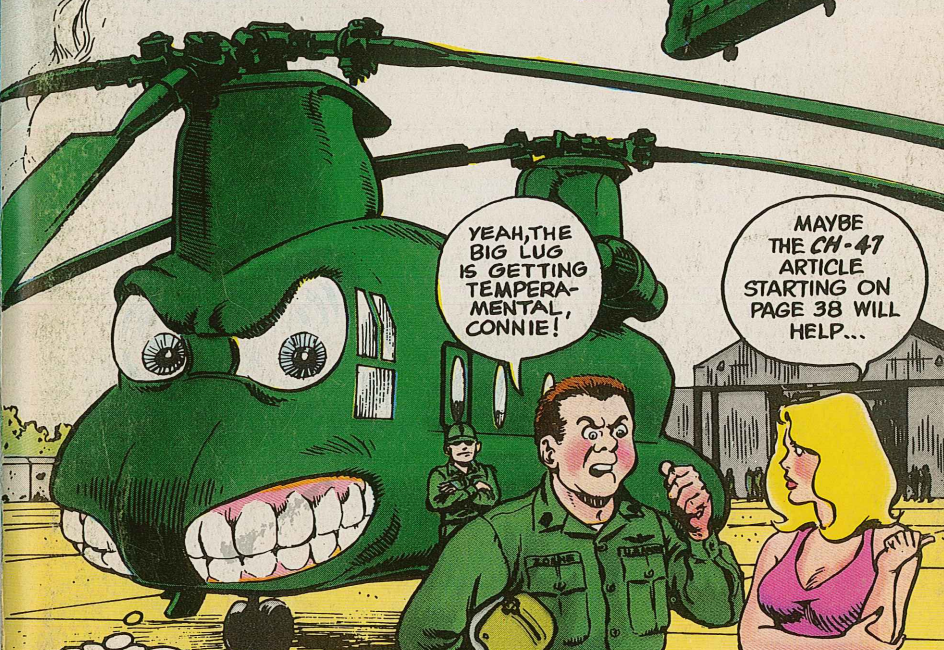


Issue 282

PS

★  
May  
1976

# THE PREVENTIVE MAINTENANCE MONTHLY



YEAH, THE  
BIG LUG  
IS GETTING  
TEMPERA-  
MENTAL,  
CONNIE!

MAYBE  
THE CH-47  
ARTICLE  
STARTING ON  
PAGE 38 WILL  
HELP...

TH' NAME  
IS CHINOOK  
... NOT  
SCHNOOK!

ALL THEY  
GAVE ME WAS  
A PAPER  
INSPECTION!

MURPHY  
ANDERSON



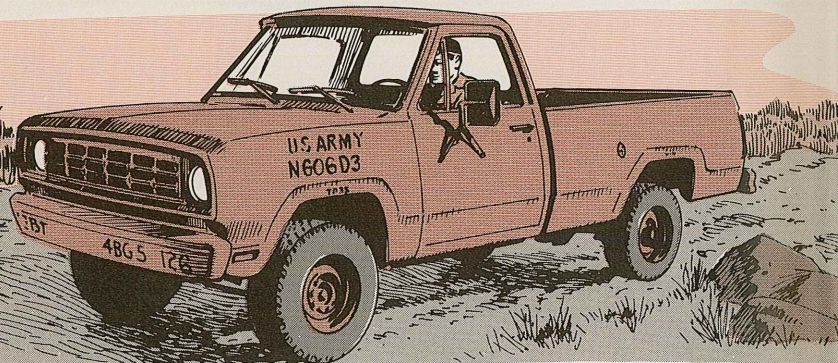
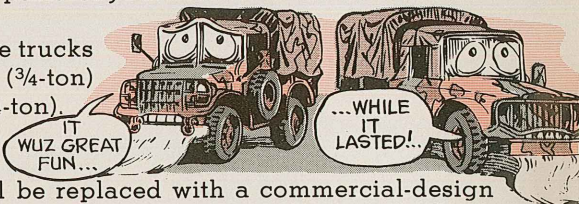
# TIGHTEN YOUR BELT...

... You're probably going to see some hard times when it comes to getting certain repair parts for your M37B1 3/4-ton or M715 1 1/4-ton truck.

This goes for all of the trucks in the TM-212-series (3/4-ton) and TM-244-series (1 1/4-ton).

These vehicles are being phased out.

In most cases, they'll be replaced with a commercial-design 1 1/4-ton pickup truck—pretty near exactly like the truck you see downtown in the dealer's showroom.



This changeover can't happen in the flick of an eye. It takes a while to move the old trucks out and the new ones in.

And this means that repair parts support of the old trucks will taper off.

You won't be able to get certain repair parts—even though the -20P TM for your truck says the parts are authorized. And don't expect TM changes to come along and give the new story on those parts—it's hardly worth the money to put out TM changes for equipment that's going out of the picture.

You'll just have to bear with it until the changeover is completed.

Your own command will probably work out some plans to make it easier on you:

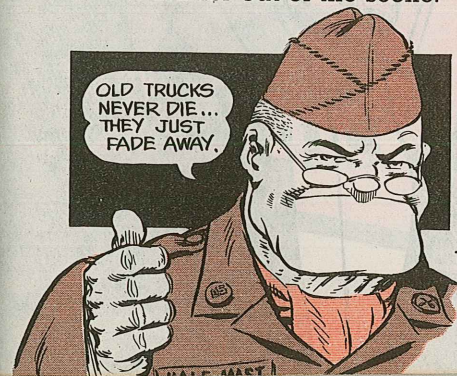
—The ol' bone yard (cannibalization point) will have to cough up more repair parts.

—Your support may have to make some parts for you. If the parts are simple to make—like a bent piece of metal with holes drilled in it for a mounting bracket—your own shop may be able to do the job.

—Your truck may not be on the road so much. If there're now requirements for putting a certain number of miles on your truck during a certain time period, they may have to be changed.

—Hard-nosed inspectors may have to relax a little. No, not on such things like keeping engine oil up to snuff, cooling system filled, batteries maintained, tires inflated and so on. Common sense will save everybody a lot of headaches.

Do the best you can with what you've got—until that spankin' new pickup comes over the hill and shoves your old 3/4-tonner or 1 1/4-tonner out of the scene.



## PS THE PREVENTIVE MAINTENANCE MONTHLY

Published by the Department of the Army for the information of all soldiers assigned to combat and combat support units, and all soldiers with organizational maintenance and supply duties. Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Maintenance Management Center, Lexington, KY 40507.

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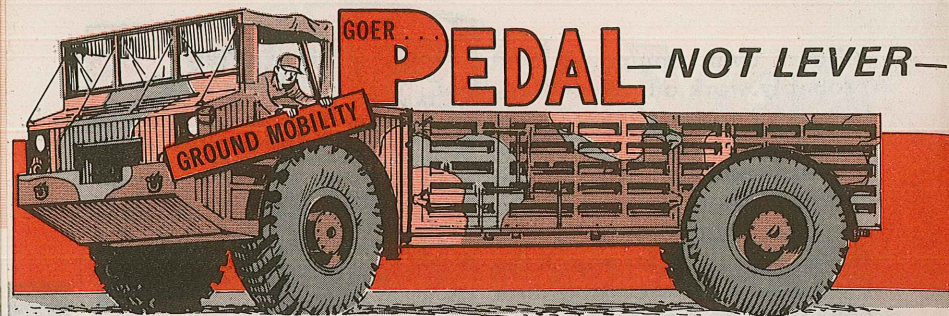
BYOI...CH-47 (Part 1)

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to: Or call: AUTOVON 745-3503.

MSG Half-Mast  
PS Magazine  
Lexington, KY  
40507

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DISTRIBUTION: In accordance with requirements submitted on DA Form 12-5.

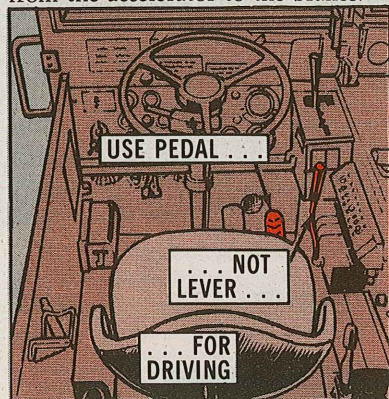




You're sticking your neck out—way out!—if you drive with your Goer's governor lever feeding the fuel.

If you've got to stop quick—or slow down in a hurry—you could forget to push the lever forward. You'll be hitting the brakes while the engine just keeps pushing you on.

Stick to the accelerator pedal for highway and cross-country driving and for swimming. Then you cut off the power when you move your foot from the accelerator to the brakes.



That governor lever is only for tanker fuel dispensing and wrecker lifting operations. It's only to keep a steady engine speed for those operations.



## FOR TRAVEL

Driving calls for special attention.

You may think you're just poking along—since the top speed is only about 30 MPH. But you've got a lotta weight pushing you. Anywhere from 12 to 23 tons, depending on which Goer you're driving and how much of a load you're carrying.

YEOW!  
I CAN'T STOP!

MAKE UP YOUR MIND, F'GOSHSAKES--- YOU'RE HITTIN' THE BRAKES BUT YOU DIDN'T PUSH THE GOVERNOR LEVER FORWARD!



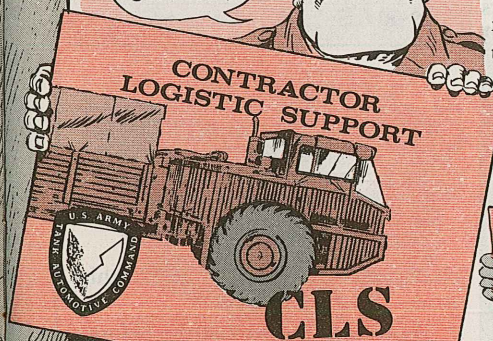
It's like a slow-moving freight train coming to a stop—all of that weight takes a while to slow down.

Keep a sharp eye out ahead. Watch for curves, crossroads, other vehicles—anything you might have to stop or slow down for.

Get your foot off the accelerator pedal and onto the brake pedal early. Start slowing down all of that weight—early.

## GOER REPAIR PARTS BY CLS

IT'S SPECIAL CONTRACTOR LOGISTIC SUPPORT!



You've got to be up on CLS if you have a M520 8-ton cargo truck, M559 2,500-gallon tanker or M553 10-ton wrecker. That's because some Goer repair parts are supplied directly by the manufacturer.

GET ALL OF THE POOP ON CLS BY WRITING TO...

Commander  
US Army Tank-Automotive Command  
ATTN: DRSTA-WG  
Warren, MI 48090

Fact is, if you've got any questions or problems on your Goer, drop a line to that address.



TM-242-  
SERIES  
1¼-TON  
TRUCK . . .

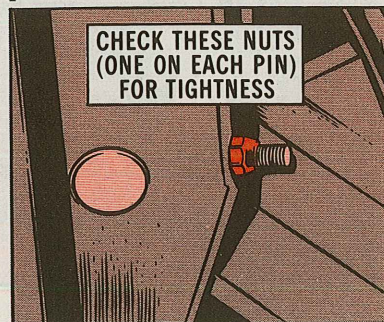
# LOOSE HITCH PINS?

If your Gama Goat's carrier-to-tractor attaching pins (hitch pins) are loose, you might end up with a 2-piece vehicle. If you're an ambulance driver, you might even lose your patients.



LOOSE  
PINS ARE  
BAD NEWS

Those pins are held in with a capscrew and nut. When you check the pins, reach in and make sure the nuts



CHECK THESE NUTS  
(ONE ON EACH PIN)  
FOR TIGHTNESS

are tight. If they're loose, torque 'em down to 10 lb-ft.



HITCH PINS ARE ON TH' TOUGH BURP SIDE... BUT THEY DO HELP GET AND KEEP IT TOGETHER!

HALP!

?

If the bolt's broken or missing, get a new one in right now. The bolt is NSN



5305-00-267-9692 and the nut is NSN 5310-00-877-5796.

This is Grade 5 hardware—with 3

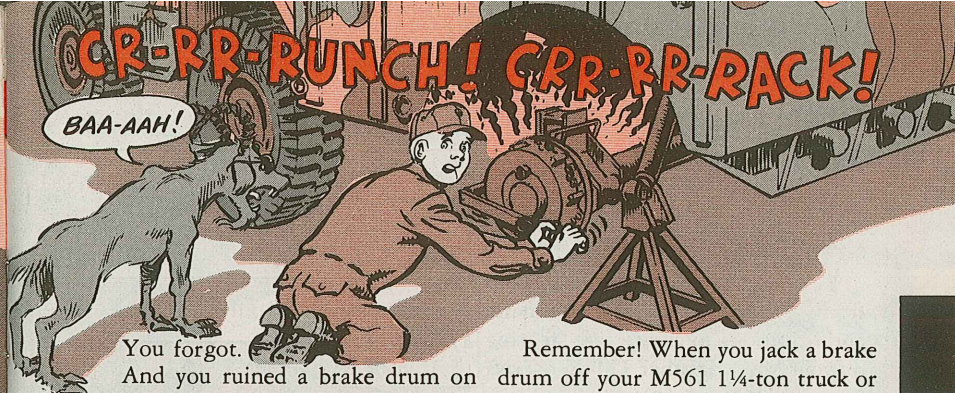
USE GRADE 5—NOTHING WEAKER



slash marks on the head. Use only this grade—nothing weaker.

Those pins are part of the before-operation check, so give 'em a feel every time you go out.

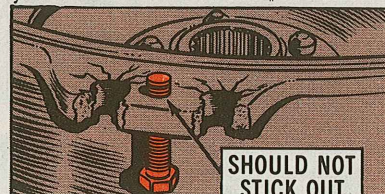
4



# CR-RR-RUNCH! CRR-RR-RACK!

BAA-AAH!

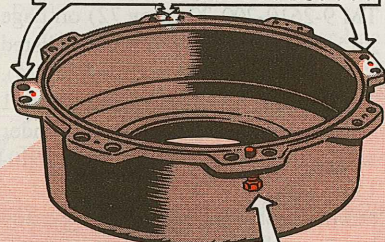
You forgot.  
And you ruined a brake drum on your Gama Goat. About \$100 shot!



SHOULD NOT  
STICK OUT

You didn't back out the jacking screws before mounting the brake drum. The tips of the jacking screws were sticking through—from screwing them in to take the drum off. Then when you tightened the mounting nuts, you were fighting the jacking screws.

THESE 3 JACKING SCREWS  
WERE BACKED OUT . . . BUT . . .



. . . THIS ONE WAS NOT!



OWWW!  
ANOTHER  
DRUM SHOT!

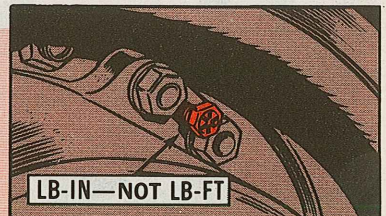
Remember! When you jack a brake drum off your M561 1¼-ton truck or M792 ambulance, turn the 4 jacking screws back out—right now!

And play it safe—check the jacking screws again when you put the drum back on. If they're sticking through just a fraction of an inch, the flange will crack or break when you tighten the mounting nuts.

Run your finger over the jacking screw holes. If you can touch the end of the screw, back it out some more.

Brake drum mounting nuts get 55-70 lb-ft torque.

But when you tighten the jacking screws, you give 'em only 35-40 lb-in torque. That's inches, not pounds. Forget that "lbs-ft" you see in TM 9-2320-242-20 (Aug 70), page 2-243, para 2-162f(26).

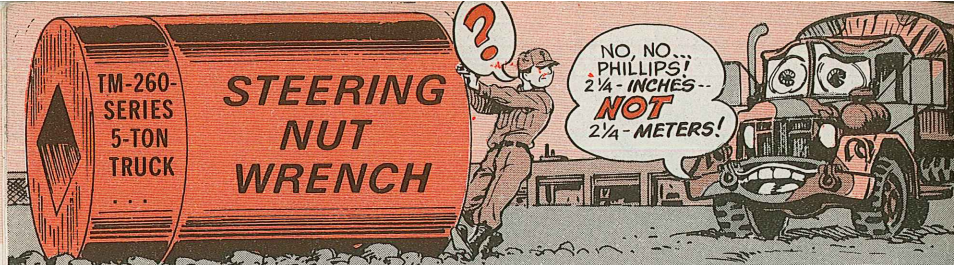


LB-IN—NOT LB-FT

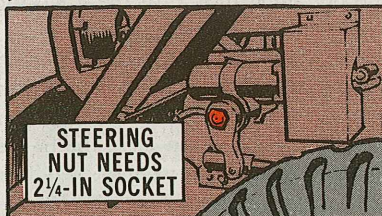
You use the inch-pound torque wrench, NSN 5120-00-853-4538, in your No. 1 Common Shop Equipment.

5



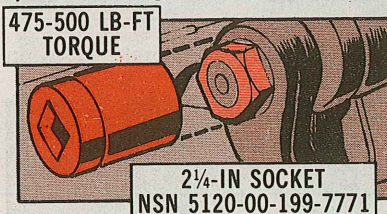


You mechanics need a little help from upstairs (local command authorization) to assure safe steering on your M813 or other TM-260-series 5-ton trucks.



You need a 2 1/4-in socket—NSN 5120-00-199-7771—to tighten your

truck's pitman arm nut. The sockets in your tool set go up only to 2 inches.



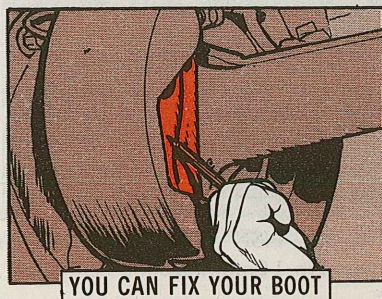
Your authorization for this socket is Appendix A, CTA 50-970.

This nut gets torqued to 475-500 lb-ft—like it says in TM 9-2320-260-20 (Jul 72), page 2-272, para 2-164b(2).

## PATCH THE BOOT

Don't send that torn dust and moisture protective boot on your truck to Boot Hill. Maybe you can fix it.

If it has a puncture or a small tear—but otherwise good—you can patch it with a tire patch.

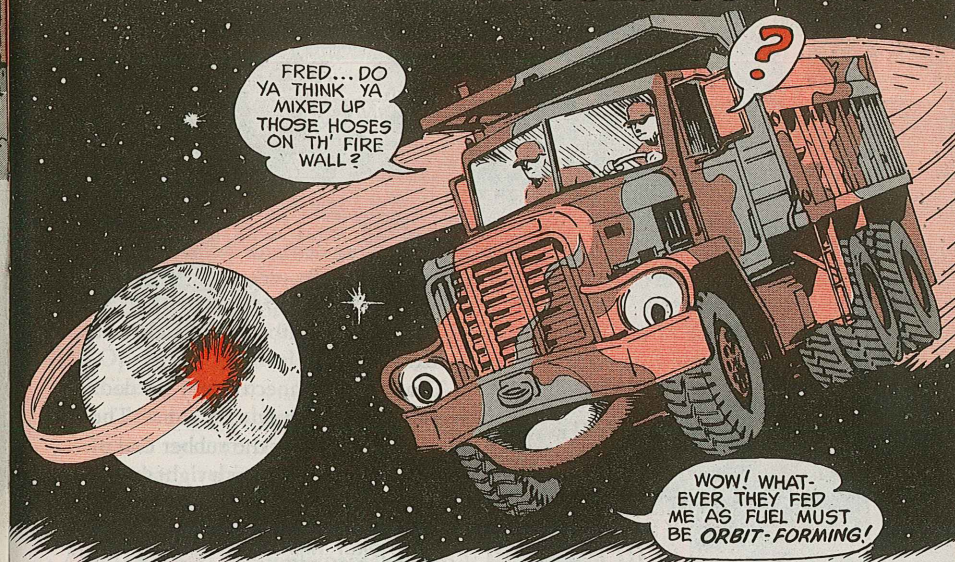


Unclamp the boot, clean it thoroughly, and patch it just like you used to do with your bicycle inner tubes. Step-by-step instructions are in TM 9-2610-200-20 (Nov 72) on page 2-15. The materials you need are listed on pages 4-5 and 4-6 of Ch 1 (May 74). There's one change to make there: 1 gallon of Rubber Buffer comes under NSN 2640-00-403-5539, not 2640-138-8325.

This repair job'll save money, and you'll get that truck back into action a lot quicker than waiting for a new boot.

THE COLORS SHOW

## WHERE THE HOSES GO

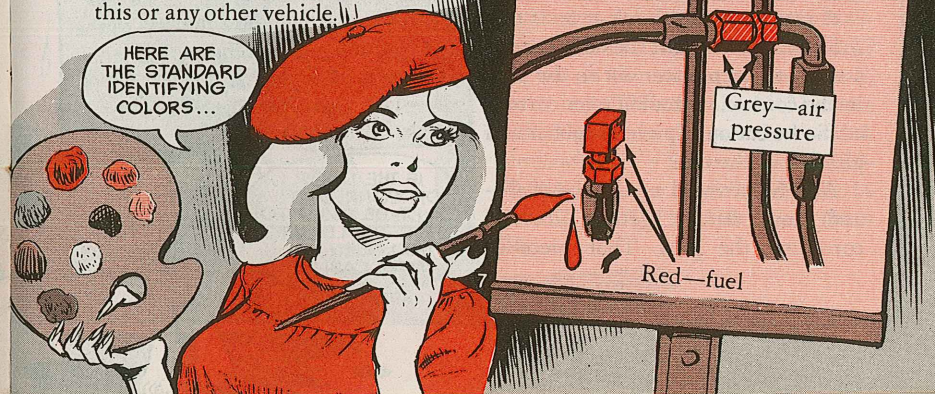


When 4 identical hoses carrying 4 different things come together in one spot, you've got a mix-up waiting for a chance to happen.

That's the situation on the engine fire wall of the new model F-5070 20-ton CCE dump truck.

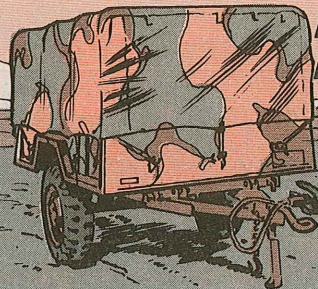
So what you do is color-code the hoses and fittings so you'll know which goes back where when you have to unhook 'em. Use colored tape or paint.

You can color-code any other lines or hoses that might get switched—on this or any other vehicle.



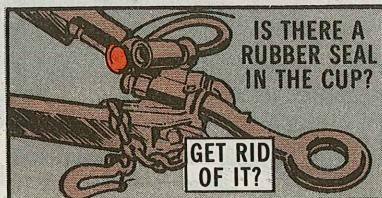


## SEAL BACKFIRES

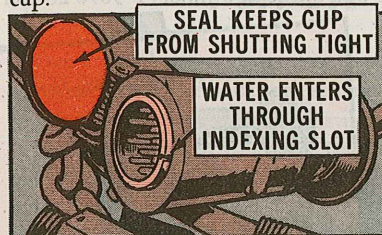


HOM-MADE RUBBER SEALS ARE A NO-NO!

Pick out a trailer—¼-ton, ¾-ton, 1½-ton—and look at the door on the intervehicular cable connector.



There's a good chance you'll find a homemade rubber seal stuck inside the cup.



A real screw-up! Yank it out. Somebody thought the door needed a seal—to keep water out so the pins in the connector wouldn't get corroded. So he cut out a piece of rubber and glued it in the cup.

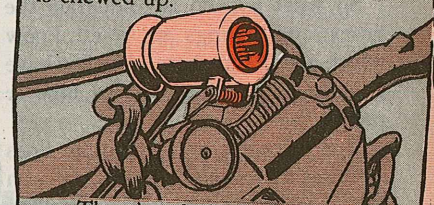
And he screwed up a good seal—and now water's getting in and corroding the pins. That piece of

rubber holds the cup part way open, so water goes right in through the indexing slot.

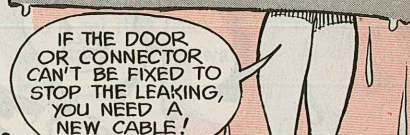
That cable connector and its door are OK just the way they come. The cup presses against the rubber end of the connector and makes a tight seal—so water can't get in.



- The edge of the cup is damaged.
- The rubber part of the connector is chewed up.



- The rivet holding the cup to the door is loose. (Tapping with a small ball peen hammer may fix it.)
- The door spring is broken or weak.



## QUICK! LET'S TELL FILBERT ABOUT TH' NEW TM ON LVCT

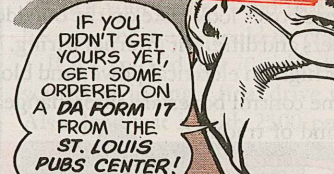
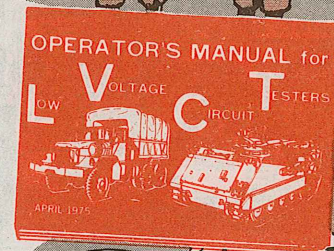


It's TM 9-4910-509-10 (Apr 75), Operator's Manual for Low Voltage Circuit Testers.

It's for trouble-shooting the electrical system of your tactical and combat vehicles—using Test Set, Generator And Voltage Regulator, Automotive, NSN 4910-00-092-9136, in your No. 1 Supplemental or No. 2 Common Shop Equipment.

This pocket-size TM gives the poop on how to use 9 different models of the LVCT.

Every automotive mechanic needs a copy of TM 9-4910-509-10.



## FUEL NOZZLE STRAINER

Are you looking for a new strainer for the 1½-in fuel nozzle on your M49-series 2½-ton fuel service tank truck? It's not in the truck's parts manuals, but it is in TM's for the M131-series 5,000-gal fuel service tank semitrailers. It's Strainer, NSN 4930-00-954-1317, in TM 9-2330-272-14 (Jun 72) and TM 9-2330-286-14 (Nov 68).





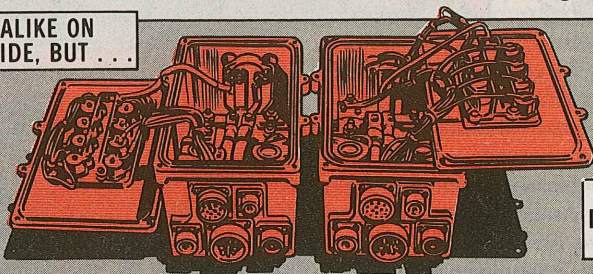
# TANK TURRET POWER CONTROL BOX PUZZLE

NO,  
NO,  
JONES!

YOU'VE TAKEN  
THE WRONG  
UNIT!

It's what's inside that counts. That's the story on the turret-power relay-control boxes for the M60-series tanks and the M728 combat engineer vehicle.

LOOK ALIKE ON  
THE OUTSIDE, BUT . . .



... ARE  
DIFFERENT  
INSIDE.

These boxes look alike on the outside even though they have different stock numbers and different internal wiring. Use the wrong one and your tank will be low or high on electrical power and blow its relays or other components often.

Some control boxes are interchangeable while others can be used with only one kind of track.

SO WHAT  
GOES WITH  
WHAT,  
BONNIE?

HERE'S  
THE WHOLE  
STORY...

ON

USE ONLY THESE  
CONTROL BOXES

PART  
NUMBER

M728 with 2.2-KW searchlight

NSN 1015-00-763-0815

10905722

NSN 6110-00-179-2989

11590881

NSN 6110-00-068-8491

11654980

M60A1 with 2.2-KW searchlight  
but without AOS

NSN 6110-00-179-2989

11590881

NSN 6110-00-068-8491

11654980

M60A1 with 2.2-KW searchlight  
and with AOS

NSN 6110-00-068-8491

11654980

M60A1 with AOS and 1-KW  
searchlight

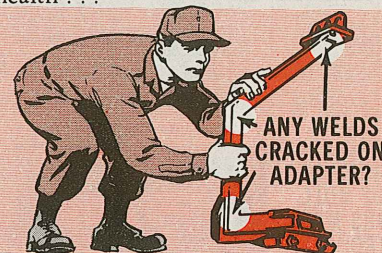
NSN 1015-01-006-0621

11655385

10

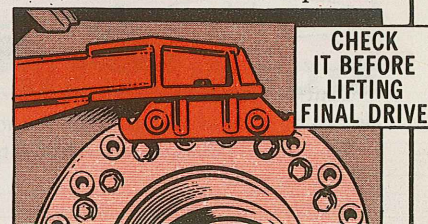
# M88 FINAL DRIVE DANGER

The hoisting adapter NSN 4910-00-766-1961 (\$337) for the final drive assembly on your M88 recovery vehicle could be dangerous to your health . . .



Click your eyeballs and look it over because the welds could be cracked.

If it's cracked, get it welded before you try swinging a final drive with it. Also, load test it with 2500 pounds.



A new adapter is being designed. Meanwhile, pay sharp attention to Step 3 of Fig 142 on page 197 of your TM 9-2350-242-20 (Aug 66) when you take off a final drive. Your command will have the original TACOM message on this: AMSTA-MCA 291300Z Aug 75.

?

YER KIDDIN',  
BONNIE!

THEY ALL  
LOOK JUST  
ALIKE!

WHEW!

THANKS,  
BONNIE!

This will take care of you if you know what kind of box you have. If you don't know, get your turret mechanic to open up the box. He can tell you what kind it is by the internal wiring.

This situation will get better because all new production boxes will have part numbers on them. Also, as an interim measure, your friendly DSU can put part numbers on the outside of boxes they issue. Authority for this is on page 4-42 of TB 43-0001-36-1 (Apr 75).

For now, when you turn in one of these boxes for DX, put the right NSN on the exchange tag (DA Form 2402).

ALSO, BE  
SURE THE  
SAME INFO  
IS ON THE  
PART  
YOU KEEP!

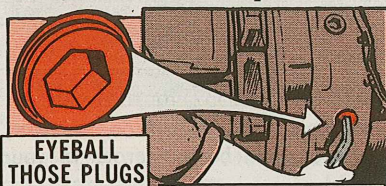
When you get a new control box from supply keep the supply card (DD Form 1348-1) that comes glued on the outside of the cardboard container. It'll tell you what model control box is inside.

11



## FINAL DRIVE PLUG DRILL

Check the level plugs on both final drives every few days for any accumulation of metal chips.

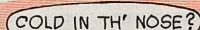


## Why?

Because metal chips could be coming from the bull gears. Some bull gears got the wrong hardening



## STOPPING RUST'S A MUST



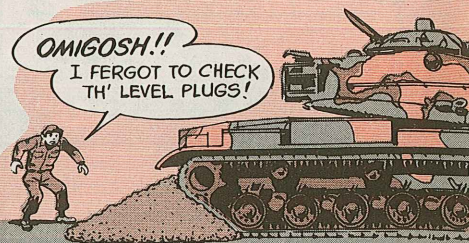
Your M728 combat engineer vehicle can do a lot of things.

What it can't do is clean the rust out of its own tube.

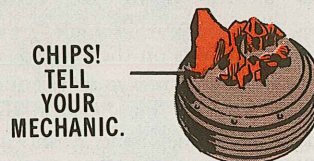
For that it needs you.

The tube on the M728 is very special. It's the only tube without an EFC round limit. It won't wear out but, if you neglect it, it can rust out. Also, it's put on differently—full thread—and changing one is a rough job.

So check your tube for rust, and clean it with rifle bore cleaning



process. When they start chipping, the rest of the final drive—including the case and carrier—will soon be ruined.



If you spot any chips on the magnetic plugs, tell your mechanic before the whole expensive assembly falls apart.



RUST IN  
TH' TUBE!

compound. Note 9 to C 1 of your LO 9-2350-222-12 tells you how.



Use the muzzle cap to keep the rain out. If the cap's missing, get a new one with NSN 1025-00-299-0785. It's listed on page B-8 of Ch 10 to your TM 9-2350-222-10 (Aug 65), and it costs \$5.32.

## WATER REMOVER READY



You can have fuel injector and engine problems if you don't get the water out of your fuel.

During cold weather you've got to do this daily on both fuel tanks. See page 3-39 in TM 9-2350-215-10 for details.



The fuel tank condensate removal pump that you need for this job is in Sect II, page 64 of CTA 50-970 which authorizes 1 pump per platoon and 1 per maintenance section. This includes AVLB's. The pump is a Basic Issue Item for M728 combat engineer vehicles.

So go ahead and use your pump if you have it and if you don't have it, order it. The pump is NSN 4930-00-735-7745. Pay no mind to the replacement NSN listed in the Army Master Data File. It's out of date and will be changed. NSN 4930-00-735-7745 is the only pump now being procured.

# DA FORM 12-37 WRITE IN VOTE

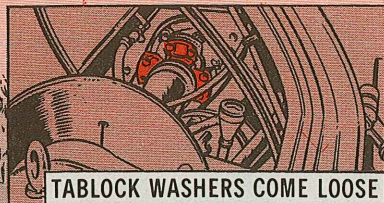
Get yourself in practice for the elections by doing a little write-in voting on DA Form 12-37 for manuals on any of this equipment:

[illegible]



# M113/M113A1 CARRIER

Loose screws in the power train universal joints can wreck your vehicle.

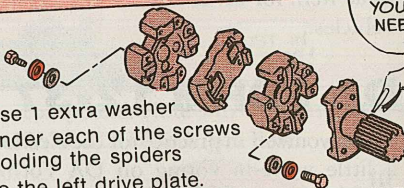
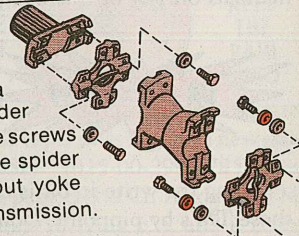


TABLOCK WASHERS COME LOOSE

However, the tablock washers now used to hold the screws on the entire M113/M113A1 family of carriers let them wiggle loose.

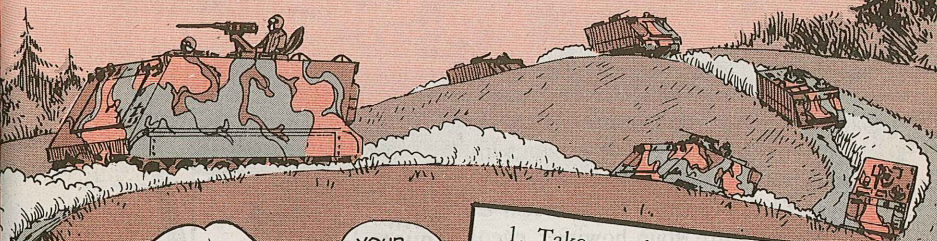
You need to replace the tablock washers with Washers flat: hardened, NSN 5310-00-000-0079 (10910174-33). You can get 'em from supply even though this number is not in the Army Master Data File yet.

You also need some Screws, cap: hexhead  $\frac{3}{8}$ -24x2 in, NSN 5305-00-269-3242 (MS90727-66) and some Screws, cap: hexhead  $\frac{3}{8}$ -24x1 in, NSN 5305-00-269-3236 (MS90727-60).

VEHICLE	NUMBER OF PARTS	WHERE THE EXTRA WASHERS GO
M548/M730/ XM727	56 washers 32 2-in screws 16 1-in screws	 <p>Use 1 extra washer under each of the screws holding the spiders to the left drive plate.</p>
M113A1/M132A1/ M125A1/M106A1/ M577A1/M741/ XM806E1/and M667	52 washers 24 2-in screws 24 1-in screws	 <p>Use 1 extra washer under each of the screws holding the spider to the output yoke of the transmission.</p>

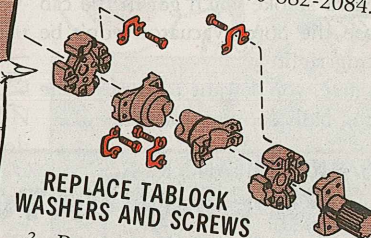
THIS IS HOW MANY PARTS YOU'LL NEED...

# NEW PART NEEDED



YOUR MECHANIC DOES IT LIKE THIS...

1. Take out the drive train universal joints the way it says in the -20 TM for the vehicle involved.
2. Throw away the tablock washers, NSN 5340-00-682-2084.



## REPLACE TABLOCK WASHERS AND SCREWS

3. Put back the drive train universal joints and shafts using hardened steel washers and the new screws. Tighten all screws to 35-40 lb-ft torque except when using torque adapter NSN 5120-00-977-7421. In this case torque should be 28-32 lb-ft.

28-32 LB-FT TORQUE WITH THIS ADAPTER

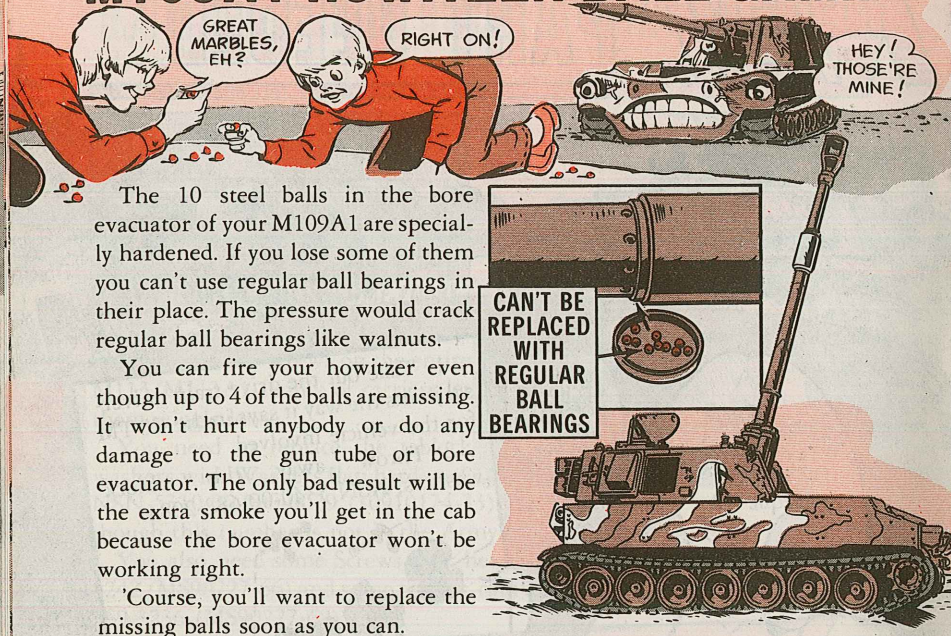


## NOTE:

This change in washers applies to all members of both the M113 (gasoline powered) and the M113A1 (diesel powered) family of vehicles.



## M109A1 HOWITZER BALL GAME

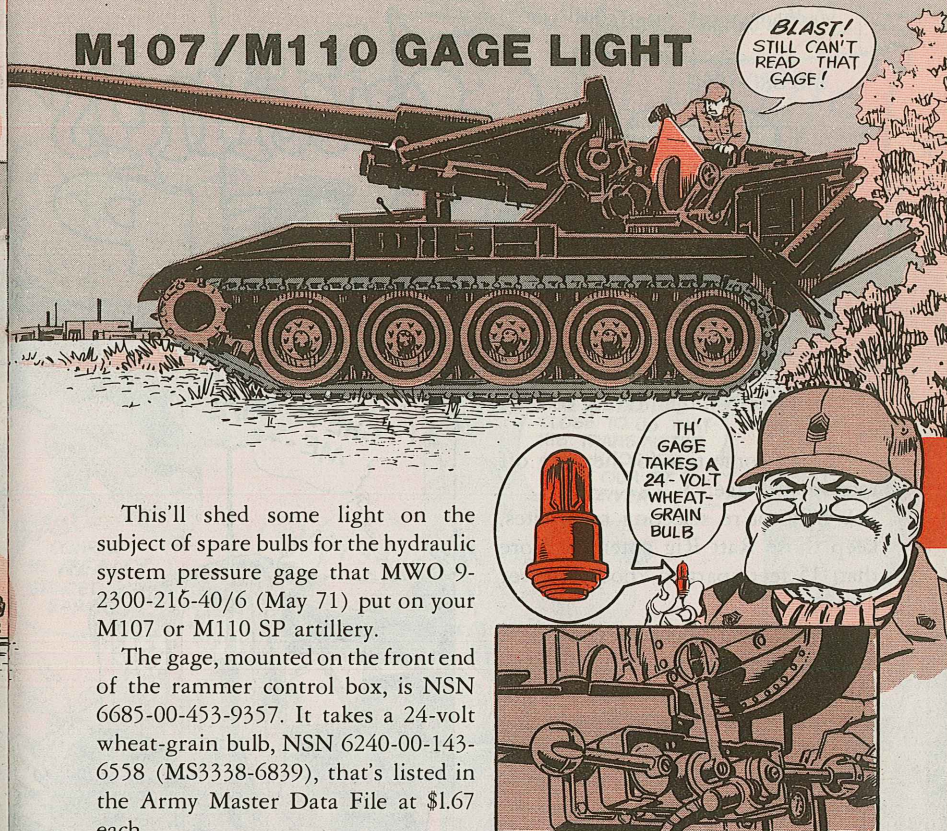


### M109/M109A1 HOWITZER . . .

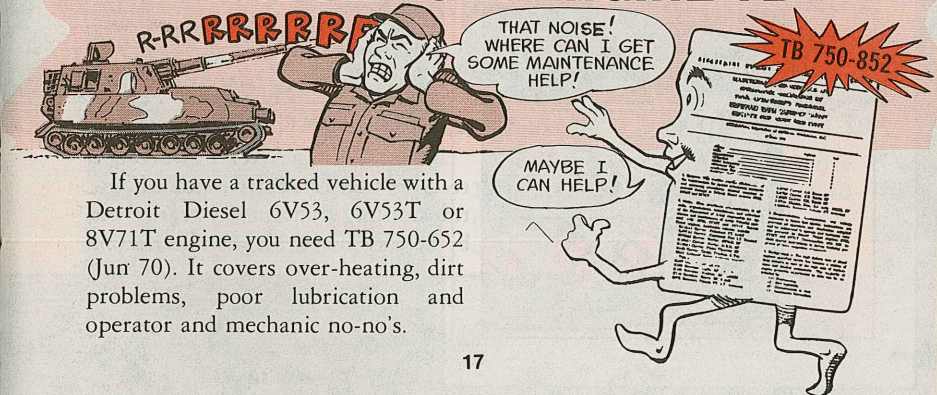
## BORE EVACUATOR OVERSIGHT



## M107/M110 GAGE LIGHT



## TRACK VEHICLE ENGINE TB





COMMUNICATIONS

AN/GRC-106()

# Settings SPACED OUT

HOOO BOY!!

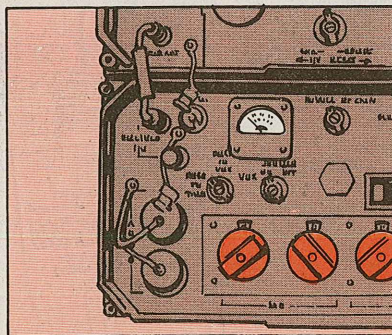
WISH TH' SAME COULD BE SAID FOR OUR RATT RUG ANTENNAS!

Here're some tips for heading off receiver damage:

When you're selecting radio sites, keep those Ratt Rig antennas more than 15 feet apart to knock receiver damage.

Transmitting frequencies too close on the dial can get your RT receiver's front-end protection circuits and RF coils damaged when a neighboring transmitter is fired up.

Even with your set turned off, the receiver can still get damaged since the antenna stays connected to the receiver signal input circuit.



Make sure your RT-834 or -662 receiver-transmitter is tuned off the transmitting frequency of nearby sets by no less than 1 MHz (megahertz).

18

HOOOBOY!!  
CONNIE SAID  
SHE'D DATE  
ME--

**WOW**  
CONRAD  
IS **REALLY**  
SPACED OUT,  
SARGE!

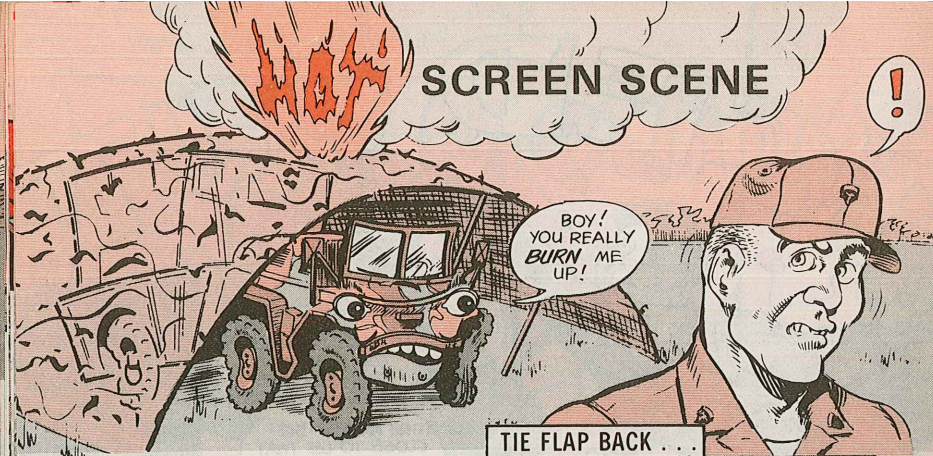
WISH TH' SAME  
COULD BE SAID  
FOR OUR **RATT**  
**RIG ANTENNAS!**

HE PARKED SO CLOSE TO US THAT HIS TRANSMITTER HAS KNOCKED OUT OUR RT RECEIVER!

Or, if they are transmitting above 10 MHz, tune your RT at least 10 percent off their transmitting frequency.

19



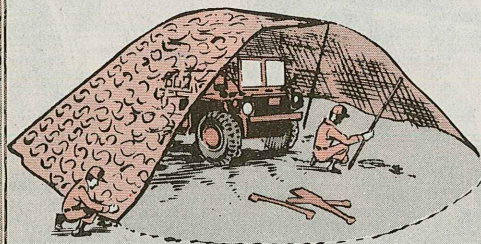


## SCREEN SCENE

Getting ready to hide your AN/GRC-106() radio set, or similar sets, under a radar scattering screen NSN 1080-00-103-1246?

Before you get snugged in with that camouflage security blanket, make sure the radio set's antenna does not touch it.

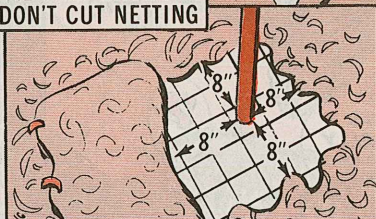
**EXTENDED ANTENNA  
CAN BE A PROBLEM**



If the high RF voltage antenna gets near the camouflage screen you can have a fire on your hands.

To keep this from happening, cut a flap in the garnish material big enough to give the antenna an 8-in radius clearance.

**TIE FLAP BACK...  
DON'T CUT NETTING**



**ANTENNA NEEDS 8-IN CLEARANCE  
FROM GARNISH MATERIAL**

Tie the flap back to the screen with plastic straps.

When you're cutting the garnish material take care not to snip the netting.

**USE PLASTIC STRAPS  
TO REPLACE FLAP**



Remember to secure the flap back in its original position after the antenna is removed. The plastic straps will do the job for you.

And, keep your aluminum support poles at least 4 feet from your antenna.

FOR AM-1780

## MAIN POWER ON FIRST

Using an AM-1780 audio frequency amplifier in your tracked vehicle's FM radio setup?

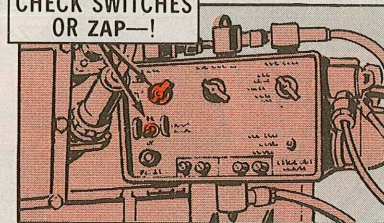
That's fine!

Before you start flipping with those switching fingers, make sure switches are off or that amplifier can get zapped.

When it's time to turn on your radio, first turn the AM-1780's MAIN PWR switch on—to INT ONLY or NORM.

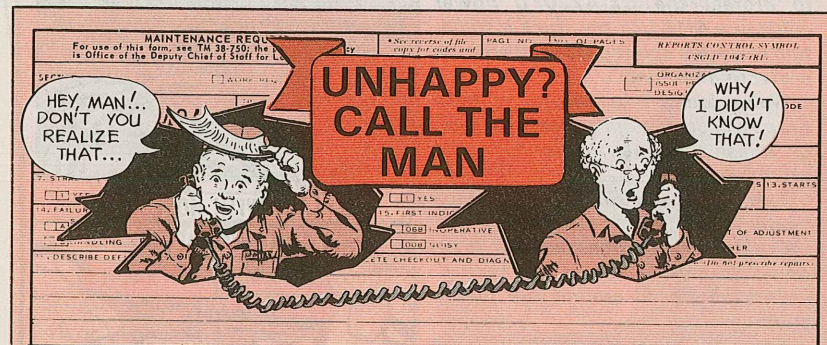
Then, put the POWER CKT BKR

**CHECK SWITCHES  
OR ZAP—!**



switch in the ON position.

Flipping on the circuit breaker or headset-microphone switch when the main power switch is off can damage the amplifier's innards.



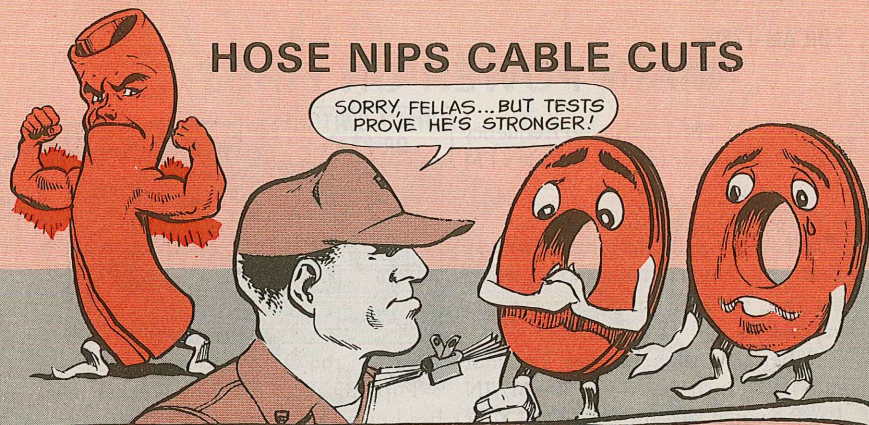
Ever get an inadequate or far-out reply to that DA Form 2407 EIR you sent in on bad equipment? Maybe the technician at the head shed missed your point. The answer you get has the name and AUTOVON number of the person making the reply. Call him, and let him know how you feel.

MAINTENANCE REQUEST			
For use of this form, see TM 38-750, the is Office of the Deputy Chief of Staff for L.		*See TOP of this copy for code and	PAGE NO. 1 OF 1
REPORTS CONTROL SYMBOL	UNCLAS 1047 (R)	EMERGENCY	DESIGN
SECTION I. EQUIPMENT IMPROVEMENT	SECTION II. EQUIPMENT IMPROVEMENT	SECTION III. EQUIPMENT IMPROVEMENT	SECTION IV. EQUIPMENT IMPROVEMENT
30. ORIGINAL RECOMMENDATION/Select one: user or X 32a. ORG	31. RECOMMENDATION/Select one: user or X 32a. ORG	32. RECOMMENDATION/Select one: user or X 32a. ORG	33. RECOMMENDATION/Select one: user or X 32a. ORG
33. FEDERAL STOCK NUMBER	34. NOUN NOMENCLATURE	35. ADJ. ADJECTIVE	36. ADJ. ADJECTIVE
<p>THE ARMY</p> <p>MY TRANS-PUTATIVE COMMAND</p> <p>REN, TION, N 48-90</p> <p>Mr. Jones 369-2766</p> <p>17 JAN 1976</p> <p>of Gravity, 600 Gallon Fuel Tank Mounted</p> <p>iler. EIR CON No. 496733, Reg No. 76-878</p>			

**HERE'S HIS NAME  
AND NUMBER**



## HOSE NIPS CABLE CUTS



Dear Editor,

That little grommet that's supposed to protect the CX-4720/U power cable in a M151 ¼-ton truck installation is always coming loose. It ends up protecting nothing.

We've found a better way to keep the power cable from getting cut. And, it doesn't come loose like the grommet.

Take a piece of rubber hose, like a heater hose.

Cut two 2-in sections and slit them down the side.

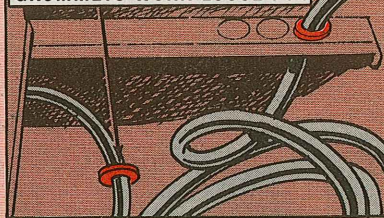
Put the hoses around the power cable.

Force one piece of hose through the hole in the side of the battery box and the other hose through the OVM box.

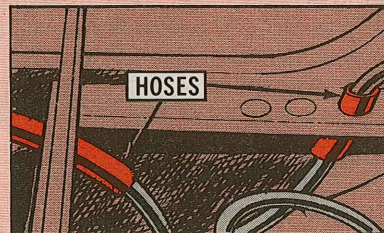
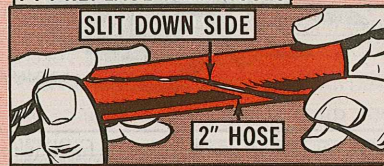
It takes a little effort to get it positioned right, but the hose stays there longer than the grommet and protects the cable.

SP5 Larry E. Miller  
APO New York 09086

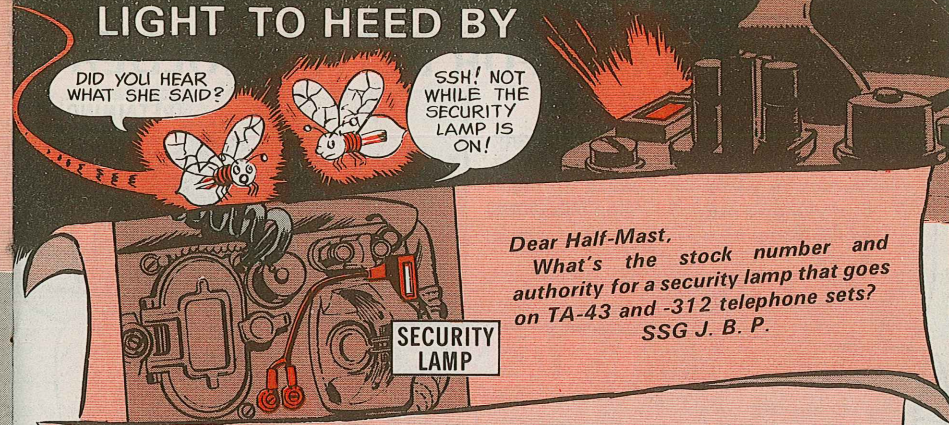
GROMMETS WORK LOOSE . . .



. . . REPLACE WITH HOSES



## LIGHT TO HEED BY



Dear Half-Mast,  
What's the stock number and authority for a security lamp that goes on TA-43 and -312 telephone sets?  
SSG J. B. P.

Dear Sergeant J. B. P.,

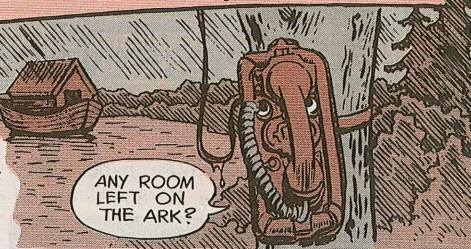
NSN 5805-00-782-9210 is for the telephone off-hook light assembly, authorized by Appendix A of CTA 50-970 (Jul 74). There's no TM on the lamp.

It's for those users who have a need to put the quietus on loose lips where sensitive info may be floating around. The lamp stays lit when the handset isn't seated in its cradle.

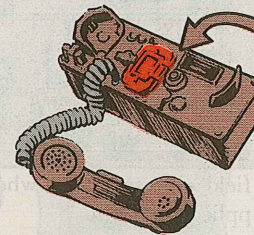
*Half-Mast*

## DRY DAMP TELEPHONE SET

Moisture and mildew are a couple of monsters when it comes to your TA-43 or -312 telephone set.



If your telephone gets wet, wipe it off or air-hose it dry.



KEEP  
BATTERY  
COMPARTMENT  
DRY

Sure, the telephone is rugged and can take it.

But when it rains, cover your set with a poncho, plastic or anything else that sheds water.

Be sure to open the battery compartment and get the wet out with a clean, dry cloth.

(Ed Note: Right on! And, when you're slitting those pieces of hose, cut them in a spiral. This will help hold 'em in place.)

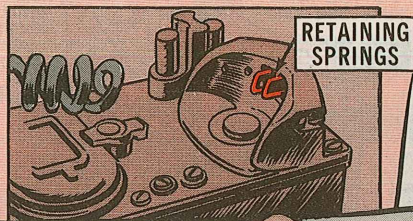


## HOLDING OUT FOR BETTER HOLDER

Dear Half-Mast,

Some TA-43 and -312 telephone sets have 1-piece handset retaining springs in place of 2-piece springs. Can you give me any info on this, such as NSN and how I can get the 1-piece holder?

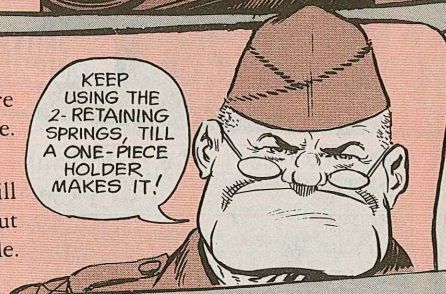
SGT J. R. H.



Dear Sergeant J. R. H.,  
One-piece handset holders are tested in the field from time to time. None has been accepted yet.

However, the experts are still working on a better holder. It'll be put in the supply pubs when it's available.

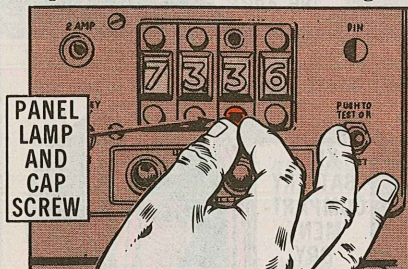
KEEP USING THE 2-RETAINING SPRINGS, TILL A ONE-PIECE HOLDER MAKES IT!



## CAPSCREW CAN GRAB YOU

When the light goes out the power can come on.

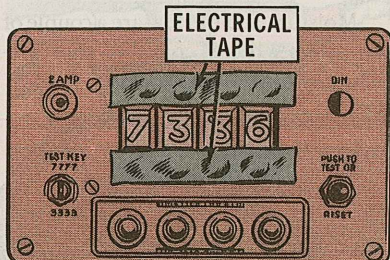
So, hands off those panel lamp capscrews on the ID-854A digital



display indicator of your OA-2054A/FSW-8 meteorological console.

To guard against getting a shock, stick electrical insulation tape over the

capscrews until plastic cap covers come your way through your local



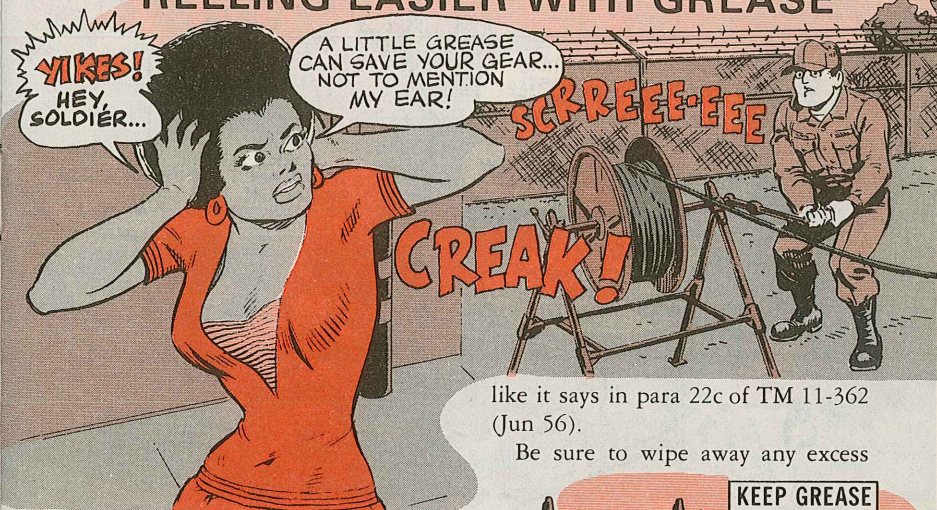
ECOM field representative, who has been supplied with 'em.

Those capscrews sure can pack a wallop . . . as much as 117 volts.

Before you change a burned out lamp, throw the main circuit breaker to OFF.

FOR RL-31()

## REELING EASIER WITH GREASE



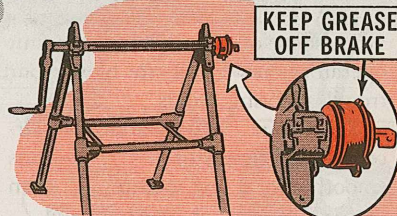
like it says in para 22c of TM 11-362 (Jun 56).

Be sure to wipe away any excess

Paying out or taking in field wire on a RL-31() reel unit with dry bearings can put your gear in a bind.

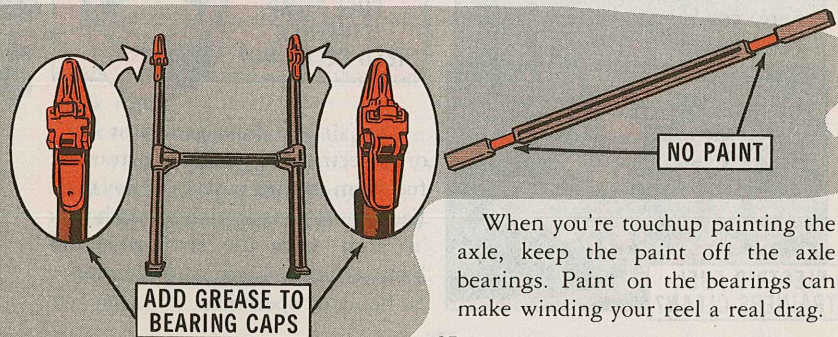
Friction will make that axle hard to turn. And, when you're in a hurry, with the reel on the back of a vehicle, you may wind up with snapped wire or busted bearings.

Keep the reel turning free and easy by adding grease to the bearing caps



grease so it won't get into the brake.

If your reel's one with the divided axle, remember to clean it and grease it.



When you're touchup painting the axle, keep the paint off the axle bearings. Paint on the bearings can make winding your reel a real drag.

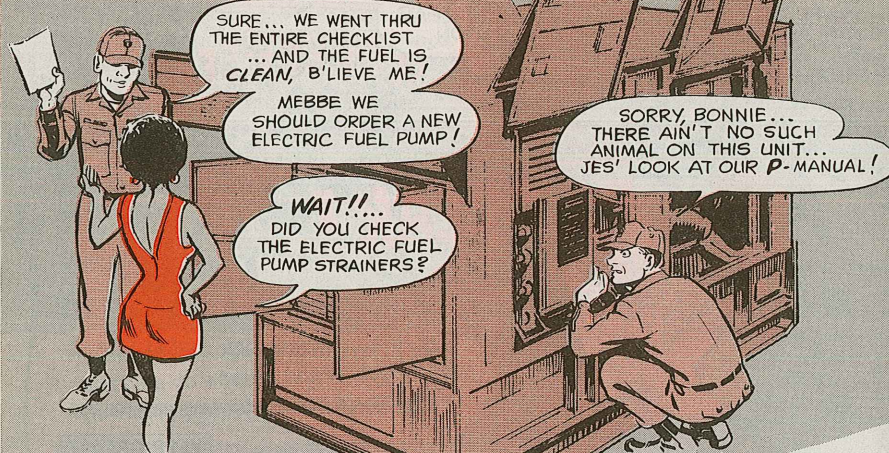


COMBAT  
SUPPORT

DED GENERATORS ...

# FUEL TRANSFER

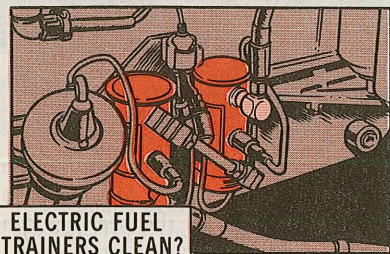
# PUMP PM



So, some of you diesel power unit operators are about to blow your troubleshooting minds.

You start your portable, self-contained generator . . . it runs smoothly for a few minutes . . . then stops. You start 'er up again, and . . . she stops. This start 'n' stop biz can ruin your whole day. Makes you want to order a new \$23 electric fuel pump, NSN 2910-00-930-9367, ASAP!

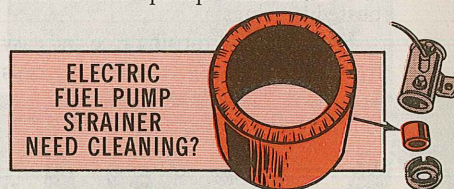
Sure, you doublechecked the fuel. It's clean, man!



You checked the fuel filters. Cleaned 'em just a couple of days ago. And the fuel injector inlet screens . . . and the fuel pump screen.

So why won't your generator give you a run for your money?

Could be you need to clean the electric fuel pump strainers.

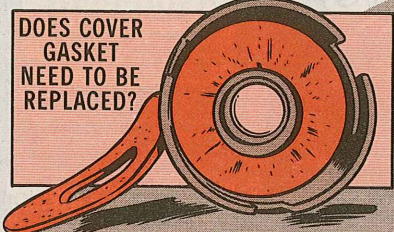


That's right! Your generator has 2 or 4 electric fuel pumps that transfer fuel from the fuel tank to the day tank. Each pump has a strainer to catch junk 'n' stuff. Give the strainer a PM looksee every month . . . or after every 50 hours of operation.

Those strainers are about half-a-thumb size, so handle 'em carefully. Wash the strainers in drycleaning solvent—PD 680—and dry 'em thoroughly.

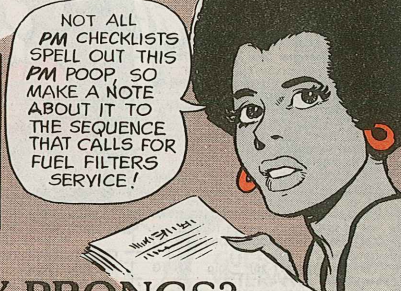
If they're damaged, put in new ones. You get one with NSN 2910-00-893-6402 and \$1.11.

While you have the covers off, take a look at the cover gaskets. Replace



'em if they're not doing their job. NSN 5330-00-763-9322 and 26 cents will get a new gasket.

Some P-manuals don't list these strainers and gaskets, so add 'em to your parts list to keep your power units putting out the juice day after day.



## TOO MANY PRONGS?



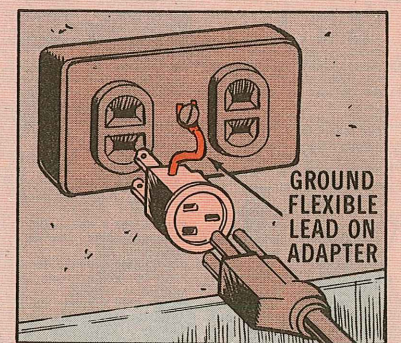
Are you glumly eyeballing a 2-terminal electrical outlet with a 3-prong plug in your hand?

Never try to match 'em by clipping the ground prong. You lose shock protection and some equipment won't work right.

Here are a couple of adapters to help your 3-prong plug and that 2-terminal outlet get snugly together.

Adapter Connector NSN 5935-00-937-6699

Adapter Connector NSN 5935-00-081-8025





This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Nov 74), and Ch 3 (Oct 75), TM's, TB's, etc.; DA Pam 310-6 (Jul 75), and Ch 2 (Jan 76), SC's and SM's; and DA Pam (C) 310-9 (Aug 74), COMSEC Publications.

#### TECHNICAL MANUALS

TM 5-3655-217-1 Dec Maint Tank, Storage, Liquid, 150 Gal  
 TM 5-5420-202-20 Jan AVLB M60A1 Tank Chassis  
 TM 9-1425-500-L Jan HAWK Pubs  
 TM 9-1425-525-L Jan Improved HAWK Pubs  
 TM 9-1430-379-20P Jan Pershing Azimuth Laying Set, AN/TSQ-110 (XO-1)  
 TM 9-1430-382-20P Jan Pershing 1A  
 TM 9-1430-535-12-2-1 Dec AN/MSW-11 Improved HAWK  
 TM 9-1430-535-12-2-2 Dec AN/MSW-11 Improved HAWK  
 TM 9-1430-535-12-2-3 Dec Improved HAWK  
 TM 11-5800-213-L Jan Commo Pubs  
 Ch 3, TM 11-5815-238-12 Feb AN/GGC-31, Teletypewriter Set, -531, TT-761 & TT-699) Repeater/Transmitters  
 Ch 1, TM 11-5820-771-14 Jan AN/URR-69 Radio Receiving Set  
 Ch 2, TM 11-5895-532-12 Feb AN/TPX-46(V) Interrogator Set  
 Ch 22, TM 55-1500-204-25/1 Feb General Aircraft Maint Manual  
 TM 55-1500-219-1 Dec UH-1 Pubs  
 TM 55-1510-208-CL Dec T-42A Checklist  
 Ch 23, TM 55-1520-210-20 Feb UH-1D/H  
 Ch 10, TM 55-1520-219-20 Feb UH-1B  
 Ch 12, TM 55-1520-220-20 Feb UH-1C/M  
 TM 55-1520-221-CL Dec AH-1G Checklist  
 TM 55-1520-221-CL-1 Dec AH-1G Checklist  
 TM 55-1520-221-20P Aug AH-1G Helicopter  
 Ch 2, TM 55-1520-221-20P Dec AH-1G

#### LUBE ORDERS

LO 5-6115-307-12 Oct Gen-Set, DED, 45-KW, 60-HZ/37.5-KW, 50-HZ (Consol 4150)

LO 5-6115-313-12 Oct Gen-Set, DED, 45-KW, 60-HZ/37.5-KW, 50-HZ (Hollingsworth JHDW 45 A)  
 LO 5-6115-315-12 Oct Gen-Set, DED, 30-KW, 60-HZ/25-KW, 50-HZ (Jeta MD-301815-WA)  
 LO 5-6115-318-12 Oct Gen-Set, DED, 100-KW, 60-HZ, Cons. Mod 4180



LO 5-6115-319-12 Oct Gen-Set, DED, 150-KW, (Cat D 353)  
 LO 5-6115-321-12 Aug Gen-Set, DED, 30-KW, 60-HZ/25-KW, 50-HZ (precise) CE-301-WK-1  
 LO 5-6115-354-13 Oct Gen-Set, DED, 15-KW, 60-HZ/12.5-KW, 50-HZ (Bogue 6113) (SF-15-MD)

LO 5-6115-357-12 Oct Gen-Set, DED, Whl Mid 15-KW, 400-HZ (HOL-GAR Mod SP-HF-15)  
 LO 5-6115-400-12 Oct Gen-Set, DED, 200-KW, 60-HZ/167-KW, 50-HZ (SF-200-MD/CIED)  
 LO 5-6115-424-12 Oct Gen-Set, DED, 60-KW, 60-HZ/50-KW, 50-HZ (A-C 3500)  
 LO 5-6115-425-12 Aug Gen-Set, DED, 60-KW, 50-60-HZ (SF-60-MD/CIED, HF-60-MD-CIED)  
 LO 5-6115-428-12 Aug Gen-Set, DED, 100-KW, 60-HZ Holt HB-3333  
 LO 5-6115-435-12 Aug Gen-Set, DED, 10-KW, 60-HZ (Libby 148002-1)  
 LO 5-6115-449-12 Aug Gen-Set, 30-KW, 60-HZ, SF 30MD/CIED W Herc, D-298-ER  
 LO 5-6115-464-12 Aug Gen-Set, DED, 15-KW, MEP-004A/103A/113A (precise)  
 LO 5-6115-465-12 Oct Gen-Set, DED, 30-KW, MEP-005A, and MEP (precise) 104A and 114A, 30-KW  
 LO 5-6115-545-12 Dec Gen-Set, DED, 60-KW, 120/208-240/416V  
 LO 9-1440-585-12 Oct Intercept-Aerial GM System M-54  
 LO 9-2320-266-12 Oct Truck, Cargo; 1½-Ton, 4x4, M880-series

#### MISCELLANEOUS

DA Pam 350-56 Jan Operators' and Mechanics' Standards (Training)  
 FM 10-508 Nov Rigging ½, 1½ Ton Trucks  
 TB 43-180 Dec Calibration  
 TB 43-0195 Nov Inspect Ammo Gages  
 TC 10-18-1 Dec Programmed Text for Supply Mgt  
 TC 10-18-2 Dec Panel Book for Supply Mgt (Unit and Op Only)  
 SC 5180-90-CL-N07 Feb Canvas Worker's Tool Kit  
 SC 5180-90-CL-N45 Nov Tool Equip Telephone Electrician's: TE 49

#### FILMS, TV TAPES

These are available at your local TASO.  
 TF 6-4741 Service of the Piece—M109A1  
 TF 46-4781 Preflight of the UH-1H (Part I)  
 TVT 5-1 Hiding Something Big (Camouflage, Screening)  
 TVT 5-2 Camouflage Pattern Painting

### TEC LESSONS (Training Extension Courses)

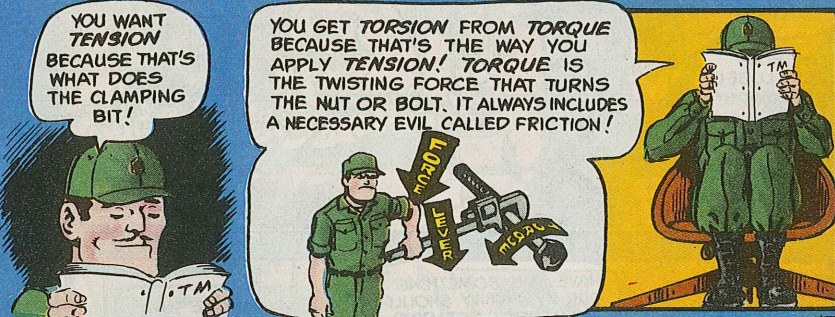
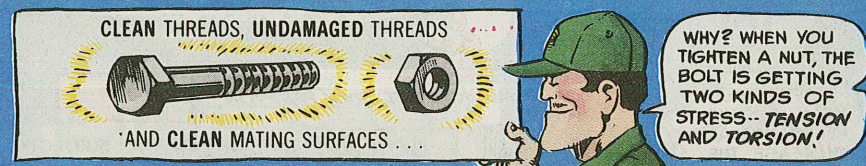
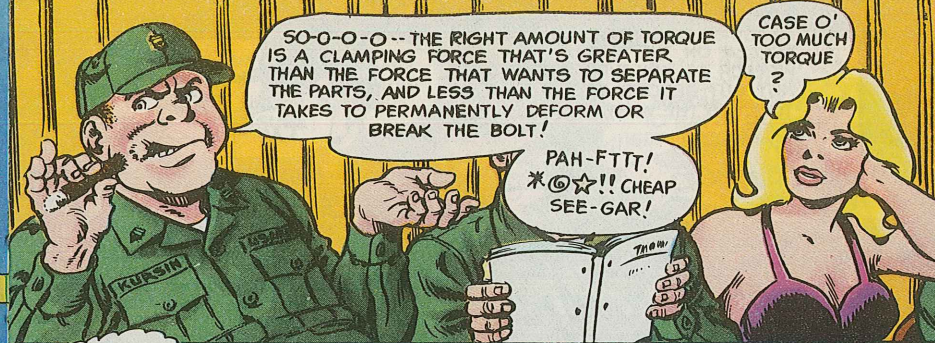
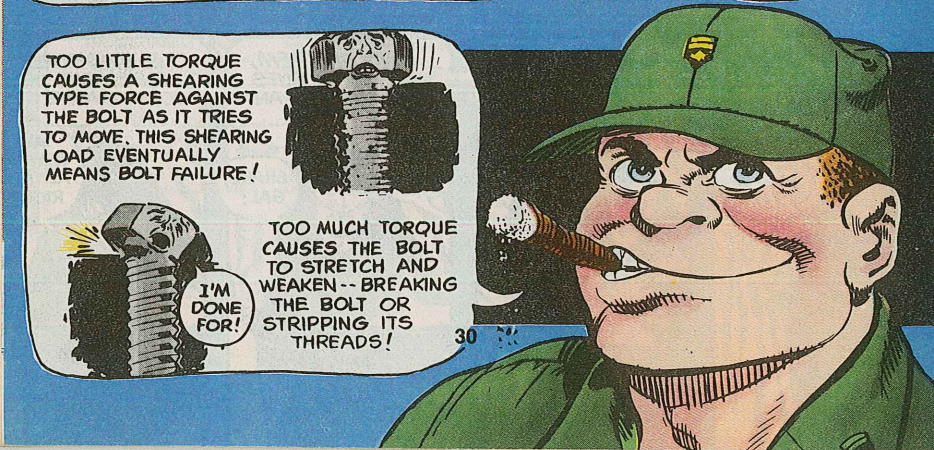
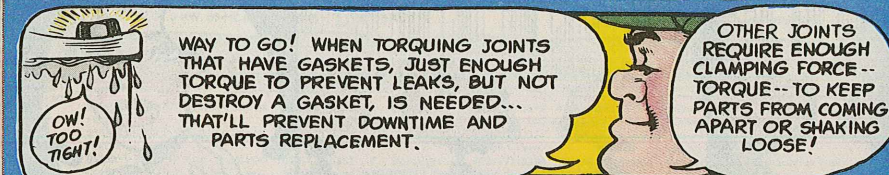
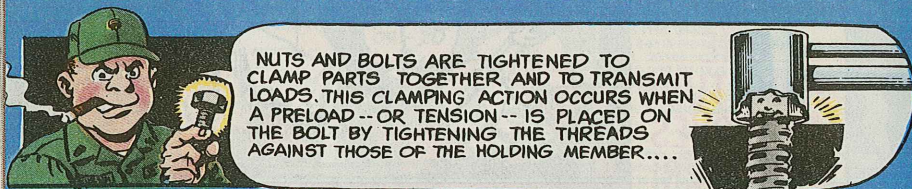
010-071-1001 F Intro to the Squad Radio	020-171-5349 E Boreighting Main Gun, M60/M60A1	020-171-5376 E Ballistic Computer Op M48A1 Tank	043-441-7806 F Chaparral Daily Maint, Pt II
010-071-1002 F Operation Squad Radio	020-171-5351 F Boreighting Main Gun, Part I	020-171-5377 E Range Finder M48A1 Tank	043-441-7807 F Chaparral Daily Maint, Pt III
010-071-0601 F Fire Direction Computer—Intro	020-171-5352 F Boreighting Machineguns, M60/M60A1 Tank	020-171-5378 E Boreighting Main Gun, M48A1 Tank	043-441-7808 F Chaparral Daily Maint, Pt IV
020-171-1634 F Boreighting Searchlight M551	020-171-5353 F Zeroing Main Gun, MG's Set Battlesight	020-171-5379 E Starting, Stopping Engine, M48A1 Tank	043-441-7816 F Chaparral Weekly Maint, Pt III
020-171-5332 F Tank Ammo M60/M60A1/M60A3 Tank	020-171-5354 F Boreighting Xenon Searchlight, M60/M60A1 Tank	020-171-5380 E Loading, Unloading Main Gun, M48A1 Tank	043-441-7843 F Load/Unload Chaparral Missile, Pt II
020-171-5333 E Placing Turret into Power Op M60/M60A1	020-171-5355 F Boreighting Main Gun, Part II	020-171-5381 E Misfire Procedures, M48A1 Tank	510-091-6451 F Preparing, Maintaining DA Form 2401
020-171-5334 E Preparing Ballistic Cmptr for Op, M60/M60A1 Tank	020-171-5366 F Before, During, After Op, Maint, M60/M60A1 Tank, Pt I	043-441-5901 F Intro to Vulcan GED Generator	652-051-7601 A Location, Install GED Generator
020-171-5335 F Placing the Turret in Power Op, M60/M60A1 Tank	020-171-5367 F Before, During, After Op, Maint, M60/M60A1 Tank, Pt II	043-441-5903 F Vulcan Cannon Disassembly	936-061-0129 F Field Wire Install: Maint, Testing
020-171-5340 F Range Finder, Part I	020-171-5368 F Before, During, After Op, Maint, Checks, Svs Tank	043-441-5904 F Vulcan Cannon Inspect, Lube, Reassembly	939-071-0009 F Loading, Unloading M16A1 Rifle
020-171-5341 F Preparing Ballistic Cmptr for Op M60/M60A1 Tank	020-171-5369 F Before, During, After Op, Maint, M60/M60A1 Tank, Pt I	043-441-5907 F Vulcan Preoperational Checks, Pt II	939-071-0010 F Disassembling, Assembling M16A1 Rifle
020-171-5343 F Op of Xenon Searchlight, M60/M60A1 Tank	020-171-5370 F Before, During, After Op, Maint, M60/M60A1 Tank, Pt II	043-441-5918 F Vulcan Radar	939-071-0011 F Maintaining M16A1 Rifle
020-171-5346 F 105MM Gun, Loading	020-171-5375 E Manual & Power Turret Op M48A1 Tank	043-441-5956 E Vulcan Cannon Disassembly, Inspect, Lube, Assembly	939-071-0012 F M16A1 Rifle, Common Malfunctions
020-171-5347 F 105MM Gun, Misfire Procedures		043-441-5971 F Vulcan Ammunition	942-071-0001 F Hand Grenade—Types, Uses
020-171-5348 F 105MM Gun, Unloading		043-441-5972 E Vulcan Radar	942-071-0002 F Hand Grenade Maint, Identif
		043-441-7804 F Chaparral Engaging Checks, Pt II	945-071-0005 F Operating the LAW





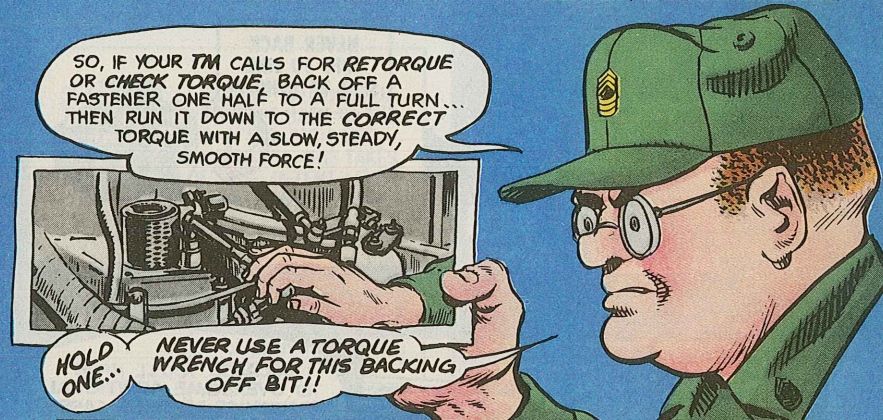
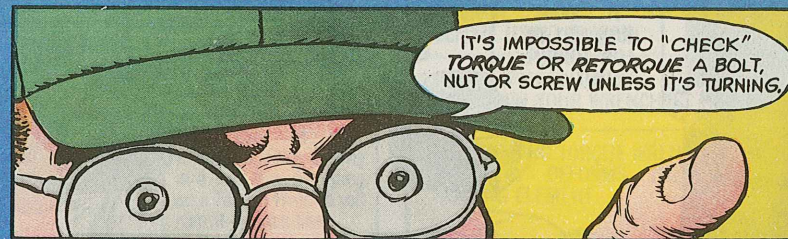
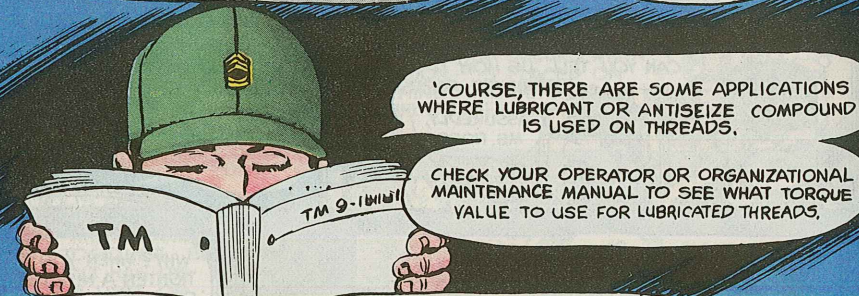


## REVIEW



FRICTION--TARE TORQUE--IS THE RESISTANCE OR DRAG YOU FEEL WHEN YOU RUNDOWN A NUT, OR SCREW, TOO MUCH RUNDOWN RESISTANCE WILL GIVE YOU A FALSE TORQUE READING. THAT'S WHY THREADED FASTENERS SHOULD ALWAYS BE CLEAN AND FREE OF BURRS, NICKS, PAINT, GREASE OR OIL!



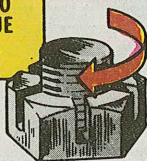




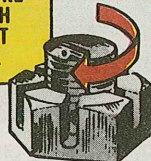
# RULES

MY PLEASURE! WHEN YOU REACH THE CORRECT TORQUE FOR A CASTELLATED NUT, THE SAFETY WIRE OR COTTERPIN HOLES MAY NOT BE IN LINE WITH THE SLOTS IN THE NUT. JUST KEEP TURNING THE NUT UNTIL THE SAFETY CAN BE INSERTED. NEVER BACK OFF A CASTELLATED NUT TO GET THIS LINEUP OF SLOTS AND HOLES UNLESS STATED OTHERWISE IN YOUR TM.

RUN NUT TO LOW TORQUE LIMIT ...



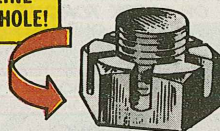
... TIGHTEN MORE—JUST ENOUGH TO LINE SLOT WITH HOLE.



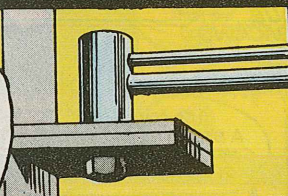
INSERT COTTER PIN OR SAFETY



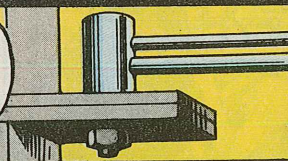
NEVER BACK OFF TO LINE SLOT WITH HOLE!



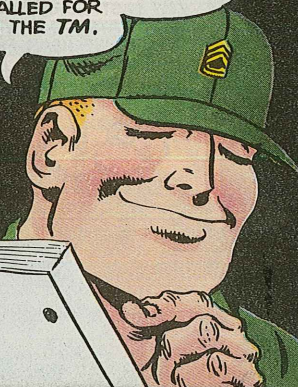
TORQUE VALUES IN TMs ARE SPECIFIED FOR TIGHTENING FASTENERS ON THE NUT END.



SOMETIMES, THO, YOU HAVE TO TORQUE A BOLT FROM THE HEAD END.



BECAUSE YOU'LL HAVE TO OVERCOME ADDITIONAL RESISTANCE IN THESE CASES, TORQUE TO THE HIGH LIMIT OF THE TORQUE VALUES CALLED FOR IN THE TM.



HERE ARE SOME **NUMBAH 1** IMPORTANT **TORQUE WRENCH FM** TIPS:

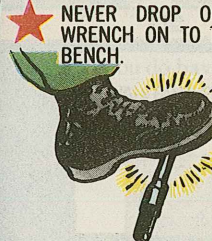
NEVER USE A TORQUE WRENCH TO HAMMER OR TAP A NUT. RUINS THE ACCURACY EVERY TIME.



NEVER SCRATCH, ETCH, OR DENT THE TORQUE-MEASURING BEAM ON DIRECT-READING TYPE WRENCHES BECAUSE IT'LL CHANGE THE CALIBRATION.

IF YOU ACCIDENTALLY DROP A TORQUE WRENCH, HAVE IT RECALIBRATED BEFORE USING IT AGAIN.

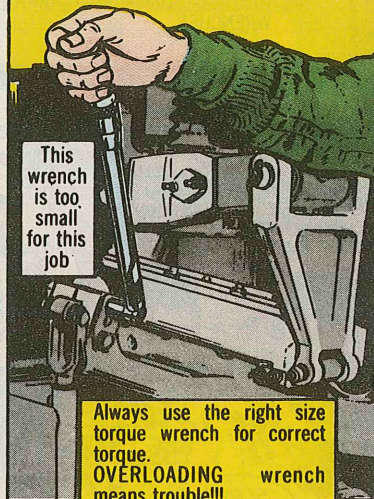
NEVER DROP OR TOSS A TORQUE WRENCH ON TO THE FLOOR OR WORK BENCH.



Take care of your wrenches. They belong in a Tool Box. Stepping on a Torque Wrench will ruin it—quick-like.

KEEP READABLE DA CALIBRATION LABELS ON YOUR WRENCHES.

OVERLOADING TORQUE WRENCHES PERMANENTLY DEFORMS THE TORQUE SENSING ELEMENT.



Always use the right size torque wrench for correct torque. OVERLOADING wrench means trouble!!!

SET ALL PRESET, AUDIBLE MICROMETER-TYPE TORQUE WRENCHES BACK TO THE LOWEST READING AFTER EACH USE—AND WHEN YOU STORE 'EM. THIS TAKES THE TENSION OFF THE DETENT LEVER COMPRESSION SPRING AND IT WON'T "SET" ON YOU.



RIGHT . . .

Wrench set at lowest reading (0) for storage—or when not in use.

**CAUTION!**

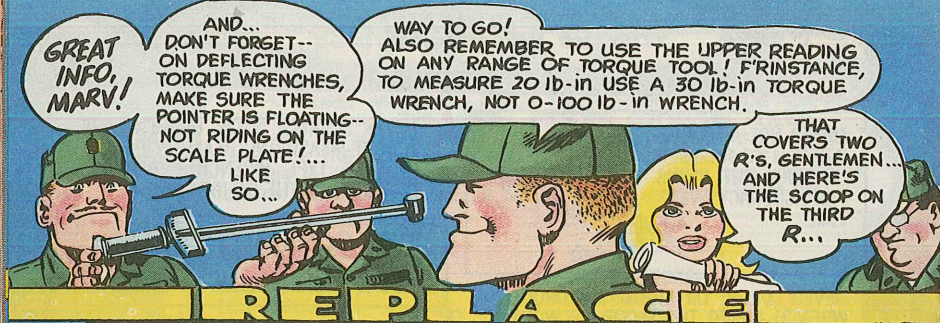
BE CAREFUL YOU DON'T SHEAR THE STOP PINS INSIDE THE HANDLE WHEN YOU REACH THE LOW READING POINT.

STORE TORQUE WRENCHES IN A DRY PLACE.

PROTECT 'EM FROM SHOCK, DAMAGE, DUST.

NEVER STORE TORQUE WRENCHES AMONG OTHER TOOLS WHERE THEY COULD BE DAMAGED.





## REPLACE

- ★ REPLACE ANY TORQUE WRENCH YOU SUSPECT OF BEING INAC-CURATE.
- ★ REPLACE WRENCHES THAT HAVE MISSING PARTS.
- ★ REPLACE DAMAGED TORQUE WRENCHES.
- ★ REPLACE WRENCHES THAT HAVE BEEN OVERLOADED.

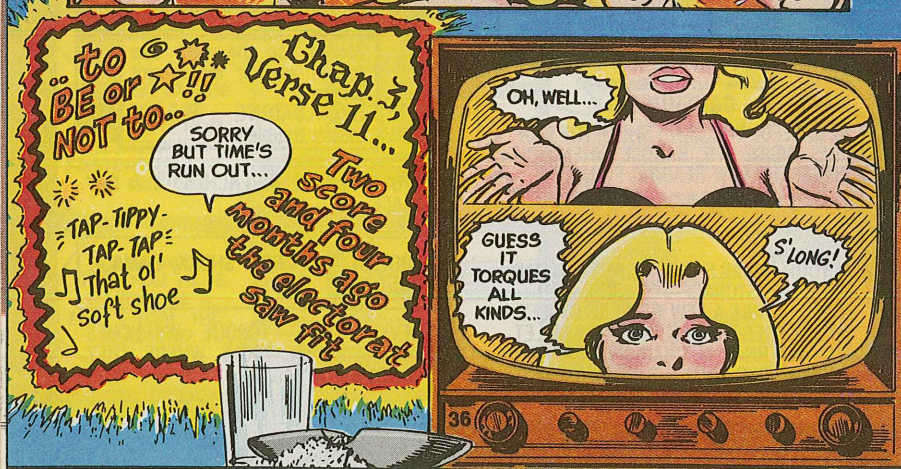
AND THAT WRAPS UP ANOTHER "CONNIE RODD TORQUE SHOW"! THANKS FOR COMING AND GIVING US YOUR EXPERT OPINIONS, GENTLEMEN! G'NITE!

HEY, WAIT... DON'T I GET TO DO MY DRA-MATIC SKIT?

...WHAT ABOUT MY SERMON?

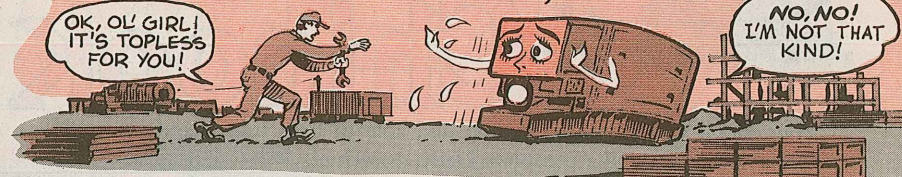
...HOW 'BOUT MY SONG AND DANCE ROUTINE?

...AND MY VIEWS ON TH' UPCOMING ELECTION?...



GENERATORS AND SUCH . . .

## NO STRIP TEASE, PLEASE

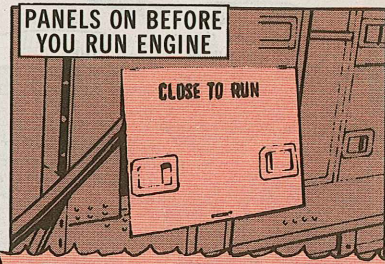
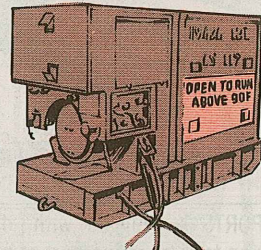


Topless dancers may be great for night life . . . but topless engines you don't want—especially on generators.

If you do have to take off the panels on such an engine, put 'em back before you start up again.

the panels keep the engine snug and warm.

So be sure the jacket is on before you run. Otherwise, your engine won't get the flow of air it needs for cooling.



That cover is put there as part of the air flow system. In summer, it helps the engine "keep its cool." In winter,

Warning: Some exceptions do happen—if you see a stencil "OPEN TO RUN," heed it . . . and check your TM to be sure.

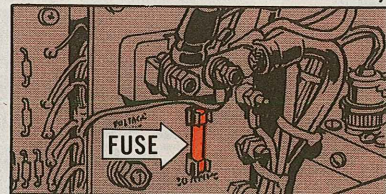
ON SF-15-MD GENERATOR . . .



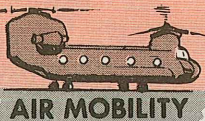
You won't find a 30-amp replacement fuse listed for the battery

charging circuit in your TM 5-6115-345-20P (Oct 71). You may find it out as an unpleasant surprise when you try to follow para 90 b.(2) of your -12 TM if the charging circuit quits on you.

So right now while you're thinking about it, pencil into your manual, "Group 42, NSN 5920-00-539-6920, Fuse, cartridge, 30A."







BE YOUR OWN INSPECTOR . . .

# the Chinook

Your Hook will be ready, willing and able to haul troops and assorted supplies when you pull a complete Daily, crewchiefs.

Never put off 'til tomorrow what you can do today. Correcting problems on the spot, rather than letting them stack up for the Periodic . . . could save your skin.

OK, NOW  
LET'S GET DOWN  
TO BUSINESS...

THE  
HEAVY BLACK TYPE  
ITEMS ARE REAL CRITICAL.

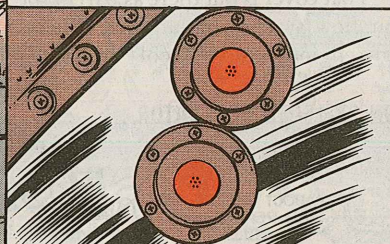
THIS IS A TYPICAL  
DAILY INSPECTION. YOU'LL  
FIND VARIATIONS BETWEEN  
THE DIFFERENT MODELS.

READY,  
CONNIE.

LOG BOOK—(Note: Go thru the log book forms, paying special attention to any gripes written up by the pilots. Focus in on the DA Forms 2408-12, -13, -14 and -18.)

## Nose

SAS PORTS— Plugged with dirt.  
Masking tape covering part of port.

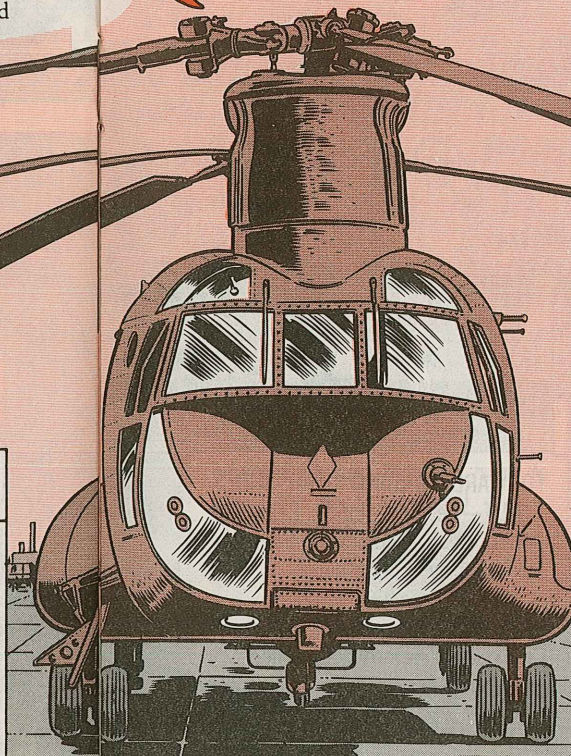


NOSE ACCESS PANEL—Dented,  
latch broken, won't lock.

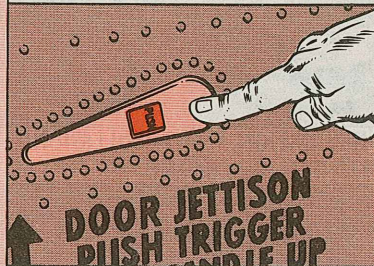


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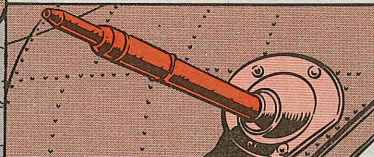
# (CH-47) PART I



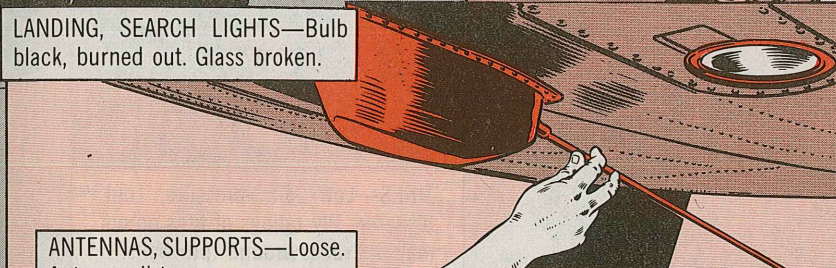
RIGHT AND LEFT EXTERNAL DOOR  
JETTISON HANDLE—Won't close  
and lock. (Note: The lock should be  
flush with the handle.)



PITOT TUBE—Dented, plugged with  
dirt. Mount loose.



LANDING, SEARCH LIGHTS—Bulb  
black, burned out. Glass broken.



ANTENNAS, SUPPORTS—Loose.  
Antenna dirty.

39



# Left Side

STATIC PORTS—  
Dirty, painted  
over.

ACCESS DOORS, PANELS,  
WORK PLATFORMS—  
Latches broken.

ANY  
HYDRAULIC  
FLUID  
LEAKS  
?

WRITE  
'EM UP!

HOW'D  
YA KNOW  
?

NAVIGATION, ANTI-COLLISION  
LIGHTS—Glass broken.

FORWARD LANDING GEAR SHOCK  
STRUT—Leaking fluid. Extension  
not normal. Slippage marks not  
legible. Cracks in fuselage.

BRAKE—Leaking hydraulic fluid.  
Cracks in wheel. Pucks visible?

TIRES—Low air pressure, cut,  
blistered. Ply ratings of tires do not  
match. Cracks around thru bolts.

ANTENNAS—Loose.

NO HANDHOLD

AFT-TIRES—Not inflated properly,  
cut, blistered. Slippage mark missing.  
Static ground wire missing. Rigid  
brake line chafing. (Note: Rock the  
wheel back and forth by hand to  
check the wheel bearings.)

FUEL TANK—Vent plugged, bent.  
Fuel level low, filler cap loose. Fuel  
drain valve leaking. (Note: Use a  
sample jar and eyeball the fuel for  
water and other contamination.)

AFT LANDING GEAR SHOCK  
STRUT—Fluid leaking, extension not  
normal.

WHEEL BRAKE—Leaking hydraulic  
fluid.

HOW  
DOES  
THIS  
SAMPLE  
LOOK?

WOW!

WRITE  
THAT UP,  
PRONTO!



# No.2

# Engine

CHIP DETECTOR,  
FIRE DETECTOR  
SYSTEM—Wires  
kinked, chafed,  
loose.

ENGINE OIL TANK—Oil level low.

CRACKS,  
HOT SPOTS  
IN TAILPIPE  
AREA!

I'LL  
WRITE  
'EM UP!

SHOULD WE  
MARK 'EM,  
CONNIE?

TAILPIPE, EXHAUST DIFFUSER,  
INNER CONE, POWER TURBINE  
(L-7 engine)—Cracks, hot spots,  
burned areas.

ENGINE TRANSMISSION  
COWLING—Attaching hardware  
loose.

AIR INLET SCREEN—Dirty.  
Fasteners broken.

ENGINE COWLING—Does not latch  
securely.

A REAL NO-NO  
IS TO MARK TAIL  
PIPE DAMAGE AREAS  
WITH A LEAD PENCIL!  
THE PENCIL'S CARBON  
WILL CUT A HOLE!

USE A  
GREASE  
PENCIL!

# No.1 Engine

FOCUS IN ON THE  
NUMBER 1 ENGINE  
THE WAY YOU DID  
THE NUMBER 2  
ENGINE!

RIGHT  
ON,  
CONNIE!

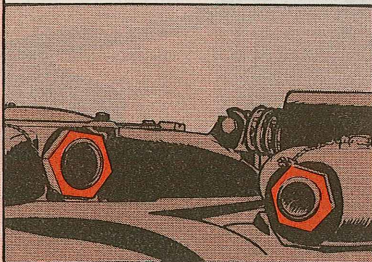
TAILPIPE, EXIT STATOR, POWER  
TURBINE (L-11 engine)—Cracks,  
hot spots, burned areas.

INLET HOUSING, AIR DUCTS—Oil  
streaks. (Note: Eyeball the inlet  
guide vanes, compressor blades and  
stator vanes for foreign object  
damage and erosion.)

PS MORE



**ROTARY WING, HUB OIL TANKS—**  
Sight glass stained, can't see oil level. No positive safety.



**PITCH-VARYING HOUSING—**  
Cracks in housing. Oil level low. Droop stop spring broken. (Note: Look at the pitch lock pin hole, horizontal region, from the lock pin hole to the inboard end of the housing on the trailing surface. Also, eyeball the area next to the upper pitch link attaching bolt holes.)

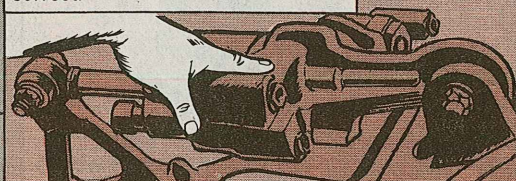
**VERTICAL HINGE PIN OIL TANKS—**  
Seals leaking. Oil level low. Sight glass dirty.



**UPPER, LOWER DRIVE ARMS, COLLAR—**Cracks. Loose drive arm bushings. Excessive play.

LEAK!

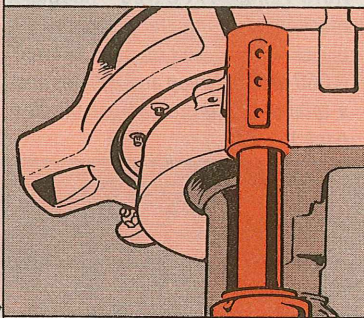
**SHOCK ABSORBERS—**Oil level low. Piston dirty. Vent valve position not correct.



GOOD SHOW, CHIEF--  
FINDING LEAKS AND  
FIXING THEM NOW HEADS  
OFF BIG TROUBLE, LATER.

# Aft Rotor Pylon

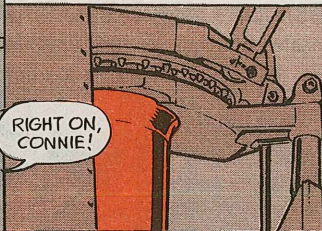
**SWASHPLATE—**Overheated.



**PIVOTING ACTUATOR—**Upper and lower thru bolts safety missing. Piston dirty.

ANOTHER  
ONE  
HERE!

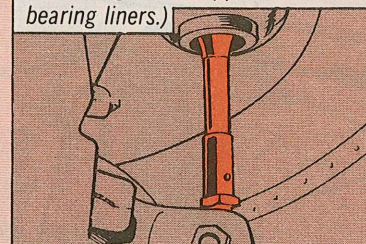
**AFT ROTARY-WING DRIVE SHAFT, THRUST BEARING HOUSING—**  
Overheating. Cracks in support. Rivets missing.



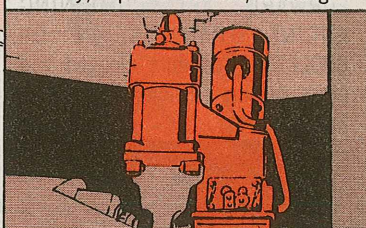
RIGHT ON,  
CONNIE!

**LUBRICATION, HYDRAULIC LINES**  
(both sides)—Chafing, leaking.

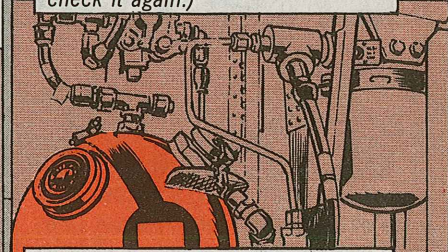
**PITCH LINKS—**Chafing. (Note: Eyeball the links for security and unbonding of the upper and lower bearing liners.)



**LONGITUDINAL CYCLIC TRIM ACTUATOR—**Cannon plug loose. Safety, top and bottom, missing.



**NOS 2, 1 FLIGHT CONTROL HYDRAULIC FILTER—**Indicator warning button popped. (Note: When you're cranking up the bird, a pressure surge can pop the button. If so, just push the button back and check it again.)

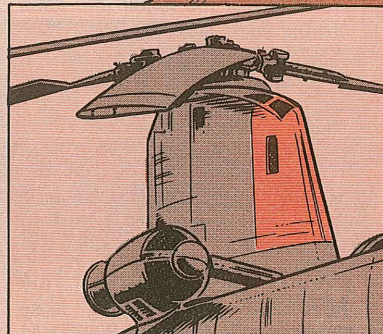


**NOS 2, 1 FLIGHT CONTROL HYDRAULIC TANK—**Oil level low. Cap loose.

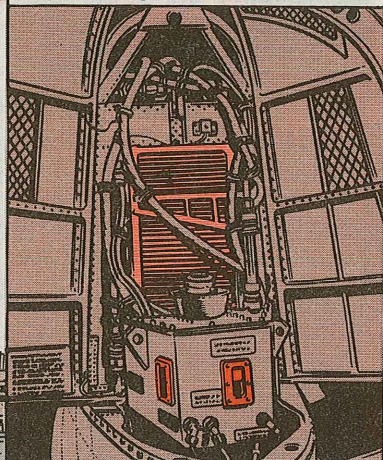


?

# Aft Rotor

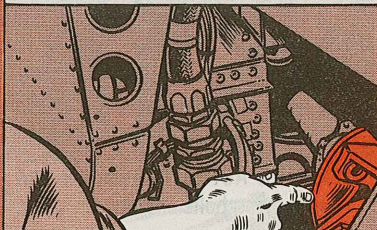


**FORWARD, AFT, COMBINING, ENGINE TRANSMISSION OIL COOLERS**—Radiators clogged with grass, cutting off flow of air. Hoses, lines chafing.

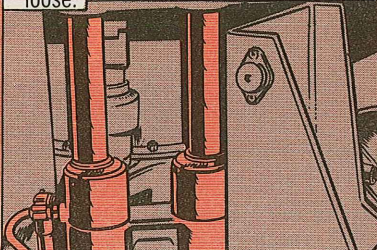


**COMBINING TRANSMISSION**—Low oil levels. Filter button popped. Lines leaking. (Note: The rotor blade dephasing handle should be "up" and have a safety.)

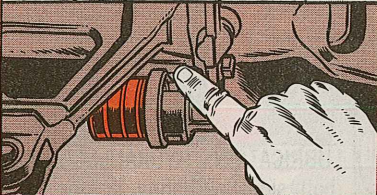
**COMBINING TRANSMISSION TO AFT TRANSMISSION DRIVE SHAFT ADAPTERS, PLATES**—Adapters cracked. Too much gap between plates. (Note: You're only allowed 0.060 inch between any 2 plates and a total of 0.100 inch across the flex pack.)



**SWIVELING ACTUATOR**—Leaking, loose.

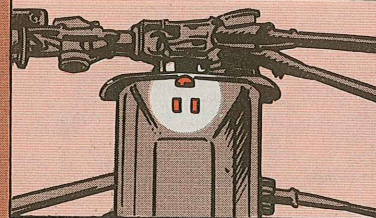


**ROTARY-WING BLADES (with ISIS)**—Black rings visible . . . an unsafe condition, for real! Press-to-test, indicator must return to white.



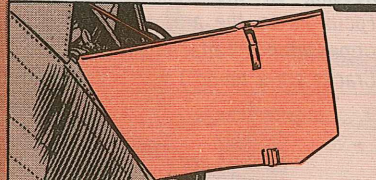
# Pylon[Cont.]

**ANTI-COLLISION LIGHT**—Glass broken.



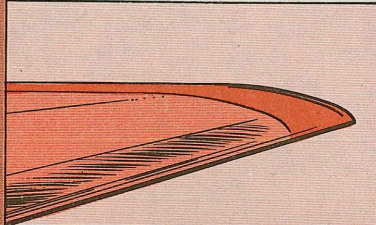
**FORMATION LIGHTS**—Mount loose, glass broken.

**WORK PLATFORMS, FAIRING, ACCESS DOORS, PANELS**—Latch pins and catches worn. Platform loose. Cables frayed.



**FLIGHT CONTROL PNEUMATIC SYSTEM (if installed)**—Water build up in pressure regulator.

**ROTARY-WING BLADE SURFACES, EDGES, TIP COVERS**—Cracks. Tip covers loose.





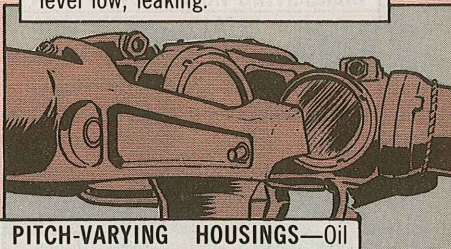
# Forward Ro tor, Crown

## SYNCHRONIZING DRIVE SHAFTING FROM FORWARD TRANSMISSION TO COMBINING TRANSMISSION—

Shaft chafing. Adapter and plate cracked. Too much gap between plates, plates loose. Bearing housing shock mounts loose. Trunnions do not move freely. Dirty grease present, which will give you excessive wear. Broken springs. Cracked support brackets. Plate recesses dirty. Bearing overheating.

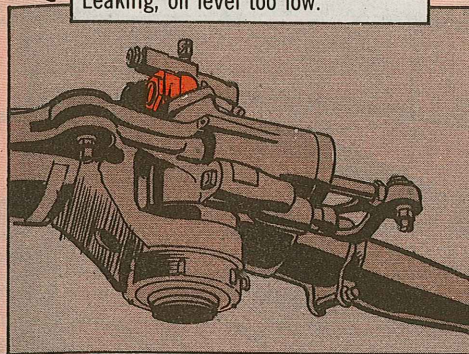
(Note: Keep those trunnions clean and dry.)

## ROTARY WING HUB OIL TANKS—Oil level low, leaking.



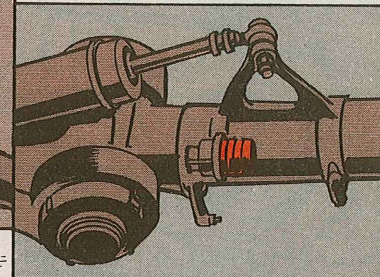
**PITCH-VARYING HOUSINGS**—Oil level low, leaking. Cracks in housings. (Note: Eyeball the pitch lock pin holes, the horizontal area from the pitch lock pin hole outboard and around to the inboard end of the housing on the trailing surface. Focus in on the area next to the upper pitch link attaching bolt holes. Cracks are a no-no!)

## VERTICAL HINGE PIN OIL TANKS—Leaking, oil level too low.



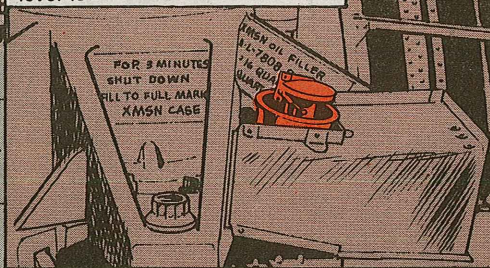
**SHOCK ABSORBERS**—Leaking, oil level low. Exposed part of piston dirty. Vent valve position not correct.

**ROTARY-WING BLADES (with ISIS)**—Black rings showing . . . "bad."

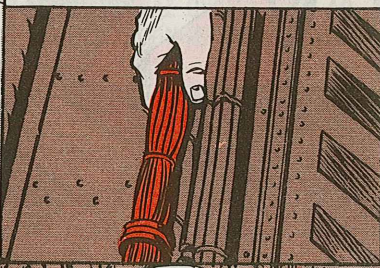


**ROTARY-WING BLADE SURFACES, EDGES, TIP COVERS**—Cracks. Tip cover loose. Skin, filler loose.

**FORWARD TRANSMISSION**—Oil level low.



**LUBRICATION, FUEL, HYDRAULIC LINES, HOSES, ELECTRICAL WIRE BUNDLES IN TUNNEL**—Chafing, hydraulic lines leaking, not secure.



ANY CRACKS?

48

49

ONCE AGAIN, MAKE PRESS-TO-TEST CHECK AND WATCH FOR BLACK RINGS ON ISIS BLADES!

PS MORE



# Forward Rotor,

# Crown[Cont.]

**PREVENT  
FOD!**

KEEP A  
WATCHFUL  
EYE OUT  
FOR LOOSE  
TOOLS AND  
HARDWARE,  
ESPECIALLY  
IN THE  
TUNNEL.

**UPPER, LOWER DRIVE ARMS,  
COLLAR**—Loose, cracked.

**WORK PLATFORMS, FAIRING,  
ACCESS DOORS, PANELS, TUNNEL  
COVERS, FORMATION LIGHTS**—  
Cracks, platform cable frayed, dzus  
fasteners missing. Latch pins worn.

**SWIVELING ACTUATOR**—Leaking,  
loose.

50

**CONNECTING PITCH LINKS**—  
Chafed, loose. Upper and lower rod-  
end bearing unbonded.

**SWASHPLATE**—Overheating indi-  
cated.

**LONGITUDINAL CYCLIC TRIM AC-  
TUATOR, CONNECTOR PLUG**—  
Loose.

**PIVOTING ACTUATOR**—Loose, leak-  
ing at the witness holes.

**LUBRICATION, HYDRAULIC LINES,  
HOSES, ELECTRICAL WIRE  
BUNDLES** (left and right side)—  
Lines chafing, hoses leaking.

**4 FORWARD TRANSMISSION  
MOUNTING BOLTS** (does not apply  
to P/N 114D2162-3 bolts)—Loose,  
slippage marks do not align.

51



# Right

# Side

(Note: Give the following areas the same eyeball treatment you used on the left side of your bird, crewchiefs:)

AFT LANDING GEAR SHOCK STRUT

AFT WHEEL BRAKE

AFT LANDING GEAR TIRE

ANTENNAS, SUPPORTS

FUEL TANK

FORWARD LANDING GEAR SHOCK STRUT

FORWARD WHEEL BRAKE

FORWARD LANDING GEAR TIRES

STATIC PORTS

ACCESS DOORS, WORK PLATFORMS, PANELS

APU AIR INLET—Debris blocking air entrance. Note: Skip this if your baby has been modified by MWO 55-1520-227-50-19 with the L-11 engine.)

AFT NAVIGATION LIGHT—Cover broken.

HEATER AIR INTAKE, HEATER EXHAUST—Grass on screen.

AFT LANDING GEAR POWER STEERING ACTUATOR AND SWIVELING HOUSING—Leaking.

NAVIGATION LIGHT—Cover broken.

PAY CLOSE ATTENTION TO INTAKE AND INLET SCREENS...

REMEMBER FOD CAN BE PREVENTED!

GOTCHA, CONNIE!

DON'T FORGET... JOIN US AGAIN NEXT ISSUE (PS 283) FOR PART II OF THIS CHINOOK (CH-47) BYOI.

PS CONT.





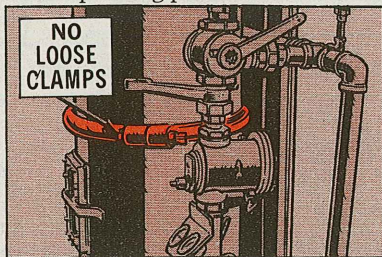
# PURE PM

WATER PURIFICATION UNITS...

You can lose your head playing Russian roulette. You can lose it playing at PM, too.

For instance, playing loose with PM on your water purification unit's diatomite filter assembly. Sloppy work here can cost you dearly in parts replacement—personal ones, that is—equipment parts and downtime.

A loose clamp will let the filter housing cover take off like a rocket when operating pressure is turned on.

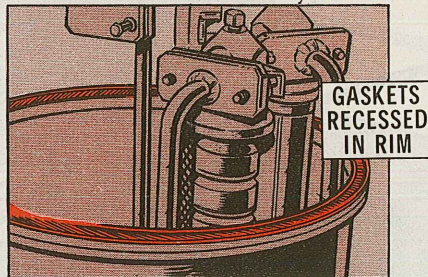


So, how do you stop the loose clamp biz? Never use a gasket or clamp assembly that's gouged, cracked, nicked or broken.

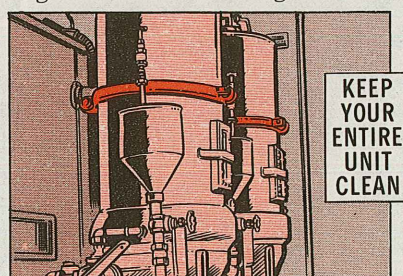
When you get ready to put the assembly together, do it...

**C-A-R-E-F-U-L-L-Y!**

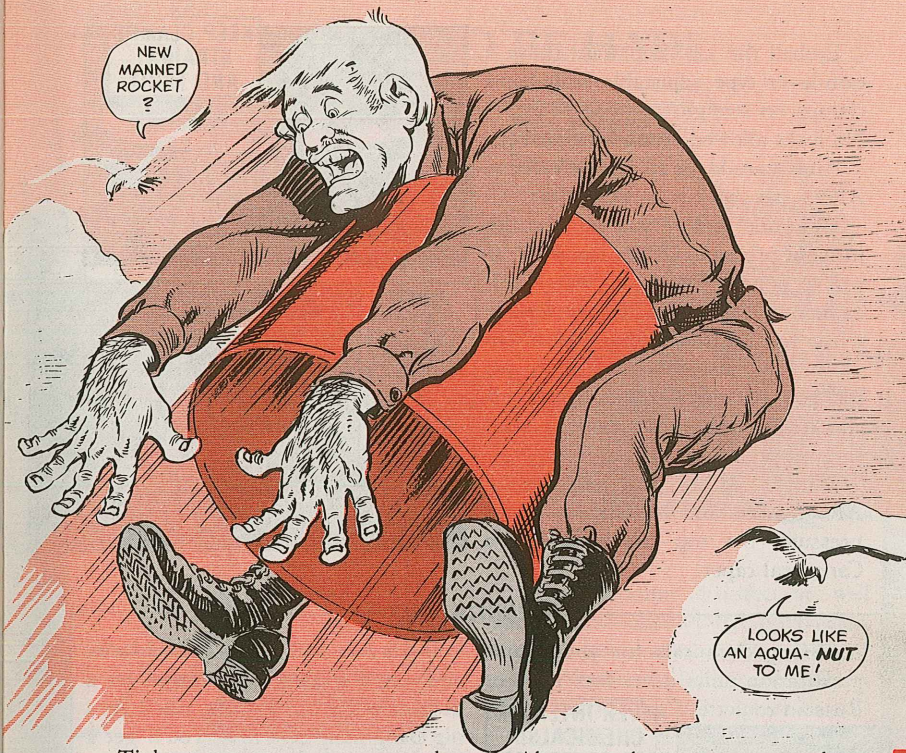
Be sure the gasket is in the recess in the rim of the filter assembly. Be sure



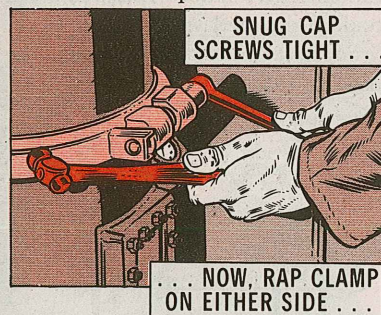
there's no dirt, cracks or junk on the edges of the filter housing cover and



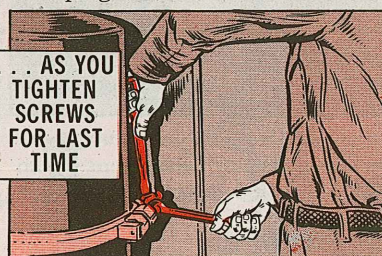
filter body. Same for the 2 parts of the clamp assembly—the cap screws and nuts that hold the whole thing together.



Tighten one cap screw snug... then run down the other one. Use the right size socket wrench— $1\frac{5}{16}$ -in from No. 1 Common set—here so you won't round off the cap screw heads.



Alternate the cap screw run-down bit until both are tight. Now, rap the clamp assembly 3 or 4 times with a small non-metallic mallet as you tighten the cap screws for the last time. This gives you a better fit and clamping action.



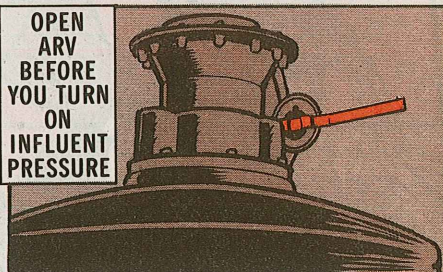
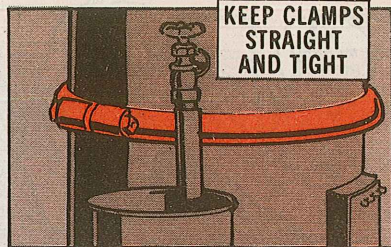


Eyeball the job. You want those 2 cam-lever type adjustable belly-band clamps on straight . . . and t-i-g-h-t! No leaks allowed around the gasket.

After you add the air release valve—ARV—it's check-your-work time.

Hold one! Before you turn on the influent pressure, OPEN the ARV. If you've done a lousy job, water will come out around the clamp assembly when you pressurize the system. No harm done, just a messy cleanup job for you. Remember, you pull this check before you start normal starting up procedures.

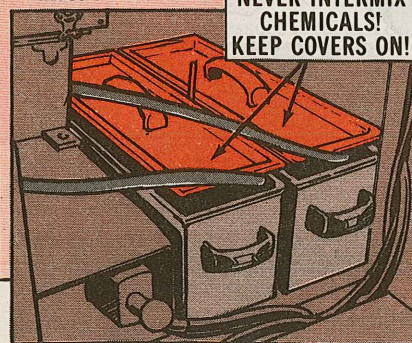
With a loose clamp job and the ARV closed and the system under pressure, the top can blow like a Canaveral caper!



## CHEMICAL PM

Mixing chemicals for your water purification units is another form of Russian roulette.

**NEVER INTERMIX CHEMICALS! KEEP COVERS ON!**



If you mix dry calcium hypochlorite and dry activated carbon, and let a drop of water hit the mix, you'll get a big bang-bang! Or fire! You'll get a deadly dose of chlorine gas if you mix ferric chloride and dry calcium hypochlorite. Keep lids—or covers—on pans when you refill chemical containers. A spill or splash and you could make the last big scene.

So, never intermix chemicals. The reaction can be violent!

HE JUST ARRIVED... WANTS TO PICK UP HIS WINGS AND HALO!

FUNNY-- I CAN'T FIND HIS NAME!



PS END

ODOR'S BAD . . .

## HELP'S TO BE HAD!

Dear Half-Mast,  
Our 400-gal water trailer has a distinct egg flavor—rotten eggs, that is. Know a cure?  
CPT R. A. L.

CARMICHAEL HAS BEEN WASHING HIS SOCKS AGAIN!



Dear CPT R.A.L.

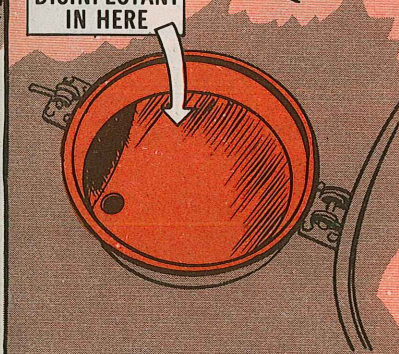
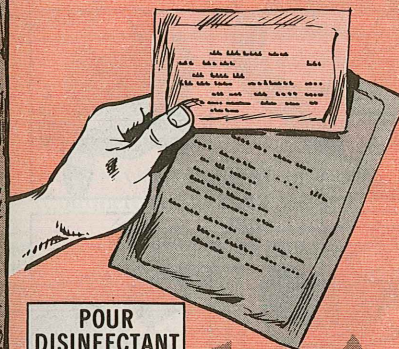
Sure thing.

Chlorine-iodine disinfectant will hack it. NSN 6840-00-810-6396 gets a \$1.51 packet that treats 25 gallons of water. Your mess hall uses it daily to clean fresh fruits and vegetables.

So, order 16 packets for your 400-gal water trailer. The how-to-use poop is on each packet. Be sure you rinse the tank thoroughly with water after the treatment. Repeat as often as necessary to get clean, sweet-tasting water.

Course, your buddies with 1500 and 3000-gallon trailers can use the same disinfectant—just a heap more of it!

Wait one. The disinfectant has a shelf life of 18 months so order only the amount you need for each treatment, and if your packets are older, double the amount in each treatment.

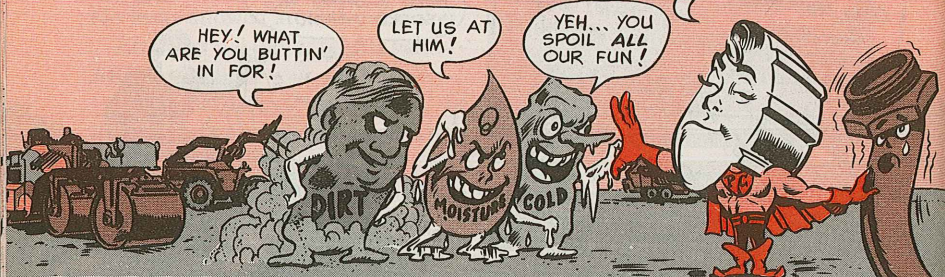


Half-Mast



DON'T FRET, BUDDY... IT'S

## PLASTIC CAPS TO THE RESCUE



A part or component removed from the protective shell of its end item stands naked and shivering in a cold, cold world.

Its delicate, vital parts are exposed to the cruel winds of fate and misfortune. It needs all the lovin' care you can muster or it'll be hurtin' for certain.

Threads need to be protected against the bumps and grinds of a gyrating world.

Lines and openings need to be covered to keep out dirt and fluids that can sneak in.

Fragile connector pins need your help or they won't be long for this world.

In short, what the part needs is an assortment of Caps, Protective, Dust and Moisture Seal.

There are several dozen of various sizes listed in the microfiche of Catalog C-5340-IL. They have only one purpose—to protect exposed portions of parts, components and the end items they come from. They're the best friends a part can have.

The thing to do, of course, is to get 'em ahead of time. Stock up with these little protective jewels in advance ... and you can save the service life of quite a few things.



Run into any new NSN's lately? They're the ones with 01 as the first 2 numbers of the NIIN (National Item Identification Number).

If you have found an NSN with 01 at the start of the NIIN, and then tried to check it out on the AMDF (Army Master Data File), could be you got a little frazzled.

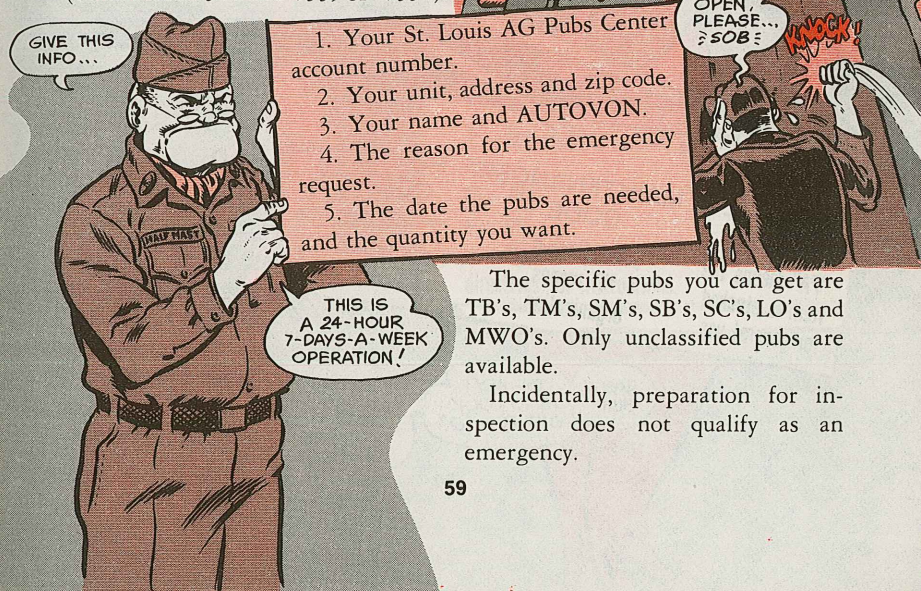
Remember, the AMDF is in NIIN sequence and 01 NIINs follow 00 NIINs. Therefore, 01 NIINs appear in the latter part of the file.

01'S HAVE THEIR OWN LIST AT THE END OF ALL THE 00 NSN'S!



Paining for pubs? Strictly emergency?

Then, telephone your request for as many as 5 TM's or other pubs to AUTOVON 698-7339 or 698-7330 (Commercial 314 268-7339 or -7330).



1. Your St. Louis AG Pubs Center account number.
2. Your unit, address and zip code.
3. Your name and AUTOVON.
4. The reason for the emergency request.
5. The date the pubs are needed, and the quantity you want.

The specific pubs you can get are TB's, TM's, SM's, SB's, SC's, LO's and MWO's. Only unclassified pubs are available.

Incidentally, preparation for inspection does not qualify as an emergency.



## KNOW YOUR SMR—

If you've run into parts lists with codes that look like somebody had their fingers on the wrong typewriter keys, relax. They're the 5-place Source, Maintenance and Recoverability (SMR) codes.

SMR Codes usually show up in the first column of a parts list. The new codes look a little odd (would you believe MOOOO or XBOZZ?) but they tell you more about the item than the old codes. AR 700-82 has the word on SMR codes.

OK—SO WHAT DO THEY TELL YOU?

TAKE AN SMR CODE YOU'LL PROBABLY RUN INTO LIKE "PAOZZ".

TAKE IT APART.

**PAOZZ**

**PA**  
SOURCE CODE

"PA" means the item is stocked for general use.

**O**  
MAINTENANCE CODE

Who fixes it. "O" means organization.

**Z**  
REPAIR CODE

"Z" means no repair allowed.

**Z**  
RECOVERABILITY CODE

"Z" means the item is not repairable... user gets rid of it.

EASY, HUH?

THE KEY IS TO LOOK OUT FOR "O".

IF THERE'S AN "O" IN THE SMR CODE, YOU'RE INVOLVED!

## SOLVING PARTS

PAOZZ	2540-715-7407	1802 WRECKER AND SPLASH GUARD PARTS RELATED PARTS CA
PAOZZ	5310-982-4908	1802 BRIDGE TRUCK SPLASH SHIELD ASSEMBLY AND RELATED PARTS CA
XBOZZ		NUT: SPLASH SHIELD SCREW: 120377 (21450)
PAOZZ	5305-012-0233	WASHER: SPLASH SHIELD SCREW: 120342 (21450)
PAOZZ	2510-895-6366	SPLASH SHIELD ASSY: REAR 8902-37-1 (81336)
XAOZZ		FENDER: SPLASH SHIELD 9902-14-3 (81336)
PAOZZ	5305-269-2803	PIN: COTTER: SPLASH SHIELD HINGE MS21665-287 (96906)
XAOZZ		PIN: SPLASH SHIELD HINGE A30613 (81336)
PAOZZ	9515-267-1178	SCREW, CAP, HEXAGON: SPLASH SHIELD SUPPORT MS90726-60 (96906)
PAOZZ	2510-895-6366	SUPPORT: SPLASH SHIELD NPN (81336)
		SHIELD: SPLASH SHIELD 8901-37-2 (81336)

## PUBS CODES

EA	1	*	*	*	*	*	18-17	3
EA	1	*	*	*	*	*	18-17	4
EA	8	*	*	*	*	*	18-18	1
EA	8	*	*	*	*	*	18-18	2
EA	8	*	*	*	*	*	18-18	3
EA	8	*	*	*	*	*	18-18	4
EA	2	*	*	*	*	*	18-18	5
EA	1	*	*	*	*	*	18-18	6
EA	2	*	*	*	*	*	18-18	7
EA	1	*	*	*	*	*	18-18	8
EA	7	*	*	*	*	*	18-18	9
EA	1	*	*	*	*	*	18-18	10
EA	1	*	*	*	*	*	18-18	11
EA	1	*	*	*	*	*	18-18	12

HERE ARE THE SMR CODES YOU'LL PROBABLY SEE MOST OFTEN...

## SOURCE CODES

- PA—Stocked for general use
- PC—Stocked like PA, but item can decay
- KF—Org or DS kit item, not bought separately
- KB—Org, DS or Depot kit item
- MO—Made at org level
- MF—Made at DS level
- AO—Put together at org
- AF—Put together at DS
- XA—Must be replaced with the next higher assembly
- XB—Not stocked—when you can't get it through salvage, request by exception data
- XC—No NSN, item only has a manufacturer's part number
- XD—Not stocked—normal supply channels used but requests take longer.

## MAINTENANCE CODES

- C—Crew or operator (Army only)
- O—Org
- F—DS

## REPAIR CODES

- O—Org
- F—DS
- Z—No repair allowed

## RECOVERABILITY CODE

- Z—Not repairable. User gets rid of unusable item.
- O—Org
- F—DS
- A—Special handling needed—see manual or directives for instructions.

If you run into a code you can't figure, check the front of the pub or the beginning of the parts section. The info will be there.



# READ THE HOLES!

Anybody who likes horror movies knows at least one story in which the giant computer goes berserk and takes over the world.

Well, dealing with an automated supply system can sometimes make you feel like a refugee from the movies.

Trying to read some status cards, for example, can really drive you nuts.

Most computers read and use 80 columns. But most of the card interpreters—the machines that print the info on the top of the cards—are geared to print 60 places. So you get strange status cards with 60 letters, numbers and blanks on the top line, then a break to the second line.



IF YOUR STATUS CARDS LOOK SOMETHING LIKE THIS... MAKE A MANUAL CARD INTERPRETER FOR YOURSELF!

That's where the trouble starts. With all the info jumbled together and then split between 2 lines, you can lose important info. But there are ways to beat that problem.

The computer reads each hole in the card—not the print at the top. The number of holes and where they're punched in a column tell the computer what to read.

One hole in a column usually means a number. Two holes usually mean a letter and three holes, punctuation or other characters.

And just as there are 80 columns running across the card, so there are 12 rows in each column.



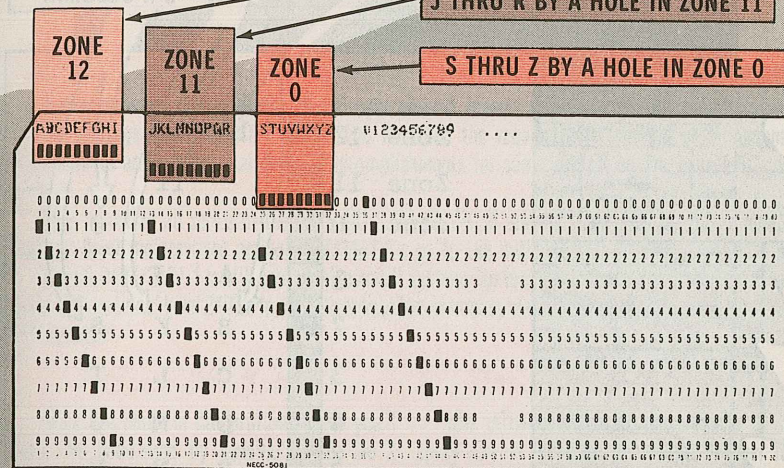
62

LETTERS ARE BROKEN INTO 3 GROUPS. EACH GROUP CORRESPONDS TO A ZONE

A THRU I ARE INDICATED BY A HOLE IN ZONE 12

J THRU R BY A HOLE IN ZONE 11

S THRU Z BY A HOLE IN ZONE 0



2 HOLES IN A COLUMN USUALLY MEAN A LETTER

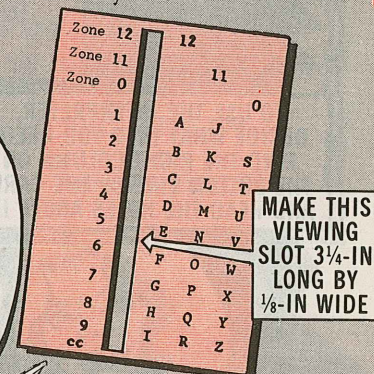
1 HOLE IN A COLUMN USUALLY MEANS A NUMBER

If you have a manual card interpreter, you can figure out what the holes in the card mean and then match each column with the jumbled info at the top. That way you'll never lose a status code or delivery date.

MAKE THIS MANUAL CARD INTERPRETER OUT OF A 3X5-INCH INDEX CARD.



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MAKE THIS VIEWING SLOT 3 1/4-IN LONG BY 1/8-IN WIDE

PS MORE

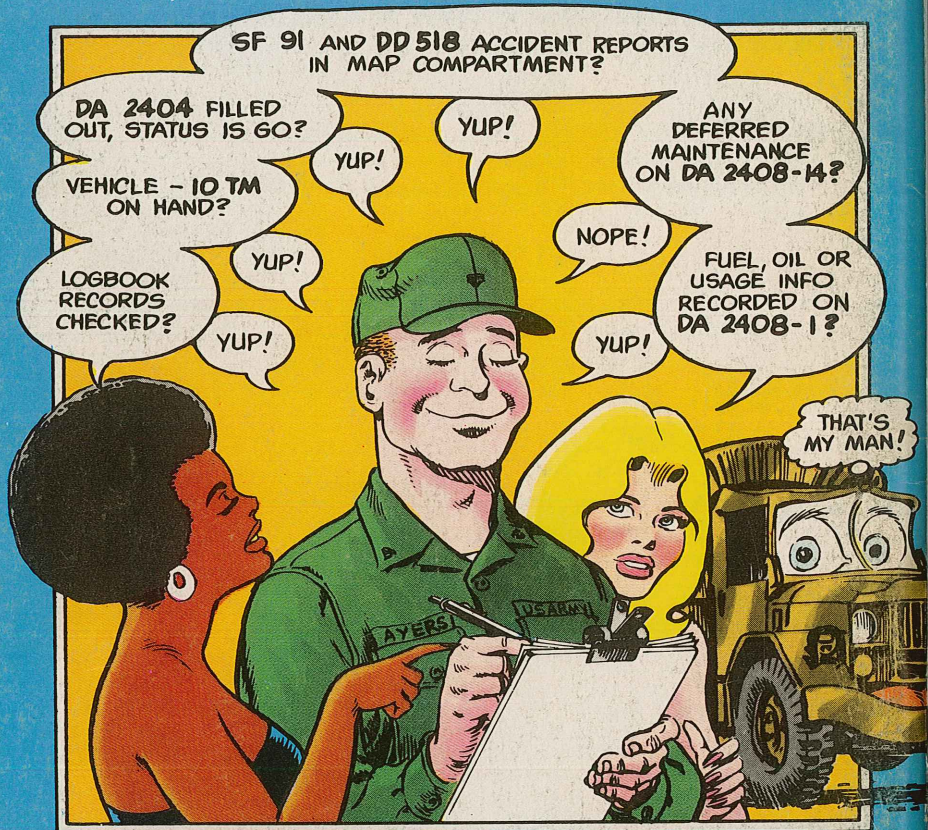


**Would You Stake Your Life <sup>right now</sup> on the Condition of Your Equipment?**



BEFORE PUTTING THAT VEHICLE IN GEAR...

# DO A Before Operations Check ON YOUR PAPERWORK!



THEN ... **LET'S GO!**