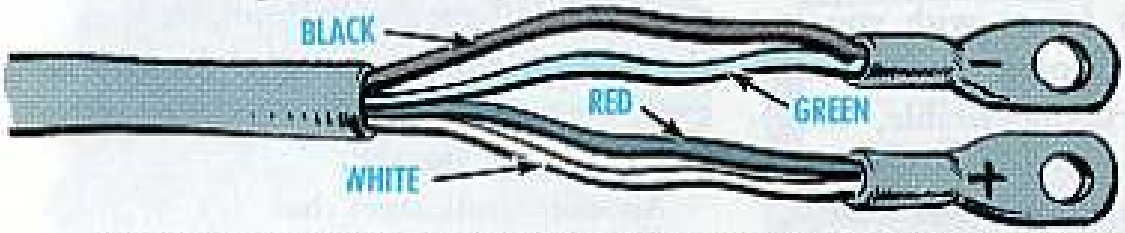
MORE

SPEAKING OF CABLES

If you need a replacement connector for the cable of your audio accessories, forget the U-182 connector. It's been replaced by the U-229/U, FSN 5935-892-9833, which features a spring at the base of the connector instead of the rubber boot.

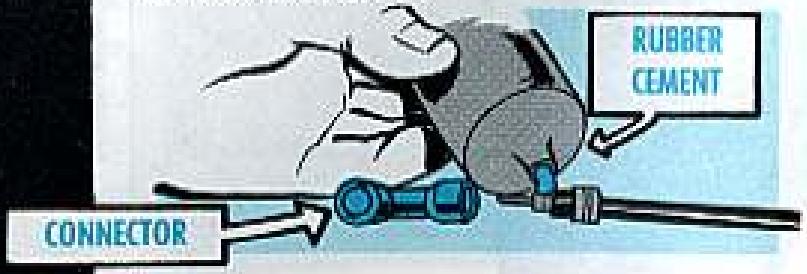


Sticking with cables for awhile, reversing polarity with the CX-4720 power cable can cook the wiring in the mounts and main components—and make the mount receptacles look like you've cooked 'em in a campfire.



The easiest way to avoid the problem is to be sure the terminal lug with the red and white leads goes to the positive (+) post of the vehicle battery and the lug with the black and green wires goes to the negative (−) post. Marking the lugs or leads with positive or negative signs helps considerable.

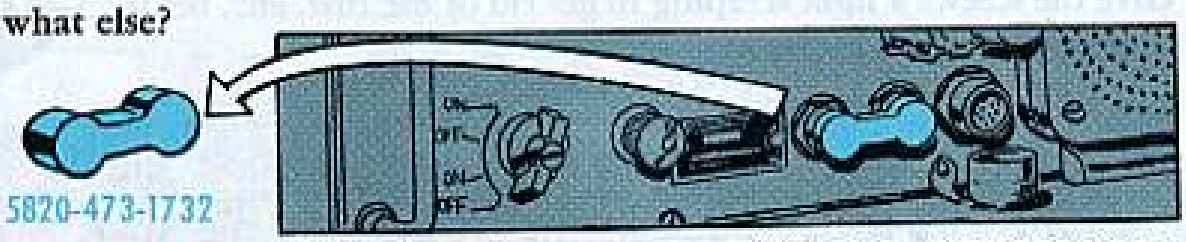
If you accidentally stomp or pull the RF cable lead from the connector head (it comes out easy), scrounge some liquid or plastic rubber and dab it on the end of the cable that goes into the connector. Put the connector back on, and the cable should be as good as or better than the original. Keep the cotton-pickin' gunk off the connector.



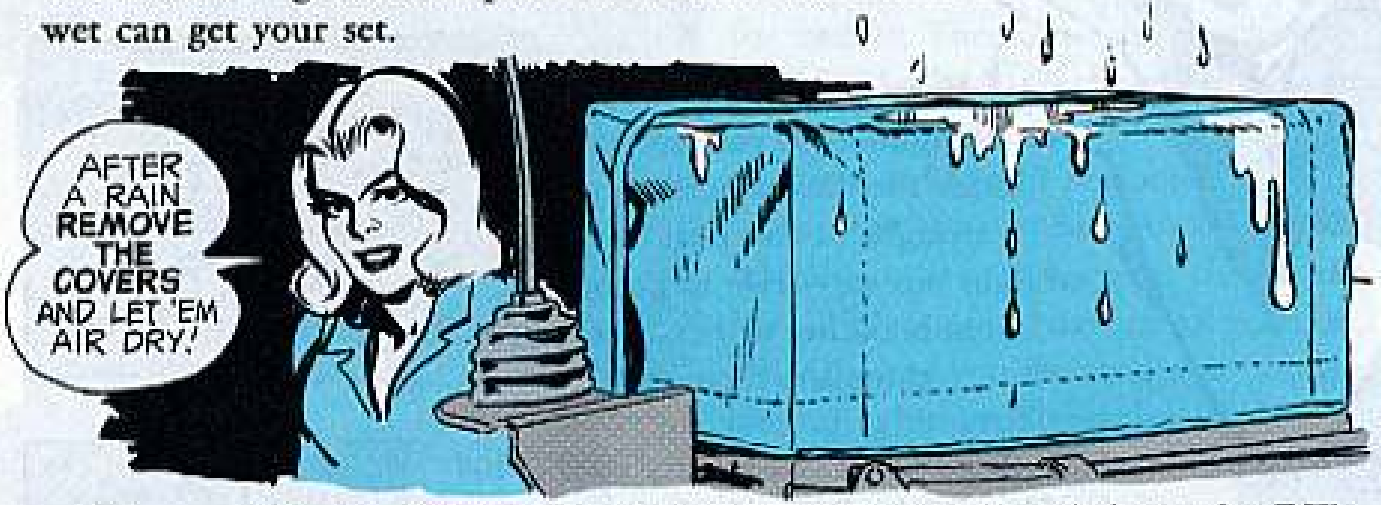
CRPS

Keep your eye peeled for authorization, TB 750-101 EIR Digest (Feb 66), to requisition the RT-505 audio cover, FSN 5820-473-1732, for the audio connectors on the VRC-12 series components.

The covers, not previously available for the -12 components, prevent corrosion . . . what else?



Those protective covers for the main components (CW-653, FSN 5820-082-3741 for the RT's and CW-649, FSN 5820-082-3742 for the R-442) can hold water from a good downpour for several days afterwards. Which means the wet can get your set.



Uh . . . hold one, Harry, with that VOLUME control switch on the RT's. Maybe the volume knob turns off your pocket portable or table model radio, but it "ain't necessarily so" here. Too much twisting trying to turn your set off with the volume knob can put your volume control out of action.

To turn the set off use the POWER switch — just above and to the right of the VOLUME knob.

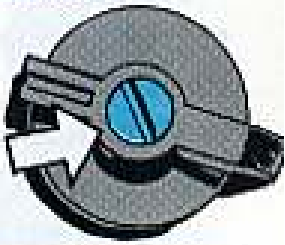
Talking about precaution, in case you didn't know it your support can now get you a protective nut that fits your antenna jack like a glove. It's guaranteed to cut down considerably on busted jacks.

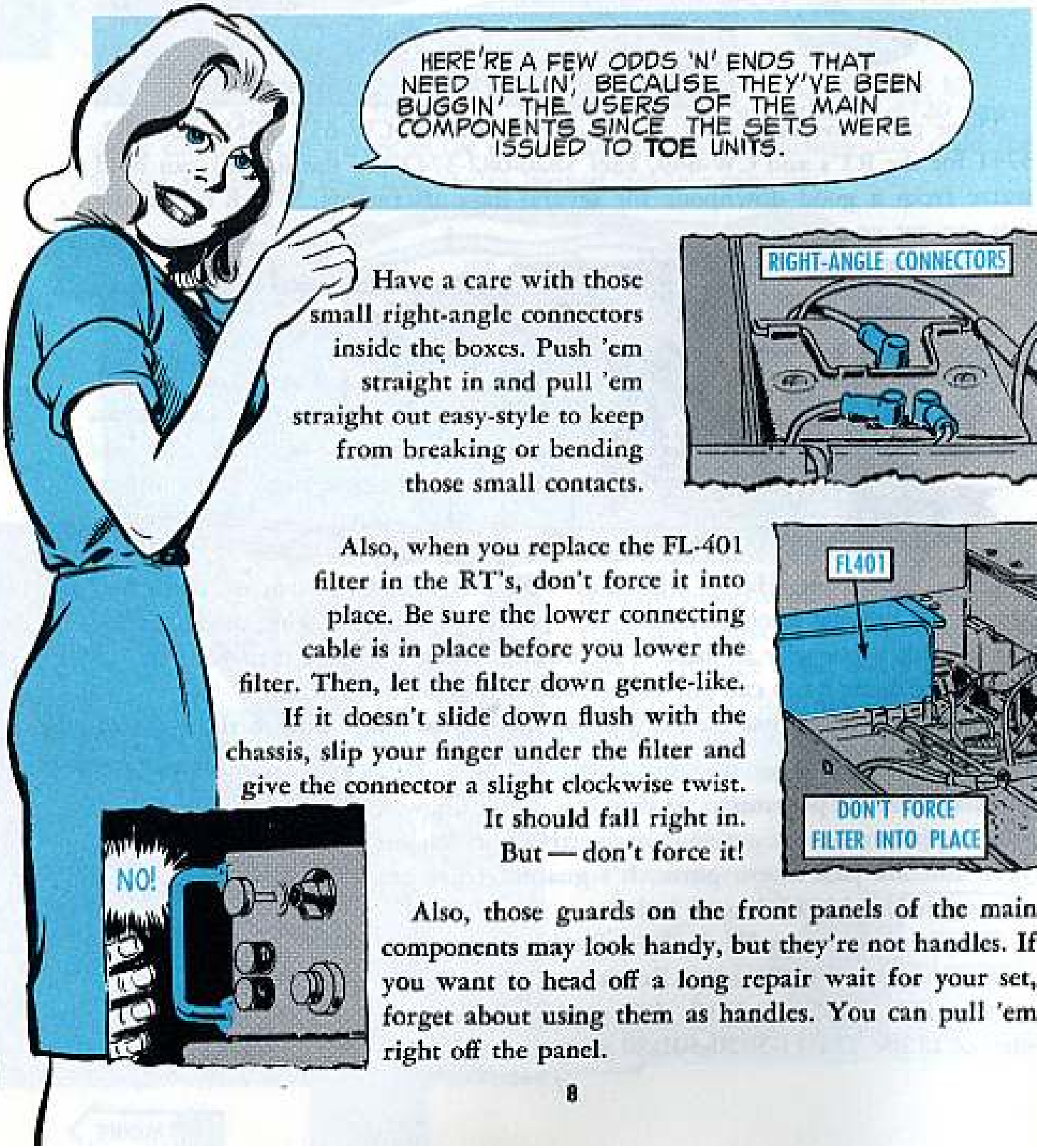
There's plenty room for the RF cable connector.

The nut goes by: Bushing, Retainer, Electrical Connector, FSN 5935-760-3219. It's getting listed in a change to the TM 11-5820-401-20 parts list.

MORE

If the screws that fasten the switches and knobs of the components are rusting or corroding, you can pretty 'em up with clear fingernail polish (you can scrounge it almost anywhere). Give the screws a light scraping to get rid of the rust, etc., before putting the polish to 'em.





Have a care with those small right-angle connectors inside the boxes. Push 'em straight in and pull 'em straight out easy-style to keep from breaking or bending those small contacts.

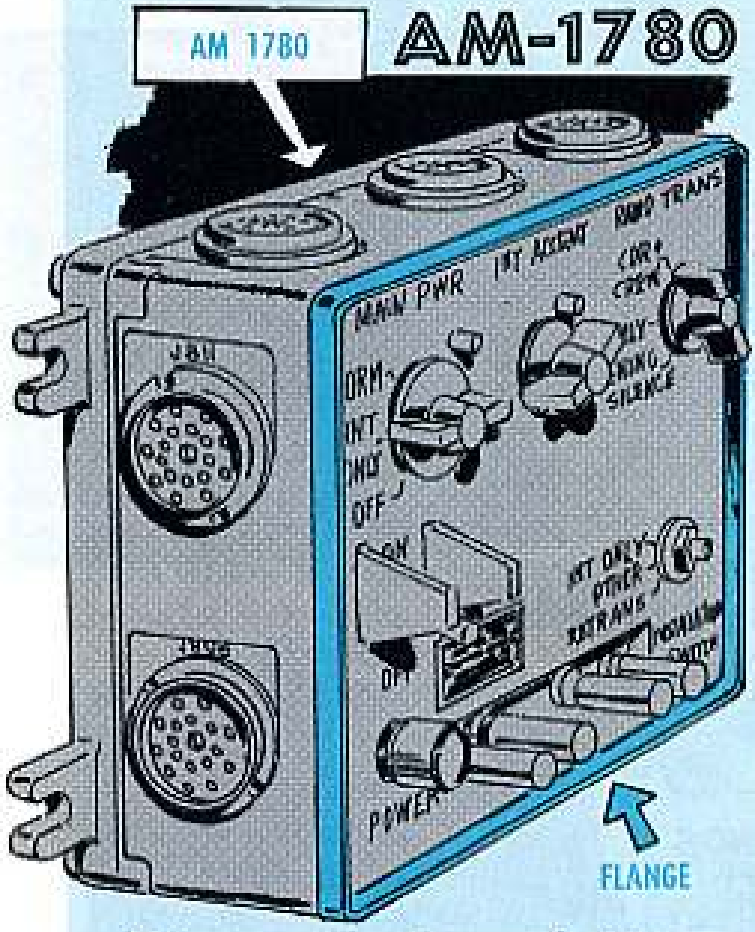
Also, when you replace the FL-401 filter in the RT's, don't force it into place. Be sure the lower connecting cable is in place before you lower the filter. Then, let the filter down gentle-like. If it doesn't slide down flush with the chassis, slip your finger under the filter and give the connector a slight clockwise twist. It should fall right in. But — don't force it!

Also, those guards on the front panels of the main components may look handy, but they're not handles. If you want to head off a long repair wait for your set, forget about using them as handles. You can pull 'em right off the panel.

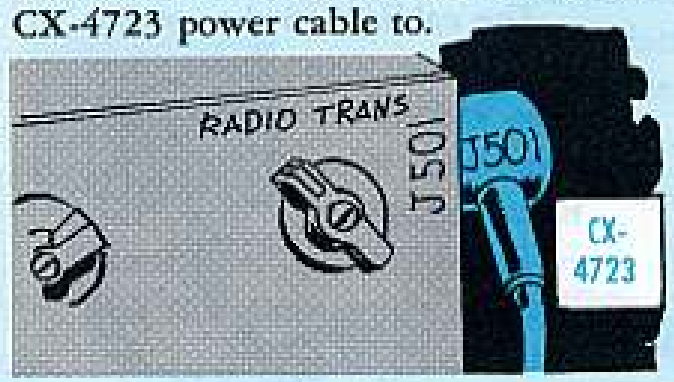
MINOR COMPONENTS

'Bout the best news for minor components of the -12 series sets is Change 4 (22 Oct 65) to TM 11-5820-401-20. Units which've been hurtin' for the -20P manuals should breathe a deep one over the Functional Parts List in the Change 4, which supersedes 13 parts manuals.

AM-1780 AMPLIFIER



Voltage surge and crossed cable current has been battering the AM-1780 for many moons, but you can help make the days sunny for it by being extra careful which receptacle you attach the CX-4723 power cable to.



The cable, which comes from the mount, attaches to the J501 receptacle of the amplifier—only. Try putting it to the other receptacles and you might's well forget about using the amplifier for awhile. There's a cable marker kit, FSN 5975-918-8164, from Sacramento Army Depot specifically for marking the right cable and receptacle.

Another way to prevent crossed-up cable damage is to keep the link in the MT-1029 mount in the remote position. PS 160 gives you the long story on the crossed cable problem.

Also, there's a protective collar out for the amplifier early models that goes by FSN 5820-070-0733, Flange, Protective Collar Bracket. It makes a solid collar (no snag edges) around the AM-1780 to protect switches and knobs. Late model amplifiers have a built-in flange.

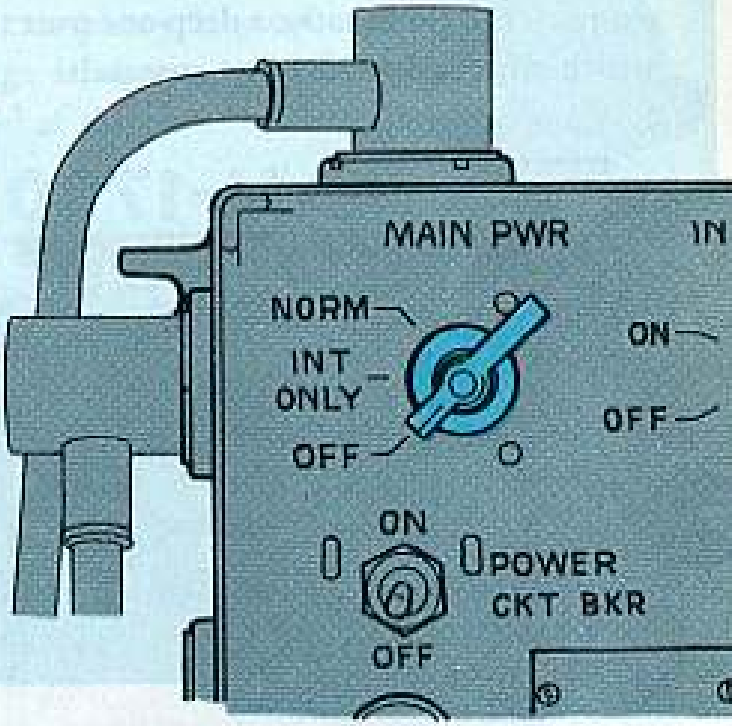
To keep your binding posts from getting you in a bind, have a care that nobody uses them as leaning posts. And, when you're connecting or disconnecting the field wire leads, don't try to shove the posts through the rear of the amplifier. They break. A little straight-in pressure will do the job.

MORE

Uh, next time you lose interphone capability, try a coupla' shortcuts before you suspect the A520 assembly in your AM-1780. Like, suspect your CX-4723 cables . . . especially those coming off the receptacles of the amplifier.

Your trouble may just be a loose connection or a broken or bruised cable. A multimeter (like the AN/URM-105) will tell you quick-like whether you've got a broken circuit. It could save the time and trouble of replacing an A520.

Finally, turning power off at the AM-1780 as well as the RT before starting or stopping vehicles is a "best" protection for the amplifier. To be double sure your amplifier's getting the protection it needs, you might double check that it has it's MWO 11-5820-401-35/1 (Jun 65) label on it. If it doesn't, get your support to apply the MWO. It's added insurance against damage from voltage surge, or spikes.



The cabling on the combat vehicle crewman's helmet has been modified, improved and otherwise worried over for beaucoup months now, but temptation and accidents (mostly temptation) still bug that bundle of wiring.

The temptation is to carry the helmet by the cable, which is about the same as thinking it's OK to sit on an egg since you've got the shell between you.

In other words, the cable may look sturdy, but if you flex it or stretch it with the weight of the helmet, the wiring breaks. In the trade the wiring used in the cable is "tinsel cord," if that suggests anything to you.

If you need a quick clamp for the cable, perforated clamp strap FSN 5820-783-9035, which comes as part of the vehicle radio installation kits, makes a mighty fine sub. It's wider and more flexible than the hard plastic clamp that was made for the CVC cable.

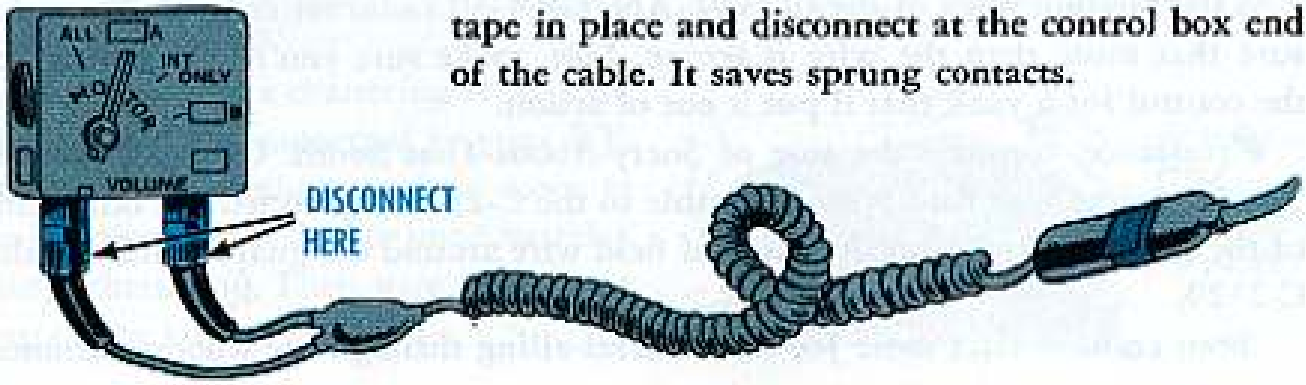
Just double it over, slip the screw through the ready-made perforations —and save a few cables.

Contacts on the quick-disconnect of the cable are a problem because they spread or pull apart faster than hot lead rolls off stainless steel.

You can keep the connector in action indefinitely by slapping a piece of green tape or such at the junction of the connector and receptacle.

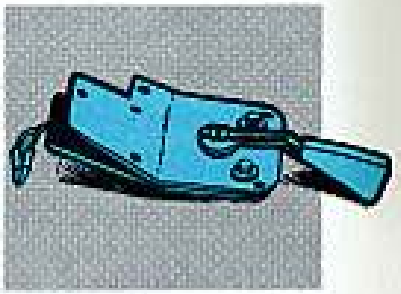
You can still make a fast disconnect—and the tape will separate without strangling you if you should snag it—but you've got insurance against a bad connection during normal use.

To insure a good connection, you can leave the tape in place and disconnect at the control box end of the cable. It saves sprung contacts.

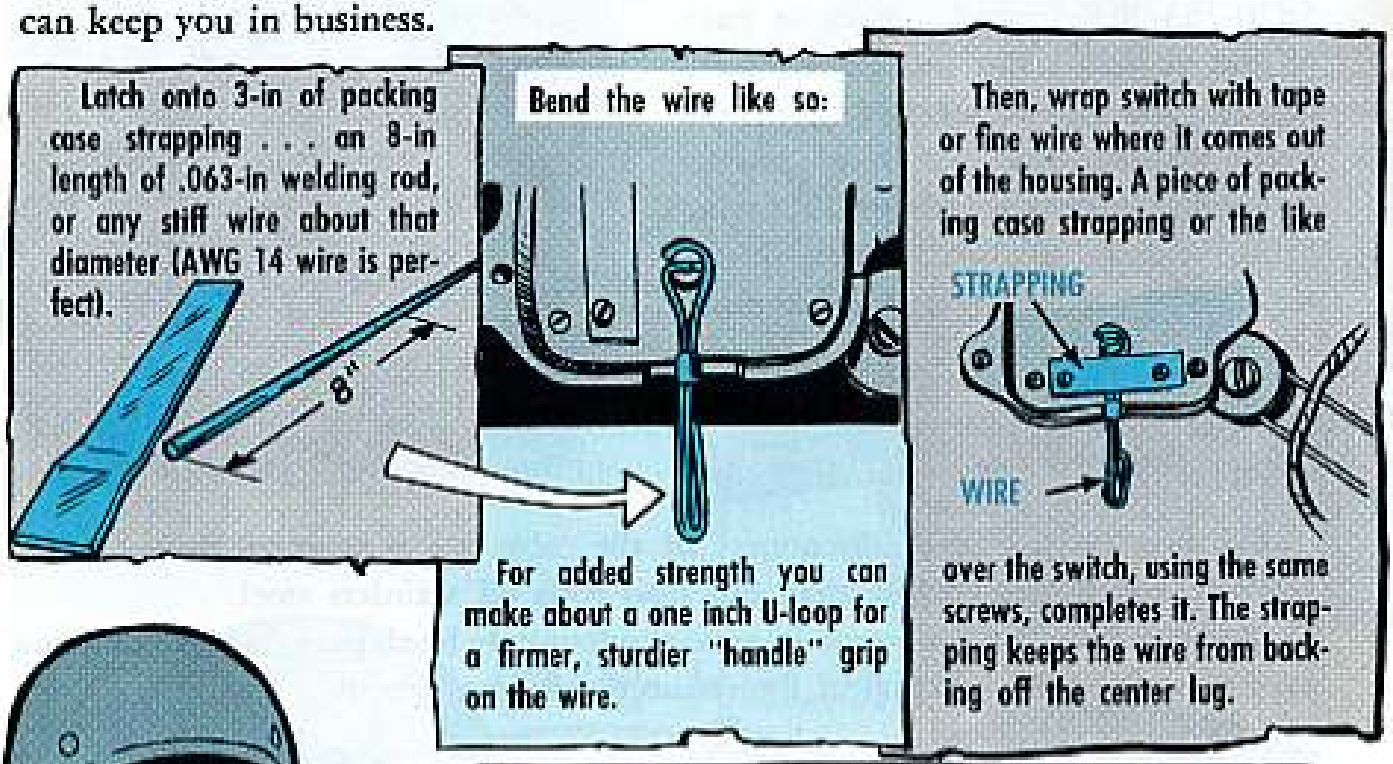


MORE

If you've been sweating out the problem of a toggle switch for the CVC helmet accessories, sweat no more. There's one going in the system for the MK-525 and -526 headset-microphone kits, to be used with Standard A, FM equipment. The new one goes by Switch Lever Assembly, FSN 5965-919-1336. It will be added to TM 11-5965-235-25P (Dec 64).



Meanwhile, if you're in a bind because of a busted toggle, a few minutes work can keep you in business.



F'rinstance, the cord that clamps to the rear of the helmet, the CX-8655, is FSN 5995-064-5164. The lower retractile cord, CX-8650, is listed under FSN 5995-858-5692.

RADIO SET CONTROL GROUP

Next time you're about to secure the WD-1 field wire after you've attached it to the binding posts of the C-2329, AN/GRA-39 radio set control group, be sure that more than the wire is secure. Like, make sure you're not setting up the control for a yank that'll put it out of action.

F'rinstance, consider the case of Sorry-About-That Smith. Ol' Sorry-About-That connected his field wire and cable to the C-2329, connected the other end of the cable . . . and looped a hitch of field wire around the guard handle of the C-2329.

'Bout an hour later some Joe came barrel-alling through the woods, slammed

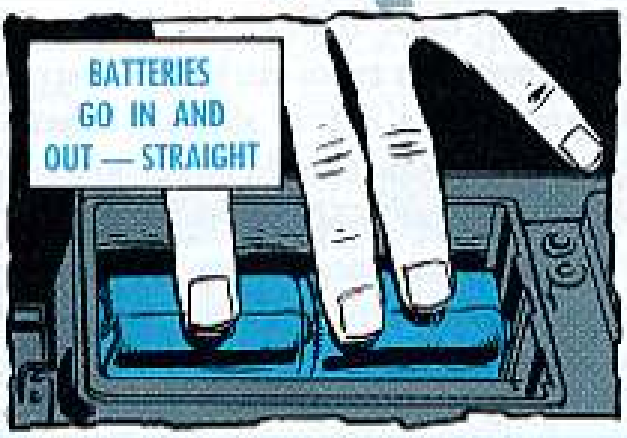
full tilt into the field wire, which pulled taut at the control, and yanked the C-2329 clear off the top of the radio set.

That wouldna' been so bad, but in order to get off the radio, the C-2329 had to pull it's connecting cable out by the roots. That didn't help communications. Naturally, ol' Sorry-About-That was sorry about that, but . . .

If you want to take the field wire strain off the control's binding posts, loop the wire around some stationary object, like a tree or even the vehicle. That way, if somebody trips over the wire, or pulls it, you won't have to worry about the C-2329 flying into space. You might break some WD-1, but the connecting cable and control are a lot harder to repair.

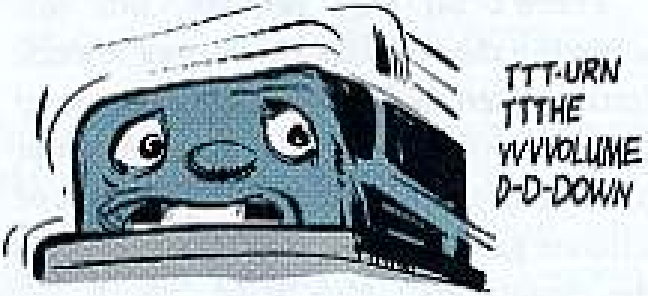
Coupla' other points on the GRA-39:

1. Easy does it when you remove or install the batteries in the control units. Those solid springs are strong enough to keep plenty of tension on the BA 30's, but if you abuse them accidentally, they can break off. Slip the batteries straight out. And, it takes a minimum pressure to get 'em back in.



2. If you've been sweating over replacing the binding post covers, sweat no more. They go by FSN 5940-254-2244, and you can find 'em in TM 11-5820-477-20P.

3. If you get a chattering relay after the GRA-39 is connected to your RT, turn the RT's volume control down to mid-point or lower . . . or until the relay stops chattering. Then, turn the volume up on the GRA-39 control.



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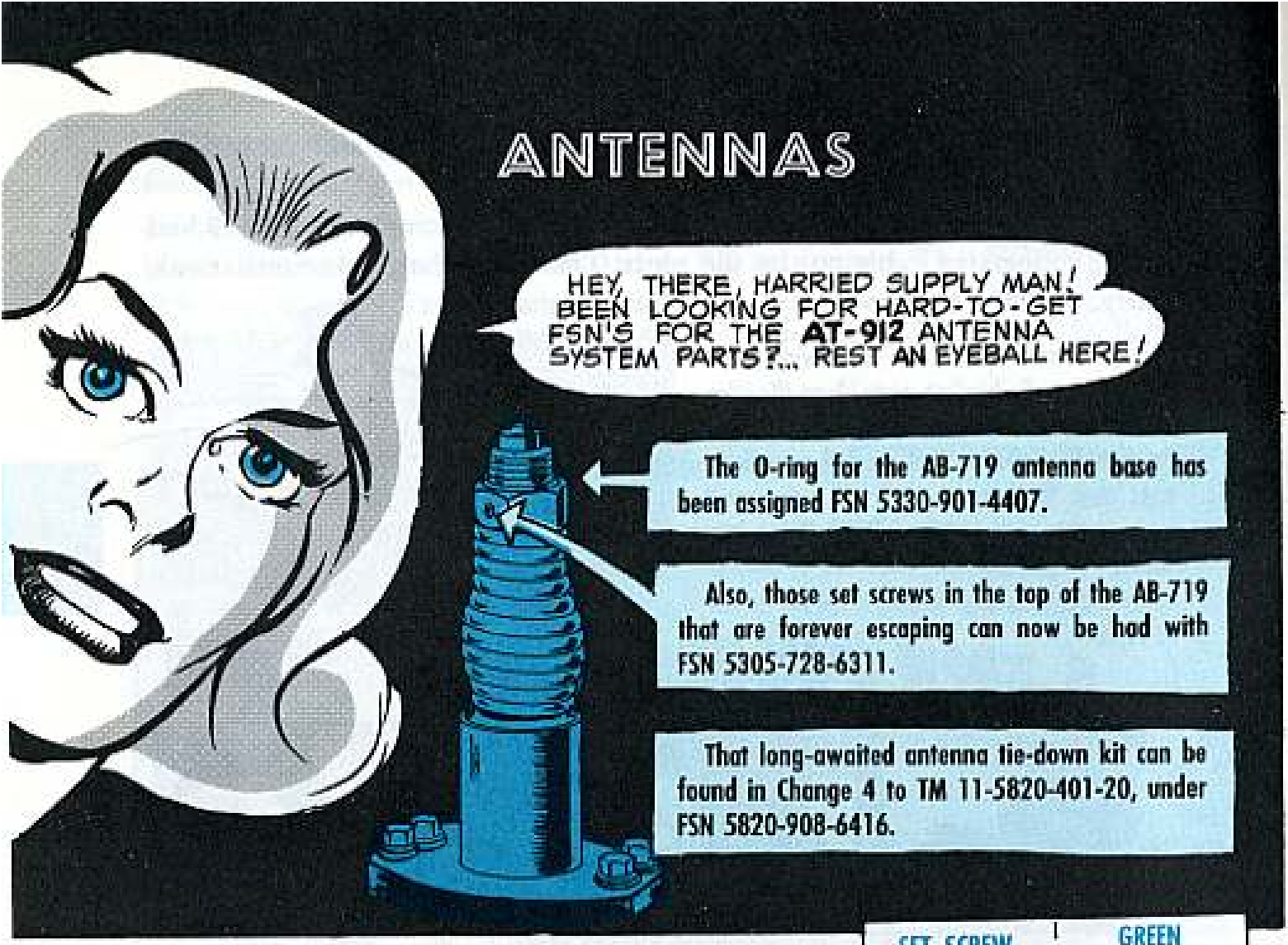
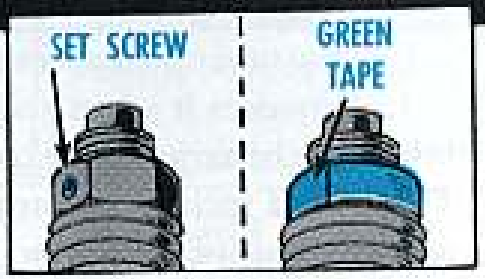
ANTENNAS



Back to those AB-719 set screws, though.

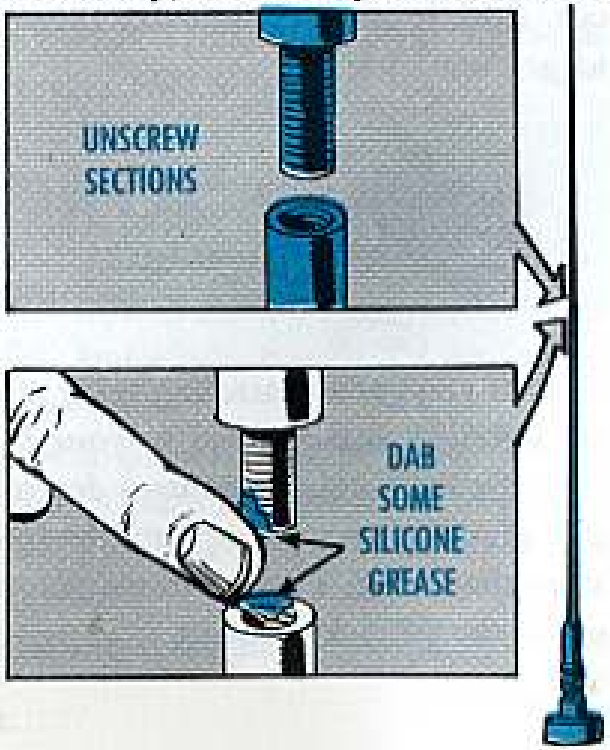
Maintenance types can keep the screws from backing out with a dab of shellac, fingernail polish, or "purple passion" (otherwise known as Varnish, cement, purple, FSN 5970-162-7523, one pint).



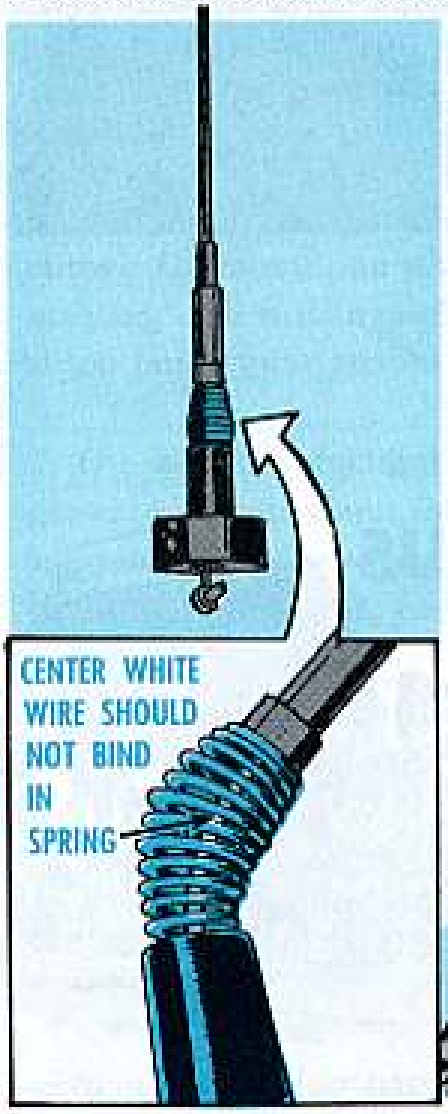
Another temporary way to keep your busy supply guy less busy is to slap a piece of green tape or such over the screws. That way, even if they do come loose, you won't lose them.

If your AT-1095 and AT-1096 antenna sections have you cussing, about the easiest fix you can get is sympathy. Like, it's natural for that material to bind, even when it's together only a short time.

There's no easy remedy, but unscrewing the sections about once a week (more often in damp areas) can help considerable to keep the sections from marrying up permanent-like. A dab of silicone grease, FSN 5970-224-5277, on the mating ends also helps.



Another item that chafes and bites is the co-ax lead through the spring on the AB-719 antenna base. Often, when the spring snaps the antenna sections up, it bites or rubs the co-ax lead . . . which doesn't do much for your RF output.



It's a good idea to check the lead occasionally by bending the spring. You also might look for dry rot. Naturally, if the lead looks bad, it has to be replaced with FSN 5995-813-8371, a support job.

The lead that goes through the base of the new AS-1729/VRC antenna has a protective sheath over it, so it shouldn't be much trouble. In case you haven't heard, the AS-1729 (FSN 5985-985-9024) will replace the AT-912, and matching unit MX-2799 will be replaced with the MX-6707.

However, forget about rushing your requisition through. The new units will come with new AN/VRC-12 series sets. AT-912's in the field will be replaced by attrition. When you need a new antenna, you'll get the AS-1729. Any new AT-912's still in the supply system will be distributed before the AS-1729's. Both antennas are covered on parts and operation in Changes 4 to TM 11-5820-401-10 and -20.

MX-2799 MATCHING UNIT

Didja' ever have trouble switching from high to low band, or low to high, and right away suspect the matching unit?

Some repair-types do, and the first thing they head for is the circuit cards in the MX-2799. Better you should never touch them, señor.

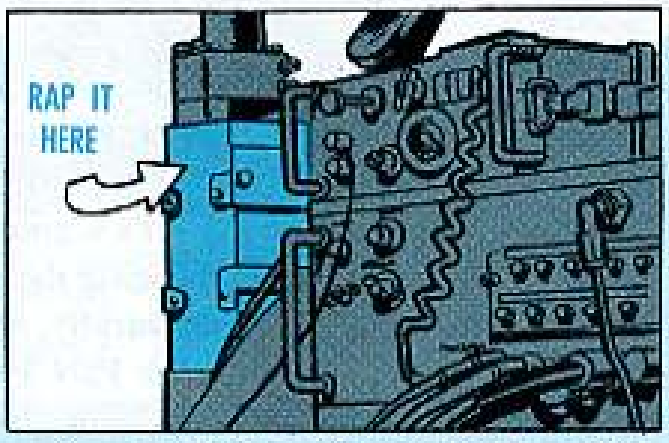
First off, chances are a bettin' man's dream that the matching unit's not causing your high-low band problems.

More likely, the problem is in your RT's or receiver, which you should check out or have checked. And, usually, if your problem is good output on high band but none on low, you've got a direct support repair job.

P5 MORE

Many users in the field have found that the longer you keep that MX-2799 closed tight, the least trouble you have with it and the longer it works.

Playing with those circuit cards is like betting your month's pay against a full house—when you're holding two pair. You always lose.



There is one bug for users in cold areas, though. If the unit stands idle awhile, it can get sluggish. The cure is not tearing it apart, though. If it does get sluggish, or maybe even frozen, you may have to take it off the vehicle and out of the cold until it thaws.

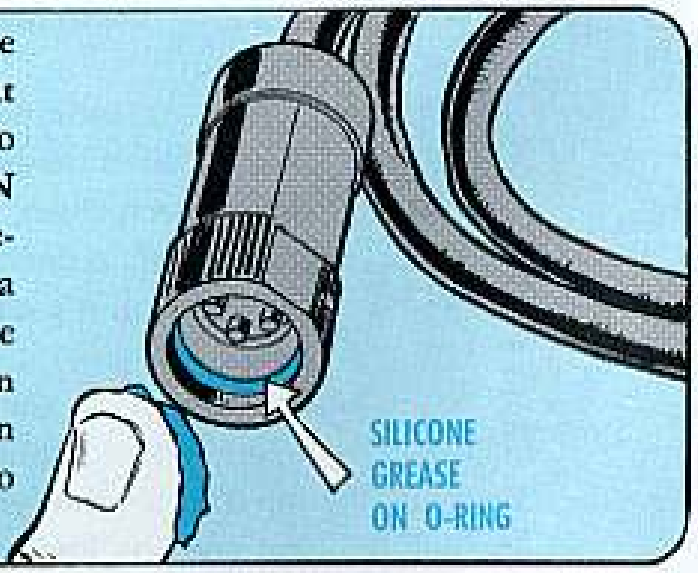
Sometimes, a slight tap on the case will get it working right for you.

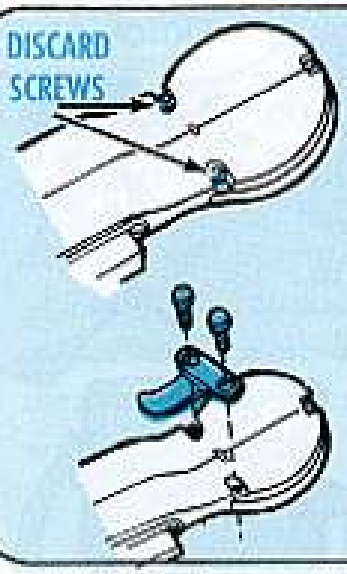
MISCELLANEOUS

If you've traveled the long trail for some kind of parts pub on audio accessories, dismount and breathe easy.

They've been hard to come by in some areas, but you can get TM 11-5965-257-15 (Feb 66), with functional parts list, for the H-138 handset and TM 11-5965-265-13P (Sep 62) for the M-80 microphone.

Hold one while the focus is on the H-138, M-80: That elusive O-ring that fits in the U-182 connector of the audio equipment has been assigned FSN 5330-905-6032. It'll be added to revised parts manuals. When you get a replacement, or when you use those you've got, a dab of silicone grease on the O-ring, or even a wet finger, can get it to slide on receptacles with no sweat.



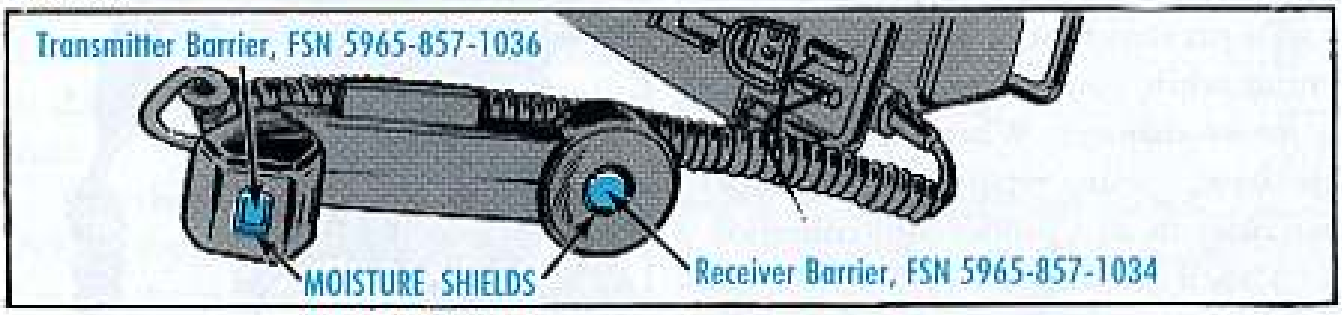


SB 11-603 dated (4 Apr 66) authorizes a belt clip for the H-138 similar to that on the TA-1 telephone. The clip and some heavy-duty moisture barriers (receiver and transmitter shields) will go in a revised TM 11-5965-257-15 on the handset.

The clip goes by Clip, Spring Tension, FSN 5340-999-28z0. The FSN includes two mounting screws, a star washer and installation instructions.

The handset will require no modification. All you do is remove two receiver screws, discard them, and install the clip with the longer screws that come with it.

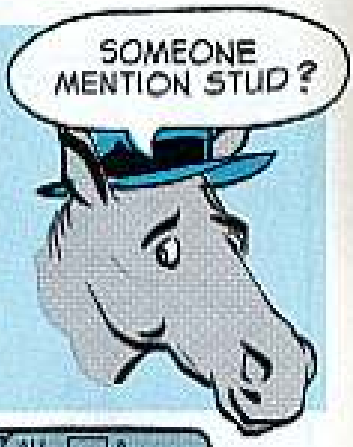
The moisture shields on the H-138 have been replaced because of less than glowing reports about them under combat conditions in Viet Nam. Tougher, superior shields now come 10 to a package. Since stocks of the other shields are just about exhausted, you can get the new ones with the same FSN right now, like so:



If you've been trying to run down a ground strap for the MT-1029 or MT-1898 mounts, the news is not quite so easy on you. Your support has to make them up. Considering that support gets mighty busy on occasion, it could be money in the bank to take care of the ones you have.

MORE

Put away your bolt stretchers and antenna mount shrinkers, men. Those of you who have VRC-12 series configurations that need antennas mounted on the spare tires of the M38 or M151 quarter-tons will be delighted to hear that FSN 5305-082-6940 now gets you a 5-in stud with enough extra threads to let you mount the antenna on the spare tire lugs.

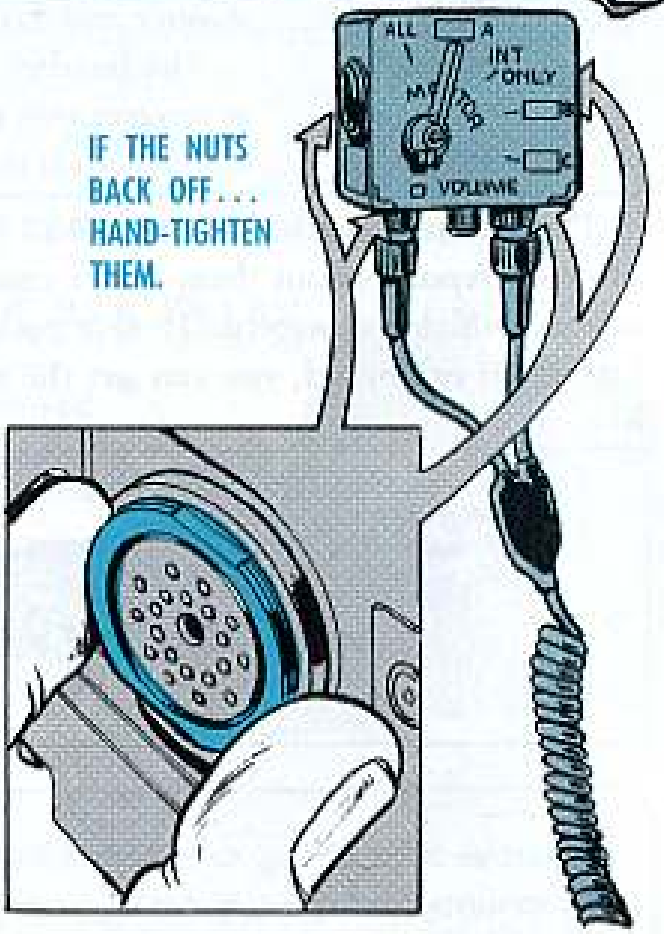


Talking about vehicles and hard rides, next time you jockey your vehicle and radio set over rough terrain, slip a finger to the spanner nuts that bracket the control box receptacles—especially on the C-2298.

If the nuts back off, the receptacle wiring inside the boxes can shear off.

To prevent that, a little hand-tightening while you're underway can save a lot of damage. When you get back to base, your repairman's spanner wrench can do a proper tightening job.

Also, if the nut backs off a little, you might have a problem getting a connector on the receptacle. In which case you've got a number one clue that it needs tightening.

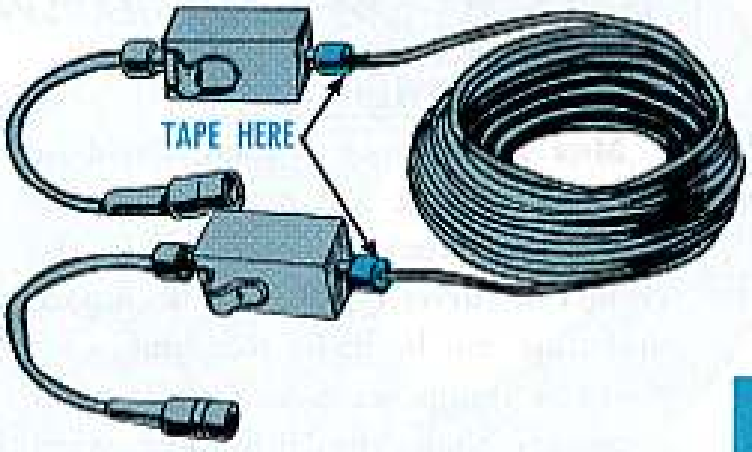


Incidentally, you may have been trying to get a late model H-161 headset-chestset. If so, try FSN 5965-082-4037. It'll get you the H-161A and H-161B.

FSN 5965-825-4871 was for the plain model. The new FSN and the O-ring FSN for the U-182 connector will be added to the H-161's parts list.

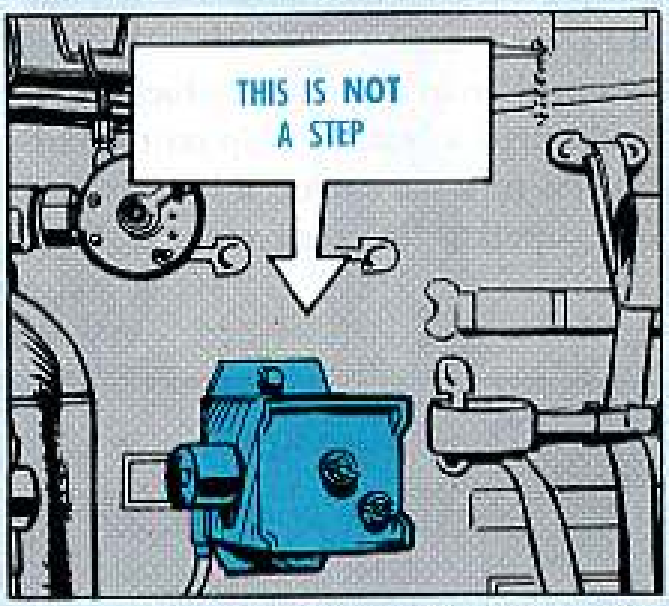
The connector of your MK-456/G retransmission cable should be protected against rain and moisture since it's not waterproof. Some insulating tape around the connector will keep it dry . . . and operating.

Early production retransmission cables break pretty easily at the connector, so you've got to be extra careful with 'em.



ODDS 'N' ENDS

When climbing into or out of tracked vehicles, resist the temptation to use the radio set's control boxes as steps. Your foot can slip and shear off control knobs or cables . . . and in general make it downright impractical to communicate.

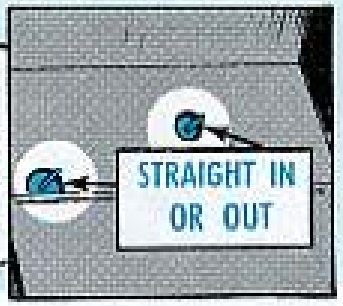


Whether using OLD squelch or NEW, there's a quick test that'll clue you to keep your squelch ON to cut noise—and still be sure another station can trip your squelch. (Naturally, you're in OLD squelch position if you're netting with standardized sets such as AN/GRC-3 series, ARC-44, etc.)

Set your receiver squelch to OFF and have another station send a short test transmission. While the other station's transmitting, set your squelch to ON. If your squelch trips on each test (it's tripping if the call light goes on and your mike or headset squawks), you can leave the squelch in ON position. However, be sure all stations in your net can trip your squelch. Otherwise, leave it OFF.

And, if one or more stations in your net is on the move, leave the squelch OFF. When all stations are roosting, try the test and keep your squelch ON if it trips.

One final caution on modules: The contact pins bend and break easily, so replace or remove them straight in and out. If they're positioned right, you shouldn't have to force them.



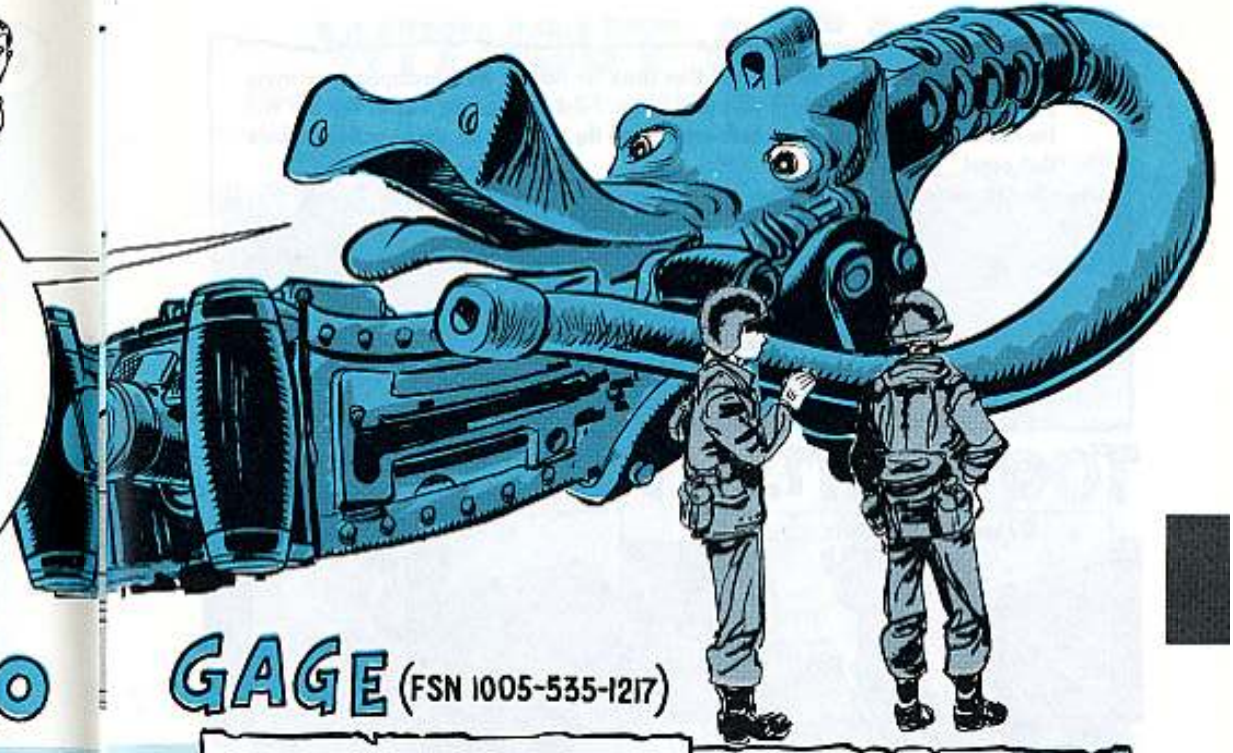
END

HEADSPACING AND TIMING . . .

HOW TO'S FOR ALL M2's

Mox nix if your spade-gripped or modified .50-cal M2 machine gun is tripod- or truck-mounted or is the cupola or turret type—you headspace and time 'em basically the same way. And few things are more important to a gunner than knowing these ways inside out.

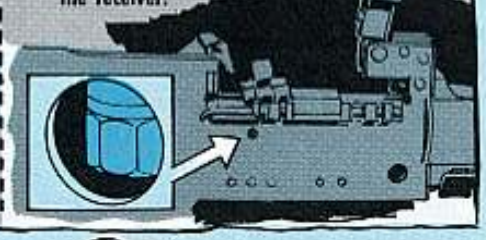
Normally, you can do the headspacing bit by your lonesome if your M2's on a tripod or truck or is dismounted from a combat vehicle. But, you'll need a buddy's help on the outside (to turn the barrel) if it's installed in a cupola or turret or tank.



WITH GO-NOGO GAGE (FSN 1005-535-1217)

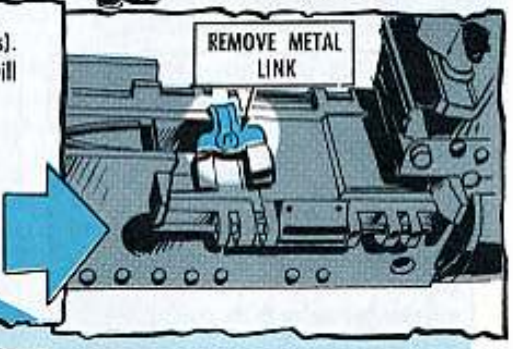
1. Raise the cover and pull (or push) the retracting slide handle or pull the charger handle back . . .

. . . till the barrel locking-spring lug is centered in the ⅜-in hole in the side of the receiver.

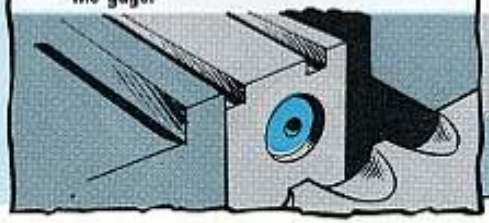


2. Hold the bolt right there—either by inserting a cal-50 metal link between the trunnion block and the barrel extension or by getting your buddy to hold the handle for you—and then screw the barrel all the way into the barrel extension.

3. Unscrew the barrel two notches (clicks). Remove the metal link so the bolt will close.



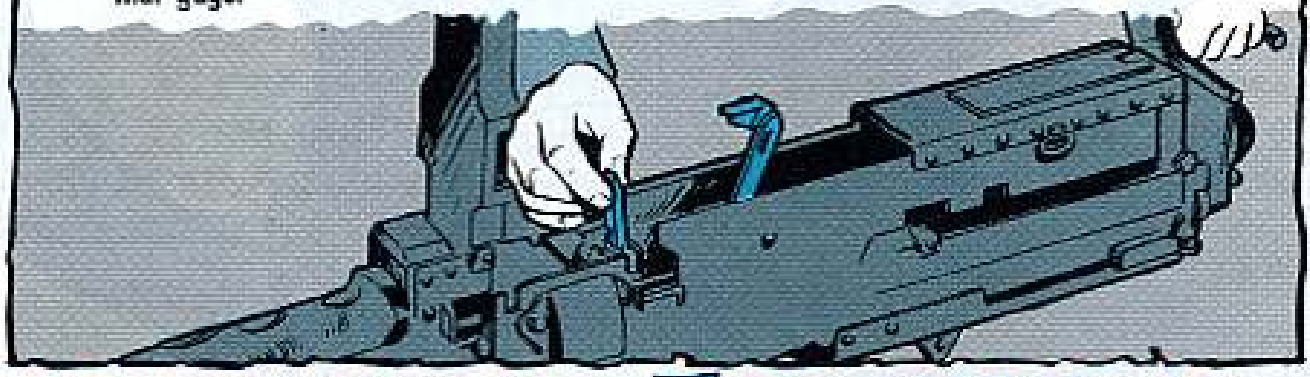
4. Next, cock the weapon to make sure the firing pin's not sticking through the face of the bolt where it'd get in the way of the gage.



5. Now pull the retracting or charger handle back far enough to separate the barrel extension from the trunnion block by about 1/16-in.

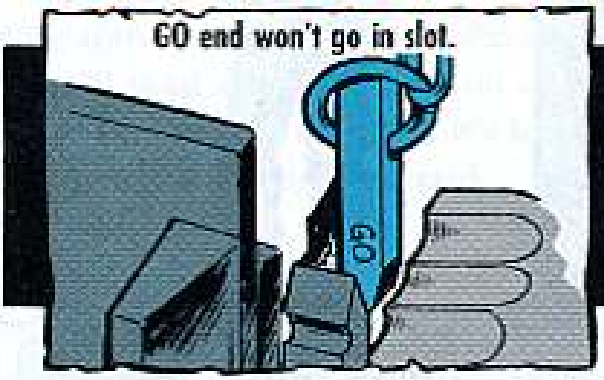
MORE

6. Raise the extractor out of the way and then check for tight or loose headspacing by trying both the GO and NO-GO ends of your gage in the T-slot between the face of the bolt and the rear end of the barrel. Make both entries from the center of the slot — and never force that gage!

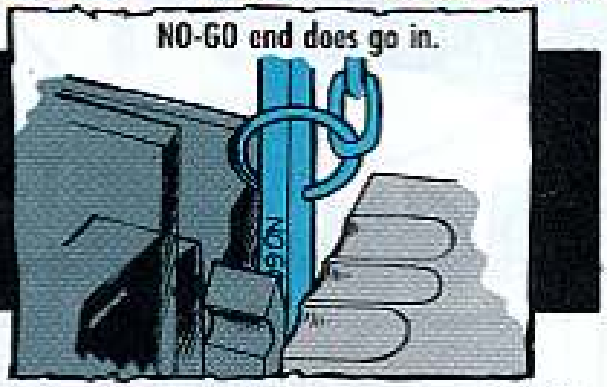


TOO TIGHT... TOO LOOSE...

GO end won't go in slot.



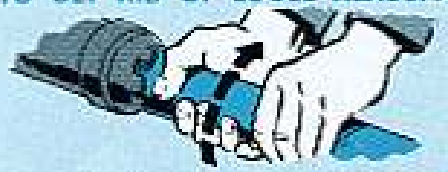
NO-GO end does go in.



TO GET RID OF TIGHT HEADSPACE:

Unscrew the barrel one notch (click) at a time, counter clockwise . . . checking with the gage after every click . . . until the GO end will slide in easy up to the dividing ring.

TO GET RID OF LOOSE HEADSPACE:



Screw the barrel one notch (click) at a time, clockwise . . . checking with the gage after every click . . . until the NO-GO won't enter at all.

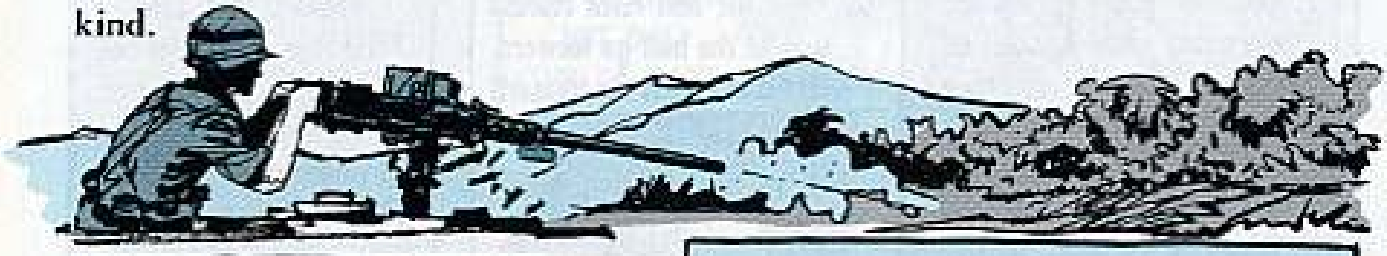
HEAD SPACING HINTS

Don't forget to insert the metal link or retract the handle before each click to line up the locking spring lug with the hole in the side of the receiver . . . so's you'll be able to turn the barrel.

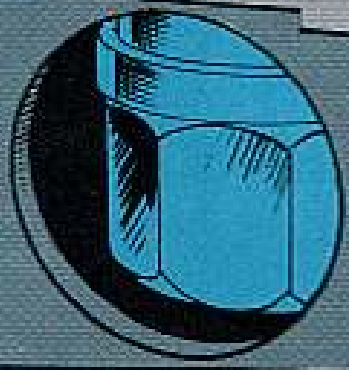
Here's a good tip in case you ever have to gage your headspacing in the dark: File a tiny notch in the GO end of the gage so your fingernail can clue you on using the right end of the gage at the right time.

WITHOUT A GAGE

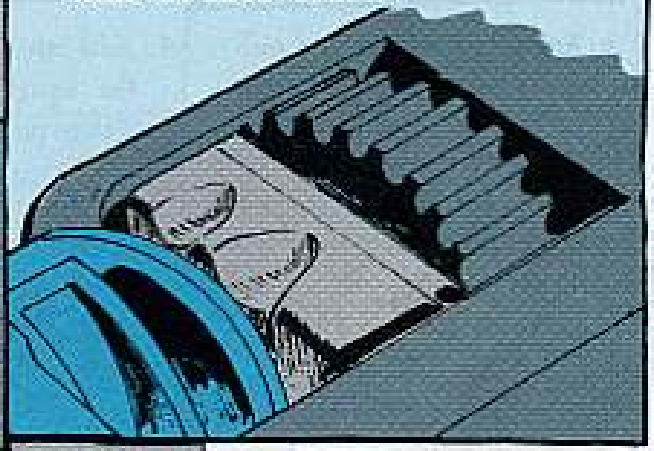
Never headspace without a gage unless you're in a real bind—the combat kind.



1. Raise the cover and pull (or push) the retracting handle or pull the charger handle till the barrel locking-spring lug is centered through the ⅜-in hole in the side of the receiver.



2. Screw the barrel into the barrel extension as far as it'll go. You should be able to see or feel the rear end of the barrel inside the barrel extension.



3. Unscrew the barrel two notches (clicks).

4. Now let the retracting or charger handle go till the recoiling parts are all the way forward in battery.

5. Now test your weapon. It should fire OK.

6. Get the barrel locking-spring lug back front and center.
7. Then unscrew the barrel one more notch (click) — but only one!

TIMING

As soon as you've got the headspacing OK, test your gun's timing. If the timing's too late, the recoiling parts will get damaged. If it's too early, your weapon will fire two rounds and then quit . . . 'cause the extractor won't go far enough forward to pick up the third round.

There're a couple small differences in the way you get set to check the timing on the spade-grip M2's and the modified ones.

MORE

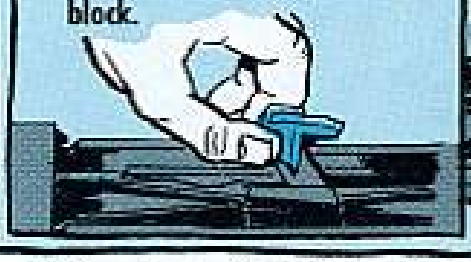
HERE'RE THE DIFFERENCES . . .

ON THE SPADE-GRIPS

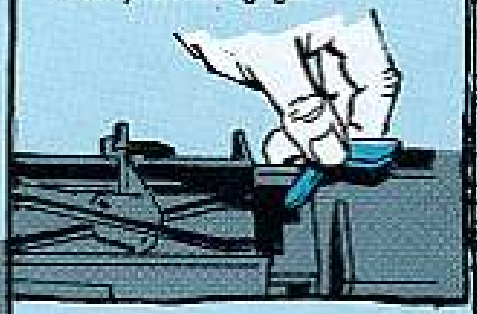
1. Cock the gun and pull the retracting slide handle all the way to the rear and then push it all the way forward.

2. Press the bolt latch release and let the bolt go forward. (But don't press the trigger!)

3. Raise the extractor and pull the retracting slide handle back till the front end of the barrel extension is about 1/16-in from the trunnion block.



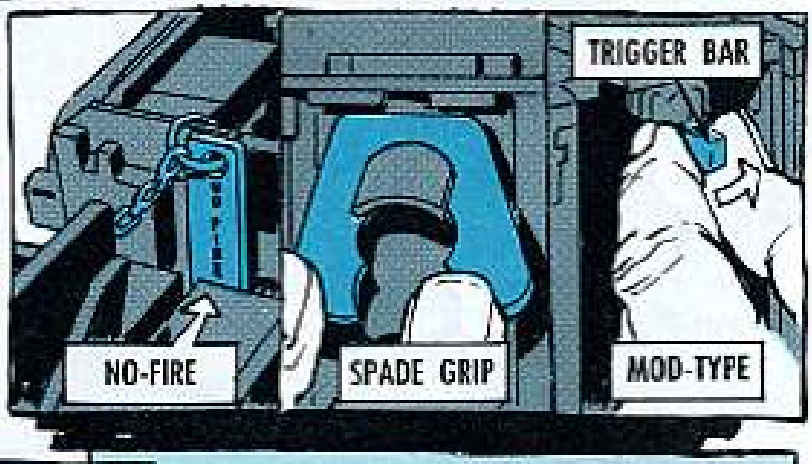
4. Now insert the gage and let the barrel extension close slowly on the gage.



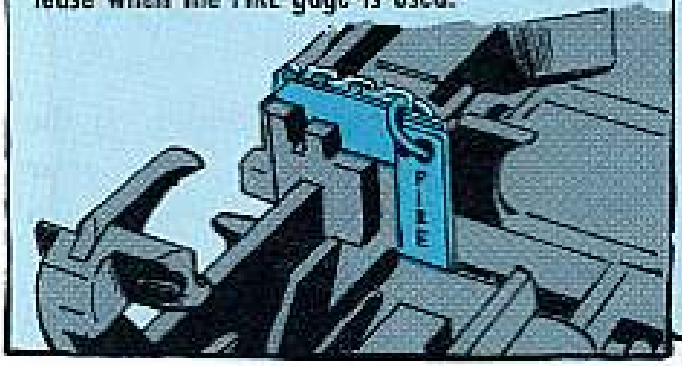
ON MOD-TYPES

Whether you have a hand-firing trigger or not, you simply cock the gun, let it go forward into battery and remove the backplate.

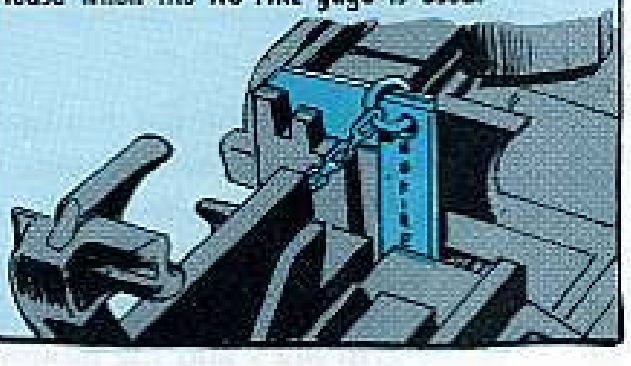
OK, now, in both cases, you're ready to try the FIRE and NO-FIRE gages in the slot between the barrel extension and the trunnion block, depressing the trigger firmly on the spade-grip type and pulling up on the trigger bar on the mod-type, each time.



LATE TIMING . . . The firing pin won't release when the FIRE gage is used.



EARLY TIMING . . . The firing pin does release when the NO-FIRE gage is used.



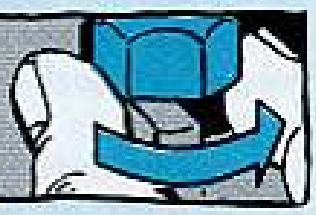
TO CORRECT LATE TIMING

SPADES → REMOVE GAGE & BACK PLATE → TURN ADJUSTING NUT ONE CLICK TO RIGHT

→ REPLACE BACK PLATE & GAGE, PRESS TRIGGER

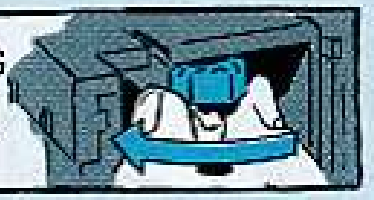
Keep on doing this . . . until the firing pin releases on the FIRE gage.

MODS → Turn the trigger bar stop adjusting nut one notch to the right and pull the trigger bar up. Keep on doing this . . . till the firing pin releases on the FIRE gage.



TO CORRECT EARLY TIMING

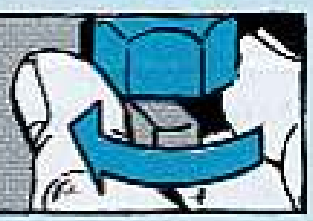
SPADES → REMOVE GAGE & BACK PLATE → TURN ADJUSTING NUT ONE CLICK TO LEFT



→ REPLACE BACK PLATE. COCK GUN, RELEASE BOLT, REPLACE GAGE & PRESS TRIGGER

Keep on doing it this way . . . till the firing pin will **not** release on the NO-FIRE gage.

MODS → Turn the trigger bar stop adjusting nut one notch to the LEFT. Remove the gage, cock the gun, insert the gage and pull up on the trigger bar. Keep doing this . . . till the firing pin will not release on the gage



now DOUBLE CHECK

① REMOVE FIRE GAGE	② COCK GUN	③ INSERT NO-FIRE GAGE	④ PRESS TRIGGER OR PULL UP ON TRIGGER BAR	IF FIRING PIN DOES NOT RELEASE, TIMING IS CORRECT
① REMOVE NO-FIRE GAGE	② COCK GUN	③ INSERT FIRE GAGE	④ PRESS TRIGGER OR PULL UP ON TRIGGER BAR	IF FIRING PIN RELEASES, TIMING IS CORRECT

WOT'S THE ELLR?

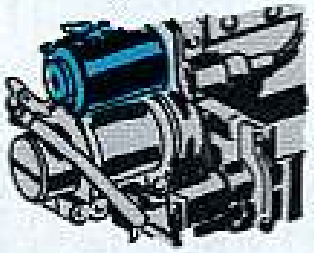
HERE'S A TRICK TO HELP YOU TURN THE NUT IN THE PROPER DIRECTION WHILE YOU'RE CORRECTING TIMING.

E	L	L	R
EARLY	LEFT	LATE	RIGHT

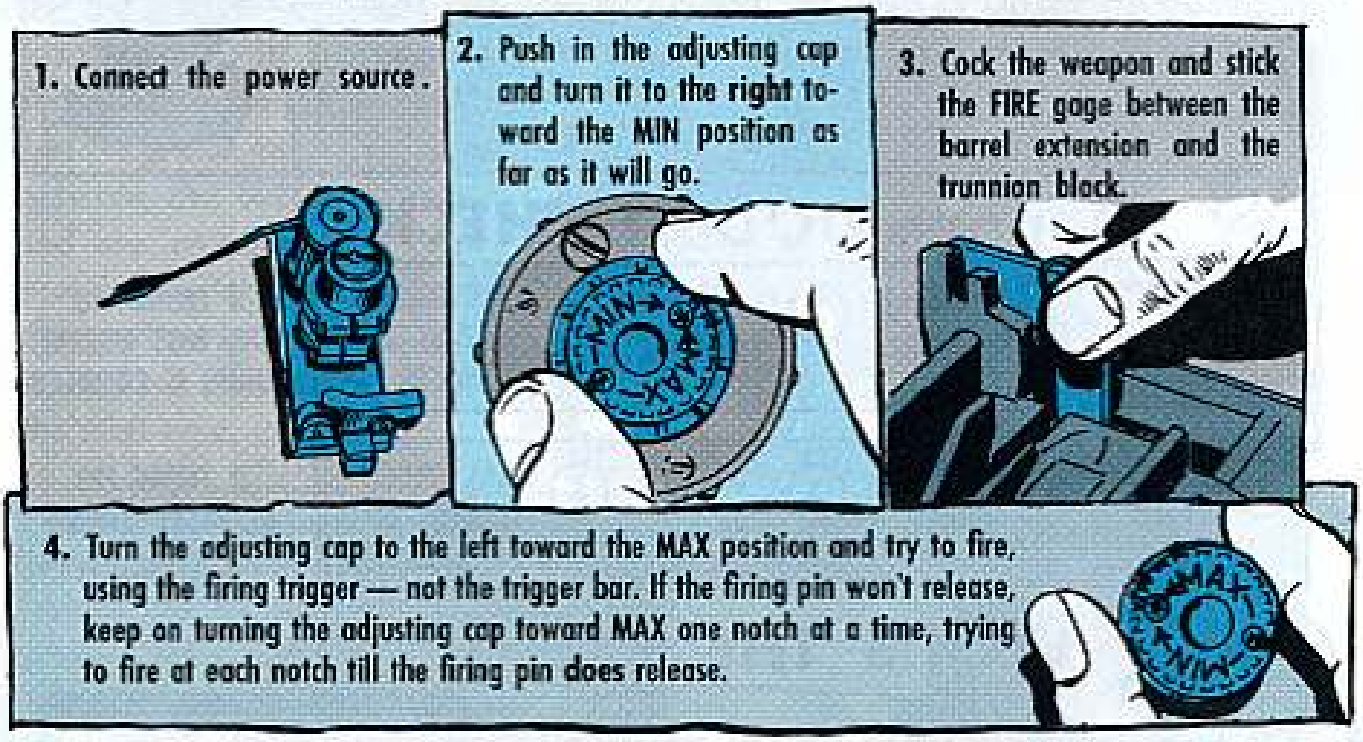
98 MORE

ADJUSTING THE SOLENOID

So, OK now, your M2's headspaced and timed—manually. But on the modified types there's one big step you still have to make: Adjust the solenoid so that electrical firing will be on-time, too.



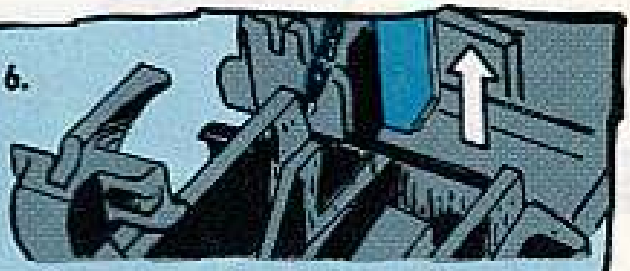
This adjusting business is about the same for all modified M2's, no matter where the solenoid is located—on the top, side or back of the weapons.



It's good to get three positive firings at this setting. The first firing pin release just might be false 'cause of the repeated smacking of the solenoid plunger against the trigger bars.

5. Now, recock the weapon and — with the FIRE gage still in position — keep turning the adjusting cap toward MAX one notch at a time while trying to fire. Be sure you count each notch till the firing pin will not release — it's important!

6.



Next, remove the FIRE gage. Now, turn the adjusting cap back to the right toward MIN one half the number of notches you counted since the firing pin released in Step 4. If you turned 14 notches, say, toward MAX, you'd now turn seven toward MIN. If you made 13, turn back six or seven.

OK, now your solenoid's all set. Replace the cover and put the electrical fire control box switch in the OFF position.

END

A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Pam 310-4 with latest changes.

TECHNICAL MANUALS

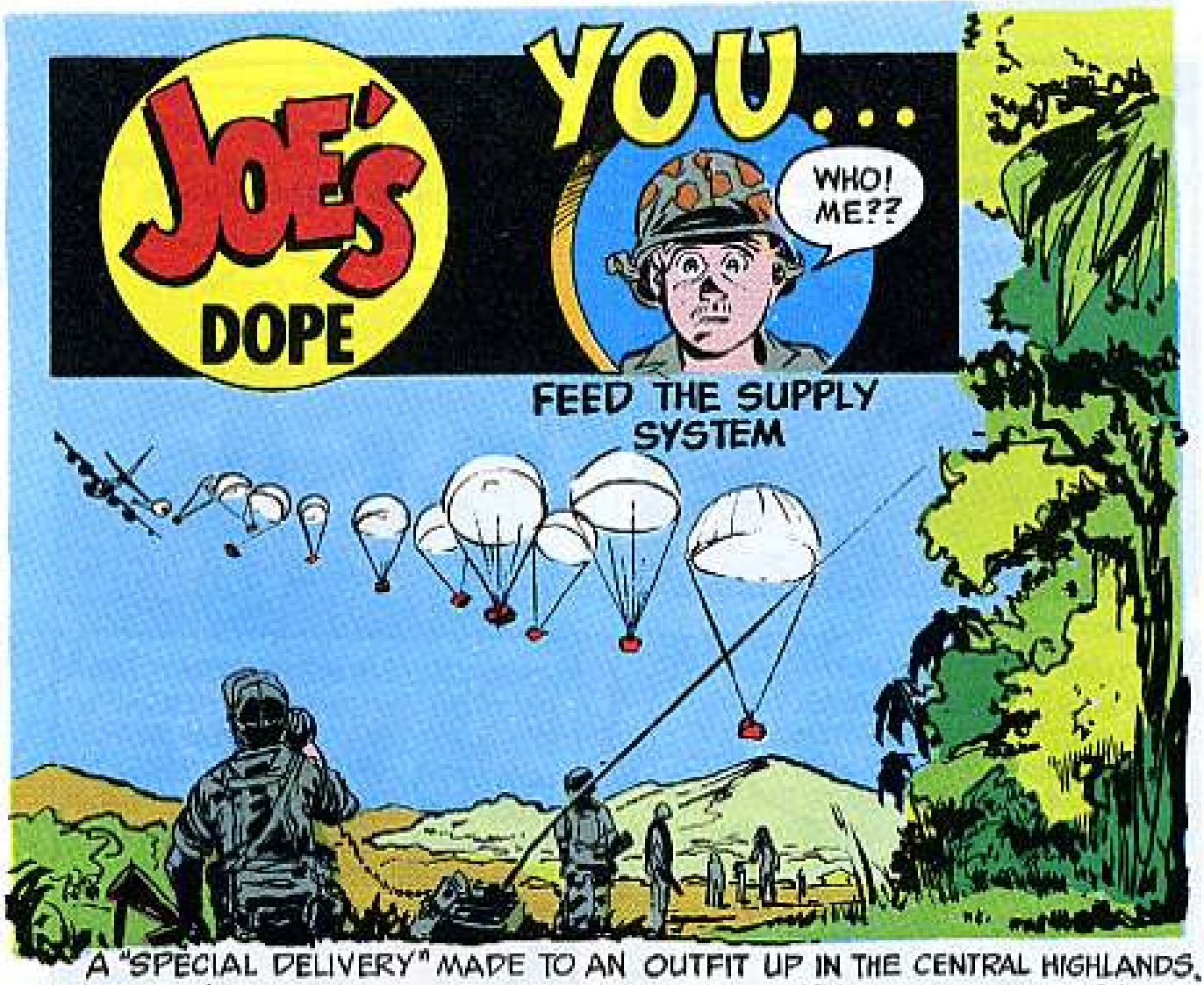
TM 1-1H-23C-2, C6, Mar, OH-23.
TM 5-632, Jun, Insect and Rodent Control.
TM 5-1090-200-25P, Apr, Weapon-sight, Infrared Telescope Assy, Ward 9903; Polan P-155.
TM 5-4110-205-25P, Mar, Refrigeration Unit, GED, 9,000 BTU, 7½-Ton Thermo King QL9M1.
TM 5-4310-247-20P, Apr, Compressor, Rotary Air, DED, 250 CFM, 100 PSI.
TM 5-6100-210-ESC, Mar, Generator, Diesel, 45 KW, Consolidated Diesel 4070; Cummins J5GA-601-45; Kurz and Root ALEXI; Consolidated Diesel 4150; Stewart & Stevenson 54400; Hollingsworth JHDW45A.
TM 5-6115-261-20P, Mar, Generator, DED, 15 KW, AC, JETA MD-151815-WA.
TM 5-6115-274-30P, Mar, Generator Set, DED, 45 KW, AC, Stewart & Stevenson 52300.
TM 5-6115-293-30P, Mar, Generator Set, DED, 100 KW, AC, Detroit Diesel 6910A.
TM 5-6675-243-15, Mar, Light Target Surveying (Military Design).
TM 9-1055-217-20, C1, Mar, 2.75-In. RL XM3.
TM 9-1400-461-20, C2, Mar, GML M22.
TM 9-1430-250-15P/1/1, Mar, Nike-Hercules.
TM 9-1430-250-15P/5/2, Feb, Nike-Hercules.
TM 9-1440-375-12P/1, Mar, Pershing.
TM 9-2300-224-10/2/6, Mar, Mortar, SP, 81-MM, M125A1, T257E2.
TM 9-2300-224-20/2/6, Feb, Mortar, SP, 81-MM, M125A1.
TM 9-2320-206-20, Apr, Trk, Tractor, M123, Cargo, M125.
TM 9-2320-206-20P, Apr, Trk, Tractor, M123, Cargo, M125.
TM 9-2320-218-ESC/1, Mar, Trk Util, M151.
TM 9-2320-218-ESC/2, Mar, Trk, Util, M151.
TM 9-2320-244-25P, C1, Mar, Carrier, M114, M114A1.
TM 9-2330-258-14, Mar, Dolly, Trailer Converter, M199.
TM 9-2330-272-14, C2, Apr, Semi-Trailers, Tank, M131A2, M131A3C.
TM 9-2350-215-10, C3, Mar, Operator, Tank, Combat, M60A1, M60.
TM 9-4935-303-12, Mar, Sergeant.
TM 9-4935-304-14, Mar, Sergeant.
TM 9-4935-504-15P/1, Apr, Hawk.
TM 9-6920-214-15, Mar, Little John.
TM 9-6920-375-15P/2, Feb, Pershing.
TM 10-500-9, Mar, Airdrop of Supplies, Equip Assy Line Rigging.
TM 10-500-19, Mar, Airdrop of Supplies, Equip Rigging 105-MM Howitzer.
TM 10-500-33, Mar, Airdrop of Supplies and Equip Rigging 5-KW Generator Set with Portable Floodlight Set.
TM 10-500-41, Mar, Airdrop of Supplies, Equip, Rigging Mil Alum Bridges.
TM 10-1670-224-23, Mar, For Parachute, Personnel, Back, 28-Foot Diam Nylon Canopy.
TM 11-5820-474-24P, Apr, AN/GRC-109 Radio Set.
TM 11-5820-498-25P, Apr, AN/VRC-53, AN/GRC-125 Radio Sets and Amplifier, Power Supply Group OA-3633/GRC.
TM 11-5965-273-15, Apr, LS-139/G Loudspeaker Assembly.
TM 11-6130-245-15, Feb, PP-2309A/U Power Supply.
TM 11-6140-202-25P, Apr, BB-422/U Storage Battery.
TM 11-6665-221-25P, Mar, AN/PDR-60, Radiac Set.
TM 11-6665-228-15, Mar, AN/PDR-27G Radiac Set.
TM 55-1510-203-20P, Apr, U-6.
TM 55-1510-205-20P, Apr, U-1.
TM 55-1520-209-20, C5, Apr, CH-47.
TM 55-1520-209-20, C6, Apr, CH-47.
TM 55-1520-209-20, C7, May, CH-47.
TM 55-1520-209-20P, Mar, CH-47.

MODIFICATION WORK ORDERS

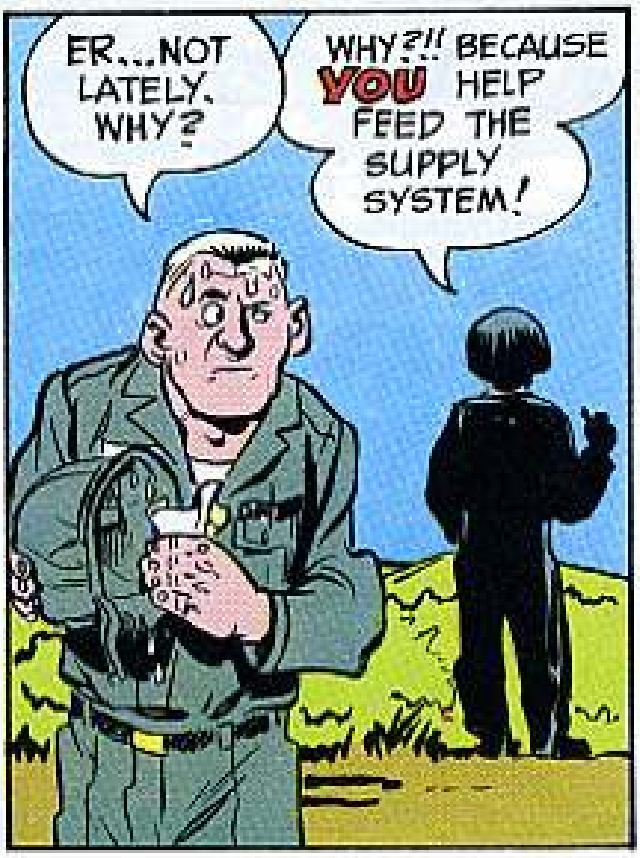
MWO 9-2300-216-20/6, Apr, Gun, SP, M107, Howitzer, M110.
MWO 9-2300-216-30/9, -30/10, -30/11, Apr, Gun, SP, M107, Howitzer, M110.
MWO 9-2300-259-30, Mar, Trk, M49, M49C, M215, M215C.
MWO 9-2320-224-20/4, Mar, Carrier, M114, M114A1.
MWO 9-2350-215-30/24, Mar, Organizational, Tank, Combat, M60, M60A1.
MWO 9-2350-215-30/25, Mar, Organizational, Tank, Combat, Gun, M60, M60A1.
MWO 9-2530-208-30/1, Mar, Carrier, M114, M114A1.
MWO 55-1510-204-34/24, Apr, OY-1.
MWO 55-1510-204-34/77, Apr, OY-1.
MWO 55-1510-204-34/81, Apr, OY-1.
MWO 55-1510-206-34/50, C1, May, CV-2.
MWO 55-1510-206-34/57, C5, May, CV-2.
MWO 55-1510-206-34/67, Apr, CV-2.
MWO 55-1510-206-34/69, Apr, CV-2.
MWO 55-1520-204-20/6, Apr, OH-13.
MWO 55-1520-204-34/19, C3, May, OH-13.
MWO 55-1520-209-20/29, C1, May, CH-47.
MWO 55-1520-209-20/49, Mar, CH-47.
MWO 55-1520-209-20/51, C1, May, CH-47.
MWO 55-1520-209-30/2, C1, May, CH-47.
MWO 55-1520-209-30/3, Apr, CH-47.
MWO 55-1520-209-30/15, C1, May, CH-47.
MWO 55-1520-209-30/16, Apr, CH-47.
MWO 55-1520-209-30/34, Apr, CH-47.
MWO 55-1520-209-34/8, C3, May, CH-47.
MWO 55-1520-209-34/82, Apr, CH-47.
MWO 55-1520-209-34/100, C1, May, CH-47.
MWO 55-1520-209-34/114, Apr, CH-47.
MWO 55-1520-209-34/115, C1, May, CH-47.
MWO 55-1520-209-34/119, May, CH-47.
MWO 55-1520-209-34/133, Apr, CH-47.
MWO 55-1520-210-20/13, Apr, UH-1.
MWO 55-1520-211-20/31, May, UH-1.
MWO 55-1520-211-30/1, C1, Apr, UH-1.

MISCELLANEOUS

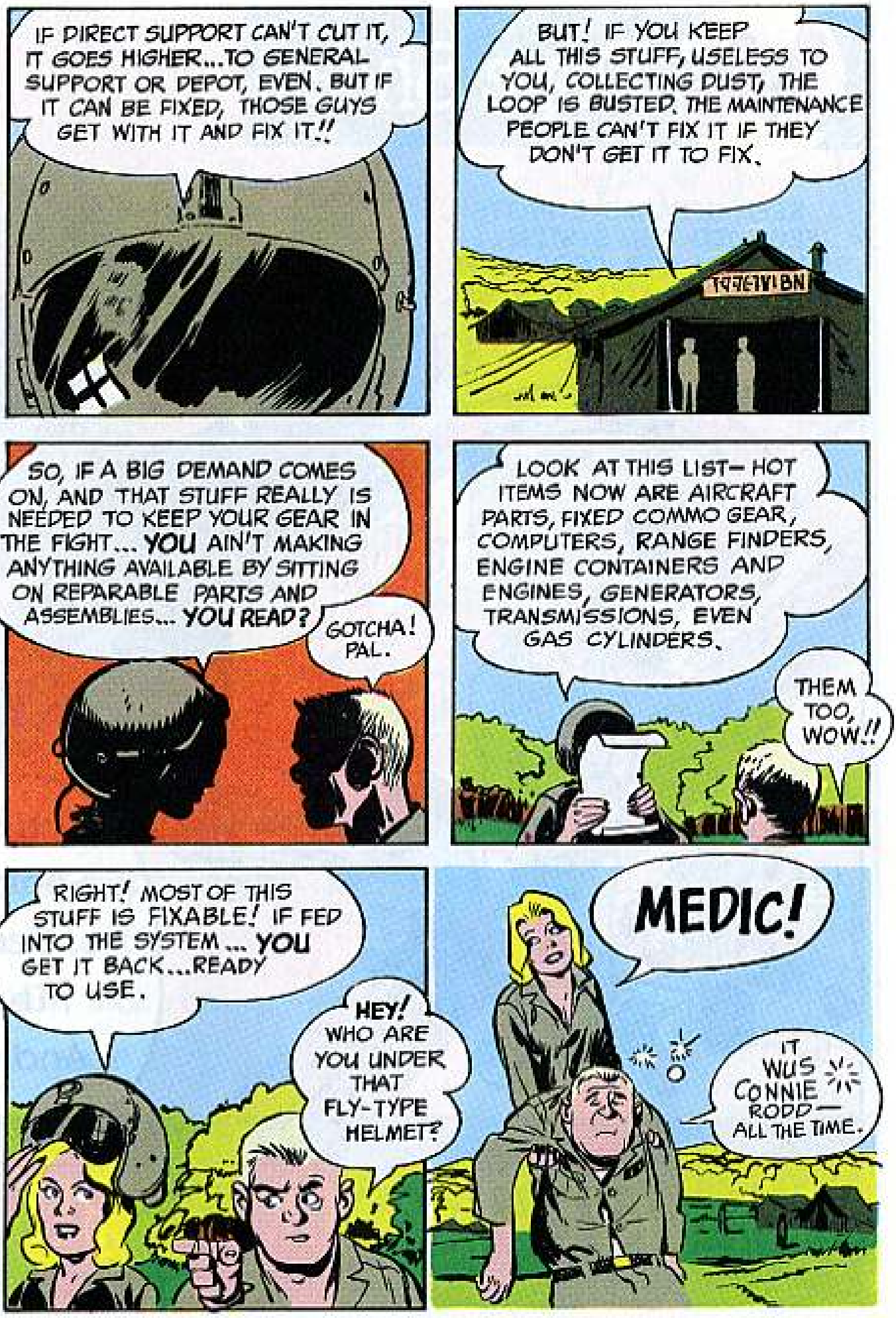
Approach, May.
FM 3-10, Mar, Chemical, Biological Weapons Employment.
LO 3-4230-209-12, Feb, Decontaminating Apparatus, Power-Driven, Trk-Mtd, M3A3.
LO 5-1430-202-12, Mar, Pershing.
LO 5-2420-203-20-1, Apr, Launcher, M60A1, Tank Chassis, AVL.
LO 5-2420-202-20-2, Apr, Launcher, M60A1, Tank Chassis, AVL.
LO 10-3310-208-12, Mar, Laundry Unit, Trailer Mtd, Army Type M532, Eidal ELT9T.
LO 10-3950-203-20, Feb, Crane, Trk, White, Slewing Boom, GED, 10,000 Lb Cap Hughes-Keenan YSH-10, Army MHE 194, W/Continental Eng FS 244.
SC 4910-95-CL-A70, Mar, Tool Set, AA Arty Mechanic.
SC 4931-95-CL-A04, Mar, Tool Kit, Fire Control Repair.
SC 4933-95-CL-A07, Mar, Tool Kit, Small Arms Repairman.
TB 9-1000-237-12, Mar, Carbine, M1, M1A1, M2, Pistol, M1911A1, Rifle, M14.
TB 9-1330-200/4, Apr, Grenade, Hand: Fragmentation, Composition B, M26A2 W/Fuze, Hand Grenade: M127.
TB 55-1510-204-30/19, May, OY-1.
TB 55-1520-209-20/17, May, CH-47.
TB 55-1520-209-30/2, Mar, CH-47.
TB 55-1520-209-30/5, May, CH-47.
TB AVN 23-70, Feb, Drones.

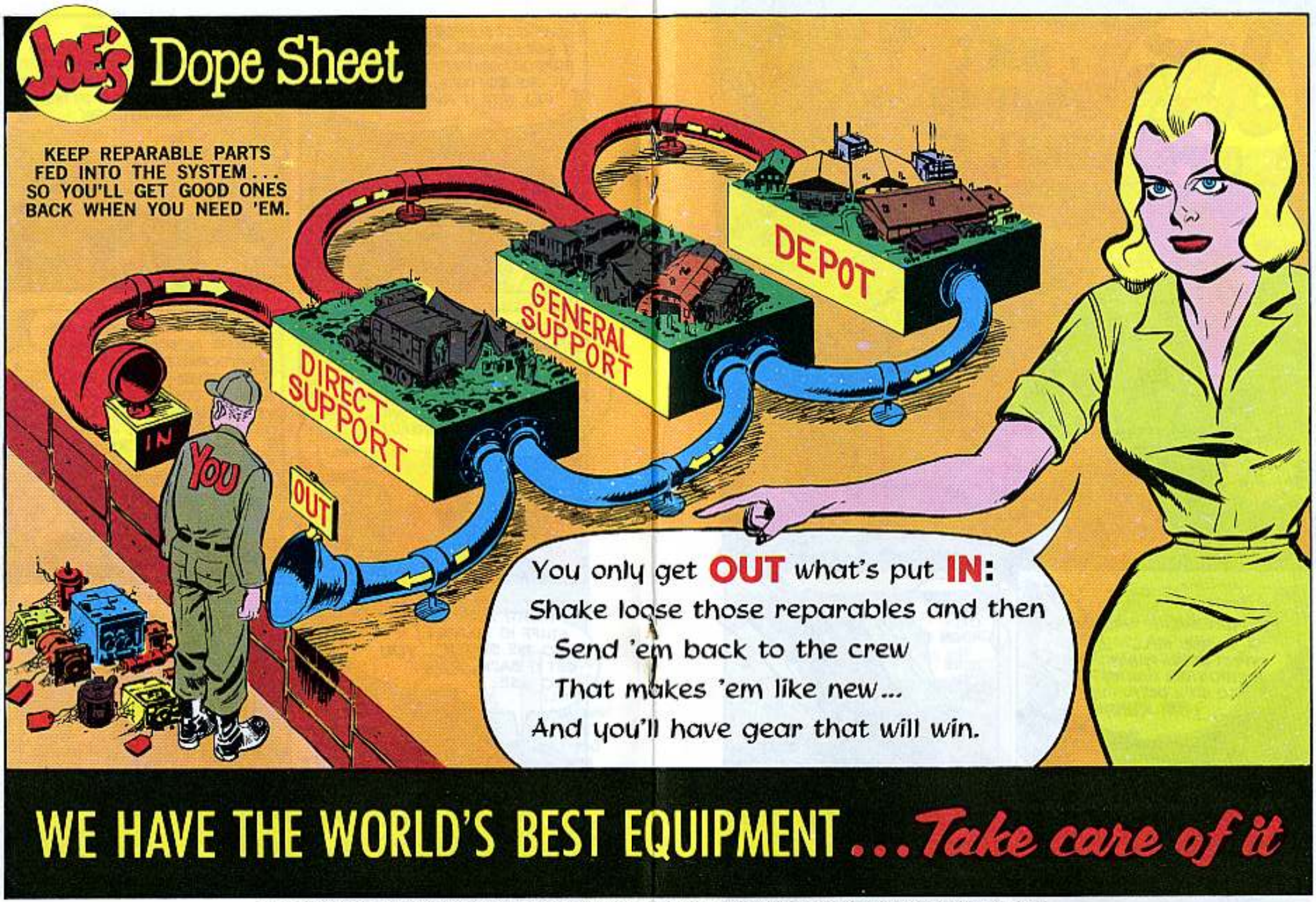


A "SPECIAL DELIVERY" MADE TO AN OUTFIT UP IN THE CENTRAL HIGHLANDS. OPERATION RATFINK HAS DEPLETED REPAIR PARTS STOCKS, AND MUST BE FILLED PRONTO!! CHARLIE DON'T WAIT.




WHEN YOU GET A REPLACEMENT ITEM...THE UNSERVICEABLE ONE MUST BE KEPT MOVING UP THE MAINTENANCE CHAIN!!
OH!
BIG DEAL! I THOUGHT THEM "BRAINS" MAKE SURE THAT ENUF STUFF IS MANUFACTURED TO KEEP US GOIN'.
THAT IS DONE AND TO MAKE SURE THERE IS NO BIND, REPARABLE ITEMS ARE SHAPED UP AND ARE ALSO PUT INTO THE SUPPLY LINE.
WOT IF IT CAN'T BE FIXED?
GOOD QUESTION! AN UNSERVICEABLE PART OR ASSEMBLY IS SENT UP THE LINE. IT'S REPAIRED AT THE LOWEST LEVEL OF MAINTENANCE THAT CAN REPAIR IT. THEN, IT'S PUT BACK ON THE SUPPLY SHELF AND WILL WORK ITS WAY BACK TO YOU WHEN YOU NEED IT!
THE ARMY CAN BUY ONLY SO MANY OF REAL EXPENSIVE PARTS AND ASSEMBLIES... THAT'S WHY CERTAIN ONES HAVE TO BE RETURNED FOR REPAIR WHEN THEY GO BAD, LIKE THE MISSILE BOYS SAY, IT WORKS SORTA LIKE A "CLOSED LOOP" SYSTEM. WATCH THIS CHART.
UP THE MAINTENANCE LINE
DEPOT
GENERAL SUPPORT UNIT
DIRECT SUPPORT UNIT
BAD PART GOES FOR REPAIR
YOU THE USER
DOWN THE SUPPLY LINE
GOOD PART (REPAIRED) CAN COME BACK TO YOU FROM ANY LEVEL OF MAINTE-NANCE THAT FIXES IT.


IF DIRECT SUPPORT CAN'T CUT IT, IT GOES HIGHER...TO GENERAL SUPPORT OR DEPOT, EVEN. BUT IF IT CAN BE FIXED, THOSE GUYS GET WITH IT AND FIX IT!!
BUT! IF YOU KEEP ALL THIS STUFF, USELESS TO YOU, COLLECTING DUST, THE LOOP IS BUSTED. THE MAINTENANCE PEOPLE CAN'T FIX IT IF THEY DON'T GET IT TO FIX.
SO, IF A BIG DEMAND COMES ON, AND THAT STUFF REALLY IS NEEDED TO KEEP YOUR GEAR IN THE FIGHT... YOU AIN'T MAKING ANYTHING AVAILABLE BY SITTING ON REPARABLE PARTS AND ASSEMBLIES... YOU READ?
GOTCHA! PAL.
LOOK AT THIS LIST— HOT ITEMS NOW ARE AIRCRAFT PARTS, FIXED COMMO GEAR, COMPUTERS, RANGE FINDERS, ENGINE CONTAINERS AND ENGINES, GENERATORS, TRANSMISSIONS, EVEN GAS CYLINDERS.
THEM TOO, WOW!!
RIGHT! MOST OF THIS STUFF IS FIXABLE! IF FED INTO THE SYSTEM... YOU GET IT BACK...READY TO USE.
HEY! WHO ARE YOU UNDER THAT FLY-TYPE HELMET?
MEDIC!
IT WUS CONNIE RODD— ALL THE TIME.



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

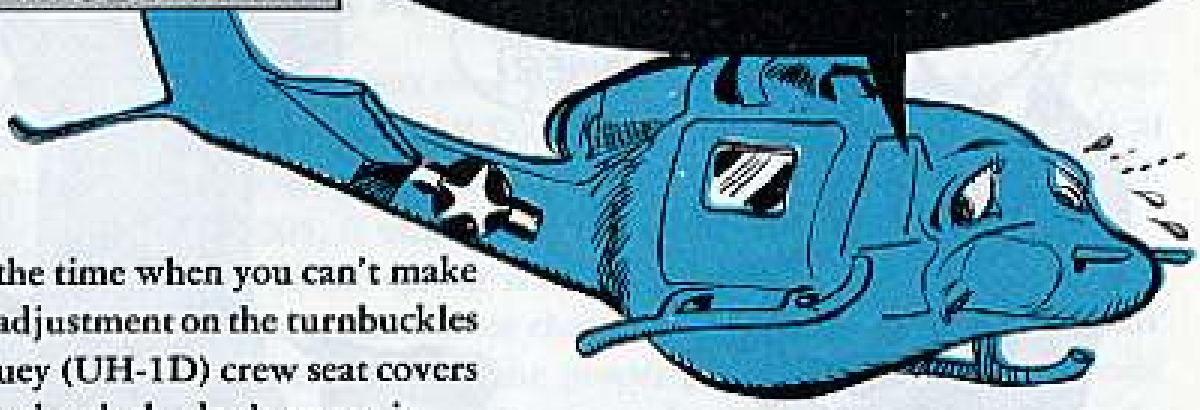

JOE'S DOPE
DON'T FIGHT IT! WRITE IT...
A POOINNGG
POW
ZIP
ZINNGG
PUFF PUFF
A-ROGER! WE'LL EXPECT ZEBRA FLIGHT IN ZERO FIVER MINUTES. KILO SIX... OUT!
PANT-WHEEZ!
MOVE OVER, PAL... HERE I COME.
YEOW! ONLY ROOM IN HERE FOR ONE.


PSST! DO YOU HAVE ANY PRIME BEEFS ABOUT ANY OF YOUR GEAR?
HUH! ER... YEAH!
SO WHY DON'T YOU DO ANYTHING ABOUT IT?
YA MEAN AN EIR? I NEVER TOOK THE TIME... BESIDES I DON'T THINK MUCH OF PAPERWORK.
DON'T KNOCK IT IF'N YOU AIN'T TRIED IT, PAL.
HOW COME YOU'RE SO INTERESTED, "STRAIGHT LEG" TYPE?
BECAUSE I'M...AN EIR.
GLAK
DA FORM 2407
DON'T PANIC, TIGER! US EIR'S DO THE JOB, NO SWEAT! BUT USE US!! THAT'S ALL WE ASK....
MEDIC!
MAN! YOU KIN BEEF ON EQUIPMENT FAILURES! SNAFUED NEW GEAR! AND KICK IN NEW IMPROVEMENT IDEAS! IF EIR'S CAN'T GET YOU IMPROVEMENTS, NOTHIN' WILL.
DA FORM 2407
MMM.

GOT PROBLEMS WITH YOUR PUBLICATIONS? THEN FILL OUT A **DA** FORM **2028** AND SEND IT **DIRECT** TO THE ADDRESS YOU FIND IN THE FRONT OF THE PUBLICATION.

AIR MOBILITY

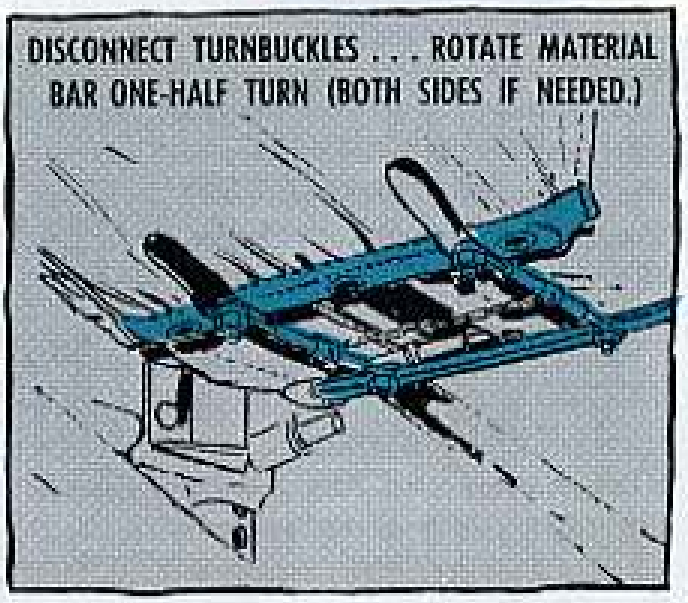
YOUR SEAT SAGGY?



Comes the time when you can't make any more adjustment on the turnbuckles of your Huey (UH-1D) crew seat covers to take up the slack, don't sweat it.

To put the spring back in a stretched cover just disconnect the turnbuckles at one end of the material. Turn the metal-based material one-half turn counterclockwise and reconnect the turnbuckles. This adjustment will give the turnbuckles additional tightening threads.

If you still have too much slack, tho, rotate the other end of the material, which will extend the turnbuckles even more to give you a real snug seat cover adjustment.



THE NEW WORK BOX LOOK

Dear Editor,

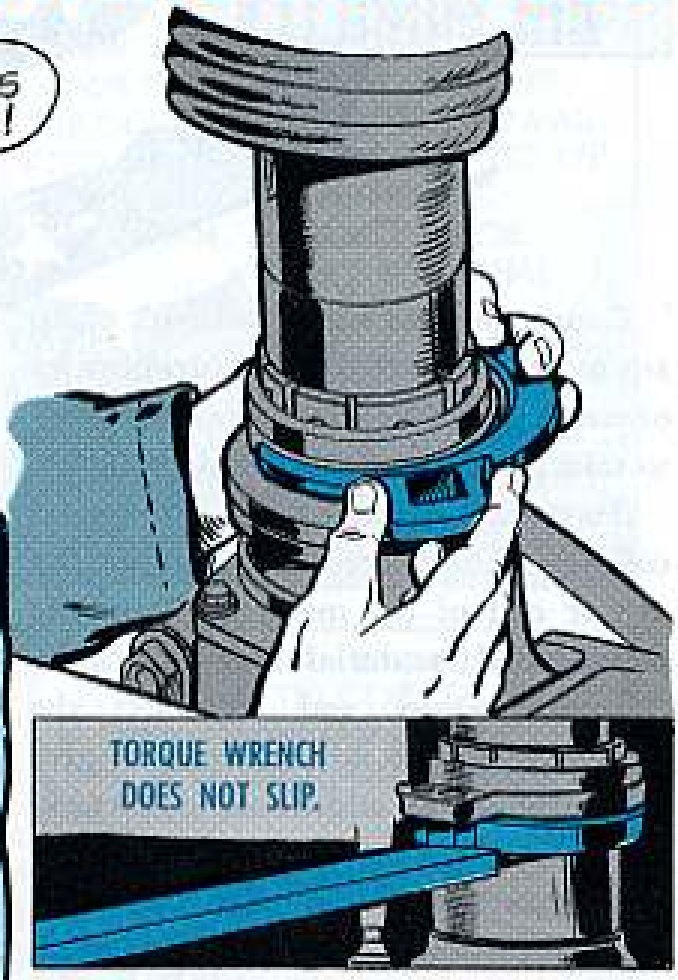
Our avionics work here at Soc Trang, RVN, calls for repairs on Huey tail boom antennae. So our line crews have rigged up a combination work platform-DX equipment box made of ¾-in plywood which can be fitted to the hood of either a ¼-ton or ¾-ton vehicle.

One man can stand on this platform without fear of denting a hood. In addition, DX equipment and tool boxes can be carried on this platform with no loss of driver visibility. This idea's not original with us but it's sure giving us good results.

257th/277th/325th Sig Dets
APO San Francisco

(Ed Note—Looks like a terrific field tool which doesn't hurt the vehicle at all. Other outfits should find it useful when there're no fixed facilities around.)

HUEY CLAMPING NUT TOOL



Dear Editor,

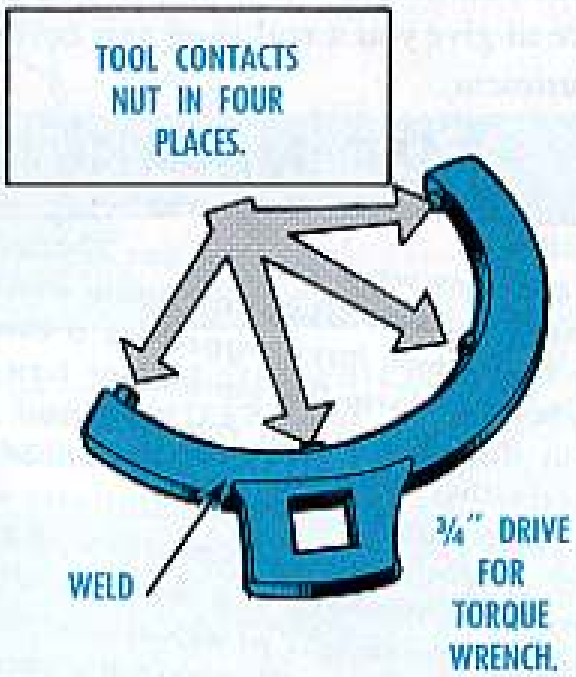
Whenever you put the swashplate and collective sleeve assemblies on the Huey (UH-1B) 540 rotor system, there is a bit of a problem torquing the clamping nut on the tapered spring to 110-130 foot-pounds.

When you use a standard spanner wrench it only has a one-point contact with the 6 slots in the nut. The wrench slips and damages the clamping nut; we had to replace several nuts . . . and nurse some bruised knuckles!!

That was the situation here until we came up with this jim-dandy little tool made from ¼-in flat steel stock, SAE 4130, heat-treated, with 4 nut contact points (chamfered) and ¾-in drive. The nut makes a good template for making this baby.

Whether you're putting the sleeve assembly together, or just checking the nut torque on a vertical write-up, this little jewel grips the nut solidly in 4 places.

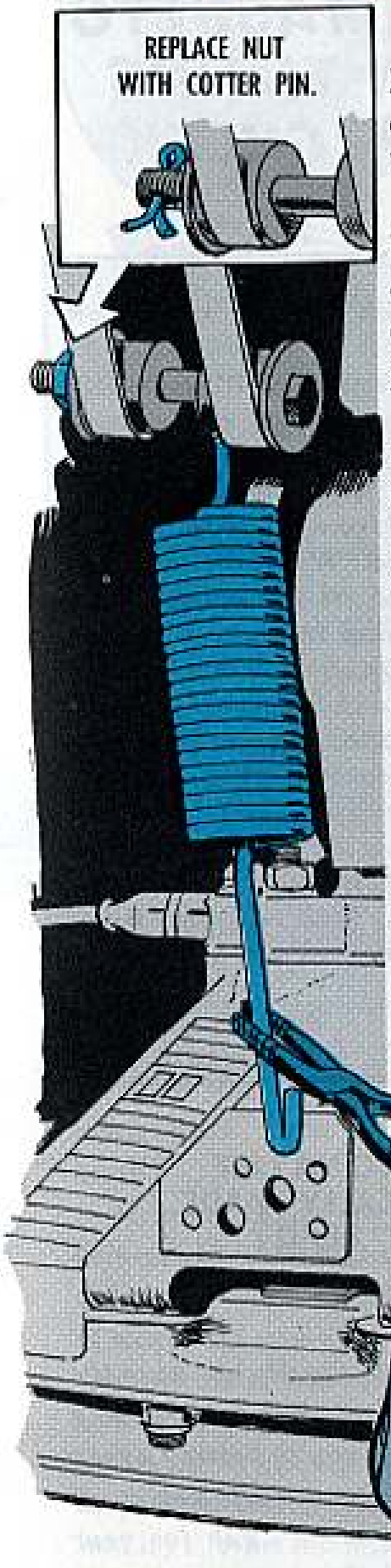
SP6 Joe Calandra
Fort Rucker, Ala.



(Ed Note— Righto. No doubt your unit has at least a 4-to-1 preference for using this tool! 'Course this tool adds to the length of the torque wrench so you would use the standard conversion formula to find out the smaller muscle power needed on the wrench handle.)

WHEN EYEING YOUR HUEY . . .

THE SPRING'S THE THING



The next time you check the swashplate area of your Huey (UH-1B,D) have a look-see at how the helical extension spring, P/N 204-001-515-1, FSN 1560-670-7605, is attached to the inner swashplate ring.

If the spring is held by a bolt, 2 washers and a nut, better make some changes . . . soonest. A new swashplate doesn't include the proper pin assembly and in one case over-torquing of the unauthorized nut cracked the swashplate arm.

'Course Fig 478 of TM 55-1520-210-20P (14 Feb 66) doesn't call for any nut on the UH-1B model — the same on the UH-1D model. The pubs don't list a cotter pin to retain the straight pins, either. But future changes will add the cotter pin.

To secure the helical extension spring you need — pin, straight-headed, P/N MS 20392-3C59, FSN 5315-081-7018, two flat washers, P/N AN 960-PD 416, FSN 5310-187-2354 and cotter pin, P/N MS 24665-151, FSN 5310-815-1405.

When you actually hook up the spring — or any spring for that matter — be sure you don't use a pair of dikes. Dikes will cut into the wire, leading to corrosion and failure of the spring. Your duckbill pliers, with tape on the jaws, will do the trick. You might even make the hook up by hand with the cyclic full right-forward.

QUICKIE MAGNETO TIMING CHECK

Dear Editor,

Checking the timing on installed aircraft magnetos can be a bit of a chore, what with their being located against the firewall and with many lines to wade through, in order to get at the points.

Once the cover is off and you hook up the alligator clamp of each timing light lead there's always the possibility that the clamp on the movable points may contact the mag casing and ground out the light.

Of course in order to get the ungrounded "live" mag you need for the check you put a piece of cardboard between the automatic grounding spring and the case of the mag . . . all this is SOP.

But here's a way we found to make the timing check without taking off the cover.

Make a two-foot long "P" (primary) lead and leave one end of the wire bare. Hook the timing light lead to the bare wire. Remove the ignition switch "P" lead from the mag and put in the fabricated "P" lead which will do the same job as the cardboard—unground the mag to make it "live."

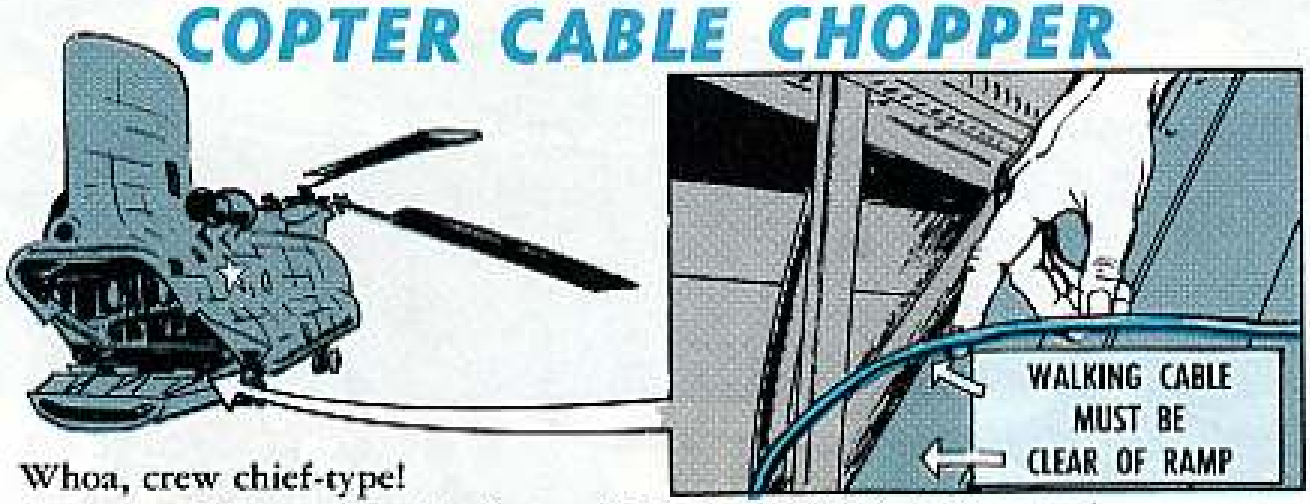
When the prop shaft is rotated and the piston in number one cylinder comes to the proper degrees BTDC (before top dead center) on the compression stroke the mag points will be open, the timing light will come on and your mag is timed.

This little "P" lead is a real time-and-labor saver . . . works like a charm.

Robert Schauman
Fort Ord, Calif.

(Ed Note—Sounds like a winner if you're just making a spot check but I wouldn't follow this quickie regularly, like on a Periodic—for good reason. The timing check in the organizational maintenance pubs call for taking the mag cover off and visually checking the condition of points and related mag parts. Of course if you're putting a mag on the engine the cover also comes off so you can get the "E" gap for your mag-to-engine timing.)

COPTER CABLE CHOPPER



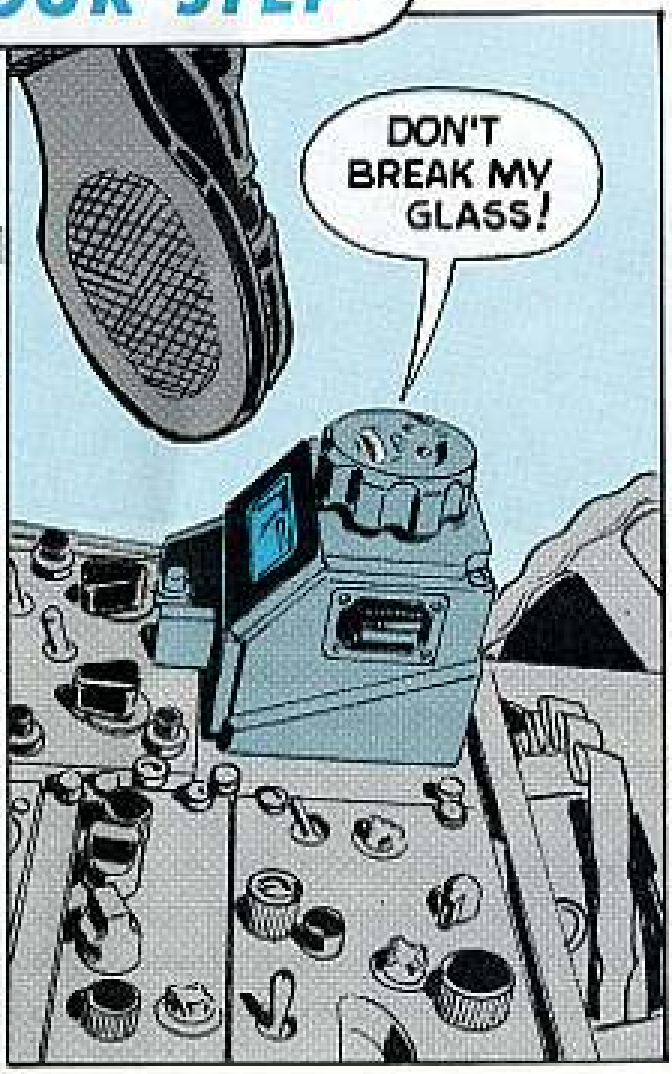
Whoa, crew chief-type!

Before tuckin' in the tail of your Chinook (CH-47) helicopter be sure your WM-85/U (FSN 6145-635-1536) intercom walking cable's clear of the ramp.

If the cable is hanging over the edge of the ramp when you push the hydraulic lever, intercommunications will be cut short 'cause that ramp has a bite like a barracuda.

After coming back inside the aircraft, flip the 15-ft cable inside and take a quick look to see it's clear before closing the ramp.

WATCH YOUR STEP

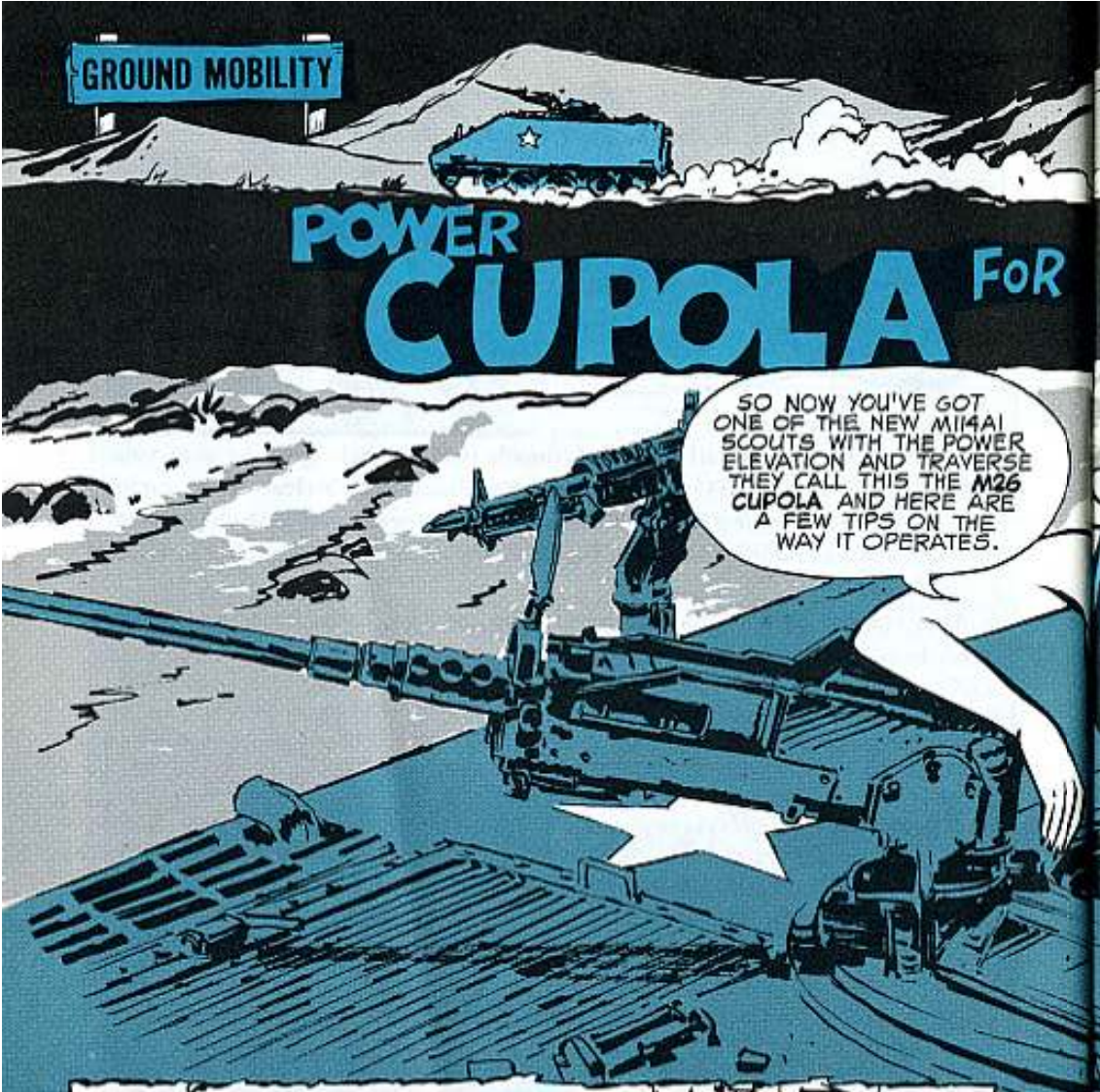


The next time you climb into a Mohawk (OV-1) it's a capital idea to give the C-3107A/ASW-12(v) automatic pilot flight controller a wide berth.

To maintenance types and airplane drivers alike, the flight controller sticks up on the console like a sore thumb. A misplaced pair of brogans, or even a dropped APH-5 helmet, will crack the controller glass—for real.

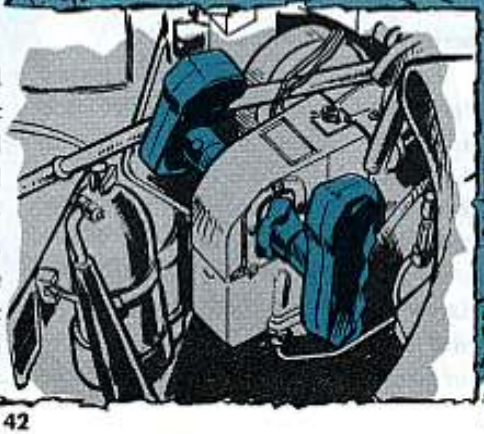
Of course, the sight glass is no ordinary type. It has lighting built right into it . . . runs the replacement cost up ump-teen dollars, sure enuff.

POWER CUPOLA FOR M114A1



POWER CONTROL

This looks like the gunner's dual control handle from a tank (which it is) and it works the same way. Pull back to elevate the gun, push forward to depress it. Pull down right to traverse right and down left to go left. Naturally, you have to keep one of the palm switches depressed. If you don't the magnetic brake will be on and you can't traverse.



The harder you pull the faster the motion will be and you can combine motions, elevating or depressing, while you are traversing. To stop motion in any direction let the control handle go back to its neutral position.

POWER TRAVERSE

Power traverse with the power control handle will generally work pretty fine unless you abuse it. **Running continuously at maximum speed for over five minutes at a time is abusing it.** The electric drive motor will get overheated and may break down. Give the motor a chance to cool off between periods of hard use and you should have no trouble.

Two things that put extra strain on the electric motor and hydraulic pump are too low a level in the oil reservoir and too little nitrogen gas in the accumulator.

To check the oil level you do this . . .

a. Turn power switch OFF.

b. Move brake handle to MANUAL.

c. Elevate or depress gun until it is level.

d. Traverse left or right until all pressure in the system has been used and the cupola comes to a stop.

MORE

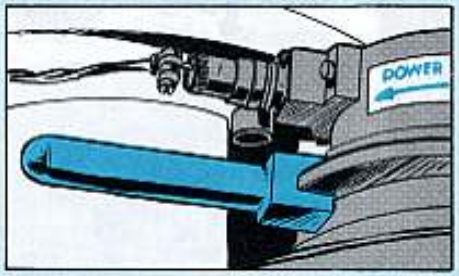
e. Oil level should be at the dot on the sight gage near the right power control. If it is too low fill with OHC Type 1 as it says in Change 1 to the LO.

(Note: Step c is needed because if the gun is not level you'll get a false reading. If the gun is high the sight gage will show more oil than is really there and if the gun is low the oil level will also be low.)

Nitrogen pressure should be 1080 PSI ± 50 PSI as checked by your direct support mechanic with a pressure gage. If it checks low have your support add nitrogen to bring it up to snuff.

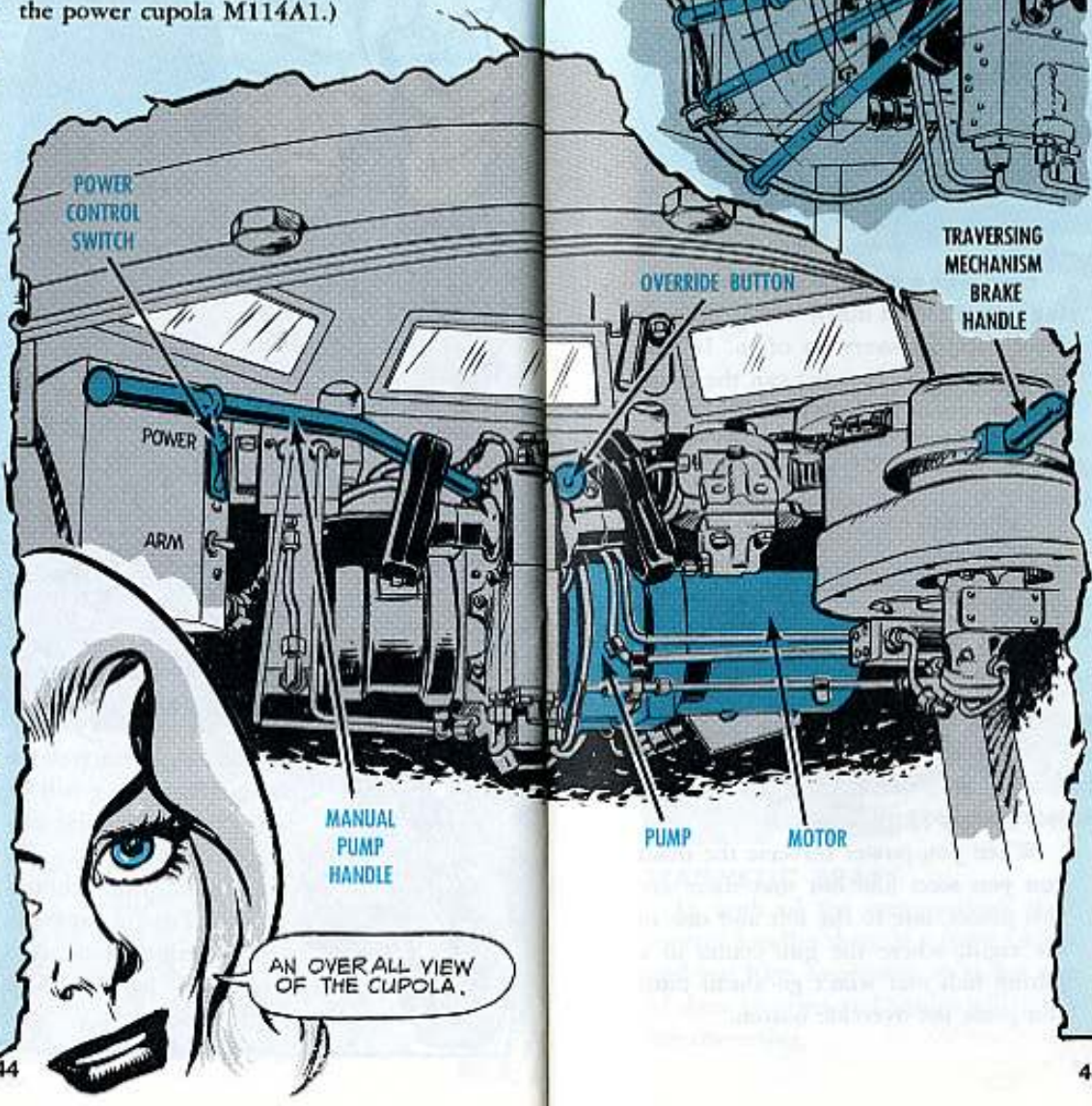
(Note: A mechanic has to be quick-fingered when he puts the gage on and when he takes it off or a lot of the nitrogen will escape.)

For power operation be sure your brake handle is in the POWER position.

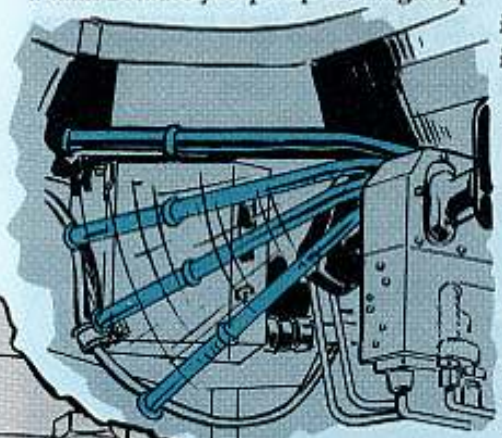


MANUAL OPERATION

By pumping up and down on the manual operating handle you get pressure for both elevation and traverse. You can use this in place of power operation if the electric power goes out or you can use it in place of power to conserve your batteries. (By the way, you have 4 batteries instead of 2 with the power cupola M114A1.)

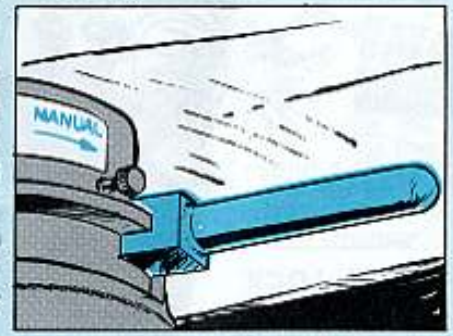


This handle is not like the manual elevation and traverse hand wheels on a tank because you pump it straight up and down no matter what you want to do, elevate, traverse or both at once.



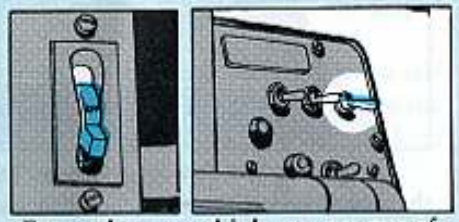
(Careful on this: The manual handle is long and if you get rough and force it, it'll break.)

'Course, you still have to work the control handle (with palm pressed down) while you're pumping up and down.



For either elevation or traverse you first put your brake handle in the full manual position.

OUT OF OPERATION



Even when you think you are out of operation with both the turret control switch and the master switch turned OFF, there is still enough hydraulic pressure at the dual control handles to move the gun fast enough to hurt somebody.

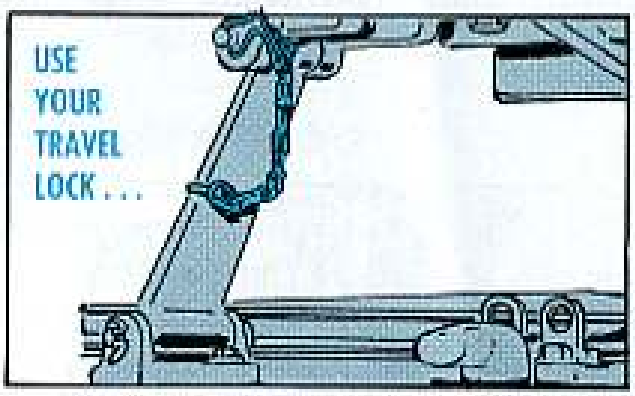
Check this out just to see how much pep you still have with both switches OFF.

MORE

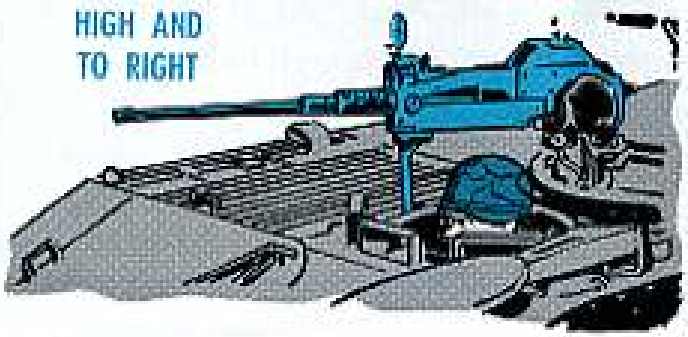
Your best bet is to elevate and depress the gun a couple of times to use up the energy so there won't be an accident if somebody brushes against the control handle. The gun will stop moving when all of the energy is used up.

TRAVEL LOCK

The safest thing is to keep your main gun in travel lock unless the situation is tactical. When you have it out of travel lock you are in control of a weapon that can kill somebody even when it is not loaded.



A little absent-minded pressure on the commander's control handles can whip the gun barrel down and crack the driver in the head. Make it a habit to hold the gun with the barrel high and to the right of the driver. (The left of the driver would also work except the gun barrel would project further beyond the side of the vehicle and would be more likely to snag on something.)



DRIVER'S HELMET

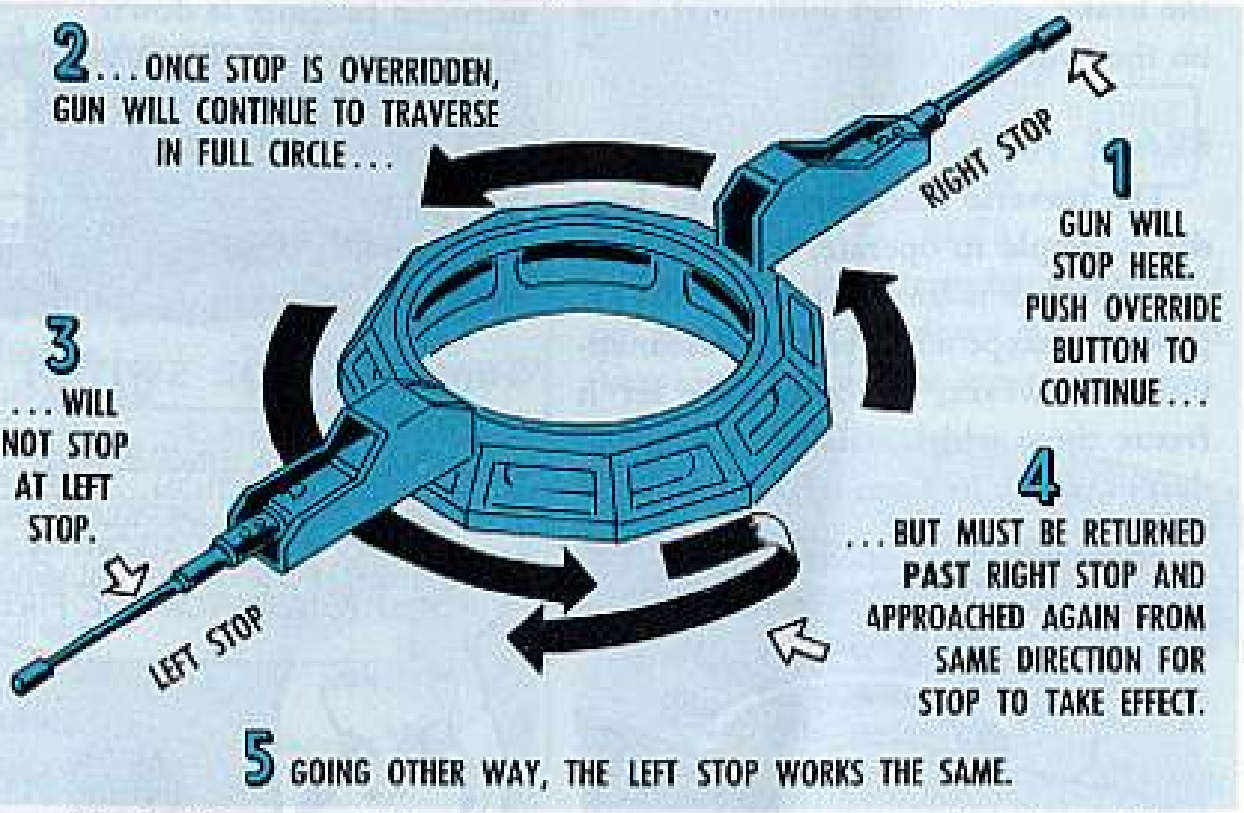
Wearing a helmet can mean, for the driver, the difference between a small lump on the head and a possibly fatal skull fracture.

Even with a well-trained crew, banging a gun barrel down on the driver's head happens every so often. If that head is bare, well, what can the chaplain say about a clumsy soldier?

INTERRUPTERS

When you power traverse the main gun you soon find out that there are two places, one to the left and one to the right, where the gun comes to a jolting halt and won't go ahead until you press the override button.

These stops are to protect the observer but they can do their job only if you remember this rule . . . Once you press the override button and go through a stop, your gun will not be stopped again until it has gone around in a complete circle. It can be a fatal mistake to depend on the other stop to keep you from hitting the observer because this stop works only when hit from the opposite direction



after you hit the first stop. The only way to get a stop to work twice without coming all the way around after you have hit it is to back up and come into it again from the same direction. This is true no matter if you hit the left or the right stop first.

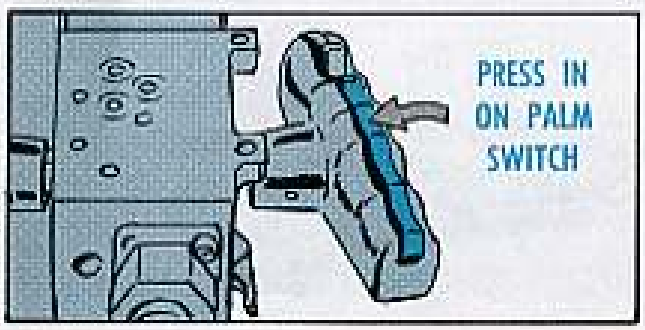
The way to think of it, the stop is a warning to the track commander to tell the observer to duck. The TC should not press the override until he is sure the observer is out of the way and the main gun barrel is riding high enough to clear the observer's machine gun.

INTERRUPTER RELEASE (OVERRIDE)

When the interrupter stops the cupola you can start again (override) by pushing in on the red button near the power control handle.

MAGNETIC BRAKE

In both of the commander's dual control handles there is a palm switch and you have to press in on either one of these switches and hold it while you are traversing.

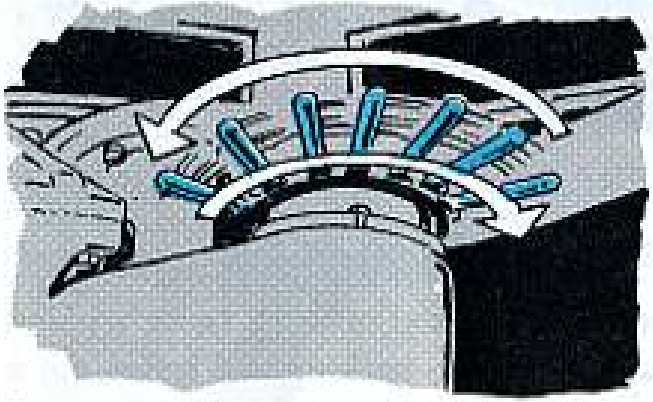


MORE

Only thing to remember, don't press in on the switch (which puts the brake out of action) or let it go (which puts the brake ON) unless the handle is in the neutral position. This'll wear out the brake . . . and put additional stress on the hydraulic system.

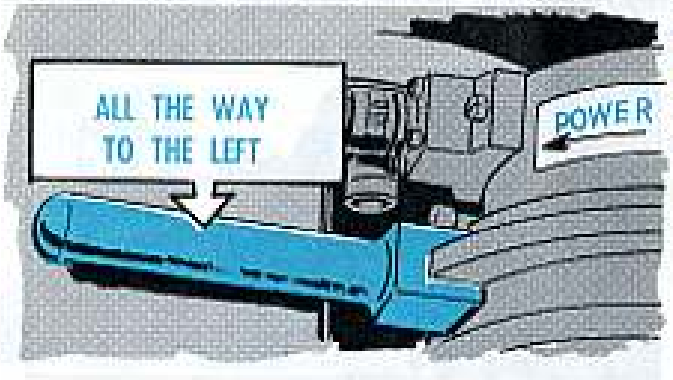
BRAKE HANDLE

The traverse mechanism brake handle is simple to operate. All you have to remember is leave it in the POWER position except when you operate manually. However, you shouldn't let it freeze there which will happen if you don't exercise it. Turn it back and forth



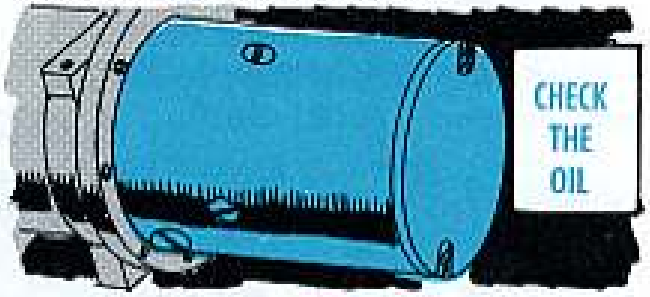
between POWER and MANUAL a couple of times every day before you shut off your engine.

Make sure the handle is as far as it will go to the left for POWER operation and full right for MANUAL. Unless the handle is full left for POWER operation the cupola will have a slow, sluggish, movement.



TRAVERSING MOTOR

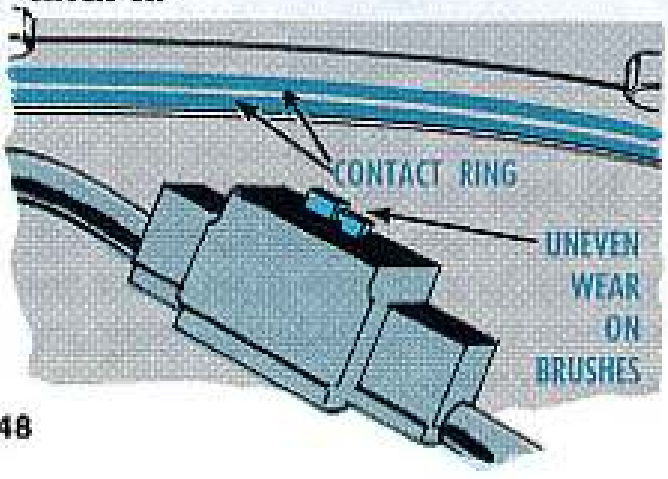
The electric drive motor makes quite a lot of noise when it comes on. If this motor kicks in too often it prob'ly means your hydraulic oil is low or the nitrogen pressure is down.



GUN SELECTOR SWITCH

TURRET RING BRUSHES

Check 'em often. Uneven wear on all four brushes shows your cupola electrical contact ring is likely installed wrong. Have your support check it. If only one brush seems to be wearing unevenly chances are it was not put in right. Get your turret mechanic to check it.



If any of these things happen the brushes are not doing the job the way they should so holler for your mechanic:

1. Brushes make a lot of noise as the turret spins around.

2. From time to time you see a little smoke behind the turret electrical contact ring.

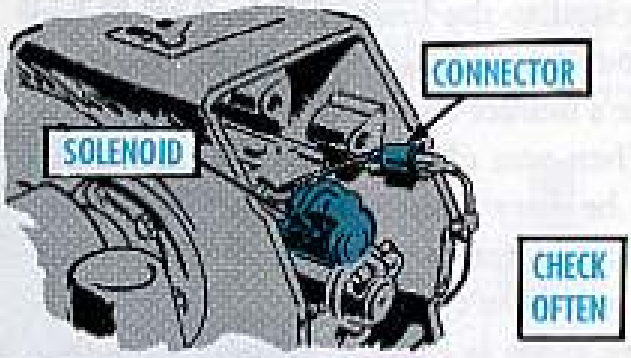
3. You get the smell of electrical wire burning behind the ring.

HYDRAULIC LINES

If you tighten the hydraulic lines too tight you can break them. Tighten them so there is no leaking at the end connections but don't overdo it.

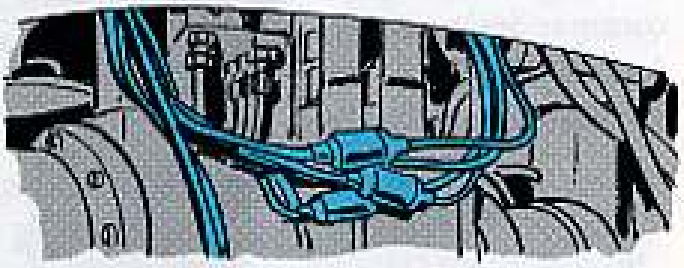
SOLENOID CONNECTION

You can't fire your main gun electrically without the electrical connection to the solenoid being in operating condition. Check it often to see if it is frayed, torn, broken or smashed and get a new cord if it is.



ELECTRICAL CABLES

The cables and wiring harness should not get loose or fall down if you install them right and use the securing clamps.



CUPOLA RING

Keep the high pressure water hose away from the cupola ring when you are cleaning because water could leak into your radios and electrical system. Also, you don't lube the bearing or gear teeth because oil or grease would get forced against electrical items like the ring and brushes and damage them. Grease would also damage the plastic balls. Cleaning them is a job for support.

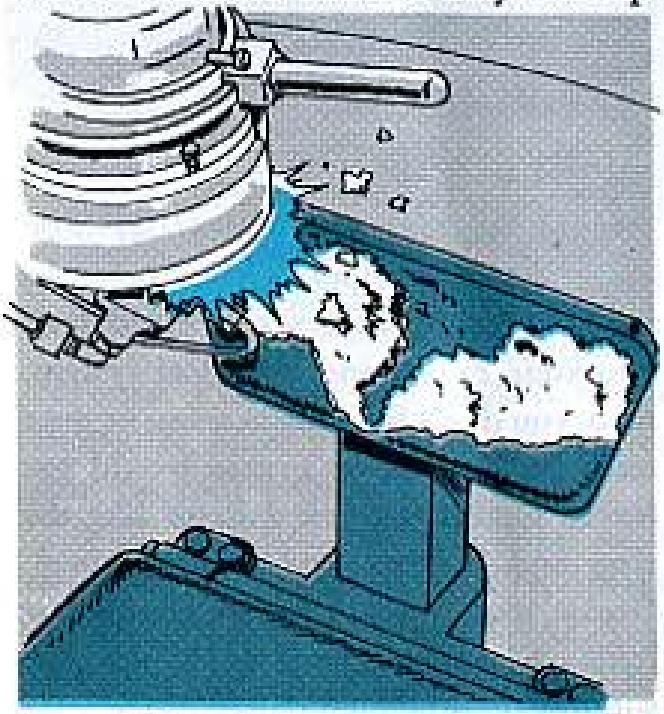
MORE

CONTROL BOX

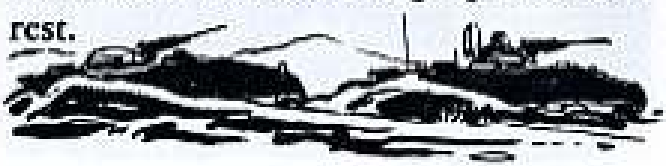
The radio control box has been relocated to the lower left hull plate and mounted right side up so the commander's helmet cord won't get tangled up. When you clean with water you have to be very careful around the control box no matter which way it is facing so you don't get water in the connectors. This is even more true when the connectors are facing upward.

COMMANDER'S SEAT

When you rotate the cupola with the commander's seat in either of the two top positions the motor body will hit the seat backrest. This not only tears up



the padding, it shakes up the hydraulic lines and starts leaks. You can prevent this by swinging the seat out of the way before you traverse. Just pull the seat retaining pin and push the seat out of the way — then you can traverse the turret 360° without banging the backrest.

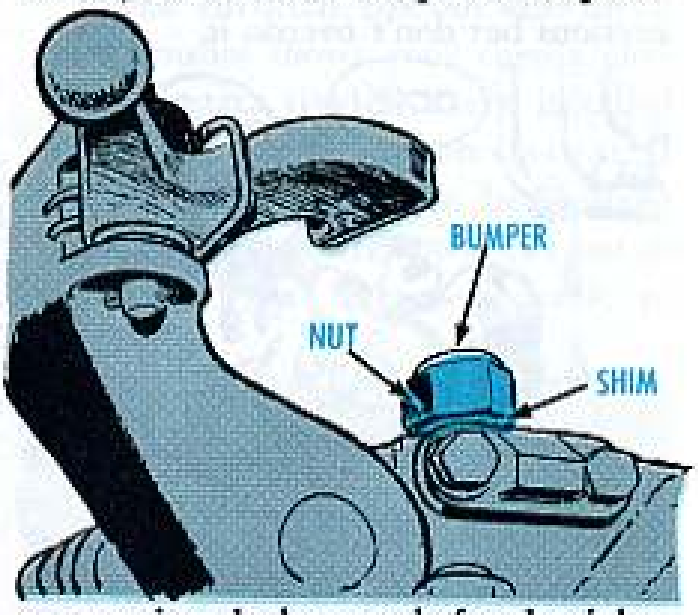


CRASH PAD

The track commander's crash pad takes such a beating that after a while the glue no longer holds. When this happens, reglue it, using green tape to help the glue.

CUPOLA HATCH COVER

If the cupola hatch vibrates when you travel with it in the locked open position, the latch is too loose. Have your friendly company mechanic shim the adjustment nut and put more pres-

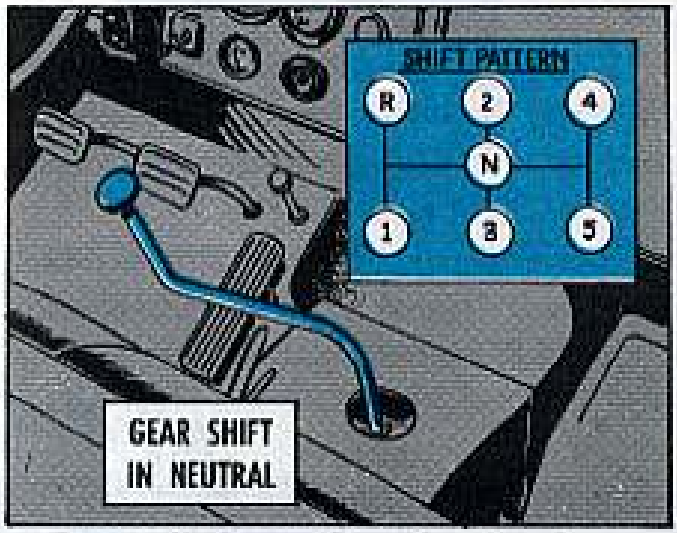


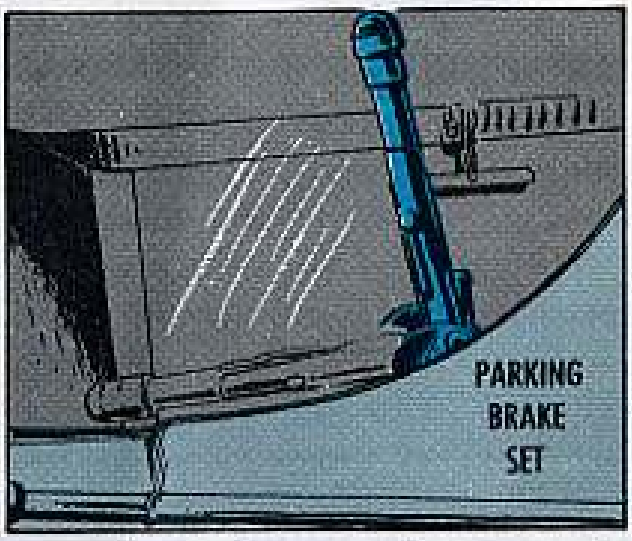
sure against the bumper before he tightens the nut again, like it says on page 265 of TM 9-2320-224-20 (Jan 65).

YOU GOTTA NEUTRALIZE THAT . . .

A lot of smart guys worked a long time making the compression ignition engine easy to start—the same engine you've got in your 2½-ton or 5-ton multifuel or diesel truck.

It'll start easy, all right, if everything's in up-to-snuff workin' order. That big bruiser may be sittin' there cold as a rock and then suddenly take off across country alone—if you forget to put the gearshift in neutral and set the parking brake.





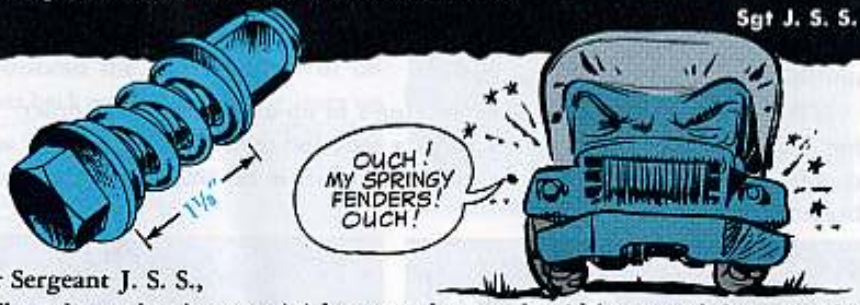
Just a little accidental nudge by another truck may be enough to start the engine and turn your truck into a raging monster—knockin' down fences, buildings and even people.

A push won't start it if the transmission's in neutral, but it's important to have the brake on too, in case your truck's parked on a slope where a bump could send 10 or 15 tons of steel to mowin' down just about everything in its path—not to mention the damage to the truck.

So remember, when you're shuttin' down, along with stopping the engine and turning off all electrical switches—transmission in neutral and parking brake set.

SPRING-LOADED BOLTS

Dear Half-Mast,
What torque is required for proper tightening of those spring-loaded fender mounting bolts on our 5-ton G744-series trucks?
Sgt J. S. S.



Dear Sergeant J. S. S.,

When the springs're new 'n' bouncy, the nut should be turned down on the bolt until the spring is compressed to 1⅛ inches. There's no torque measuring involved, so you use an ordinary wrench of the right size.

These springs absorb some of the strain put on the fender, especially in cross-country travel. When the springs get old or badly rusted and lose their bounce —or if they're broken—they should be replaced. Your support can get 'em for you from TM 9-2320-211-35P (May 64).

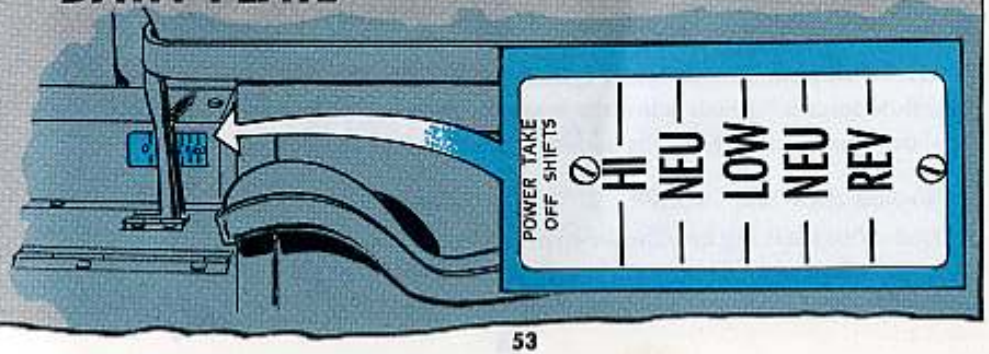
Half-Mast

2½ TON EYE THE DATA PLATE

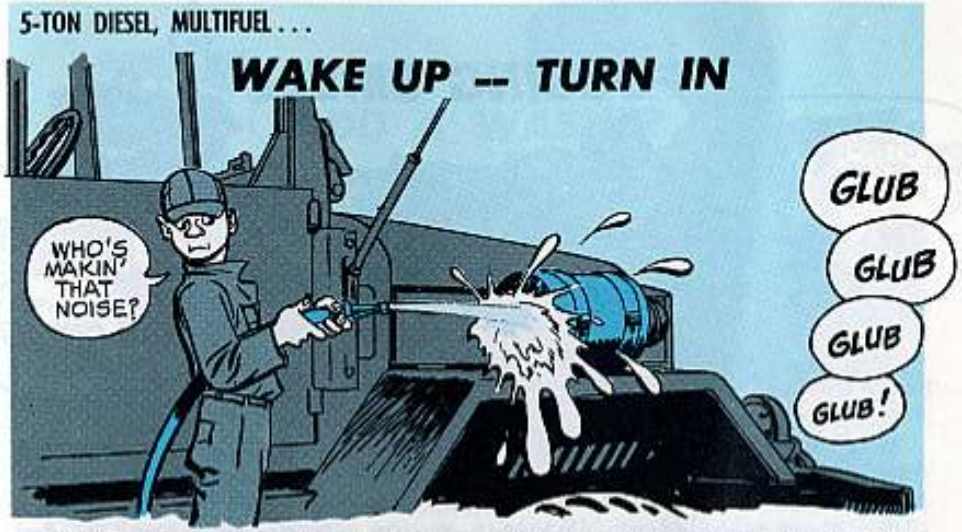
You say you just got one of those new multifuel M35A2, 2½-ton trucks? Good deal!

While you're eyeing this beauty, tho, focus in on the power takeoff shift-data plate in the cab. The hand lever positions may not jibe with the positions marked on the plate.

To head off shifting difficulties better make an adjustment on the lever control rod linkage, according to para 163 of TM 9-2320-209-20 (7 Apr 65), so the lever and plate agree.



WAKE UP -- TURN IN



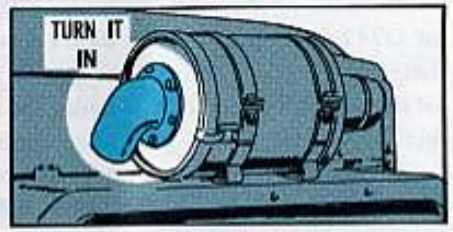
Water, leaves and even hats and wigs can wind up inside your 5-ton diesel or multifuel truck's fender-mounted air cleaner when the air cleaner nozzle is pointed out.

So just unlatch the nozzle end cover and turn it until the nozzle faces to where the fender and side panel come together. This'll put the suction in a safe corner where it'll just pull in air.

This's especially good to keep water from getting into the air cleaner when you're washing your vehicle.

Even with the nozzle turned in, tho, you always want to make sure the engine's not running during a wash job. Water's bound to splash around the nozzle where it'll be sucked in—maybe even into the engine.

Water in the cylinders will give your engine hydrostatic lock, which means the water can bust a connecting rod and other parts in the engine when the engine's cranked up.



FOGGING SMELL

Dear Half-Mast,

We keep getting gigged for a brake fluid smell or a foggy discharge coming from our M35 2½-ton truck's air cleaner. This happens when we use the service brakes repeatedly.

Our direct support told us the air-hydraulic unit was faulty and needed changing. We did this twice but it didn't get rid of the fogging smell.

Do you have any suggestions?

CWO F. E. M.

Dear Mr. F. E. M.,

Your smelly problem is an old one, especially on the K742-series 2½-ton trucks. And it's caused by one or more of the following three conditions:

FIRST AND COMMON CAUSE . . .

No baffle on the master cylinder filler plug. The first batch of G742-series trucks built didn't have this baffle installed. Later issued trucks do. It's needed to restrict the movement of the brake fluid and the air-hydraulic unit's exhaust air from getting into the vent system when the brake pedal is released.

If your filler plug has no baffle, requisition Cap, Brake Master Cylinder, Filler, FSN 2530-703-2636. Or replace the master cylinder. The one that comes under FSN 2530-753-9267 has a baffled plug.

SECOND AND VERY LIKELY REASON . . .

Over-filling the master brake cylinder reservoir. The correct fluid level is ½-inch below the reservoir opening. Filling it above this level will kill the action of the baffle.

THIRD AND LEAST LIKELY REASON . . .

Brake fluid leaking into the air-hydraulic unit and getting into the air system. If it does, then the air hydraulic unit (FSN 2530-040-2188) needs replacing.

Half-Mast

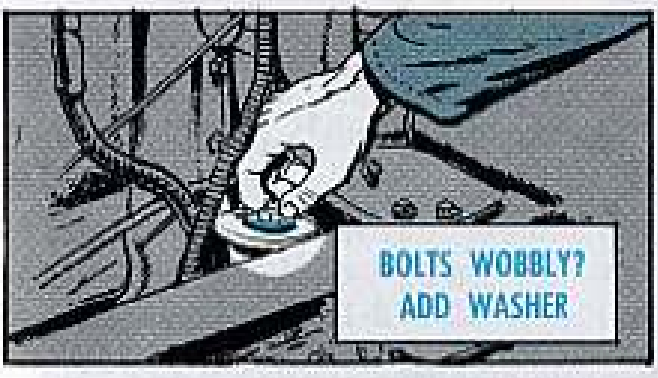
ENGINE MOUNTS . . .

Those front engine mounts, or pads, in your 2½-ton M44A1 series multifuel ruck should last until the engine's changed. Even if the pads get mashed down so the bolt's a little loose, there's probably no reason to get shook up. You may even be able to rotate the bolts with your fingers.

But if the bolts are wobbly—and the pads aren't oil-soaked or torn—all you need is another washer (FSN 5310-850-7048) under each front mount bolt head, just like the washer that's already there. The two washers will take up most of the slack, but the bolt still may be turned easily after the nut's tightened to 80-95 ft-lbs torque. That's OK, tho.

Never add washers at the nut end. The one (FSN 5310-723-3247) that's already there is enough.

If the pads get so beat up that the center holes are out of line, they should be replaced with new ones, listed in TM 9-2320-209-20P (Jan 65).



TURN SIGNAL TEST

No matter what tactical wheeled vehicle you've got, if its turn signal system was installed by MWO 9-2300-263-20 (20 Aug 63), troubleshooters can use Table IV in Change 8 (May 65) to TM 9-8030 (May 55). Although this detailed electrical check-out is for the ¾-ton truck, it can be used for other vehicles.

M38A1 ¼-TON TRUCK . . .

NEW BELLCRANK SYSTEM

There's no need for your M38A1 ¼-ton truck to suffer from steering troubles due to a worn out bellcrank system.

The redesigned bellcrank setup that came out with M38A1's after Serial No. 87062 and M170 ambulances after Serial No. 12320 can replace the whole system on older models. And it's better because it's got a dust cover for the bearing.

Here're the parts you need:

Bellcrank Assembly, FSN 2530-980-5192
Shaft, Pivot, FSN 5306-638-7863
Bearing, Sleeve, FSN 3120-661-9148
Seal, Oil, FSN 5330-200-6284
Seal, Oil, FSN 5330-200-6231
Collar, Bellcrank Shaft, FSN 2530-977-0948
Cap, Bellcrank Dust, FSN 2530-977-0947.
Washer, Flat, FSN 5310-823-8803
Washer, FSN 5310-013-1018
Nut, Self Locking, FSN 5310-737-5178

M151 RADIATOR HOSE

You don't get that Hose, radiator inlet, FSN 4720-678-1875, all by itself, like it says on page 130 in TM 9-2300-223-20P (Jul 65). It does come, tho, in Parts Kit, preformed hose, FSN 2930-886-8084, listed on page 21, TM 9-2320-218-20P (Dec 63) along with the outlet hose and four hose clamps.

MR. CLEAN

Dear Half-Mast,

Our M106 and M107 1½-ton trailers need their water tank interior cleaned and refinished. At one time this was done by MWO 9-2330-213-30/2; now I'm told the MWO has been rescinded.

Is this true? If so, what is the latest on cleaning the interior of our water tank?

Sgt. W. L. R.

Dear Sergeant W. L. R.,

The MWO was rescinded by DA Cir 310-65 (June 63). But the details on cleaning and refinishing the water tank interior are now covered in para 119 of TM 9-2330-213-14 (Jan 64), and its Ch 2 (Oct 65).

The only attention a new tank needs before it's put in use is a rinsing with a solution of 100 ppm (parts per million) calcium hypochlorite and water.

Half-Mast

1½-TON TRAILER . . .

CLEAN THAT AIR LINE FILTER

Just like a giant fist, weighing two or three tons, or more, trying to ram you through a building or off a curve.

That's your G754-series 1½-ton trailer (loaded) when the brakes don't work —maybe all because of a little gadget no bigger than your own fist, the air line filter.

Like TM 9-2330-213-14 (Jan 64) says, "no brakes or weak brakes" can come from a dirty air line filter element. Para 73 tells how to drain condensation from the filter and how to clean or replace the element. This should be done regular before operation.

And the TM gives you FSN 2530-696-0351 for an air filter parts kit, including element, because it's the new TM for operation, maintenance, repair parts and special tools. There's a Change 1 (Feb 65) and Change 2 (Oct 65) to the TM.

FORGET

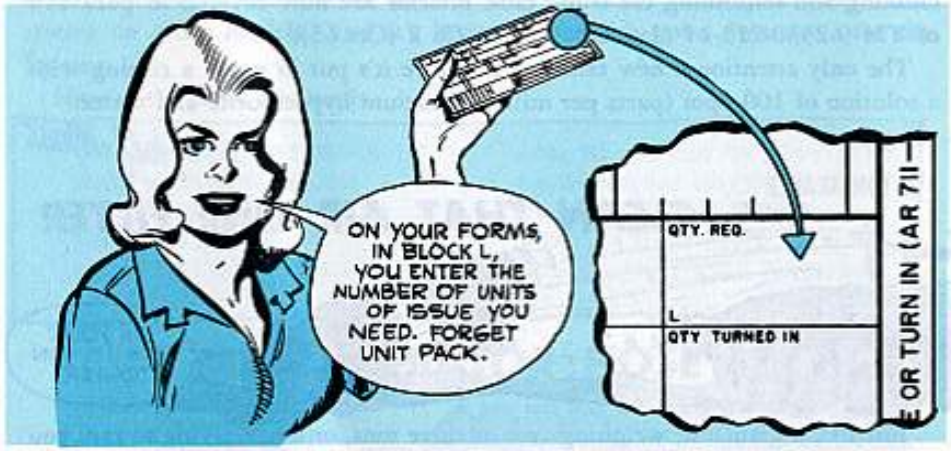
In ordering your supplies there are some things you've got to know before you start.

UNIT OF ISSUE—

That's like

UNIT PACK—That's a number of the same items packed up in a handy package or container. You might see 1, 5, 8, 30 or 100 in a unit pack; or it might be 10 items, 55 gallons, 5 quarts, 20 feet or 50 pounds.

Now, the big question . . . how do these affect your ordering on DA Forms 2765 and 2765-1?

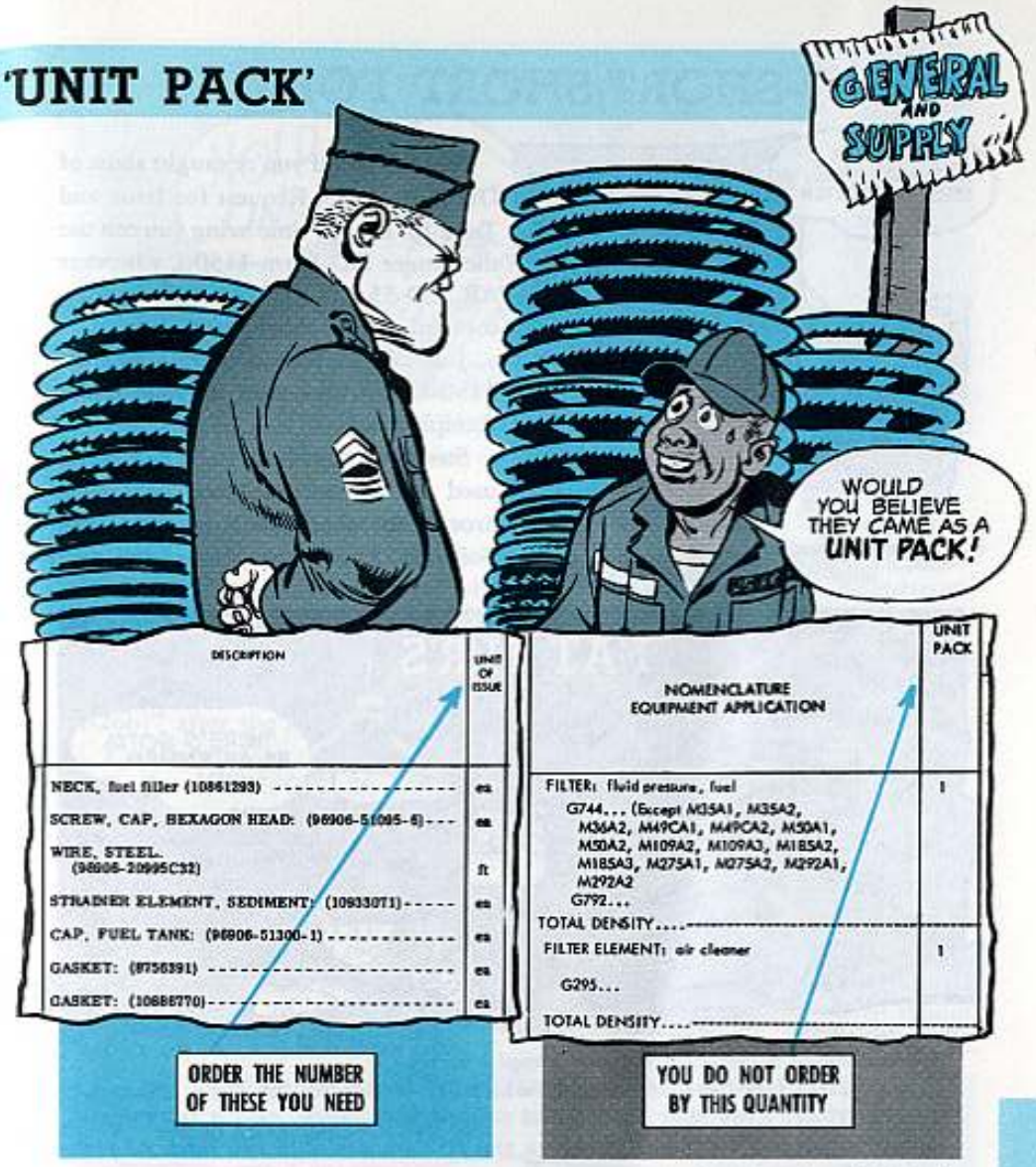


If you need 10 bolts, order 10 bolts; if 8 filter elements, order 8. If your gaskets are issued by sets, order the number of sets you need, not the number of gaskets.

You're never concerned with using the quantity of unit pack on your request forms. You leave that strictly up to support types. (Some real live DS outfits may give you special instructions on unit packs of some items; so, listen and heed.)

You only have to remember that if you need as many or more than are in a unit pack you'll get one or more unit packs. Some spark plugs you need come in unit packs of 8 each. You order 16 on your DA Form 2765, and your support delivers 2 unit packs of 8 each.

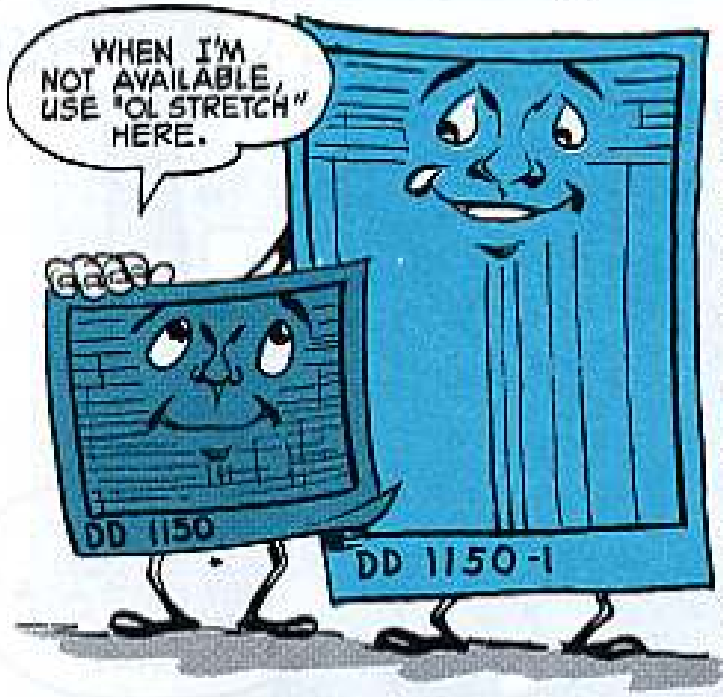
'UNIT PACK'



In some cases your support may give you a unit pack when they feel it's in the best interests of supply economy. This usually happens with little things like bolts, nuts, washers and cotter pins. When this happens and you get more than you ordered, store the "extra" items and note on your records that the items were issued as a unit pack. This'll show some inspectors why you have more than your demands call for.

But in all cases, tell your support exactly how many you need . . . and forget unit pack.

SHORT/SHORT FORM



Needn't fret if you're caught short of DD Form 1150, Request for Issue and Turn-In. For the time being you can use the longer DD Form 1150-1 wherever AR 735-35 (25 Oct 65) calls for the colorful, 3-part short form.

Just add carbon as needed and the 1150-1 will take care of your hand-receipt info.

Stocks of the short form are being used up on purpose, and next time around the shortie will be called DA Form 3122.

Dear Half-Mast,

Please settle a big flap for our supply section.

Our PBO has handreceipt accounts which run 5, 10, 20, 30, even 100 pages (DA Form 2062). I say that it's a lot of unnecessary work, and a tremendous waste of time and DA Forms to have the H/R holder sign the back of each separate form.

Others here tell me each separate page must be signed, whether the H/R consists of one page or 100.

Who's right?

MSgt C. S. C.

Dear Sergeant C. S. C.,

You are.

As long as the pages are in sequence and correctly identified, only the last page of a fat H/R needs the holder's signature.

Half-Mast

TM 38-750's PARA 4-26h STORY

Hold one if para 4-26h of TM 38-750 is putting question marks in your eyes.

The paragraph, on commo-electronics equipment, requires a DA Form 2409 on major components only when the configuration (such as AN/VRC-12) has a line item number listing in para 4-26, **plus** the notation "(para 4-26h)" after the number.

F'rinstance:

Radio set AN/GRC-26 is listed in para 4-26 under line item number 410220. But, there's no "(para 4-26h)" notation. Therefore, Form 2409 is **not** required on each major component.

Radio set AN/GRC-50, line item number 410250, does have "(para 4-26h)" after it. Therefore, you keep 2409's on the major components.

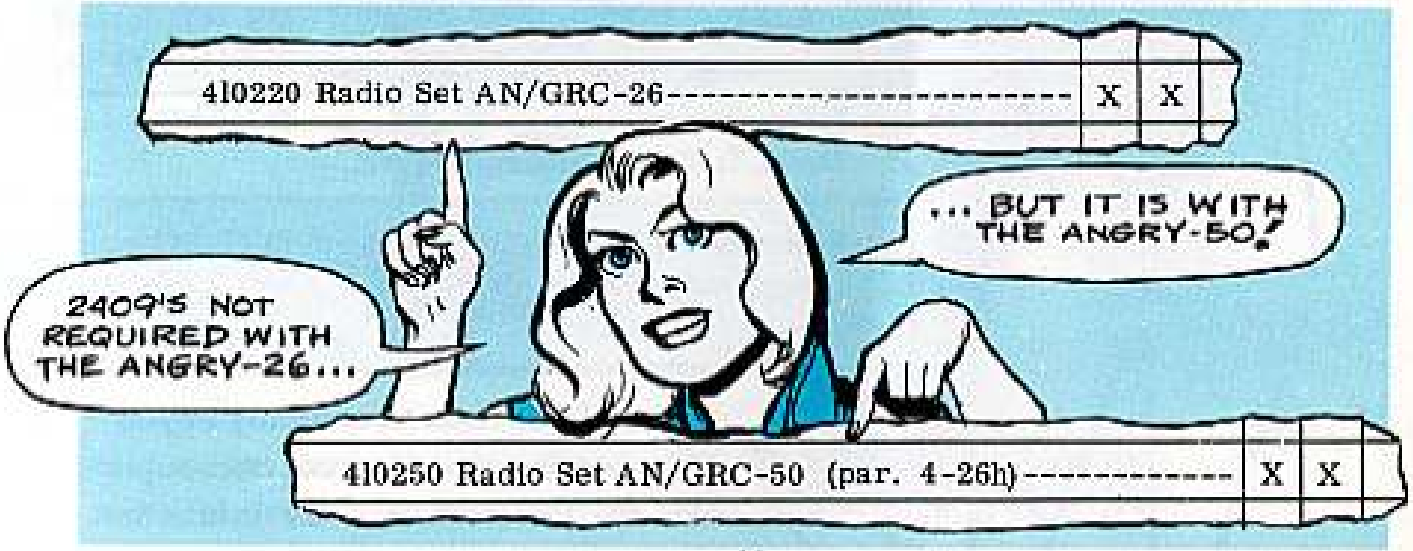
If your TM's don't pin down major components, you need a Form 2409 when:

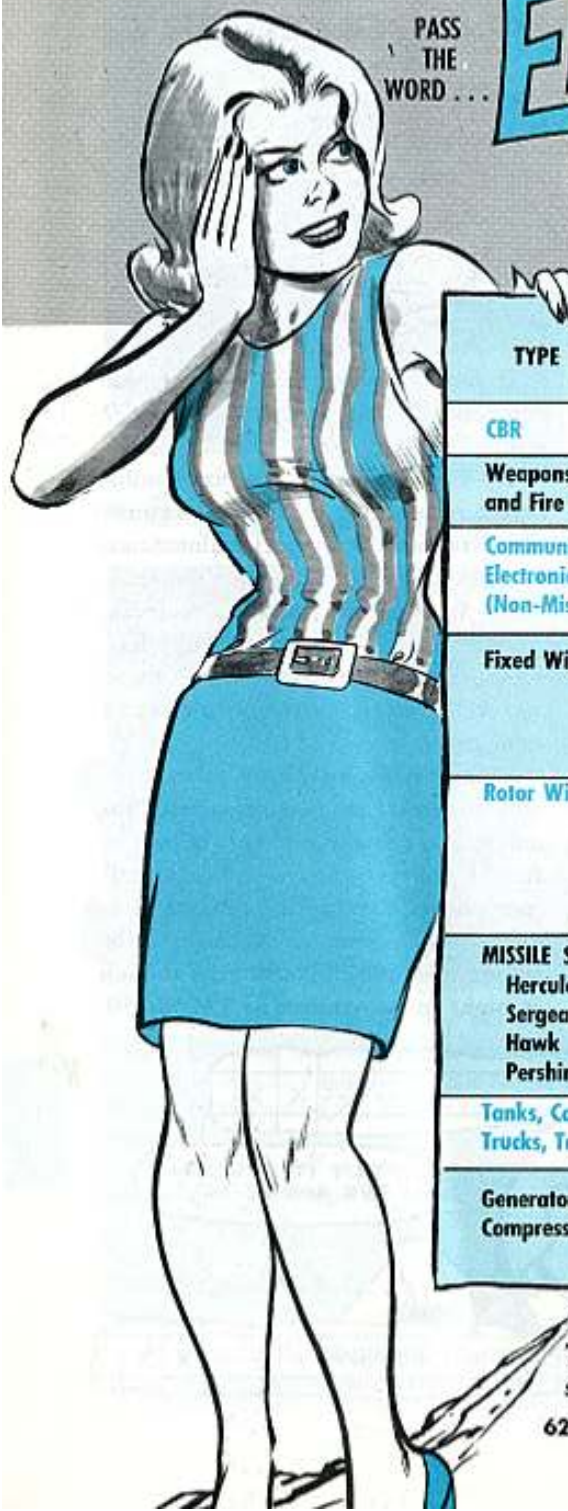
1. The component is serially numbered, recoverable (NX), and requires organizational or support maintenance services (aside from operator services).

2. Such items include receivers, transmitters, RT's, power supplies/packs, indicators, modulators, radar and ADF antennas, teletypewriters and some controls.

You do not need 2409's on expendable mounts, handsets, headsets, antennas and cable assemblies. If info in Item 1 above applies to similar small components, they get a 2409.

Naturally, your own CO has the option to require a 2409 even though it might not be required by TM 38-750.





PASS THE WORD . . .

EIR&MD . . .

Among the handiest pubs you can latch on to are the "Equipment Improvement Report and Maintenance Digests" published as Army Technical Bulletins.

Many people call these "EIR Digests," but they're more than that. Some of these also give up-to-date info on maintenance, supply, and publications.

Here's a rundown.

A GOOD THING GOING

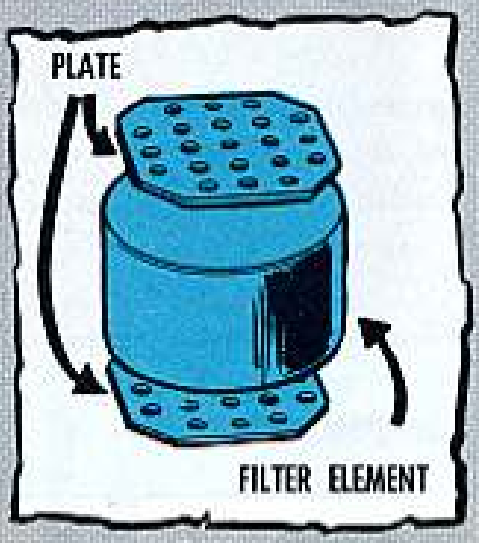
TYPE EQUIPMENT	TB SERIES	PUBLISHED	ORDER ON DA FORM NO
CBR	TB 3-600	Semi-annually	12-34 (Write-in)
Weapons, Artillery and Fire Control	TB 9-1000-200-15/	Quarterly	12-34 (Write-in)
Communications and Electronics (Non-Missile)	TB 750-101	Quarterly	12-34 (Write-in)
Fixed Wing Aircraft	TB 750-931-1/	Quarterly	12-31 (Requirements for Operator's Instructions for all fixed wing aircraft)
Rotor Wing Aircraft	TB 750-931-1/	Quarterly	12-31 (Requirements for Operator and Crew Maintenance Instructions for all rotary wing aircraft)
MISSILE SYSTEMS			
Hercules	TB 9-1400-299-10/	Quarterly	12-32
Sergeant	TB 9-1400-324-10	Quarterly	12-32
Hawk	TB 9-1400-549-10/	Quarterly	12-32
Pershing	TB 9-1400-399-10	Quarterly	12-32
Tanks, Carriers, Trucks, Trailers	TB 750-933-1	Quarterly	12-38 12-32
Generators, Tractors, Compressors, MHE	TB 750-932-1	Quarterly	12-9 (Requirements for Logistics, General — A)

You'll not want to miss any of these TB's, because some current ones supersede the last ones, and the info is not repeated if the case has been closed. Be sure to get on initial distribution because they're not stocked.

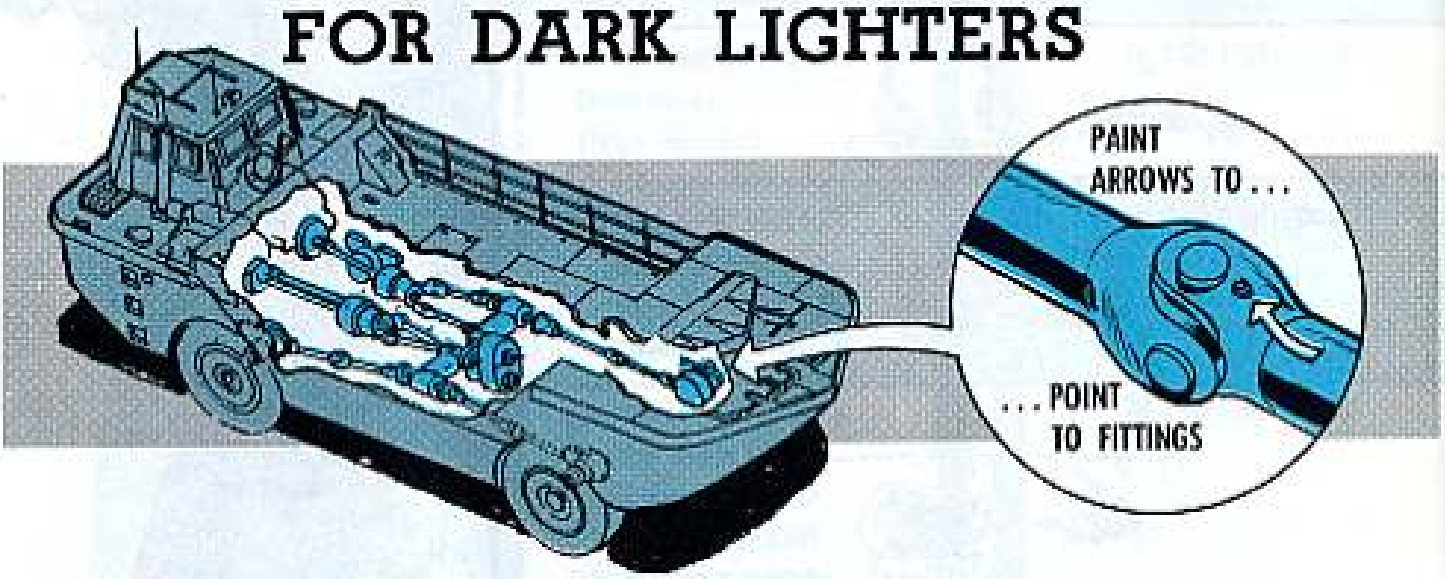
FILTER FIX FOR PHIBS

You won't have any lark out of your LARC-V or LARC-XV if you fire it up after it's been parked a while, and a bum filter makes it overheat.

Although LARC's like it wet or dry, there's a part inside that doesn't like to set still atall—the anti-corrosion filter. It comes apart and blocks the cooling system if it's idle too long. So if your LARC's stood around for as much as 3 months, replace the filter core before you start her up—else you won't go far. FSN 2930-789-0651 gets you the filter element.



FOR DARK LIGHTERS



Lube joints on the LARC-V and LARC-XV drive shafts are hard to find in the dark—and the shafts have to be turned to get at 'em all.

It makes the job easier if you paint arrows on the shafts so they point to lube fittings. Then, one man with a flashlight can stay clear of the turning machinery, shoot the lube points, and finish up fast just by watching the arrows.

NOT BY THE NUMBERS

You may run into some M8A2 gas particulate filter units with serial numbers painted on 'em, and you'll find others without serial numbers. No problem.

None of the units got serial numbers when they were manufactured. And those with numbers no doubt acquired 'em for some local reason after they hit the field.

But, for TM 38-750 reports on the units you don't need a serial number. Just use the N/A (not applicable note) in the form's serial number block.

Seein' Double?

You don't have to rub your eyes if you run across an M151 (or M151A1) ¼-ton truck that has identical registration and serial numbers. Quite a few of 'em came out with twin numbers

Not Your Job

You say the luminous lettering in your Nike-Hercules vans has faded so much you can just about read the different dials when the lights are turned down? Here's what to do. Ask your support people to come on the scene with whatever it takes to clean and renew the lettering. Their TM 9-1400-250-35 (28 Nov 62) gives them all the scoop on the work.

M113 Coil Communique

You all wound up because the ignition coil on your M113 personnel carrier is busted? Well, uncoil yourself and order Kit, coil, FSN 2920-089-3607. This kit includes installation instructions (wiring diagram) and is the best replacement for your coil. See the latest TM 9-2300-224-20.

Quickie Pin? You're In

Hung up for a set of quick-release pins for your Hawk loader-transporter hoist beam? Scribble on page 146, page 86, of your TM 9-1450-500-20 (May 60) the FSN 2590-690-2854. The number's in Fed Cat C2590-IL-A of Jul 66, page 5-75.

Carburetor Controls

Funny thing about choke and throttle cables — they can freeze on you during the summer and leave you spittin' and sputterin' in the winter. So eyeball the fine print of your LO's for guidance on squirting some OE now and then to the linkage to keep it sliding free and easy.

M127A1C Wheel Studs

If your M127A1C or M127A2C 12-ton semi-trailer needs wheel studs, you'll find 'em on page 47 of TM 9-2330-207-24P (Jan 62). Get STUD, Shouldered, FSN 5307-383-4957, for the right wheels and BOLT, Ribbed neck, FSN 5307-733-9239, for the left wheels.

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

WHERE IT'S HOT AND DUSTY
AIR FILTERS WORK OVERTIME!
THIS MEANS THEY NEED EXTRA ATTENTION!

KEEP FILTERS CLEAN OR CHANGE 'EM!

DON'T SUFFOCATE YOUR EQUIPMENT