

Issue 270

PS

May
1975

THE PREVENTIVE MAINTENANCE MONTHLY



649th Maint Co.
(DS)

HEH - HEH --
THOUGHT MEBBE
DS COULD USE
THIS STUFF...

YOU--
HA-HA-HA ...
KNOW HOW
IT IS... EH,
SARGE?

HAVE
YOU NEVER
HEARD ABOUT
FREE TURN-IN,
SOLDIER?

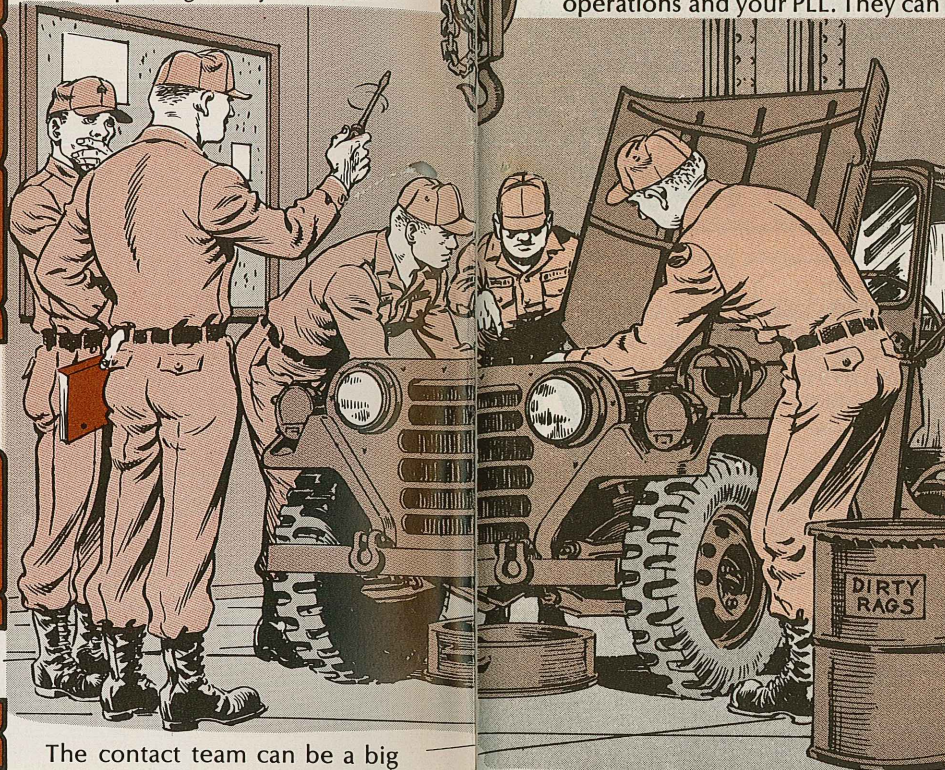
SEE:
"Those Awkward
Acquisitions
Pages
29 - 36

MURPHY
ANDERSON



FOR
MECHANICS

Your Direct Support Unit (DSU) has contact teams out most of the time. They do their maintenance on the spot, right in your unit.



The contact team can be a big boost for you and your equipment. When the team's around, you and other mechanics can learn how they do their maintenance jobs. After all, the DSU guys are 'specially trained and highly skilled. Watch 'em. Ask questions. They'll be glad to let you do some of the work under their guidance. You'll learn a lot in the process.

While the contact team is in your unit ask 'em to look over your equipment, your maintenance operations and your PLL. They can

help you spot problems before the problems get to be real headaches. You can then "nip 'em in the bud."

So, when the contact team is around, get with them. Learn. Get their help in spotting problems. Invite them to come back often.

It'll be a big boost toward keeping your equipment—and your unit—ready.

PS

THE
**PREVENTIVE
MAINTENANCE**
MONTHLY

Published by the Department of the Army for the information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. 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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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

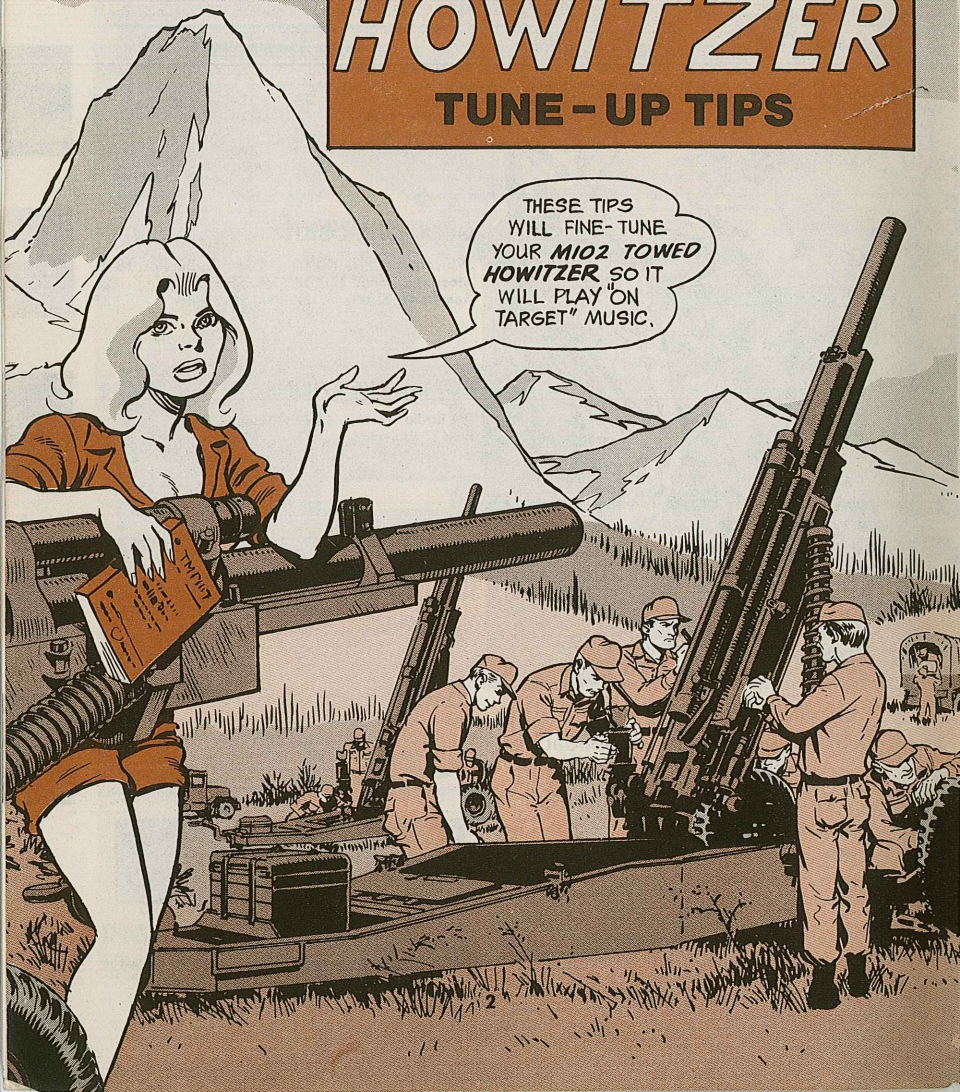
Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 17 July 1973 in accordance with AR 310-1.
DISTRIBUTION: In accordance with requirements submitted on DA Form 12-5.



M102 HOWITZER

TUNE-UP TIPS

THESE TIPS
WILL FINE-TUNE
YOUR M102 TOWED
HOWITZER SO IT
WILL PLAY "ON
TARGET" MUSIC.



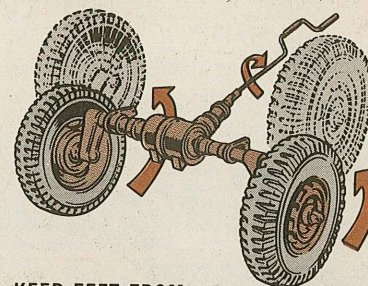
WHEEL ACTUATOR DANGER

The wheel actuator on your M102 howitzer can give you a hit in the head if it fails. To keep this from happening, do the way it says in Ch 8 to TM 9-1015-234-12 (Mar 65), in para 15, page 23.

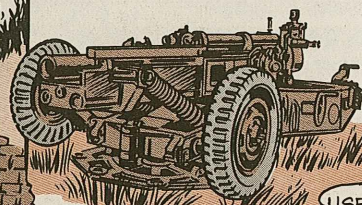
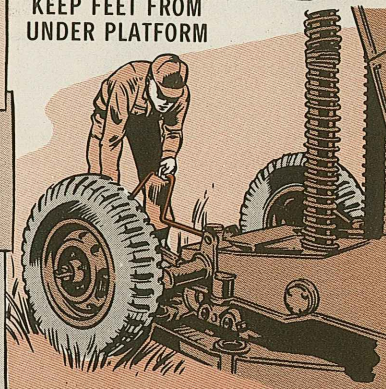
1. All crewmen except the cannoneer working the actuator crank must stand clear of the weapon until the firing platform is on the ground.

2. Elevate the cannon to about 800 mils. (This gives the cannoneer overhead clearance if the actuator breaks and the weapon starts to fall.)

3. The cannoneer working the actuator crank will keep his feet clear so they won't be crushed by the firing platform which will fall if the actuator breaks.



KEEP FEET FROM
UNDER PLATFORM



The actuator assembly is not made to pull stakes out of the ground when you get ready to pack up. Abuse like this is likely to break the actuator crank shear pin.

USE ONLY THE AUTHORIZED
PIN -- NO SUBSTITUTE!
IT'S NSN 5315-00-999-1573!



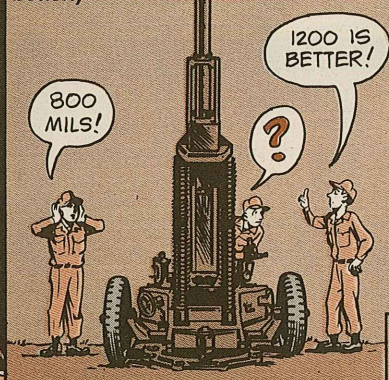
EQUILIBRATORS

Your M102 can't do its best if the ball screw and equilibrator assemblies lock up, creep, or won't hold the elevation that you give them.



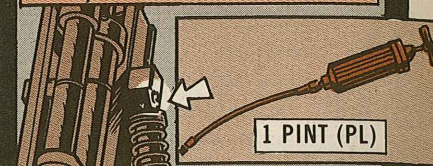
Note 5 to LO 9-1015-234-10 (Mar 72) calls for a monthly lubrication of the equilibrators by organizational maintenance. You do it by the numbers like so . . .

1. Elevate the cannon to 1,200 mils. (Note 5 says 800 mils, but 1,200 is better.)



2. With a thin wire, clean the drain hole at the bottom of each equilibrator. (This has to be done or the rest of the drill won't work.)

3. Unscrew the 1/8-in-27 NPT plug at the top of one of the ball screw and equilibrator assemblies. (Be gentle so you don't strip the socket head. Plug, pipe, socket head NSN 4730-00-985-4139 has been replaced by plug, pipe, square head NSN 4730-00-223-9267 to prevent stripping of the head.)



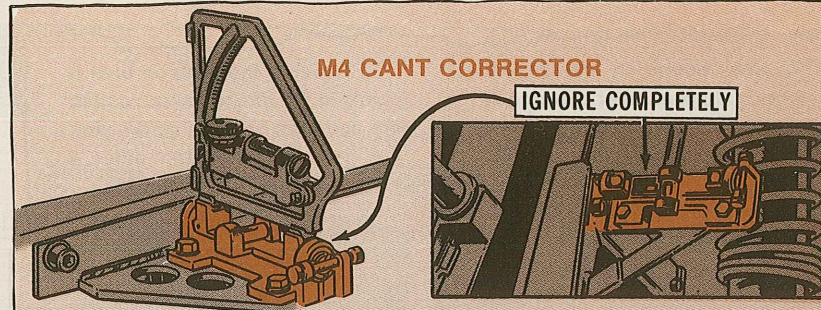
4. With a hand oiler, put a pint of general purpose lubricating oil (PL) into the ball screw and equilibrator plug hole.

5. Now screw the filler plug back in making sure you don't strip the threads.

6. Repeat steps 1 through 5 on the ball screw and equilibrator assembly on the opposite side.

7. Finally, depress and elevate the cannon 3 or 4 times through its entire range to get the assemblies inside the equilibrators completely lubed.

M4 CANT CORRECTOR



You now have one less thing to worry about. Change 9 to TM 9-1015-234-12 cut out all reference to the cant corrector, and a change to the ESC will delete it there, too. For now ignore it completely but don't take it off. Your support will get the word to do that for you.

EMPLACING THE M102

The general dope on emplacing the M102 for firing is in para 15 on page 23 of Ch 8 to your -12 TM.

1. Position your weapon pointing opposite to the direction you want to fire.



2. Elevate the tube to at least 800 mils. There are 2 good reasons for this. First reason: If the actuator fails while the weapon is being lowered to the firing platform, the tube will be high enough so it won't give you a clout on the head. Second reason: You'll have room to swing the sledge so you can drive in the stakes.

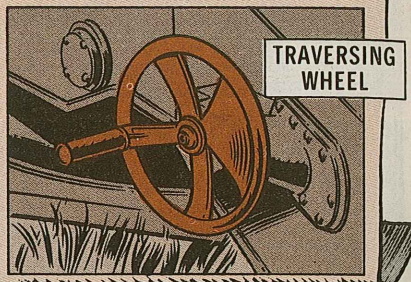
IT'S OK, BUT HERE'S A SLICKER, QUICKER, WAY...

3. Lower the weapon to firing position. While you do this, keep your feet out from under the platform in case the actuator lets go. Also, like the TM says, keep everybody clear of the weapon until the platform is on the ground.



4. Now pound in the 4 rear stakes. (They're under the tube at this time.) You may have to traverse the weapon a few inches left or right to set the stakes in front of the wheels. Never—but never—pound stakes in except from the front, under the tube. If you do it from the rear, you're likely to slam the sledge into the sights.

5. Traverse the weapon until it points in the direction you want to fire and then you can start laying the howitzer while the other 4 stakes are being hammered in.



LANYARD TO LONG—HANDLE IS WEDGED!

LANYARD LENGTH



The lanyard, NSN 1015-00-317-2484 (8407418), is so long that its handle can wedge between the cradle and recoil and keep the weapon from returning to the full in-battery position.

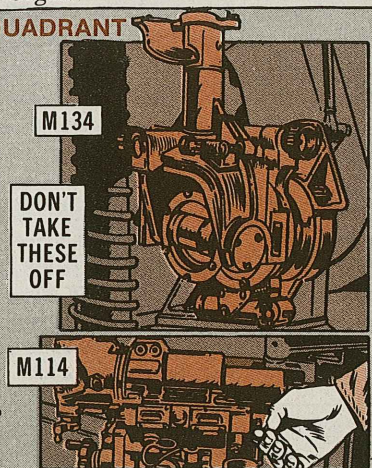


CUT PIECE OFF—HANDLE NOW 2 INCHES BELOW CRADLE BRACKET.

Cut a piece off so this can't happen. The handle should be only 2 inches below the cradle bracket assembly when you have it cut to the right length.

M134 MOUNT AND M14 QUADRANT

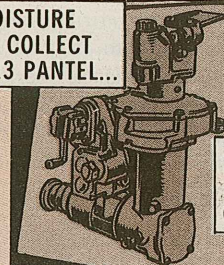
The crew does not take off or replace the M134 mount and the M14 fire control quadrant. This is in Ch 7 to TM 9-1015-234-12, but some guys don't yet have The Word. So here it is again: Removal/replacement of both the M14 and the M134 mount is for direct support or higher level, not for crewmen. There's a good reason for this. These 2 items are precision-adjusted to the individual weapon and if you take 'em off you change the adjustment.



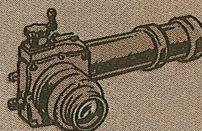
INSTRUMENT PURGING

Moisture will accumulate in the M113 pantel, the M114 elbow telescope and the M1 collimator. This causes a fog inside the instruments

MOISTURE CAN COLLECT IN M113 PANTEL...



... AND IN M1 COLLIMATOR



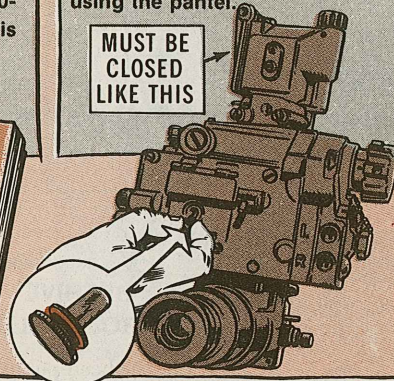
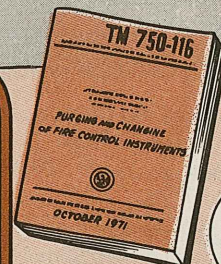
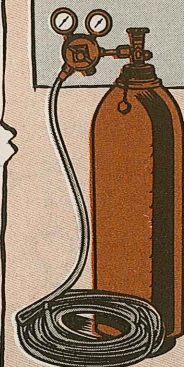
... AND IN M114 ELBOW TELESCOPE

that makes them difficult, or even impossible, to use. So do these things:

1. Make sure your fire control instrument mechanic purges and charges them with nitrogen every 90 days the way it says in TM 750-116 (Oct 71), or sooner if there is evidence of moisture.

2. See that the boresight parallax shield on the M113 is in closed position when you're not using the pantel.

MUST BE CLOSED LIKE THIS

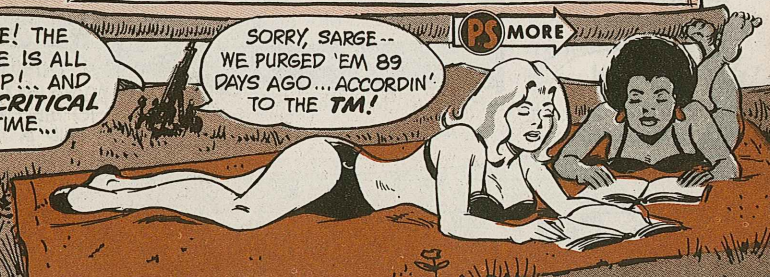


3. There should be a gasket around the counter night lighting bulb. If there isn't, have your mechanic put one in.

FILLMORE! THE TELESCOPE IS ALL FOGGED UP!... AND AT SUCH A CRITICAL VIEWING TIME...

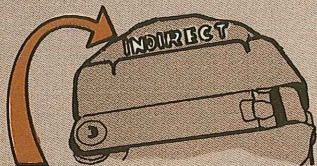
SORRY, SARGE-- WE PURGED 'EM 89 DAYS AGO... ACCORDIN' TO THE TM!

PS MORE

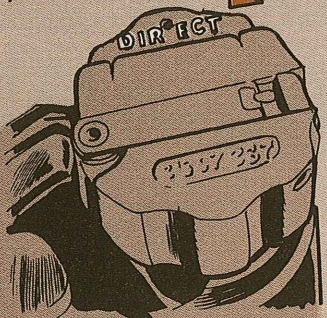


M113 PANTEL DETENT

Some gunners forget to adjust the 5-mil direct fire detent to the proper position. Be sure to have the word

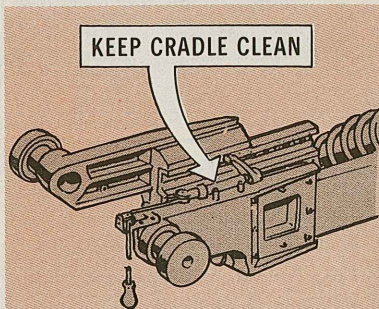


INDIRECT showing when you are doing indirect fire and DIRECT when your fire is direct.



CRADLE CRUD

Any kind of crud in your cradle can get compressed during firing so the weapon won't return to the full in-battery position. This is serious because it separates the firing mechanism pawl from the breech firing plunger. When that happens, of course, you can't fire the weapon.

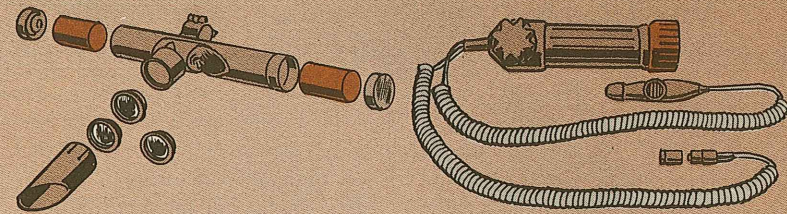


So watch your cradle and keep snow, ice, dirt, sand or anything like that from accumulating there.

INSTRUMENT LIGHTS

You need batteries, NSN 6135-00-120-1020, for your M14 aiming post light and your M52 and M53 instrument lights—2 in each.

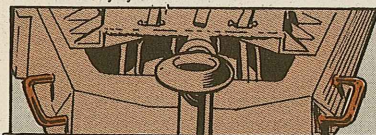
The metal covers for the M52/M53 lights often get lost. A substitute cover (plastic) can now be ordered as NSN 1290-00-186-0058.



M102 HOWITZER HANDLE HANDIES

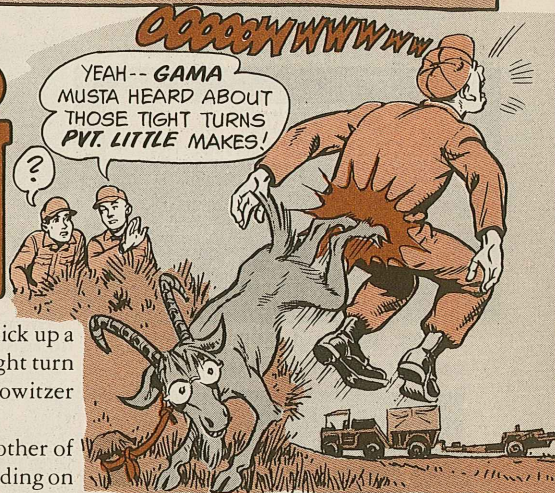
The M561 Gama Goat can kick up a little when you're making a tight turn with your M102 towed howitzer hooked on it.

The Goat can mash one or other of the trail-lifting handles, depending on which way you turn.



DON'T LET GAMA GOAT MASH HANDLES

For now, be careful when you have to make a tight turn. Also, when you



back up, take care not to jackknife your M102 and your Goat.

The lifting handles on the M102 have been redesigned and the new handles can be replaced in the field. New and recently overhauled weapons will have the handles attached with screws and located forward of the present handles.

BEEHIVE PROJECTILE

Nothing has been published on the Equivalent Full Charge factor you should use for M546 (Beehive) projectile rounds.



USE AN
EFC FACTOR
OF 1.0 FOR
THE M546!

THIS'LL BE IN
THE NEXT CHANGE
TO THE FIRING TABLES
AND IN THE TUBE
CONDEMNATION
CRITERIA!

INSPECTION PLATE POOP

RUNNING AROUND WITH YOUR PLATES OUT IS A **NO! NO!**

WHOOH RUNNING?

We don't mean dental plates. We mean the access plates on your combat vehicles.

These plates let you get through the bottom of the hull to inspect, lube or

TAKE OFF ONLY TO INSPECT, LUBE OR SERVICE INSIDE

service parts of your vehicle you couldn't reach otherwise.

Once you do the service, close up the plate and leave it closed until the next service period.

AFTER SERVICE, PLATE GOES BACK ON TO STAY

Leave the plates out and this is what happens . . .

1. If you have a fire, most of the foam from the fixed fire extinguisher (or extinguishers) gets wasted out the access holes and your fire keeps burning.

FIRE? EXTINGUISHER FOAM GETS WASTED OUT

ENGINE RUNNING? JUNK GETS SUCKED IN.

2. The engine fans and turbochargers pull all kinds of mud, crud, leaves, water, gravel, and gosh-only-knows-what-else through the open access holes.



This trash clogs the fins of the cooling system, and makes your engine run hot. The water is also bad for the hull wiring and other electrical parts.

So do this for your combat vehicle . . . Keep the plates in her and she'll be a winner.

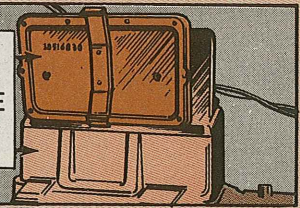
M44 COVER-UP

Blind-fold your M44-Series periscope whenever you remove it from its dim-lit home in the M551 Sheridan. Remember to put the filter lever in off position whenever you remove the periscope. That, too, protects the image tube.

Reason: The image tube'll go blind if you don't. The periscope has a great little cover (Boresight Aid Assembly NSN 1240-00-950-1605) for blotting out light whenever necessary. Naturally, you use the cover for boresighting during daylight hours, too.

Otherwise, bright light (like sunlight) will burn up the tube.

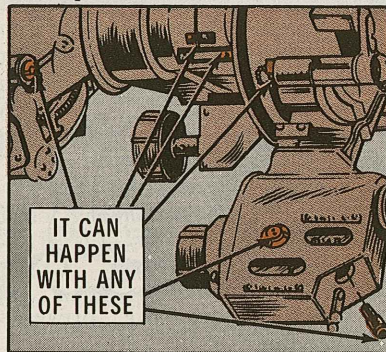
KEEP COVER IN PLACE ON M44



MIDGET LAMP PM

SP howitzer men can get in the biggest maintenance jam over the littlest PM job.

F'rinstance, your howitzer winds up with a system short-circuit when you replace one of the 6 midget lamps on telescope mount M145.



SORRY-- M145 LAMPS ARE NOT MY BAG!

It happens too often . . . like so:

You leave the power ON and use a knife blade—or screwdriver—under the lamp's flange to lift it out of its socket. As soon as metal touches metal . . . a short-circuit blows the system—and the MO's mind!

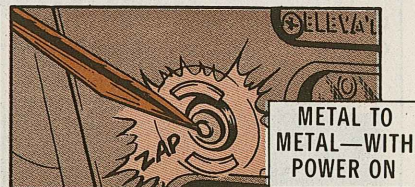
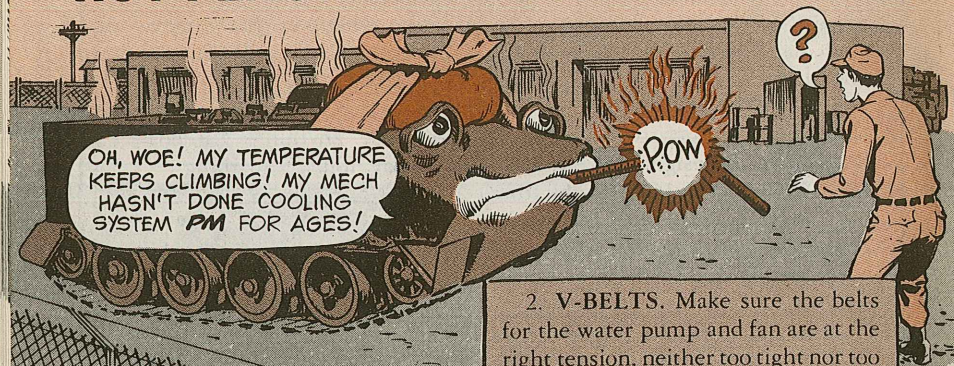


Figure 3-9, TM 9-2350-217-10 (Dec 69) has the lamp put 'n' take PM poop. Just remember—power OFF. And never use a sharp-edged metal object under the flange when you take out a lamp.

M114-SERIES CARRIERS HOT FLASH ON COOLING SYSTEMS

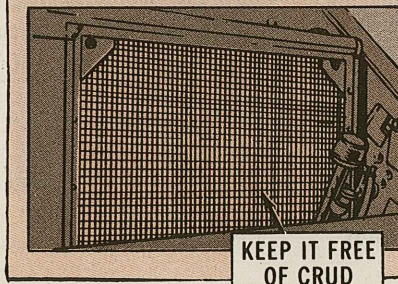


The cooling system on your M114-series command and reconnaissance carriers has to be in top shape to do its job.

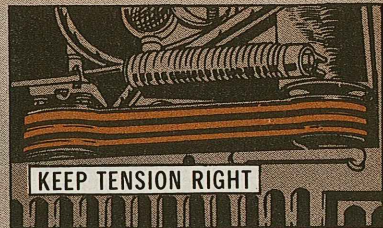
Let it get sloppy and you'll have overheating.

So here's what you do to keep your coolant cool...

1. **RADIATOR.** Clean it free of grease, oil, dirt, leaves, etc. Have any coolant leaks repaired. Check coolant for proper level before operation (Add this to your Preventive Maintenance Checks And Services on pages 79-88 of TM 9-2320-224-10—Nov 64.)

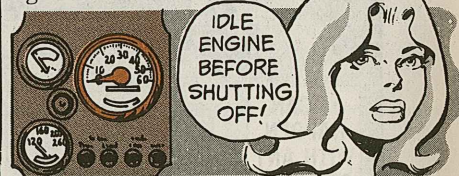


2. **V-BELTS.** Make sure the belts for the water pump and fan are at the right tension, neither too tight nor too loose. (Tension is correct when belt



can be depressed a maximum of $\frac{3}{8}$ -inch.) Your mechanic will adjust tension for you the way it shows on page 116 of TM 9-2320-224-20 (Jan 65).

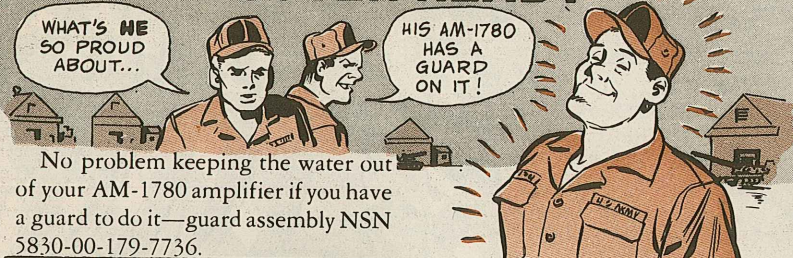
3. Run engine at half throttle in neutral to drop temperature of coolant whenever the HI water temperature light comes on.



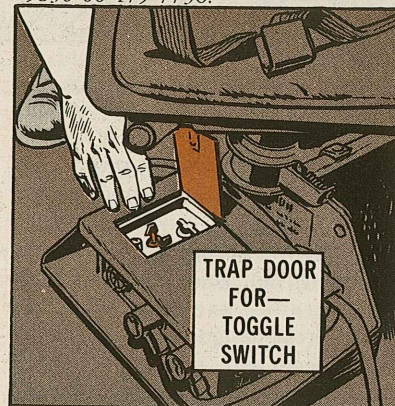
Good maintenance prevents overheating.

M107/M110 SP ARTILLERY

AM-1780 AMPLIFIER COVER READY



No problem keeping the water out of your AM-1780 amplifier if you have a guard to do it—guard assembly NSN 5830-00-179-7736.



It also protects the connectors from the crew's careless clodhoppers.

The amplifier is in a vulnerable place on the right side under the assistant gunner's seat but the guard keeps the amplifier safe.

There is even a little trapdoor on the top so you can work the toggle switch without taking the guard off.

So, if you need the guard, order it. Your authority is SB 11-131 (Nov 68), since the cover has been added to the installation kits for the VIC-1 intercom sets that go into SP artillery.

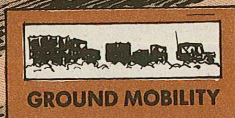


Hey, Hold one!

The differential oil filter element in your M113-M113A1 family of vehicles is not a throw-away.

The element's made of wire mesh that can be cleaned by soaking in SD-2 solvent and rinsing. Follow the instructions in LO 9-2300-257-12, and you'll be clean every time.

If the filter cover gasket is in short supply, reuse the old gasket if it's not damaged. It's best to go ahead with a new cover gasket if they're available.



ATTENTION... ALL
YOU SUPERVISORY
TYPES OUT THERE!

TANK-AUTOMOTIVE EQUIPMENT

WARRANTIES . . .

WONDER

DOWN
THE
DRAIN

Take 2 drains.
Flush your unit's maintenance
funds down one.
Flush Uncle Sam's warranty costs
(that's your money, too) down the
other.

This's what happens when you fail
to take advantage of the warranty on
your tank, tactical truck or
commercial-design vehicle.

To begin with, no warranty comes
free. You pay for it—even if you don't
use it. This goes, too, for your wrist
watch, camera, TV or stereo. The
manufacturer figures it in on what you
pay for the item. If he doesn't pay out
anything on warranty claims, he's that
much ahead. And you may even be
offered an extra warranty that you pay
extra for.

Uncle (that's you 'n' you 'n' you)
pays extra for some warranties. This is
above the cost of the equipment itself.
It's hard cash paid out to the
manufacturer—even if no claims are
ever made!

But there're ways to get this money
back—if you're on the ball.

IN
THESE
DAYS
OF
ESCALATING
COSTS,
IT IS MORE
IMPORTANT
THAN
EVER
THAT
WE ALL
LOOK
AFTER
UNCLE'S
BUCKS,
RIGHT
?

Instead of your outfit shelling out
\$5,000 for a new engine, for instance,
you get a new engine, at no cost. In
CONUS, even the labor for replacing
the engine is covered. (Free?
Remember, a bundle has already been
paid out for the warranty.)

Besides getting Uncle's money back,
you save your own maintenance funds.
If you pay for an engine that could've
been replaced under the warranty,
that's a big hunk out of your own
outfit's funds. That hurts!

No, it's not all quite that simple.
You're not going to get a "free"
engine if the failure was your own
fault. Like you ran the engine with too
little oil in the crankcase. Or you didn't
change from heavy summer weight oil
to lighter winter weight oil for cold
weather operation.

The warranty covers only the defects in manufacture—and an expert will
verify whose fault it was. You just put in a warranty claim—if you know your
equipment is covered by warranty. So, how do you know whether your
equipment is covered by a warranty?

REMEMBER...
ALL THOSE
WASTED
WARRANTY
BUCKS ARE
ACTUALLY
YOURS 'N' MINE!

YOU
WOULDN'T WANT
TO THROW AWAY
OUR MONEY
NOW... WOULD
YOU?



It'll be mentioned in the -10 operator's TM for military-design vehicles. For commercial-design vehicles, a copy of the warranty coverage comes with the operator's manual.

For another thing, there's probably a decal or plate on the instrument panel of your vehicle that tells you.

And the DA Form 2408-9, Block 15, in your equipment's log book tells you.

Also, there're TB's—the TB 9-2300-295-15-series—listed in DA Pam 310-4 that cover tanks, tactical trucks and commercial-design vehicles.

You'll find more info on commercial-design vehicle warranties in AR 58-1, AR 700-88 and TM 38-600.

How do you make a warranty claim? TM 38-750, para 3-18, steers you in using DA Form 2407 in making claims. And DA Form 2402 is used to tag exhibits in warranty claims.

Still up a stump?

Try your friendly MAIT (Maintenance Assistance and Instruction Team). Ask the folks in your local LAO (Logistics Assistance Office). Your post DIO (Director of Industrial Operation) or your own S4 can put you in touch with the LAO.

YOU CAN ALSO GET DETAILS BY WRITING TO:

Commander
US Army Tank-Automotive
Command
ATTN: AMSTA-MSA (Warranty
Control Officer)
Warren, MI 48090

OR CALL 'EM
AUTOVON 369-2951
OR 369-2885.

Equipment failure?
Think WARRANTY—and follow
through.
It saves—and that pays.

TM-218-SERIES ¼-TON TRUCK . . . STEERING CHANGE IMPORTANT— TO YOU

YOU SURE
DS CHECKED
OUT TH' STEERIN'
ON THIS ¼-TON
BY THE NEW
POOP?

To be on the safe side, you'd better have your DSU recheck the steering on your M151A2, M718A1 or M825 ¼-ton vehicle. There's a switch in one of the adjustments spelled out in their TM 9-2320-218-34 (Jan 72).

They'll adjust the turn stops only by the front wheel swing arc outer requirement—0°-31°. The inner requirement 0°-22° no longer applies in turn stop adjustment.

And they'll torque the turn stop bolt jam nuts to 35-40 ft lbs.

The word went out to all major commands in TACOM Msg AMSTAM (NMP) 121904Z (Sep 74).

SEMITRAILER BRAKE AIR SYSTEM

A new fix for old problems — nylon-type tubing.

That's how you handle the problem when your semitrailer's copper or steel air line tubing poops out.

Fact is, you don't even have to worry about in-line air filter problems

anymore. You just take the filter out of the system and run a hunk of this nylon tubing through. You won't find an air filter on new-production semitrailers— they've got nylon tubing instead.

Get the story in Article 3-18, TB 43-0001-39-3 (dated July 74), the US Army Tank-Automotive Command's Equipment Improvement Report And Maintenance Digest.

GOOD NEWS,
BUDDY--
THIS NEW NYLON-
TYPE TUBING
WILL GET YOU
BACK IN ACTION!

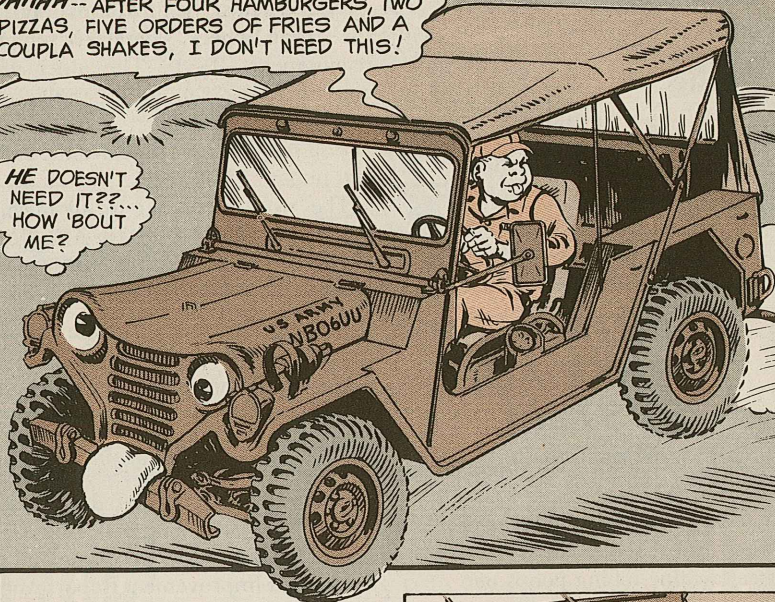
SEMITRAILER
TM'S WILL ALSO
BE PICKING UP
THIS NEW
INFO!

"CLEAN AIR"ENGINE

FOR 1/4-TON CARB

OHhhh-- AFTER FOUR HAMBURGERS, TWO PIZZAS, FIVE ORDERS OF FRIES AND A COUPLA SHAKES, I DON'T NEED THIS!

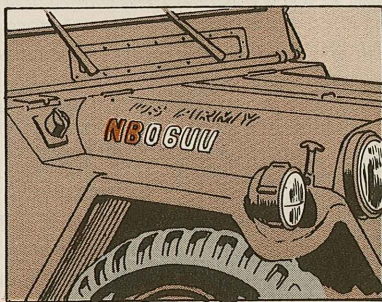
HE DOESN'T NEED IT??... HOW 'BOUT ME?



Does your new 1/4-ton operate like it's got an upset stomach?

Do you have to keep the choke pulled out a little to get rid of the burps and hiccups?

This can happen with the M151A2, M718A1 and M825 vehicles that've got the "clean air" engine. (You can spot these 1/4-tonners by the registration number—it starts with NB.



Don't run off and hide in the grease pit. There's no need to be scared of this job. It's easy. And you'll learn some things you can use on almost any gasoline engine—including that mill in your own set of wheels.

IF YOU'RE A LITTLE GREEN OR FUZZY ON TEST EQUIPMENT...

...SHARPEN UP WITH THESE!



—DA Poster 750-51 (Dec 73), Using Your Spark Plug Cleaner And Tester

—DA Poster 750-57 (Dec 73), Using Your Timing Light

—DA Poster 750-58 (Dec 73), The Tach-Dwell Test Set

These posters—and some others on test equipment—should be in your own shop. Your unit gets 'em by ordering from the AG Publications Center in Baltimore.

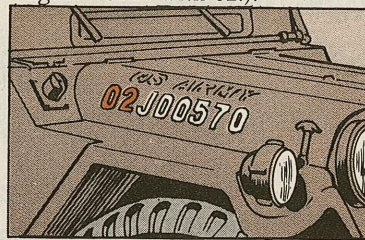
Pretty much the same poop—in pocket size—comes in DA Pam 750-22 (Nov 73), Troubleshooting Equipment In Combat Units. And you'll find all of the test equipment posters listed inside the front cover. This DA Pam comes from Baltimore, too. You should have one all your own.

POP

BURP

SPUT

Registration numbers on older vehicles—without the clean air engine—start with 02.).



Rejoice! Doctor Wonder Wrench is coming to the rescue!

THAT'S YOU-- THE GOOD OL' UNIT MECH!

ME? AWW-- SHUCKS

YOU'RE GOING TO ADJUST THE CARBU-RETOR!



READY?

Before you dig in, make sure your spark plugs are in good shape and gapped right—.029-.032—like that spark plug poster shows you.

...AND GET ALL YOUR TOOLS TOGETHER--

- Tach-dwell set
- Timing light
- Screwdrivers (to adjust engine idle, remove distributor cover and adjust distributor cam-dwell angle)
- Wrenches (for timing adjustment, distributor cover plug, distributor adapter and spark plug cable)
- Thickness gage (for adjusting distributor breaker points)
- Distributor adapter (for tach-dwell hookup)
- Spark plug adapter (for timing light and tach-dwell hookups)
- Pocket knife, prick punch or other sharp, pointed tool (to remove carburetor sealing plug)
- Socket head screw key, 5/64-inch (for carburetor mixture screw)
- Piece of chalk (to check timing)



Your test equipment and most of the other tools can be set on the right fender.

Be real careful with those cables on your test equipment so they—and you—don't get caught in the fan or fan belts.

OWWWWW!!

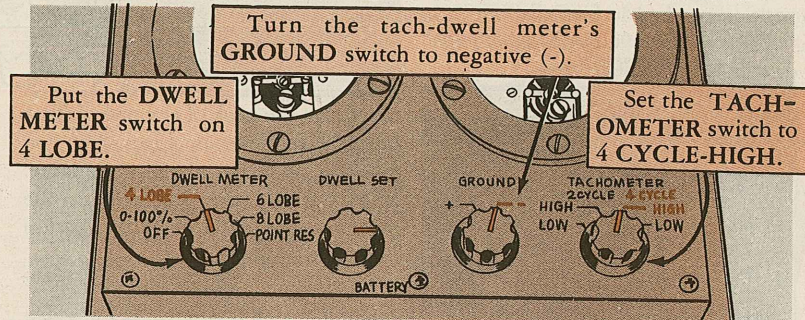
UGH--
"FOUR FINGER"
FERGUSON HAS NOW
BECOME "THREE
FINGER" FERGUSON!



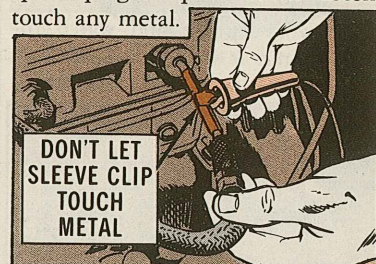
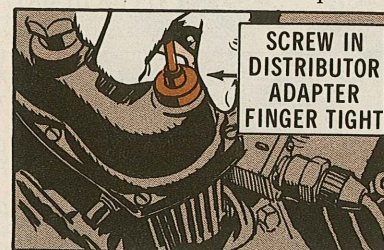
FIRST . . . CAM-DWELL ANGLE

All tach-dwell sets are not exactly alike, so these steps may not fit yours. But that poster on tach-dwell sets will straighten it out for you.

Make sure the transmission's in neutral and parking brake is ON. Run your engine until it's warmed up—about 140°F—and shut 'er down.



Take out the distributor cover plug spark plug adapter—so it doesn't and install the distributor adapter. touch any metal.

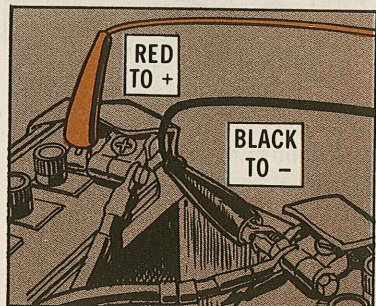


Take off the front (No. 1) spark plug cable. Install the spark plug adapter on the plug and the cable on the adapter.

Watch it when you connect the tachometer lead to this spark plug adapter. You can burn up your tach-dwell set. If there's an alligator clip on that lead, it hooks up to the nipple on the adapter.

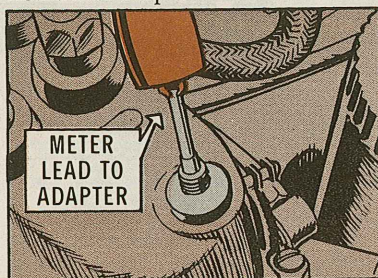
But if the tachometer lead has a split sleeve clamp on the end, you just clamp it around the cable part of the

Now connect the branched lead ends to your batteries—red to positive and black to negative.

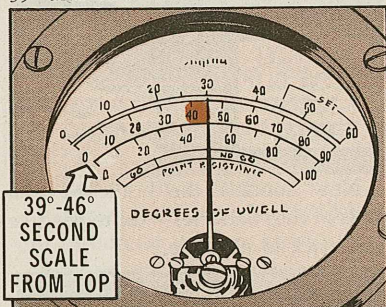


Turn the **DWELL SET** knob so the needle of the left-hand meter (**DEGREES OF DWELL**) is on the "set line" specified for your meter. For the meter shown here, the "set line" is 90—at the right end of the 4 CYL scale (second scale from the top).

Connect the dwell meter lead to the distributor adapter.



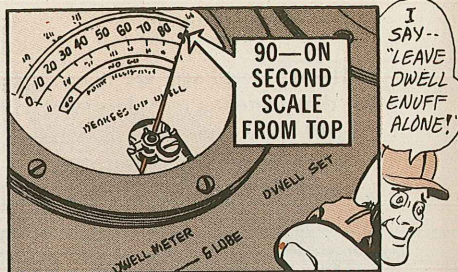
Idle your engine and watch the dwell meter. It should read between 39° and 46°.



If it doesn't, your distributor breaker points need adjusting.

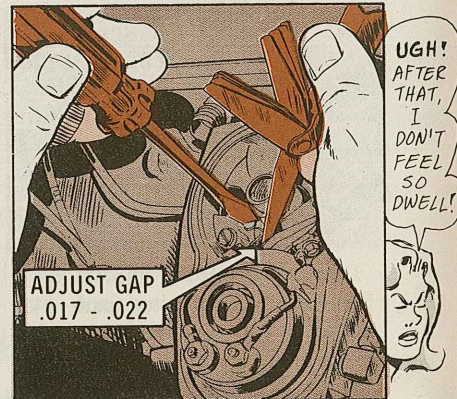
Shut off the engine. Take off the distributor cap. (You'll have more room to work if you unhook the rear spark plug cable. Just remember to hook it back up for engine operation.)

Turn the engine over by hand until the breaker arm rubbing block is



exactly on the peak of any one of the 4 lobes. (Use gloves or a rag when you grab the fan blades to turn the engine. If the fan belt slips, just press on the belt with one hand and turn the fan with your other hand.)

Now adjust the point gap to .017-.022—just like it says in TM 9-2320-218-20 (Sep 71), page 2-129, para 2-71b.



(Before you stick that thickness gage in between the points, make sure you've wiped any grease off the gage. You'll ruin the points if you get grease on 'em. Natch, when you're all done with this job, you smear a thin coat of oil or grease on the gage to keep it from rusting.)

Put the distributor cover back on and check again for the 39°-46° dwell angle. If needed, adjust the points again to get the right reading.

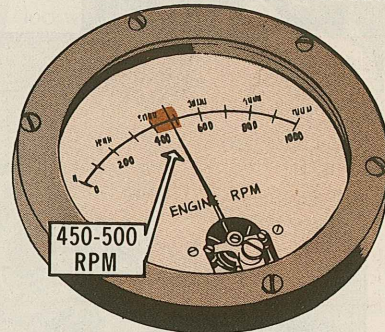
Leave your tach-dwell meter hooked up. You'll need the tachometer part of it, because now it's . . .

TIME FOR TIMING

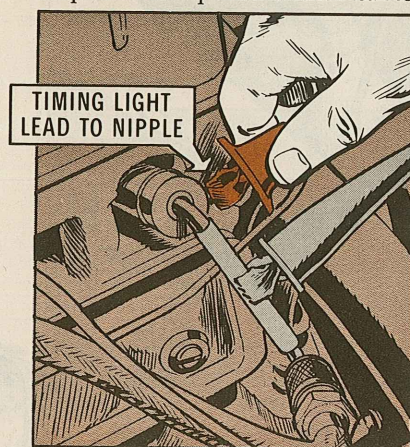
Use chalk to brighten up the timing pointer and the crankshaft pulley notch. If you can't see the notch, turn the engine over by hand until the notch comes around.

Set the timing light selector switch to 24 volts. Clip the single timing light lead to the nipple on the spark plug adapter. Hook up the branched lead to

CYCLE-LOW The tachometer should show 450-500 RPM. If RPM is

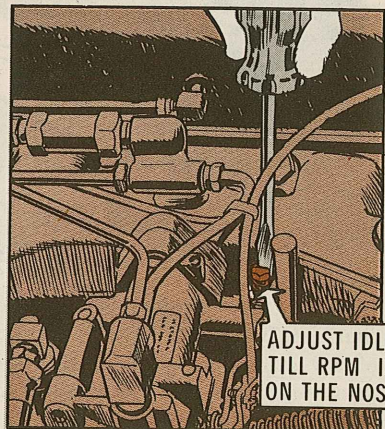
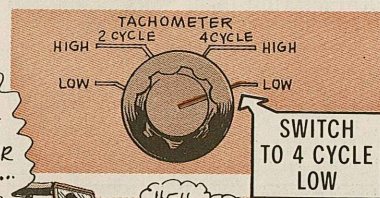


higher or lower, turn the idle speed adjustment screw until it's on the nose.



the batteries—red to the positive (+) post and black to the negative (-) post.

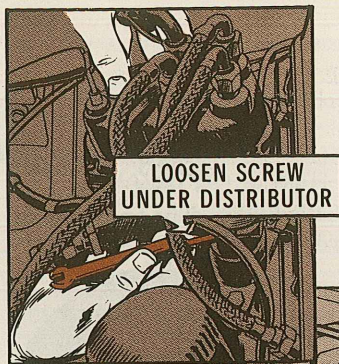
Run your engine at idle speed. Then turn the **TACHOMETER** switch to 4



Aim your timing light at the timing pointer. Your timing's OK if the pointer lines up exactly with the notch on the crankshaft pulley.

MY TIME IS YOUR TIME...

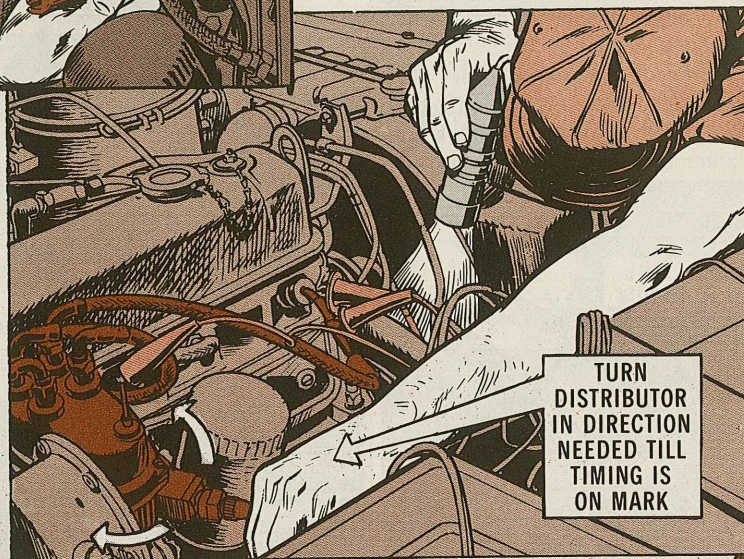




**LOOSEN SCREW
UNDER DISTRIBUTOR**

Not OK? Then you loosen the screw under the distributor and turn the distributor until timing is right. Retighten the screw.

Shut off your engine, unhook all of the timing light leads. But don't put the light away—you'll need it for a recheck.



**TURN
DISTRIBUTOR
IN DIRECTION
NEEDED TILL
TIMING IS
ON MARK**

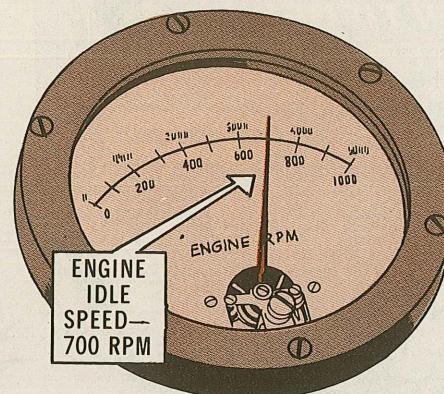
NOW FOR THE CARB

THIS'LL
HELP YOU
BOTH!

Use the tip of a knife blade or other sharp tool to pry the sealing plug out of the carburetor. The mixture adjusting screw is under that plug. (If you're careful and don't tear up the plug too much, you can use it over again.)

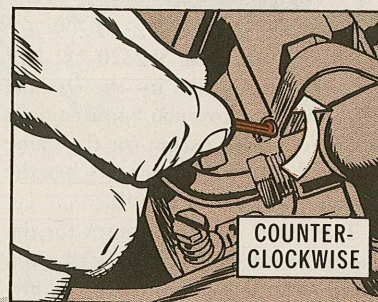
Set your engine idle speed at 700 RPM.

**PRY OUT
PLUG TO REACH
THE MIXTURE
ADJUSTING
SCREW**



**ENGINE
IDLE
SPEED—
700 RPM**

With the socket head screw key, slowly turn the mixture adjusting screw counterclockwise. The engine



**COUNTER-
CLOCKWISE**

will probably speed up a little—watch the tachometer. Keep turning the screw until RPM no longer increases.

Go back to the idle adjusting screw and turn it out until engine RPM is back at 700 RPM.

Turn the carburetor mixture screw clockwise until engine idle speed is at 640-650 RPM.

Before you wrap it up, take your 1/4-tonner out for a test run. If it's still a little rough, you may need a bit more gap in your distributor breaker points. If you had the gap set at .019, for instance, try it at .020. (Going up on the point gap will show a lower cam dwell angle reading.)

Recheck with your tach-dwell meter.

And recheck your timing, too.

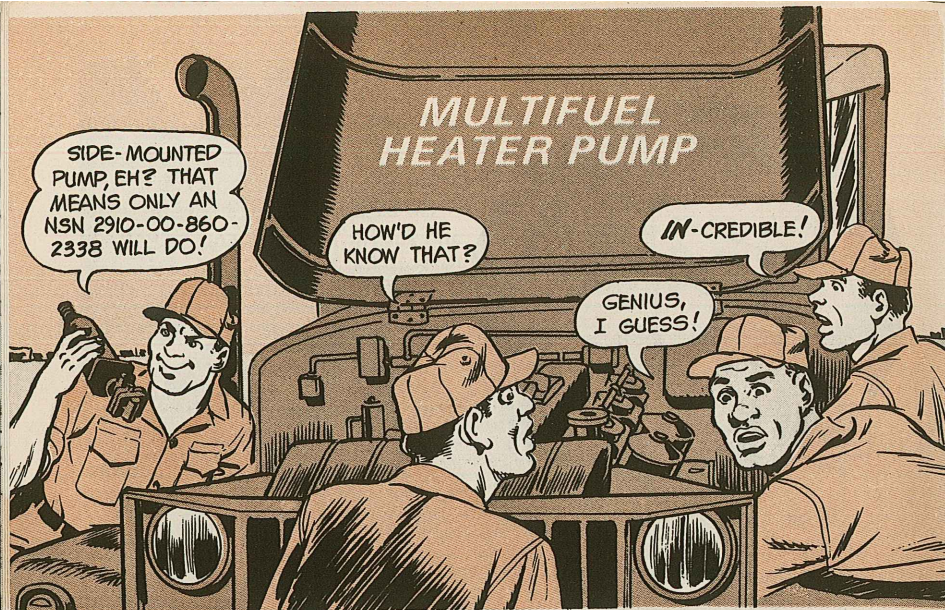
Finally, tap the sealing plug back into the carburetor. If the plug's too torn up, fill the hole with rubber sealant—NSN 8040-00-833-9563.

UMMMM

THAT **ALKY-SELTZER**
BURP DID IT...

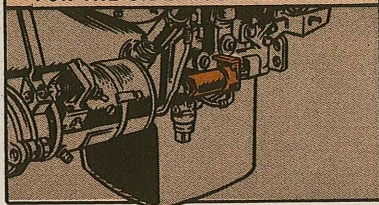
NOW WE
BOTH FEEL
BETTER!

RIGHT
ON!



Which fuel pump goes in the flame heater system for your multifuel engine?

NSN 2910-00-860-2338 IS FOR THE SIDE-MOUNTED PUMP

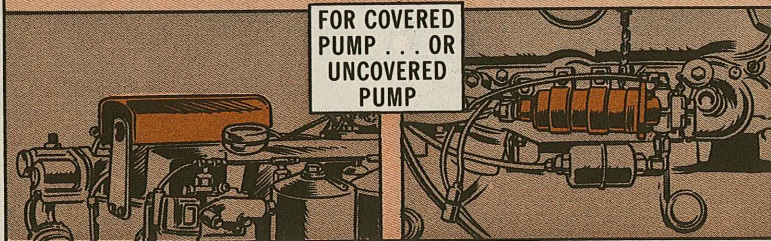


Both are in TM 9-2320-209-20P (Oct 72) and TM 9-2320-211-20P (May 73). But watch it—the Useable On Code can throw you. Some engines are exactly alike except for the flame heater system. It depends on when the engine was built or rebuilt.

There're 2 different setups for the top-mounted pump—covered and uncovered. The 2 clamps that come with a top-mounted pump are used only with the uncovered setup.

NSN 2990-00-907-0653 IS FOR THE TOP-MOUNTED PUMP

FOR COVERED PUMP . . . OR UNCOVERED PUMP

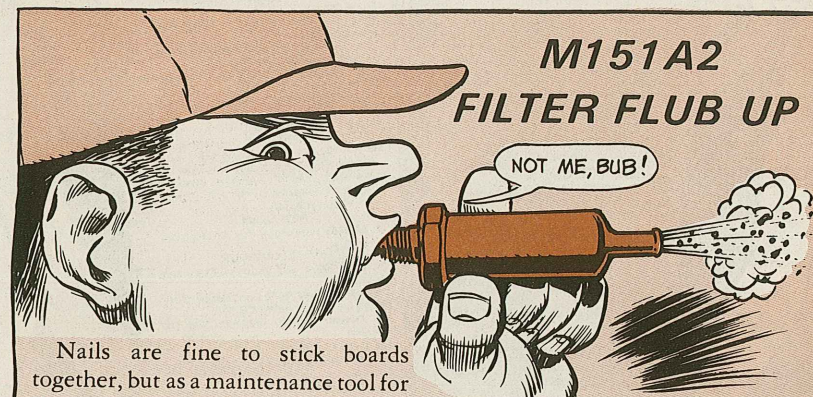


Your new top-mount pump may not look exactly like your old pump. The length and diameter of the pump and location of inlets and outlets vary according to the manufacturer. But these different-looking top-mount pumps are interchangeable.

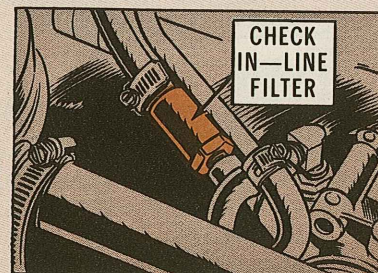
And make sure you use the right filters with your flame heater system. Just any ol' filter won't do! You may

have to get your DS to lend a hand in identifying the filters in their TM 9-2815-204-34P (Jun 73) or TM 9-2815-210-34P (May 74). These're the TM's that cover the 7 different multifuel engines.

All of this poop goes, too, for those 5-ton M656, M757 and M791 multifuel engine trucks.



Nails are fine to stick boards together, but as a maintenance tool for the fuel filter in your M151A2 ¼-ton truck—forget it!



The in-line fuel filter, NSN 2910-00-176-8928 (P/N 11640944), mounted in the carburetor, is supposed to clog up when it gets full of gunk.

If you unclog the filter by running a nail through it, you lose the protection it could give you.

What you should do is take the filter off, swish it around in a cleaning solution, and then blow it out with air.

Apply the air at the threaded end and blow it out the narrow end.

... SO BE A GOOD MECH, HUH?...

LEAVE THE NAILS TO THE CARPENTERS!

PUBS

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 (Aug 73), and Ch 3 (Apr 74), TM's, TB's, etc.; DA Pam 310-6 (Jul 74), and Ch 1 (Jan 75), SC's and SM's; and DA Pam (C) 310-9 (Mar 73), COMSEC Pubs.

TECHNICAL MANUALS

Ch 1, TM 3-1040-257-14 Dec M9A1-7 Portable Flamethrower
Ch 6, TM 3-1055-218-12 Dec M202 Rocket Launcher 4-Tube
TM 5-3895-275-12 Dec Paving Machine, Bitum
TM 5-3895-327-20P Jan Distributor, Bitum
Tank Type: 800 Gal. (Entyre Mdl MIL-D37) (Entyre Mdl D40)
TM 5-4120-336-24P Nov Air Conditioner, Vertical 115/AC 6000 BTU Cooling, 4500
BTU Heating, Hottel 6-5/16-15
TM 5-4130-234-13&P Dec Service Unit, Refrigeration (Airesearch Mod 909228-1-1)
TM 5-4930-218-14 Nov Lubricating and Servicing Unit: Power Trailer Mdl (Elliott Mdl ENG-3A)
TM 5-6350-262-14-6 Sep Audible Alarm BZ-204(I)/FSS-9(V)
Ch 1, TM 9-1005-288-10-2 Nov Gun Towed: 20-MM, M167
TM 9-1410-485-20P Oct LANCE
TM 9-1427-380-20P Oct PERSHING
TM 9-1430-534-24P Dec AN/MPQ-50 IM-PROVED HAWK
TM 9-1440-585-20 Sep CHAPARRAL
TM 9-1450-488-10 Jul Propellant Drain Kit, LANCE
Ch 1, TM 9-2300-224-20 Oct M113 Carrier Family
Ch 3, TM 9-2320-218-20 Oct M151-Series 1-Ton Truck
TM 10-3930-235-20P Oct MHE 4000-Lb Towmotor Mdl
TM 10-8110-201-14 Oct Fabric Drum Liquid Fuel, 500-Gal 4C-135-03562 and 5-14-191-1
TM 11-5805-218-20P Dec MX-1442/TC multiplexer subassembly
TM 11-5805-219-20P Dec PP-891/G power supply
(C) TM 11-5810-221-14 Aug TSEC/KW-7 (U) Comsec
TM 11-5810-227-14P Dec TSEC/HW-8 Comsec
TM 11-5810-282-14P Dec TSEC/HY-12 Comsec

Ch 3, TM 11-5820-520-12 Sep AN/GRC-106(I) radio sets
Ch 3, TM 11-5820-518-20 Oct AN/ARC-51X and -51BX radio sets
Ch 1, TM 11-5850-217-15 Oct AN/UAS-4A Infrared surveillance sys.
TM 11-5865-201-14P Dec LS-206(I)/U loudspeaker assembly
TM 11-5965-242-20P Dec H-164(I)/U electrical headset-chest set
TM 11-6125-210-24P Dec PU-126(I)/U motor generators
Ch 2, TM 11-6130-239-15 Dec PP-3240(I)/U battery chargers
Ch 4, TM 11-6130-242-15 Dec PP-3941/G power supply
TM 11-6130-378-14 Nov PP-7003/G power supply assembly
TM 11-6625-370-14P Dec AN/PGM-1A telegraph test set
TM 11-6625-524-14-2 Oct AN/URM-145B Voltmeter
TM 11-6625-573-14 Nov AN/GRM-50 signal generator
TM 11-6625-680-24P Dec AN/GSM-65 motor test set
Ch 2, TM 32-5815-201-15 Feb Demultiplexer Set, AN/TRO-25A
TM 32-5820-001-24P Dec Monitor Switching Panel, SB/3216/G
TM 32-5895-005-24P Feb RF Detector, Mdl 808-287
TM 55-1510-212-CL Oct T-41B Aircraft
TM 55-1510-212-10 Oct T-41B Aircraft
TM 55-1520-228-20P Aug OH-58A
*These Pubs are available only from the U.S. Army Security Agency, Materiel Support Command, Vint Hill Farms, Warrenton, VA 22186

NEW FILMS

TF 55-4788 Wire Rope Part III Liverpool Splice

MISCELLANEOUS

DA Pam 310-8 Jan Index of Tests and Measures
DA Poster 750-44: 1975 Don't Let the Dirty Dozen Do You In (M16A1 Rifle)
DA Posters 750-61, -62, -63 Sep Oil Analysis
FM 21-80 Dec Visual Signals
FM 29-77 Nov Supply & Transport Co. Spt Bn.
LO 5-4110-223-12 Aug Refrig Unit, Mech 9,000 BTU for Semi-trailer Refrigerator 7 1/2 Ton
TC 17-15-10 Jan Know Your GOBR

NSN's For Film Chemicals

Looking for lesser amounts of EH-29B photographic processing machine film chemicals to knock shelf-life waste? Well, now you can get it in packages for 5-gal amounts. NSN 6750-00-586-6247 is for the Kodak Versamat 641 developer starter, and NSN 6750-00-586-6248 for the Kodak Versamat 641 developer replenisher.

The Cable Makes It Able

The NSN for the rear throttle cable on your M543A2 5-ton wrecker is not in TM 9-2320-211-20P (May 73). If you're hurtin' for certain and need this throttle cable, ask your support to round it up for you with NSN 2590-00-912-3110. It's on page 2-13, TM 9-2320-211-34P (Apr 72)—and it's coded "O" for organizational maintenance.

JOE'S DOPE

HOW TO HANDLE ... THOSE AWKWARD ACQUISITIONS



SO THAT'S TH' SITUATION, CONNIE! HALF OUR EQUIPMENT IS DEADLINED BECAUSE OF THIS PARTS SHORTAGE!

IT'S ENOUGH T' MAKE EVEN A DRILL SERGEANT CRY!

YEAH, CONNIE... EVEN THOUGH WE FILL OUT ALL THE FORMS AND FOLLOW THEM UP BY TH' BOOK, ALL WE GET FROM SUPPLY OR SUPPORT ON CERTAIN CRITICAL REQUESTS IS "WAIT", "NO WAY," ETC.

HHC
1/99 ARMOR

HMMM...

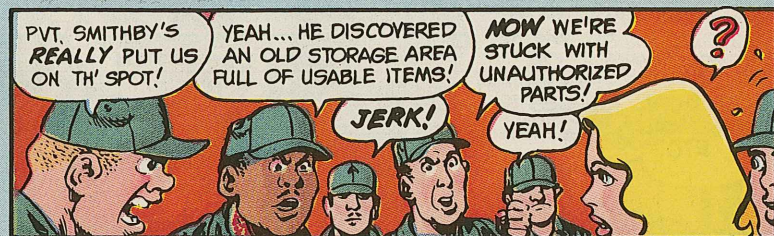
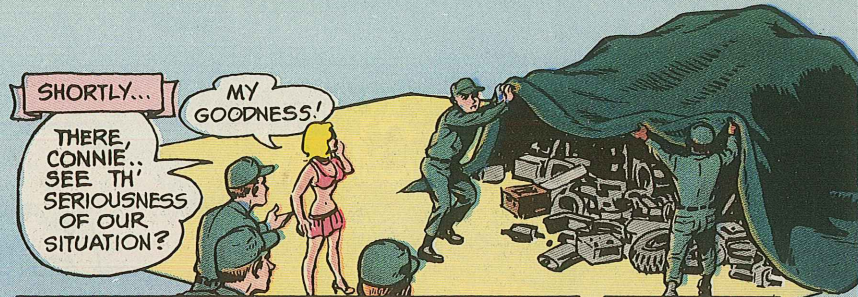
RIGHT NOW, CONNIE, WE COULDN'T DEFEND OURSELVES AGAINST A BICYCLE BRIGADE..

SEEMS YOU PEOPLE ALREADY HAVE THE PROBLEM I WAS SENT HERE TO HEAD OFF-- EH-- WHAT'S THAT?

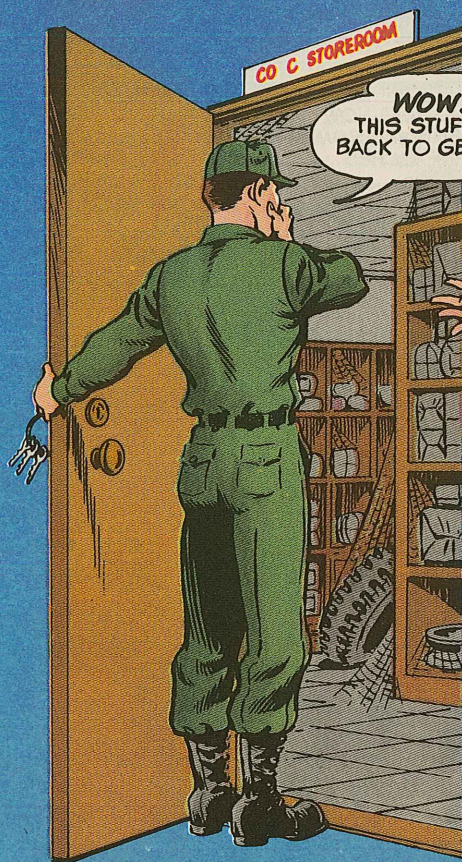
GET HIM!

LYNCH HIM!

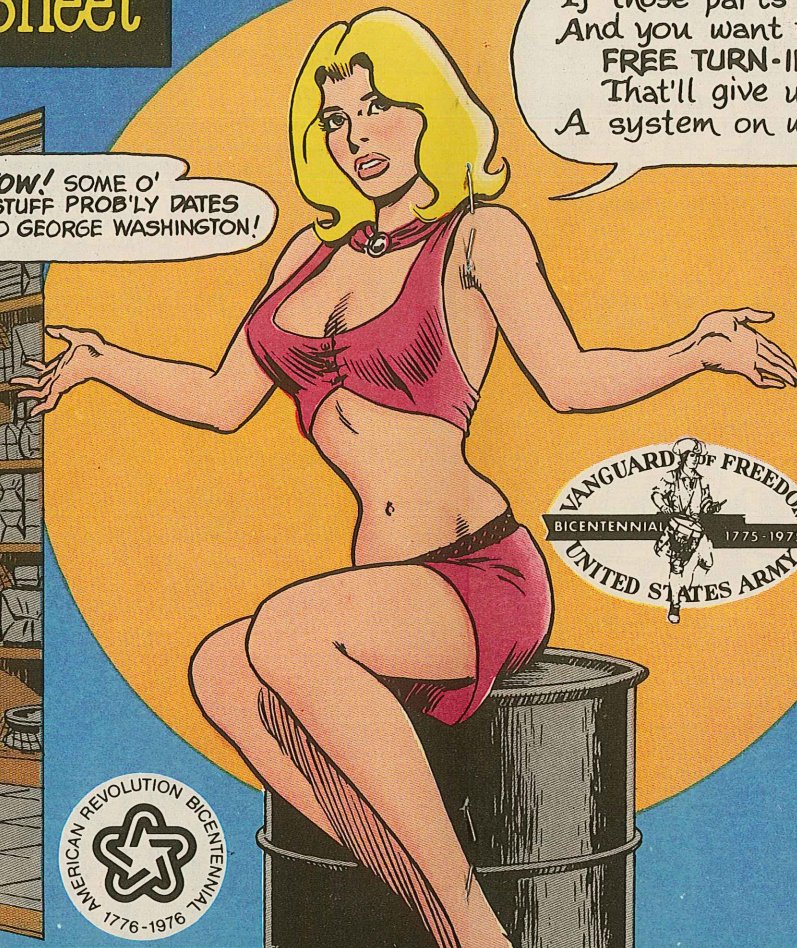
WOTTA FINK!



Joe's Dope Sheet



WOW! SOME O'
THIS STUFF PROBABLY DATES
BACK TO GEORGE WASHINGTON!



If those parts prove embarrassing, friend,
And you want that bad feeling to end,
FREE TURN-IN's the deal
That'll give us for **REAL..**
A system on which to depend!



HEY! **GREAT, MAN!**
NOW WE CAN FILL SOME
ORDERS WE'VE HAD FOR
MONTHS!

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

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

GREAT, CONNIE!
BUT HOW DO WE
HANDLE TH' TURN-IN
PAPER WORK?

SIMPLE... HAND
ME AN ITEM
FROM YOUR
HORRENDOUS
HOARD OVER THERE...

FIRST, WE MUST IDENTIFY
THE OBJECT. CHECK IT FOR AN
NSN, PART NUMBER OR MANU-
FACTURER'S NAME...

HMMM... NO
NSN... BUT THERE'S
A PART NO. AND
MFR. NAME.

I RECOGNIZE
IT, CONNIE--
IT'S A
FROOBIS!

RIGHT ON!
AN' IT WORKS
IN TANDEM WITH
A FRAMMIS!

OK, NOW FILL IN
THIS INFO IN
BLOCK M
ON A DA FORM
2765 OR 2765-1...

... LIKE SO!

ALSO ADD "SER" FOR SERVICEABLE
OR "UNSER" FOR UNSERVICEABLE
ALONGSIDE "FOUND ON POST"
IN BLOCK O.

ITEM DESCRIPTION: PART # WD282, Boxes Corporation, Acme, WI

DATE POSTED: 10/10/61

DATE RECEIVED: 10/10/61

DATE TURNED IN: 10/10/61

ITEM NO: 1

STOCK NO: 1

ITEM DESCRIPTION: Froobis

DATE POSTED: 10/10/61

DATE RECEIVED: 10/10/61

DATE TURNED IN: 10/10/61

ITEM NO: 1

STOCK NO: 1

ITEM DESCRIPTION: "Found on Post" Ser

Found on installation items can be turned in
without unit authorization to have the items. Just
fill in a DA Form 2765 or 2765-1 to identify the
FROOBIS and hand it over to your DSU.

NEXT, WRAP UP THE ITEM CAREFULLY
SO IT ARRIVES IN GOOD SHAPE...

THEN
WHAT,
CONNIE?

THEN YOU TURN IT
IN TO YOUR DSU.

BUT, WE'RE
NOT AUTHORIZED
TO HAVE MANY
OF THESE
ARTICLES
IN THE
FIRST PLACE...

EVEN SO, Para 2-5g of AR 710-2
TELLS DSU TO ACCEPT THEM...

DOES THAT MEAN FOI ITEMS
QUALIFY AS FREE TURN-INS?

SURE
DOES!

BUT,
CONNIE...

...WHAT IF WE KNOW WHAT THE
ITEM IS, WE'RE AUTHORIZED IT,
AND WE NEED IT? HOW CAN
WE KEEP IT?

EASY!

YOU FILL OUT A
DA FORM 3161!

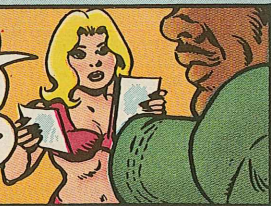
WRITE "Found on Post" UNDER
THE ITEM, THEN POST THE ITEM
TO YOUR PROPERTY BOOK AND
TURN THE FORM IN.

REQUEST FOR ISSUE OR TURN-IN (AR 710-2)				3. REQUEST NO 51310001		7. PRIORITY 06		8. ACCOUNTING/FUNDING DATA	
1. SEND TO: Consolidated Supply Account Fort Boonie, TX				5. DATE MATERIAL REQUIRED 5131		6. DODAAC W42CZS		9. SERIAL NO Part No. WD282	
2. REQUEST FROM: Company B 999 Brigade				9. END ITEM IDENT		9. NAME/MANUFACTURER Froobis		11. JOB ORDER NO	
4. CODE ISSUE 1 Initial R Replacement				TURN-IN FWT-Fair Wear And Tear RS-Report of Survey		EX-Excess SC-Sim of Charges		10. PUBLICATION	
12. ITEM NO a				STOCK NO b		ITEM DESCRIPTION c		UNIT OF ISSUE d	
1. Part No. WD282/				Froobis (Found on Post)		QUANTITY e		CODE f	
						SUPPLY ACTION g		UNIT PRICE h	
						TOTAL COST i		DATE j	
						POSTED k			
1.				Part No. WD282/		Froobis (Found on Post)		QUANTITY e	
						CODE f		SUPPLY ACTION g	
						UNIT PRICE h		TOTAL COST i	
						DATE j		POSTED k	

HOWEVER, IF THE ITEM IS LISTED IN Appendix E of TM 38-750, FILL OUT THE FORMS INDICATED INCLUDING TWO DA FORMS 2408-9.



THE OTHER COPY SHOULD BE KEPT UNTIL THE ITEM IS ENTERED AS A PERMANENT PROPERTY BOOK ITEM!



SOON...

FREE TURN-IN PAPER WORK IS STRICTLY NO SWEAT, CONNIE!



SHORTLY, BACK AT HER ORIGINAL STOP -

THIS IS WIMBY AT 649th Maint. HOT TROT UP HERE IF YOU WANT THOSE PARTS YOU HAVE ON DUE OUTS... WE JUST GOT A TRUCKLOAD OF STUFF!

GREAT!



SAY, CONNIE, DO YOU HAVE A SOCIAL SECURITY NUMBER.

YES-- WHY?



I'M FILLIN' OUT A DA FORM 3161 ON YOU! AFTER ALL, WE HAVE FOUND YOU ON OUR /NSTALLATION!



FIREPOWER

HAWK-

PICK A NUMBER

Been looking for a stock number for the spring tension clip which secures the quick-release pin on the transmitter door of your IHIPRS (AN/MPQ-46 radar set)?

You found it. Clip, spring tension, 2323. The number was left out of TM 9-1430-533-24P.

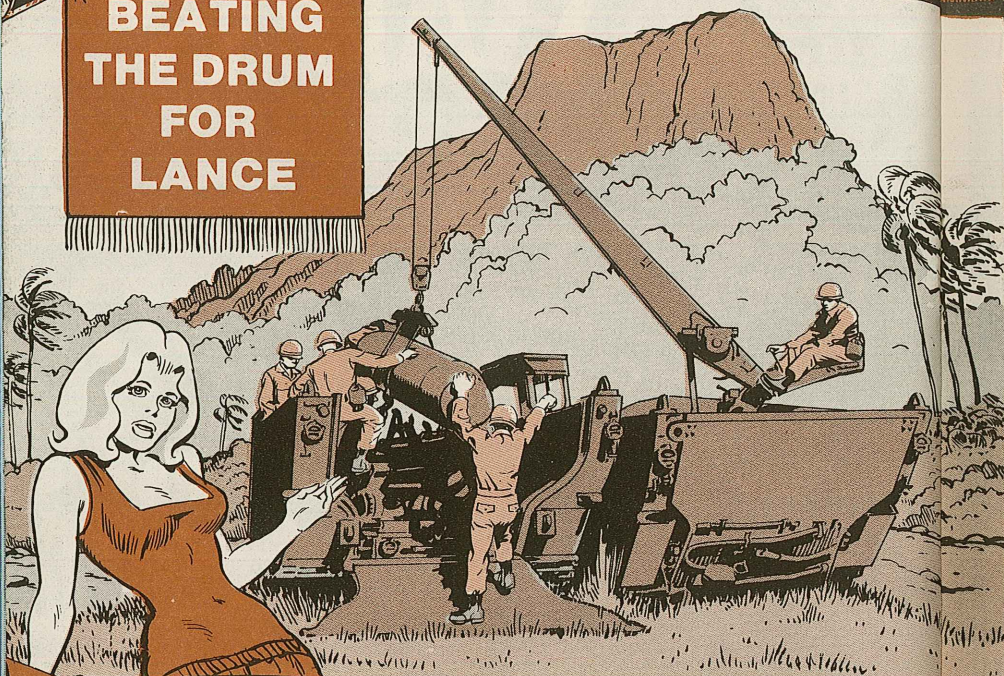
And, if you've been searching TM 9-1430-511-14P-1 and -2 (AN/MPQ-39) for inter-cabinet power cables (phasing wire) try page 4-1013 of the -14P-1.



NSN 6145-00-882-9216 gets you 75 feet of No. 14 AWG cable, and NSN 6145-00-882-9218 gets you 94 feet of No. 16 AWG cable. Both are listed as Cable, Power Electrical, Part Nos. 10778 and 10779.

THEY'LL KEEP YOUR HAWK IHIPRS PURRING!

BEATING THE DRUM FOR LANCE



A not—quite—empty drum and a not—too—tight storage hook give you the preventive maintenance insurance you need to keep the go in your LANCE missile system.

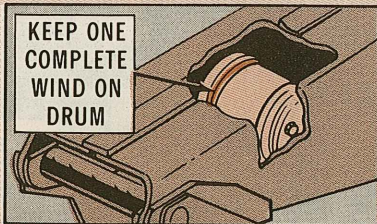
DRUM TALK

The drum on your loader-transporter can beat your winch cable silly if you get a little inattentive when unreeling the cable.

For instance, if you allow the cable to unreel all the way, the drum will back-reel it, crimp it and cause stress damage, too.

To prevent that, never allow the drum to empty. Best bet is to keep a coil of cable on the drum spool . . . and don't go beyond that coil.

KEEP ONE
COMPLETE
WIND ON
DRUM



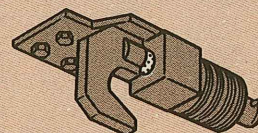
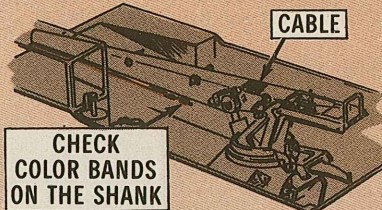
STORAGE HOOK

Add a little color to your life when securing the storage hook on the loader-transporter boom.

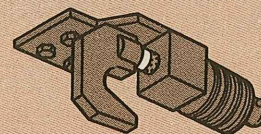
Think green.

When you're storing the hook, eyeball the color bands on the shank . . . and concern yourself with the first 2—white and green. As you take up the cable slack and the cable begins to firm up, go beyond the white (which means the hook is too loose).

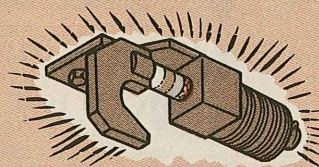
CHECK
COLOR BANDS
ON THE SHANK



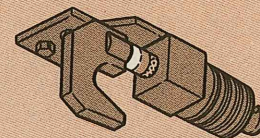
WHITE—TOO LOOSE



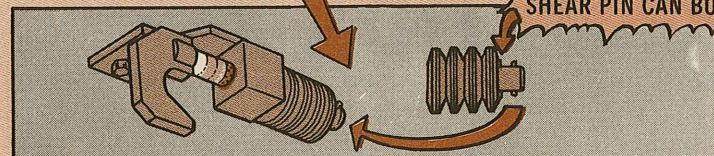
GREEN—CORRECT



RED—DANGER
BREAK POINT



YELLOW—TOO TIGHT



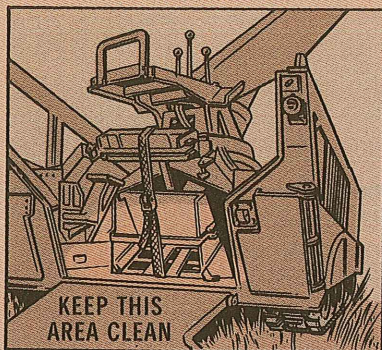
Stop at green, which means your hook is safe and secure.

If you go beyond green to yellow, back off. You're too tight.

And red, naturally, means danger. You're so uptight that you're about to bust the shear pin. If that happens, those spring-loaded washers will fly around like shrapnel.

Back off to green, quick. Save a repair job . . . and maybe some hide.

KEEP IT CLEAN



A clean area around the pedestal assembly of the loader-transporter is like putting repair time money in the bank.

An uncluttered pedestal area prevents damage and unnecessary wear.

AND MAYBE EVEN AN INJURY OR TWO!

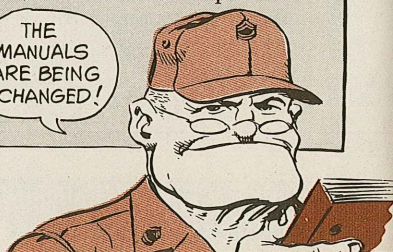


LANCE THEODOLITE



Hold one! If the theodolite, NSN 6675-00-988-5225, in the azimuth laying set of your Lance missile system goes out, turn it in for repair. The recoverability code in TM 9-1425-485-24P and TM 9-1430-486-24P should be "D" instead of "Z". Which means it's recoverable . . . and NOT disposable.

THE MANUALS ARE BEING CHANGED!

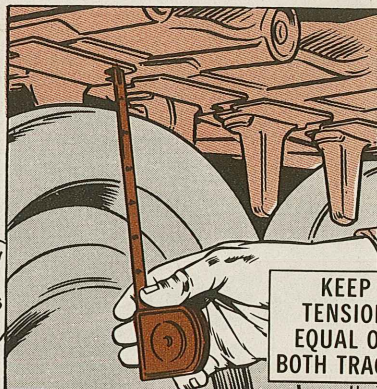


TENSION

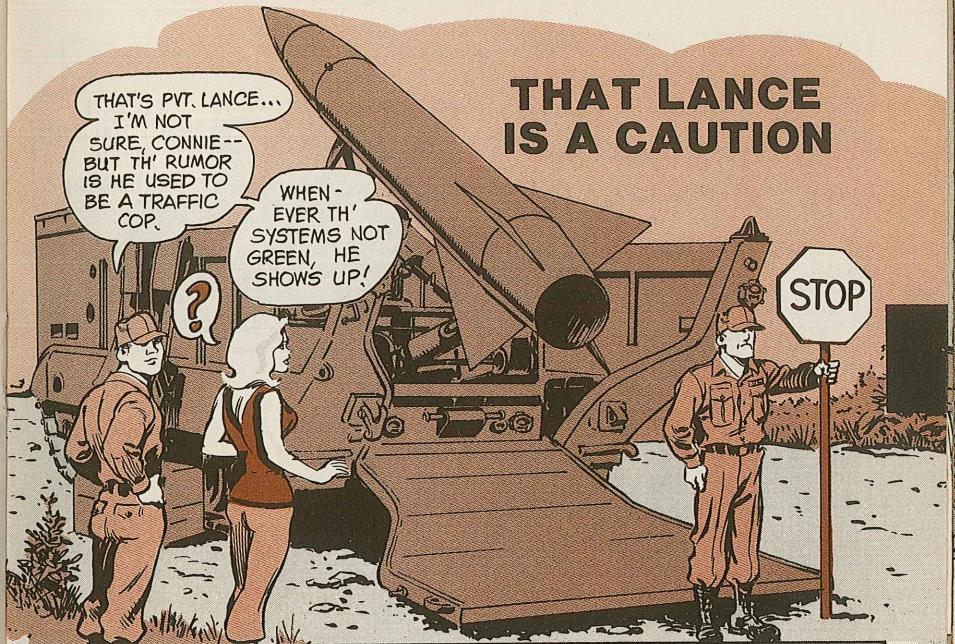
T-e-n-s-i-o-n. Every tracked vehicle must have it.

Track tension, that is. And it's important that you adjust the tension the way it's spelled out in para 3-24 and Figs 3-19 and 3-20 of TM 9-1450-485-10 on the carrier.

Keep the tension equal on both tracks. That keeps the carrier from pulling left or right.



THAT LANCE IS A CAUTION



Why is the LANCE missile system like a traffic light?

Because whenever you see green it's GO, and if you observe a few cautions along the way, you can keep the loader-transporter and launcher out of the red.

HANDLING UNIT

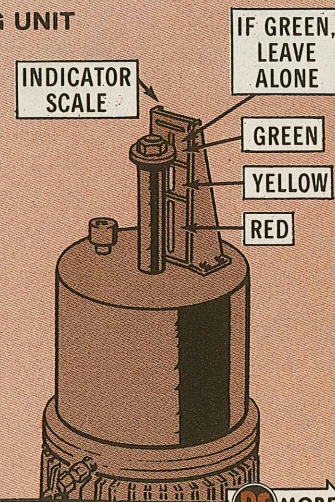
Take green, for example.

The handling unit hydraulic reservoir is coded green, yellow and red for level of fill.

And, when the hydraulic fluid level indicator is at green, that's the time to leave it alone. Naturally, green is at the top of the scale.

If you add fluid when the reservoir's full, you can damage it.

Best bet is to check the fluid level indicator before adding fluid . . . and then, when necessary, add fluid the way it tells you in para 3-22 of TM 9-1425-485-10-2.



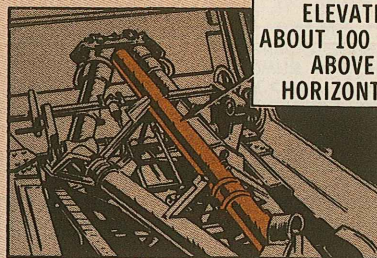
OLD YELLERS

Now, about those cautions . . .

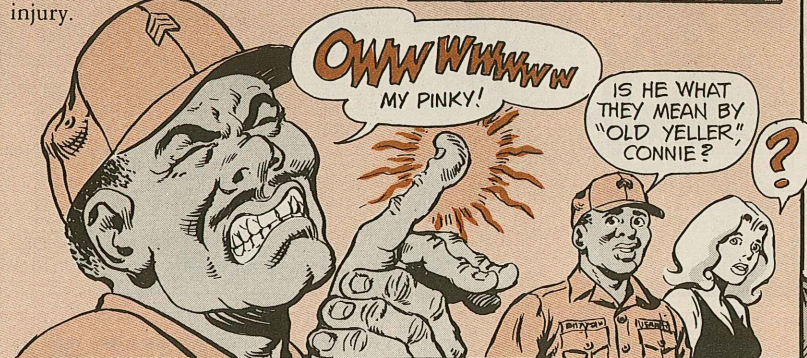
When you remove the transport lock pin from the launch truss assembly, elevate the launch truss about 100 mils above horizontal. The TM will be changed to "100 mils."

That stops the missile or Missile Main Assemblage (MMA) from sliding off the launcher.

It also prevents damage . . . and injury.



ELEVATE
ABOUT 100 MILS
ABOVE
HORIZONTAL



CAB GRABBERS



SECURE ALL LATCHES

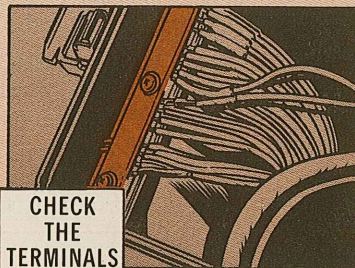
When you raise the carrier cab, doublecheck all latches for tightness after you secure the cab.

Loose latches can let the cab collapse. Let your imagination take over on that.

BATTERY BYWORDS

Terminal connections in the launcher battery box work loose . . . causing power loss and the equipment power light to go out.

So, before you abandon a mission because of power loss, inspect the connections . . . and snug 'em up, if necessary.



CHECK
THE
TERMINALS

UMBILICAL ILLS

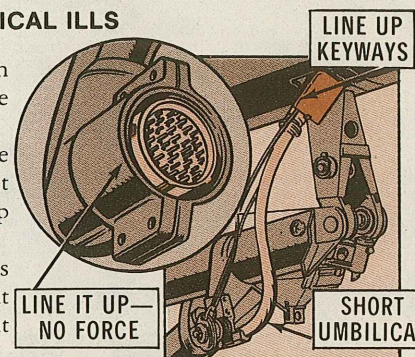
Easy does it is the word when mating the short umbilical to the missile.

Line up the keyways and push the connector snugly into place. If you get resistance, back off and line 'em up right.

Forcing the connector damages terminal pins, and damaged pins put your missile down. It takes time to put it right again.

On the long umbilical, secure connector box latches are a must before firing.

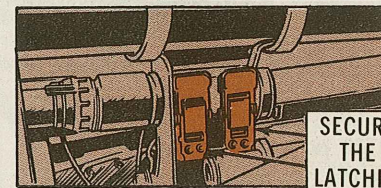
If the latches are loose or open, you can damage both the umbilical and the monitor-programmer.



LINE UP
KEYWAYS

LINE IT UP—
NO FORCE

SHORT
UMBILICAL



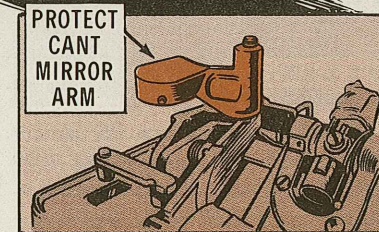
SECURE
THE
LATCHES



Your Lance missile system can't be accurate if you bang up the cant mirror arm.

Rough handling and careless storage of the sighting and laying equipment (SLE) throws the cant mirror arm out of tolerance, causing boresight errors. So do this to put the can back in your cant:

When you store the SLE, be sure the cant mirror arm clears the lid of the storage container.



PROTECT
CANT
MIRROR
ARM

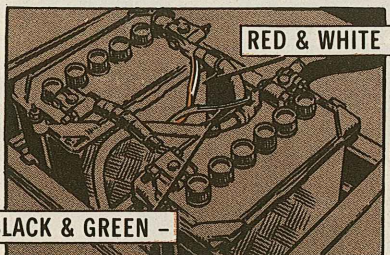
When you handle the SLE, treat it like the precision gear it is. Rough treatment can ruin it.

PM PUTS POWER IN YOUR RADIO SET

Getting your vehicle-mounted FM radio set to put its best out for you calls for putting in good PM practices on your radio set.

That's right . . . PM!

Like, when you're tying in the CX-4720 power cable assembly into the vehicle battery. Make sure the black and green wires are connected to the negative (-) post—and the red and white wires are connected to the positive (+) post.



RED & WHITE +

BLACK & GREEN -

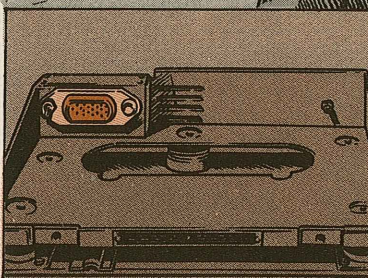
Reversing polarity on the battery hookup can damage the MT-1029 mount receptacle. In other words—Burn it up.

Should you be so unlucky, this hokey hookup will feed into your receiver-transmitter and silence'll sink over your set, permanent-like.

GEE, HALF-MAST--I CAN'T GET FOXTROT 7 TO RESPOND--AND HE'S ONLY OVER THERE ON THE NEXT HILLTOP!

NO WONDER--YOU REVERSED THE POLARITY WHEN YOU HOOKED UP YER POWER CABLE TO THE BATTERY!

YOU'VE REALLY ZONKED YER SET!



44 BAD HOOK UP BURNS RECEPTACLE

AMAZING!

HOW DO YA DO IT?

SIMPLE, M'BOY... PM--BY TH' BOOK!

'SCUSE ME, NOW... I GOT SOME CALLS ON THE PM NETWORK!

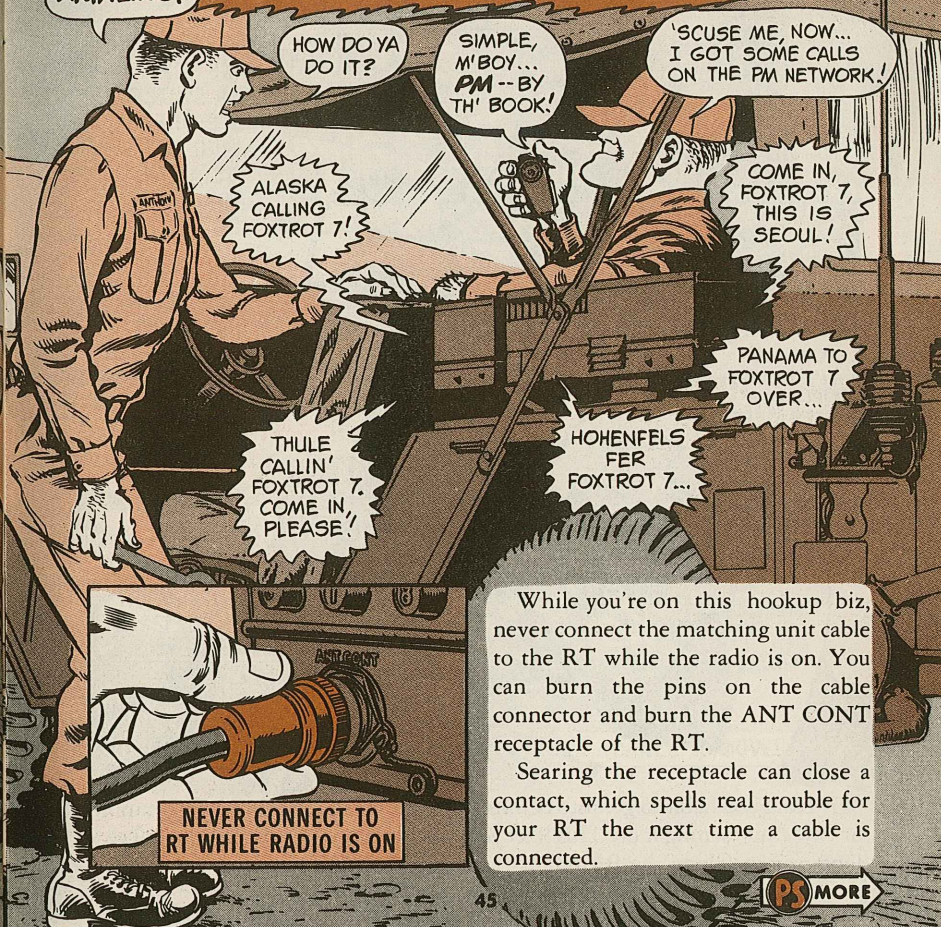
ALASKA CALLING FOXTROT 7!

COME IN, FOXTROT 7, THIS IS SEOUL!

PANAMA TO FOXTROT 7 OVER...

HOHENFELS FER FOXTROT 7...

THULE CALLIN' FOXTROT 7. COME IN, PLEASE!



NEVER CONNECT TO RT WHILE RADIO IS ON

While you're on this hookup biz, never connect the matching unit cable to the RT while the radio is on. You can burn the pins on the cable connector and burn the ANT CONT receptacle of the RT.

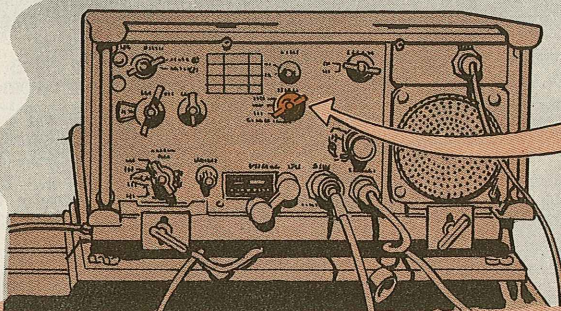
Searing the receptacle can close a contact, which spells real trouble for your RT the next time a cable is connected.

PS MORE

While on this on-off bit for your radios you should make a mental mark to remind yourself to always turn the power switch to the off position before taking a radio component out of its mount. Besides playing havoc with the mount's receptacle, that wayward electrical current can make with the ulcers to the inside of your receiver-transmitter.

Be sure the power switch is off when you install the radio set, too. The same thing can happen.

If you don't have a DA Label 132 (Nov 69)—Warning to turn off radio set—Get one! . . . like it says in SB 11-624 (Mar 70).



MAKE SURE
POWER SWITCH
IS OFF WHEN
TAKING OUT
OR INSTALLING
RADIO SET

WARMING UP

NOW-- LET
IT WARM UP A
COUPLE OF
MINUTES BEFORE
KEYING, AND
YOU'LL SAVE
THE PA TUBE!

DUNNO 'BOUT
THIS SET WARMIN'
UP, BUT IF I HELD
THAT PA TUBE IN
MY HAND RIGHT
NOW... IT WOULD
PROB'LY
EXPLODE!



A real good habit to get into before keying your radio set is to wait a minute or two after turning it on. This'll let your set heat up. And, a little wait will go a long way in saving the PA tube.

THANKS FOR
THE TREAT, PRIVATE!
THIS GIANT-FROSTED
DOUBLE-FLOAT IS
GREAT FOR
COOLING
OFF!

COOLING OFF

PANT!
THERE'S GOTTA
BE SOME OTHER
WAY THAN
THIS FER
ME TO
COOL OFF!



Keeping your set hot to transmit and receive means keeping its innards cool, man.

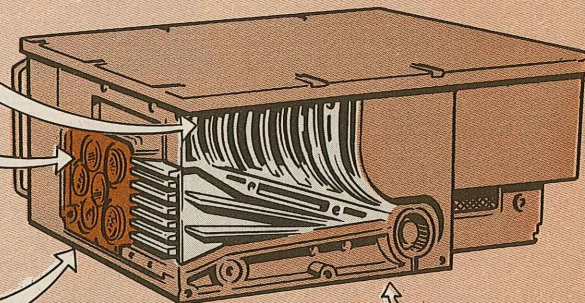
The best way to do that is to take off the side and back panels to get rid of dust and dirt on the power transistor assembly and the vanes of the heat exchanger.

VANES

POWER
TRANSISTOR
ASSEMBLY

SIDE
(PANEL
REMOVED)

BACK (PANEL REMOVED)



That goes for the fins of the blower motor fan, also. A toothbrush will do the job.

Replace the panels when the cleaning's done.

RT MODULES

SARGE, YOU SAID YOU NEEDED A REPLACEMENT MODULE...

SO...

THIS HERE'S MY GIRL FRIEND MILLIE, TH' MODEL, AN' I THOUGHT...

When you're replacing any of the A8000 assembly's modules be sure the retaining clamp or C-ring is in place on the hinge pin. It doesn't take much for the pin to jiggle off and fall into the RT's insides.

This could short out or jam various components and put your set on the blink.

C-RING MUST BE HERE

The long pin holding the A3000 and A4000 assembly's modules should have the head of the pin next to the side of the set.

Then, when the bottom and top covers are in place, the pin can't fall out.

HEAD OF LONG PIN NEXT TO SIDE OF SET

If it's a problem losing the C-ring on a shorter pin, fasten 'er in with safety wire.

Loop the wire around the C-ring end and through the eye of the pin.

Give'er a couple of twists.

This'll snuggle in the pin until you're ready to take 'er out next time.

IF SHORT PINS LOSE C-RINGS...

... FASTEN WITH SAFETY WIRE

PANEL KNOB

A good PM tip to remember is to avoid overtightening the sleeve nut on the volume control knob. Too much tightening of the knob can damage the guide pin of the shaft of the variable resistor on the RT's and the receiver.

One other PM tip... Be sure the rubber O-ring or preformed packing (NSN 5330-00-905-6032) is in place inside the connector of the audio accessory.

If the O-ring's missing, you get loose contacts between the connector and audio receptacle. This could damage the pins and cut out your transmission.

NOT TOO TIGHT ON THE SLEEVE NUT

SQUELCH
OFF
NEW
OFF
OLD
VOLUME

O-RING MUST BE IN PLACE

ECHO 4 TO WHISKEY 5...
COME IN...
COME IN, WHISKEY 5!

BLAST! WHY DOESN'T HE ANSWER?

DID YOU CHECK THE O-RING?

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

POSTAGE AND FEES PAID
DEPARTMENT OF THE ARMY

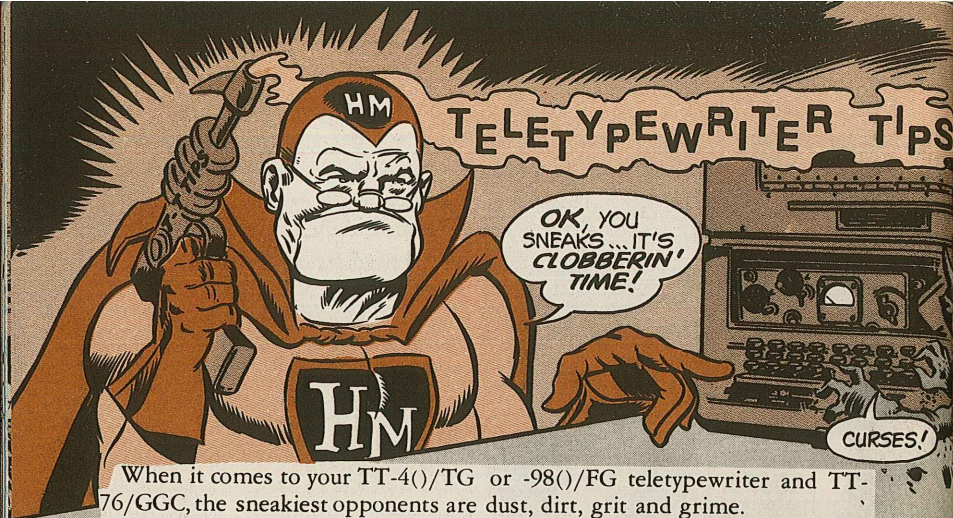


DEAD LETTER

Did you write to PS Magazine and didn't get a reply? Maybe you missed the new address for MSG Half-Mast, Connie and Bonnie:

PS MAGAZINE
Lexington, KY 40507

Your letter or card to the old Fort Knox address will wind up in the Dead Letter Office. So, write to Lexington.



When it comes to your TT-4()/TG or -98()/FG teletypewriter and TT-76/GGC, the sneakiest opponents are dust, dirt, grit and grime.

They'll punch your set below the belt.

So, keep it clean—both inside and out.

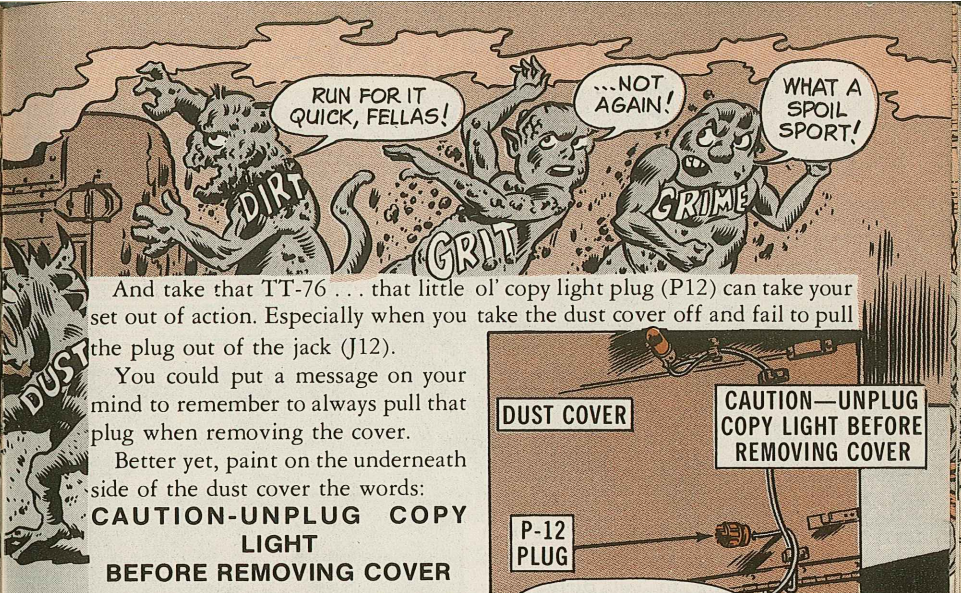
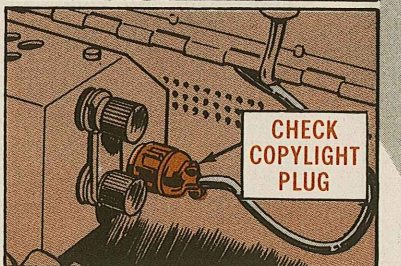
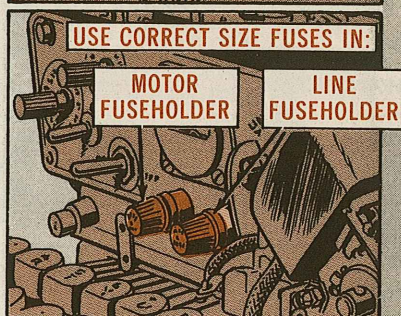
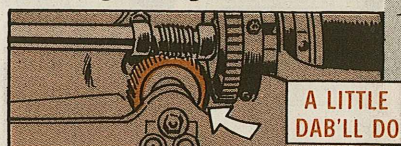
While you're at its innards, eyeball the carriage feed drive wheel. It needs grease . . . just a dab'll do. Without grease, the wheel will wear off its teeth and get to slipping something fierce without any force on the worm gear.

Overgreasing is a NO-NO. With too much grease you've got a dust and dirt catcher.

Another thing that'll weaken the TT-4 and -98 is usin' stronger fuses than they need.

When you're replacing the fuse in the LINE FUSE fuseholder make sure it's ½-amp (NSN 5920-00-356-2188). The one in the MOTOR FUSE fuseholder is 1.6-amp (NSN 5920-00-224-5269).

Over-fusing over-exerts 'em, lettin' too much juice get to their vitals, and puts 'em down for a bad count.

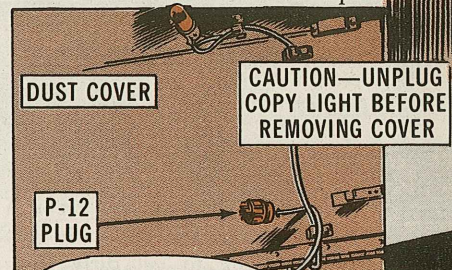


And take that TT-76 . . . that little ol' copy light plug (P12) can take your set out of action. Especially when you take the dust cover off and fail to pull the plug out of the jack (J12).

You could put a message on your mind to remember to always pull that plug when removing the cover.

Better yet, paint on the underneath side of the dust cover the words:

CAUTION-UNPLUG COPY LIGHT BEFORE REMOVING COVER



PROJECTOR PROTECTOR

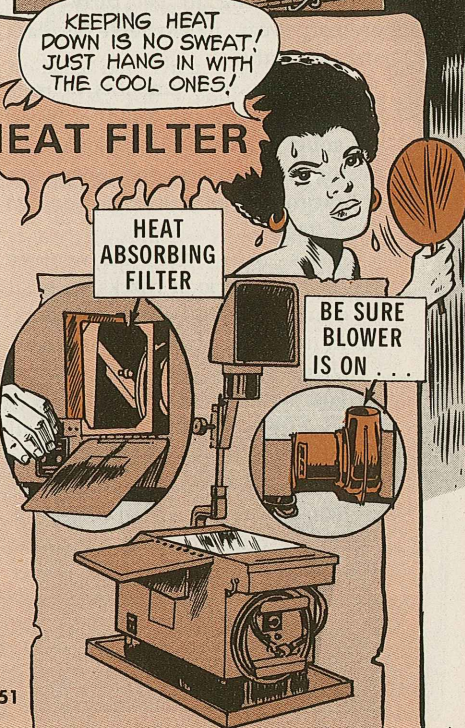
COOL IT WITH HEAT FILTER

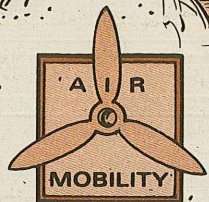
One of the coolest you can come by is the heat absorbing filter (NSN 6730-00-804-2187) in your PH-637A, -B or -C still picture projector.

That filter knocks the hots out of the 1000-watt lamp so the lens doesn't melt before your eyes, or the projector doesn't go up in one big POOF! So make sure you clean the filter with lens tissue once a week. Always put the filter back in before turning on the lamp.

While you're at it, listen for the blower motor to come on when you turn on the projector.

If there's silence, shut down your gear and tell your support.





TIME FOR AN OIL CHANGE?

WHADDAYAMEAN
MEBBE WE SHOULD
CHANGE THE OIL IN
TH' GEAR BOXES?

TH' PM PERIODIC
ISN'T DUE YET!

☹KOFF☹

RIGHT ON!... BUT
THESE CONDITIONS
CALL FOR MORE
FREQUENT CHANGES!

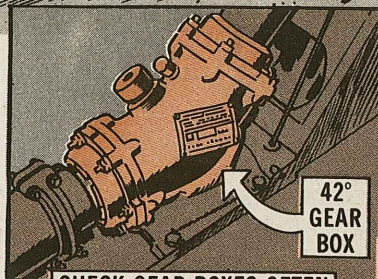
☹HAK☹

Let's face it, Huey mechs—the oil in the intermediate and tail rotor gear boxes is going to get dirty from ordinary wear. It shouldn't be black and gritty, tho.

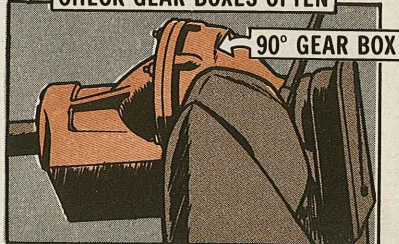
Otherwise, high amounts of iron, aluminum and silicon (sand) in the oil are going to cause deep scratches and pitting on the rollers and inner races of bearings. Your gear boxes won't go the distance.

That's why the Preventive Maintenance Periodic checksheets call for changing the oil every 100 hours. Do it, man, and save the gear boxes! When you're operating under extreme weather conditions and dirt or moisture is a real problem, eyeball the oil closely. If your oil gets dirty, get the OK from your maintenance officer to change more often than 100 hours.

Service your baby with the same type oil you used before. Use either MIL-L-23699 or MIL-L-7808 (7808 is for cold climates.) Mixing oils can contaminate the whole shebang.



CHECK GEAR BOXES OFTEN



To head off oil contamination when changing from MIL-L-7808 to MIL-L-23699 and vice versa, follow the servicing poop in TM 55-2840-229-24 (Apr 71) on the T53 engine. TM 55-1520-210-20 (Sep 71) has the changeover info for the gear boxes, transmission and rotor head.

Never use oil from previously opened cans. Who knows what junk got into them? Open up a new can, use what you need and get rid of what's left.

If you've been throwing out oil left in quart cans maybe you need smaller ones.

ASK FOR
THESE 8 OUNCE
CANS...

☹KOFF☹

NSN 9150-00-108-5359 MIL-L-7808
NSN 9150-00-180-6266 MIL-L-23699

SAVE THE WINDSHIELDS

Some mechs go overboard when polished out. Then, back they go.

Putting a windshield in their Huey (UH-1). They use a sealant that hardens like a rock—that windshield is in there to stay... and that means trouble!!

Think of the guy who has to take it out again. The plexiglass will crack for sure. Not all windshields get replaced. Some are removed and the damage

polished out. Then, back they go. 'Course, you wouldn't pull a trick like that, right? Not while the correct sealant is listed in the bird organizational maintenance pub!

NSN 8030-00-878-9520 will get you 1 gallon of the right water-tight, pliable, MIL-S-11030, Type 1 sealing compound to use when installing a windshield.

THIS SUPER GLUE-ALL
IS GONNA MAKE SURE
THIS IS TH' LAST WIND-
SHIELD EVER PUT
IN THIS BIRD!

NO-
NO!

BOTH NEEDED

SORRY, PAL... BUT THE 24-MONTH CHECK IS NEEDED, TOO!

BUT, WINDY... I JUST PASSED THE CHAPTER 10 TEST!

CHECK AIRSPEED INDICATOR EVERY 24 MONTHS

Dear Windy,

Chap 3 of TM 55-1520-210-20 (Sep 71) calls for inspecting the airspeed indicator every 24 months. TM 55-1500-204-25/1 (Apr 70) is referenced for pulling the check.

Chap 10 in the Huey pub also has some inspection poop plus instrument removal and replacement info.

If an instrument passes the inspection in Chap 10, does it also get the 24-month check, Windy?

SP6 D.G. J.

Dear Specialist D.G.J.,

It sure does!

Your support unit gives the instrument a thorough going over every 24 months, looking for hidden defects.

Organizational types eyeball the instrument during routine inspections and correct any actual defects, by following the poop in Chap 10 of the bird pub.

Windy

COVER ON?

The first chance you Huey mechs get, eyeball the battery setup in the nose of your baby.

Look for a cover on the battery relay. Relays without the cover can mean big trouble. Foreign objects contacting the terminals will cause a spark that can ruin your whole day.

If you need cover, NSN 2925-00-247-0211, you'll find it listed in Figs 249, 250, and 251 of TM 55-1520-210-20P-2 (Apr 74).

SOB WHY-OH-WHY DIDN'T I PUT A COVER ON THE BATTERY RELAY!? SOB

THE MOISTURE TRAP

MOISTURE ON THE HUEY'S T-53 ENGINE INLET HOUSING IS A NO-NO!

MAKE SURE THE V-BAND COUPLING IS IN THE PROPER POSITION!

Whenever you Huey and Cobra mechs install the particle separator on your T-53 engine, always place the V-band coupling in the proper position.

Otherwise, you'll trap moisture that can corrode the magnesium flange on the engine inlet housing. Flange replacement runs up the overhaul tab

NEW TYPE—
DRAINAGE GAP
AT 6 O'CLOCK
POSITION

CLAMP

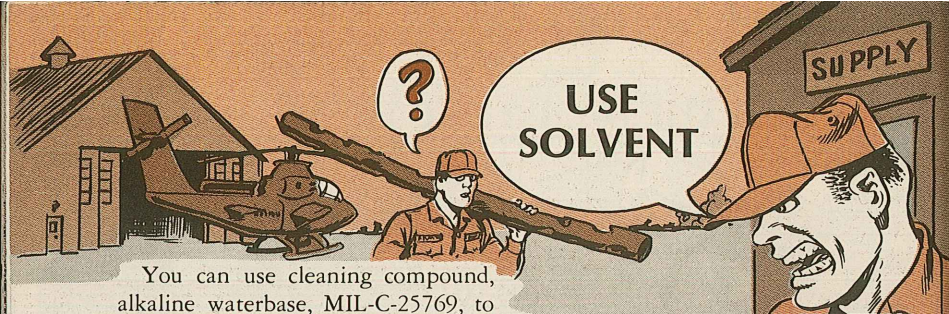
OLD TYPE—
CLAMP AND GAP
AT 6 O'CLOCK
POSITION

someh' fierce.

So, if you have the new type V-band, put the 3.25-in drainage cut-out at the 6 o'clock position. The locking clamp will be elsewhere.

If you use the old type V-band, which gives you a small gap at the locking clamp, put the clamp at the 6 o'clock position.

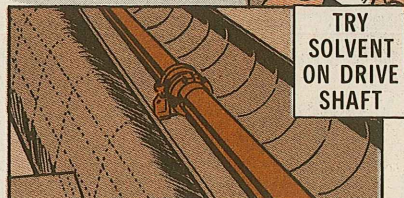
Keep the water draining!



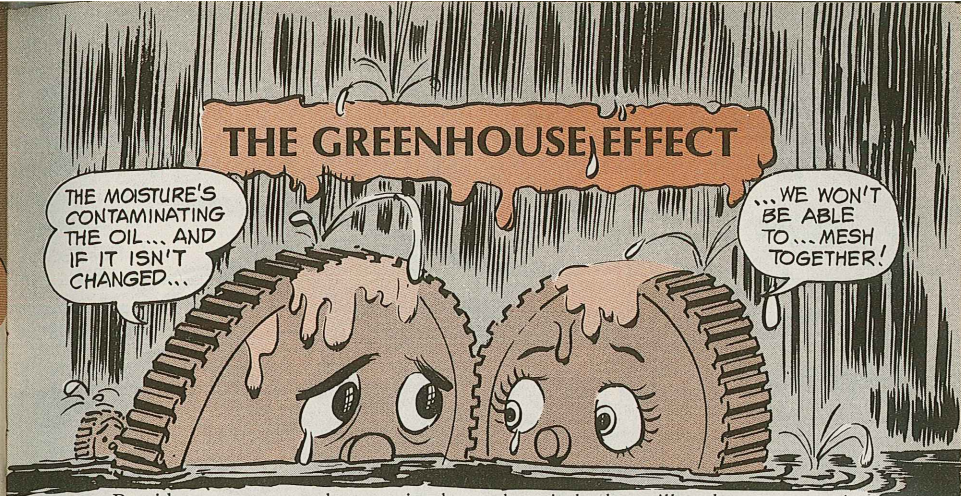
You can use cleaning compound, alkaline waterbase, MIL-C-25769, to clean the tail rotor drive shaft on your Huey or Cobra, bird mechs. You'll find the cleaning poop in para 3-9 of TM 55-1500-204-25/1 (Apr 70) on general practices.

But—if you don't rinse off all the cleaner and dry the shaft thoroughly, lingering spots may corrode the shaft.

To head off any possible corrosion you can use dry cleaning solvent, P-D-



680, Type II instead of the cleaning compound. NSN 6850-00-274-5421 will get you a 5-gal can of solvent.



Rapid temperature changes in the weather can cause condensation in chopper gear box sight gages, contaminating the oil. Change the oil

when it looks milky, due to water in the oil. If you're in doubt as to whether the oil is contaminated, send a special sample to the lab.

THE NEW LOOK

Look sharp, air types, for the fastbreaking word on a new, tri-level aircraft maintenance system.

Some direct support chores are being switched to organizational level. Direct support and general support activities are combined. Depot

maintenance picks up some general support work to complete the streamlined trio.

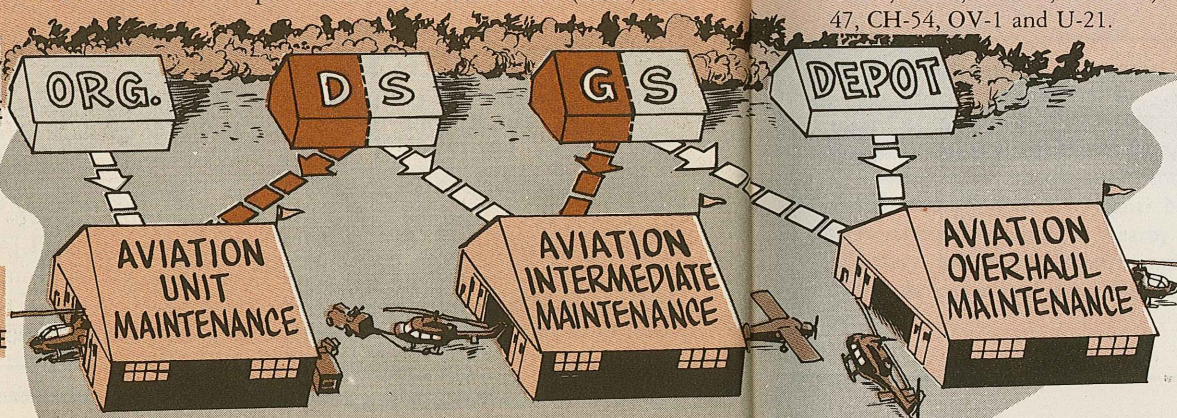
In a flying unit you'll wind up with Aviation Unit Maintenance (organizational), Aviation Intermediate Maintenance (Field) and

Aviation Overhaul Maintenance (Depot).

Your new PM duties will be spelled out in changes to the maintenance allocation charts, tool sets and TOE structures for 1st line aircraft... the UH-1, AH-1, OH-6A, OH-58A, CH-47, CH-54, OV-1 and U-21.

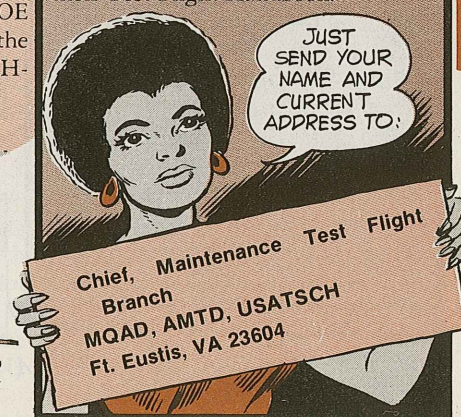
OLD FOUR LEVELS OF MAINTENANCE

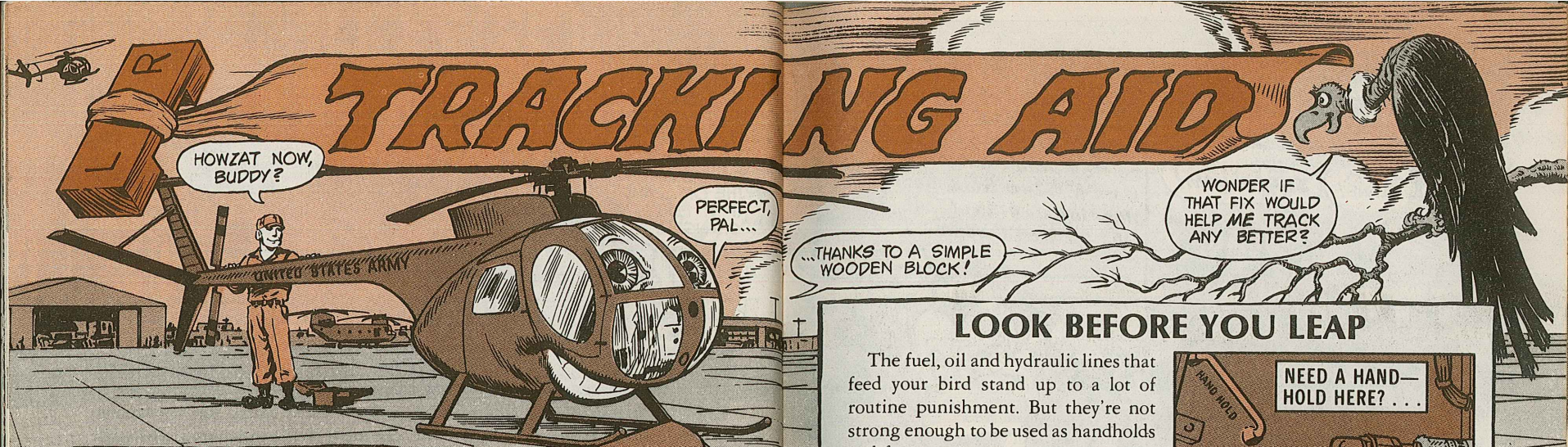
NEW THREE LEVELS OF MAINTENANCE



KEEP CURRENT

Aircraft maintenance officers who have completed the test pilot course at the USA Transportation School can continue to get the latest revisions to their Test Flight Handbook.





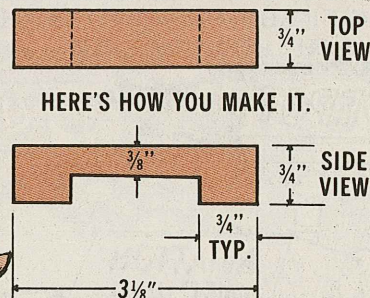
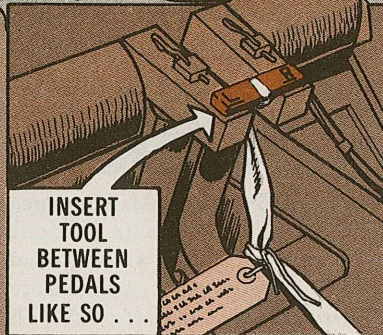
Dear Editor,

Tracking and balancing the Cayuse (OH-6A) tail rotor with the strobe light can be a bit of a problem. If the pilot accidentally moves the control pedals from the neutral position the mechanic will get a false reading.

Well—we made up a simple wooden block which is mounted between the pedals to keep them from moving. A red REMOVE BEFORE FLIGHT streamer is attached to the tool.

The pilot still has control of the bird since any slight pressure will break the block, if necessary. The tool works like a charm.

Alfred Morgan
Ft. Eustis, VA



(Ed Note—Righto! The head shed (AVSCOM) approves use of the tool to save time and elbow grease.)

LOOK BEFORE YOU LEAP

The fuel, oil and hydraulic lines that feed your bird stand up to a lot of routine punishment. But they're not strong enough to be used as handholds and footrests!

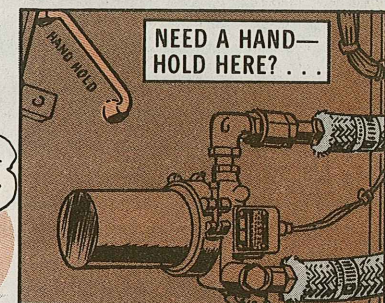


Some types have been reaching without looking. They latch on to the line that connects the fuel filter to the fuel control and that's bad news.

A broken line can give you a fuel leak that'll ruin your whole day!



Course, any on-the-stick mech wouldn't abuse that line, right? Not when there's a handhold nearby. If necessary, one of the sturdy engine mount braces can also be used as a handhold.



CASE LOADER POLARITY CHECK



Dear Half-Mast,
How do I run a check on my polarity protector on our J. I. Case MW24B front loader? The dope in para 4-35 of TM5-3805-251-12 won't work.

CWO W. A. P.

SEE THE DIAGRAM BELOW...

Dear Mr. W. A. P.,

You're right—the TM's partly wrong. It's being corrected. So here's how:

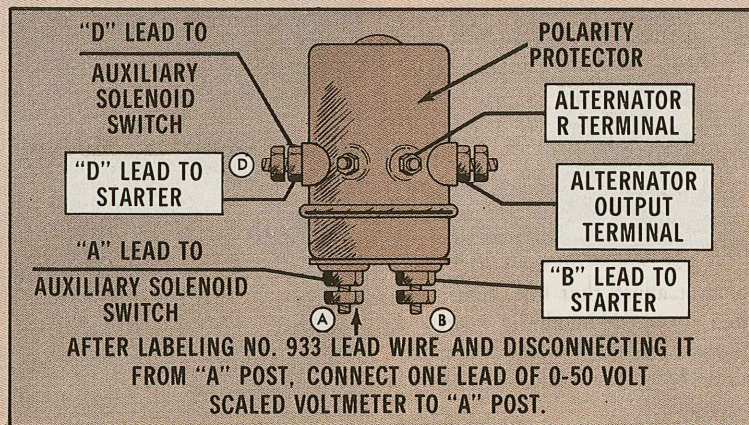
1. You follow Fig 4-23, not Fig 4-22. Tag, then disconnect, wires leading from "A" post. Set your voltmeter on 0-50 volt scale, and connect one lead from it to the "A" post. Ground the

other lead on the chassis.

2. Place the transmission in neutral to close the starter safety switch. Close the master switch to ON position. A healthy circuit will give you 24 volts reading.

The rest of what the TM says there is OK.

Half-Mast



SHIFTING SOLUTION

BONNIE, I THINK WE GOT A SHIFTLESS PROBLEM HERE!

NO.. NO... A SHIFTING PROBLEM!



There's a fix now for balky shifting in these lifters. TB 43-0001-11-1 (Jan 75) tells how to install a grease fitting in the shifter bracket by drilling and tapping a hole in the shaft.

The fitting is NSN 4730-00-050-4203. Once it's in, lube it every 50 hours with GAA. The TM's and LO's are being changed to include this fitting.

SAVE YOUR NECK ... REWORK THE DIPSTICK

HOLD IT! DON'T GO IN THERE... THE ANSWER IS IN TB 43-0001-11-1!



You have to crawl into the wheel well on your 10,000-lb Pettibone-Mulliken rough-terrain forklift to check transmission oil, right?

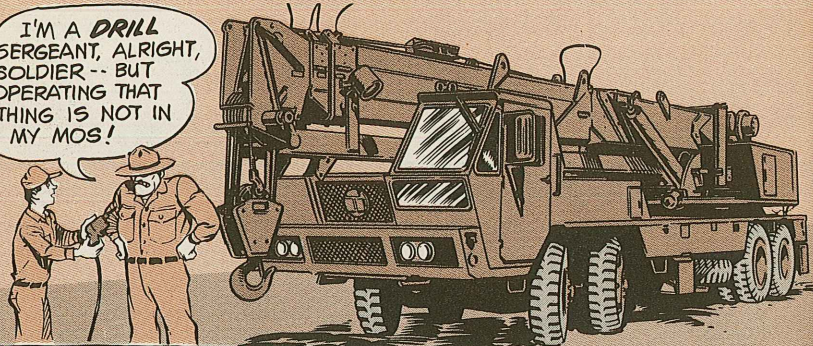
And you have to have the engine running, which could get you run over and mashed, right?

So you need to get the transmission dipstick located in a safer place, right?

The word on how to do it is in Para. 3-7 of TB 43-0001-11-1 (Jan 75).

STOP RUST ON CCE CRANE

I'M A **DRILL** SERGEANT, ALRIGHT, SOLDIER -- BUT OPERATING THAT THING IS NOT IN MY MOS!

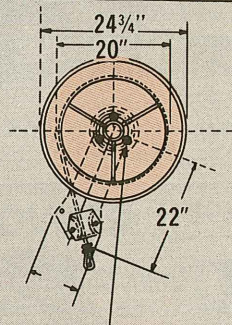


Dear Editor,

As everybody finds out when he gets issued one of these P&H commercial 25-ton cranes, the tagline wheel collects water and rusts up on you.

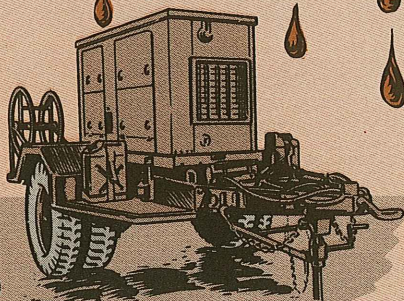
We drilled 3 holes up near the hub on our crane, and that was the end of our corrosion problem.

James B. Gutmann
Fort Belvoir



DRILL
THREE
HOLES
TO DRAIN
WATER

END OIL MESS ON PU-406/M



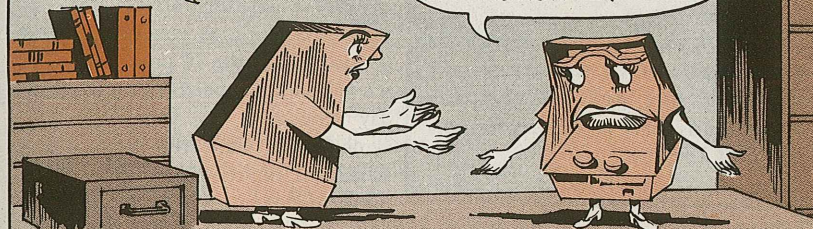
If you've changed oil on a PU-406/M, you know the old oil drips on everything under the set. Real messy and a cleanup problem.

But lucky owners of these 30-KW rigs can take heart. Item 2-9 in TROSCOM's EIR Digest TB 43-0001-11-4 (Sep 74) tells how to cut a 1 3/4-in hole in the generator's drip pan to end such woe.

WHERE IS YOUR MICROFICHE?

YOU'RE SO PALE, GERTRUDE -- WHERE DO THEY KEEP YOU?

I'M NOT SURE... BUT I'D LIKE TO GET INTO THE **PLL** AREA. THAT'S WHERE THE ACTION IS!



Does your outfit have a microfiche reader? That's the machine you PLL guys use to read the AMDF films for the right NSN.

Some units keep the reader in the supply room, S-4 shop or other odd places.

The best place is in the PLL section.

Why? Supply traffic, that's why. In just about every unit there are far more supply actions processed in the PLL area than in other places.

So, naturally, your microfiche serves best in PLL.

N-1 SENSITIVE ITEMS ONLY

Dear Half-Mast,

Para 2-10d(2) of C2 to AR 710-2 says all sensitive items in the hands of units on property books will be completely inventoried at least monthly.

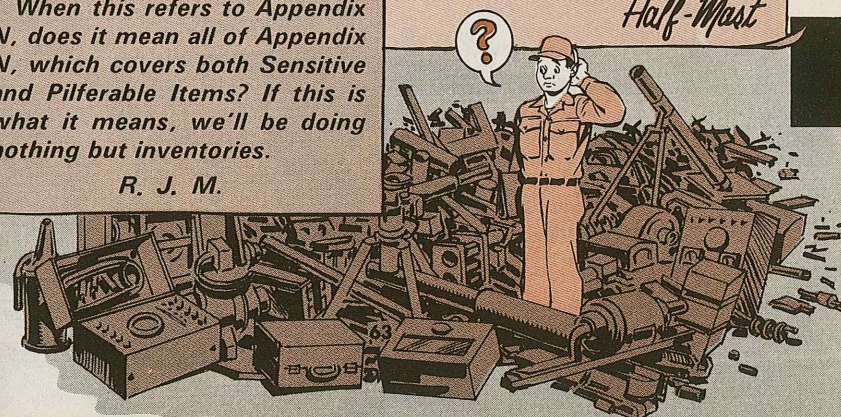
When this refers to Appendix N, does it mean all of Appendix N, which covers both Sensitive and Pilferable Items? If this is what it means, we'll be doing nothing but inventories.

R. J. M.

Dear R. J. M.,

The reference to Appendix N in para 2-10d(2) just tells you where a list of sensitive items is located. Only the sensitive items in N-1 of Appendix N must be inventoried monthly.

Half-Mast



DD FORM 314

ME? RELATED TO HIM? WHAT A HORRID NOTION!

TIME IS RELATIVE

BIG DEAL! DOIN' TIME IS A WAY OF LIFE FER ME, BABE!

Dear Half-Mast,

If a maintenance service is performed within the 10 per cent variation but not on the day scheduled, how is it recorded on the DD Form 314?

SFC H. H. S.

Dear SFC H. H. S.,

That 10 per cent variance is a grace period. So long as you perform the service within the 10 per cent period, it's the same as performing it on the day scheduled. So, you ink in the symbol and date the service was scheduled, not the date it was actually performed.

Half-Mast

MAINTENANCE SCHEDULE AND RECORD

DATE RECEIVED	RE
REGISTRATION NUMBER	AD
1	2
3	4
5	6

IF YOU DON'T PERFORM THE SCHEDULED MAINTENANCE WITHIN THE 10 PERCENT PERIOD, THEN YOU INK IN THE DATE THE SERVICE WAS ACTUALLY PERFORMED AND RESCHEDULE FROM THAT DATE.

ASSIGNED TO

28 29 30 31

WHO'S QUALIFYING OFFICIAL

Dear Half-Mast,

I have carefully researched AR 600-55 and TM 21-300 to find out who signs as "Qualifying Official" on the reverse side of the operator's permit. Standard Form 46 for tactical or combat vehicles. Neither pub has the answer. Help!

CW3 D. S.

Dear Mr. D.S.,

As spelled out in para 5-4 of AR 58-1, Joint Procedures for Management of Administrative Use Motor Vehicles (May 67), the qualifying official who signs the back of SF 46 is the examiner.

I know both AR 600-55 and TM 21-300 should say so—but they don't.

TH' HEAD SHED RESPONSIBLE FOR TM 21-300 AGREES WITH TH' WORD IN AR 58-1

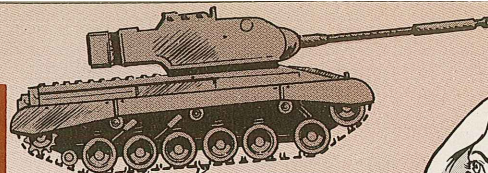
THE EXAMINER SIGNS HERE!

RESTRICTIONS		
QUALIFIED TO OPERATE		
TYPE VEHICLE AND/OR EQUIPMENT	CAPACITY	QUALIFYING OFFICIAL
OTHER RECORDS (OPTIONAL)		

U.S. GOVERNMENT PRINTING OFFICE: 1964 O-743-296

Connie's Mini Minis

HEY, CONNIE! I GOTTA PROBLEM... THIS ITEM WAS FOJ...



... BUT WHERE DO I TURN IT IN?

Foot-In-Mouth?

If "pounds-feet" and "foot-pounds" get you tongue-tied or confused, here's the way you tell one from the other:

POUNDS-FEET (lb-ft)—measures turning power, as applied to torque a nut.

FOOT-POUNDS (ft-lb)—measures energy, such as that used when falling off a log!

Magneto Switch For MS330 Engine

If you've been stymied getting a magneto for your Continental MS330 engine, here's the way out—

Magneto, NSN 2920-00-997-4456 is the one to request. It'll fit better than the old one and give you back the use of your Galion road roller or Carver centrifugal POL pump.

Fallout Predictors

If you and your radiological fallout area predictor ABC-M5A2 are going to do a job together, forget about the reference to TM 3-210 for instructions on its use. Change the reference on your predictor to FM 3-22, Fallout Prediction, which superseded TM 3-210.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1975 - 657-033/10

1/4-ton Job Now DS

Unless you've got special authorization to install-replace the engine cylinder head and gasket on the TM-218-series 1/4-ton vehicles, you keep hands off the job. The Maintenance Allocation Chart in Ch 3 (Oct 74), TM 9-2320-218-20, shows this's now a job for direct support. If you've got the OK, you'll find some helpful tips in PS 267, page 14, "Head(ache) Gasket".

No Oil, Please!

The baseplate socket, non-metallic washers, disk and ball socket on your 81-MM's M3 base plate get a light coat of GAA grease—MIL-G-10924. No oil, p-u-l-e-e-s-e! Para 3-14a(1)2 in your M29A1 mortar TM 9-1015-200-12 (Apr 71) has the straight poop.

Now 'Ear This!

P-s-s-t! M167 Towed Vulcaneers. Did you hear the word about a better hearing aid to catch the doppler tone during the clutter lock-on test? Para 4-7d, TB 43-0001-36-4 (Oct 74) ARMCOM EIR Digest, says it loud and clear. It suggests using the H251/U headset, NSN 5963-00-043-3460, to improve your hearing.

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

NO!

