

Issue 240

PS

1972 Series
November

THE PREVENTIVE MAINTENANCE MONTHLY

YOU MEAN...IT'S
NOT LIKE THEM
CMMI
FUZZ ?

MAIT DOESN'T
INSPECT!!
GET WITH THE
LATEST WORD.

GET WITH
MAIT
AND YOU'LL
GET WITH IT.

MAIT

MEANS

★ M MAINTENANCE
★ A ASSISTANCE
★ I INSTRUCTION
★ T TEAM

MAIT
WANTS TO JOIN
YOU!



REFLECTION

Dear Editor,

When I was assigned an M151A1 ¼-ton truck for my job, I didn't realize I was getting the motor pool "lemon" until I tried to start it. No go.

I got a buddy to tow me to the maintenance bay with his 5-ton tractor truck, and then we spent a week-and-a-half getting that ¼-tonner into running shape.

Everything wrong with it pointed to a lack of operator maintenance by the last driver.

This got me to wondering. I started at one end of the group and worked my way to the other, talking to mechanics, motor sergeants and drivers. What I found was an eye opener!

The guys are quick to blame faulty equipment for their problems. If only they would recognize the human factor behind most of their equipment failures—their own neglect of operator PM!

There's a lot of talk about operator PM and a lot of information published on it, but getting people to do their PM is something else. Those mechanics and motor sergeants—and even operators—who are really interested feel that there's a need for more motivation, up to DA level, concerning this problem.

For instance, there should be classes conducted at major unit level, or by Post, for new drivers. Instructing them in their responsibilities for maintaining their vehicles is a must! Then the company should hold classes for its operators and show them how to care for their equipment and keep it combat ready.

I hope you can use something of what I've said here.

SP5 Harry E. Dinsen



(Editor's Note—We'll keep printing all the good operator PM info we can get our hands on and hope that commanders make use of it—like maybe including it in those classes you mentioned.)

PS THE PREVENTIVE MAINTENANCE MONTHLY

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

MSG Half-Mast,
PS Magazine,
Fort Knox, Ky.
40121

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COMMUNICATIONS

GROUND MOBILITY

FIREPOWER

AIR MOBILITY

COMBAT SUPPORT



Your PPS-5A Radar Set . . .

PM Pointers To Preserve It

BEFORE YOUR PIPSY-5A IS SET TO TRAVEL, THERE ARE A FEW THINGS TO CHECK OUT.

LET'S GO, BONNIE, I'M PACKED AND RARIN' TO GO.

A twist of a screw, the set of a dial, and a cap on a jack are a few of the prime movers in the simple life of an AN/PPS-5A radar set.

Get 'em together and your set will keep putting out for you.

Example: Before you store the Pipsy-5A in transit case CY-3872, turn back the antenna drive elevation adjust handwheel until you get a zero reading in the MILS ELEVATION window.

Like, turn it back when it's on the tripod.



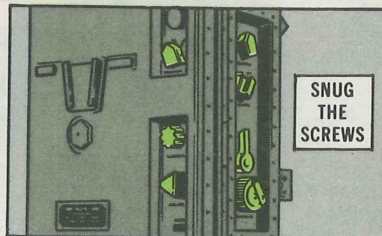
After you set the handwheel, swing the elevation lock lever up . . . and push till

it seats itself in the side bracket hole. That protects it from strain during transit.



KEEP SCREWS UPTIGHT

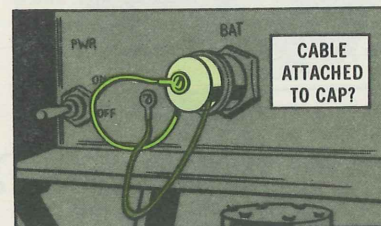
Knobs, switches and hex-head screws on the Pipsy-5 work best when uptight. And that's the way they should be.



Check the knobs for snugness every time you use the set. If you find a loose knob, get the screw tightened. Otherwise, you're setting yourself up for faulty dialing, lost knobs and a few other unpleasanties.

CAP IT

The battery connector cap (FSN 5975-832-6175) on the RT is hard to come by if it gets lost. Since you need it to keep out dirt, moisture and such keep an eyeball on the retaining cable. Get the cable replaced if necessary.



BATTERY LEAK

Next time you're about to give the set a ride in its transit case, and for some good reason you've got to keep the set on its side, remember this:

Take out the batteries first!

One fine example of the side ride is squeezing the case into available space on tracked vehicles.

By taking the batteries out first and storing them upright, you avoid slopping electrolyte over everything. That juice doesn't do the battery or the equipment any good.

CHARGING

Don't hold too hard to those battery life cycles spelled out in the table on page 4-1 of TM 11-6140-214-15 . . . especially if you're operating in warmer areas (+30F. and up).

FEEDHORN

Sweat it but a little longer if the plastic waveguide connector on the feedhorn is cracking up on you. There's an aluminum replacement filtering down, and it comes with the same FSN, 5310-182-4166.



SEARCHLIGHTING

If you're searchlighting, and you can't get a B-scope reading on the control-indicator, try one of these before you call in a repairman:

1. Flip the antenna control switch on the CI to AUTO.



2. If that doesn't work, transfer the controls to the RT. Hit the FWD controls briefly . . . until the S1704 overscan cutoff switch is off the cam and the contacts close. Work the AUTO scan controls, and if the radar's scanning the desired sector, return the controls to CI.



Now, if the reading doesn't come up on the scope, get some help.

Your TPS-25 Radar . . .

Hats, Caps, Covers And Screws



Putting a hat on the RT-500 of your AN/TPS-25 radar set whenever you remove the pedestal is first-rate insurance against damage.

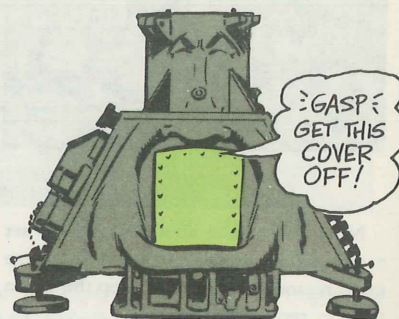


In this case the "hat" is the protective cover that caps the waveguide recess and keeps out dirt and moisture. So remember to put it on next time around.

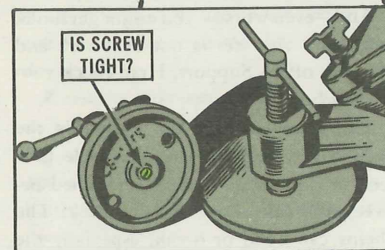
If you want your set to keep its cool, the smart thing to do is to remember to

open all the air exhaust and intake ports on the components. Take the covers off.

Fact is, if you forget to open the exhaust port on the RT-500, your set won't radiate. There's a draft cut-out switch in the port which is part of the ground return for the HV and radiate relays, and it won't work until you take the cover off the port.



The leveling jacks on the RT-500 can stand a look whenever the set is dismantled . . . because the screws holding the threaded portion to the base work loose. And, if the base gets lost, the only way you can get it is to have support make it. So if the screws are loose, snug 'em up.



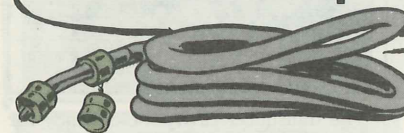
Check fuses any time your set quits . . . before you call a repairman.

Keep dust caps on connectors when they're not hooked up . . . and eyeball

any uncapped connector for dirt and pebbles before you try to hook it up. Pebbles can really tear up contact pins and contacts.



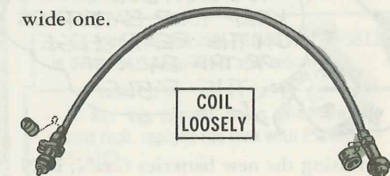
Not So Uptight, Please



It's bad business to coil the 8-ft CG-900A/U RF coaxial cable assembly in a small-diameter loop, such as 1½ feet across.

Such tight-coiling can dislocate the coaxial center conductor, and electrical performance on your AN/TPS-1D, -1G, AN/GSS-1, or -7 radar sets can come up sub-standard.

The cable should be kept straight, but if it has to be coiled, make the coil a wide one.



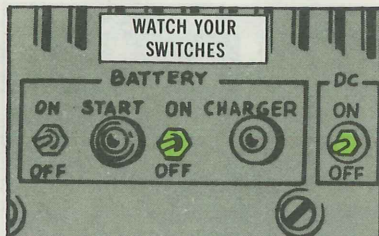
The SB-3082

On The Switchboard

Uncharged batteries flake out!

Any good SB-3082 switchboard operator knows that.

So-o-o-o, when you're working your set, just turn the battery charger switch to ON . . . and you'll store up plenty of standby juice in case the regular AC power conks out.



Don't overlook the DC battery toggle switch, either . . . it should be kept at ON when you're operating.

This way, you get automatic switch-over if the AC power fails.

If you're using the batteries in a floor location, watch all feet—those belonging to visitors and your own—since accidental stumbling and stomping damage the wet-cells.

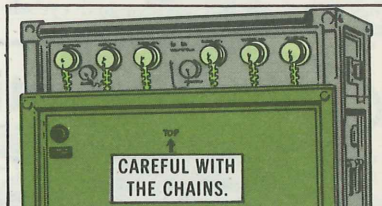
**YOU CAN ALSO
KEEP YOUR BATTERIES
ON THE REAR LEDGE
OR THE BACK OF
THE TABLE.**

In using the new batteries (2HN, FSN 6140-057-2553), be sure to follow the

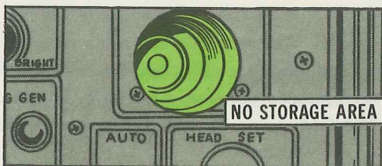
polarity sequence on page 2-8, fig 2-6, Ch 1 (Nov 70), TM 11-5805-471-12. If your hookup's not in series, the SB-3082 just won't work on battery power.

And—even worse—you might get fooled and think your set is out of whack and shoot it off to Support. First, check your battery hookup.

Thing to watch: When you close the back cover, see that the receptacle protection cap chains don't get pinched between the case cover and the back. The chains can bend or break, especially the DC PWR chain, which is a simple bead type. The others are metal-link chains, but repeated punishment can break them.

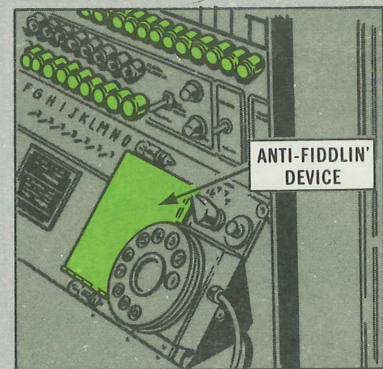


The transducer cavity looks handy for storing things, but don't. You can easily puncture the transducer at the rear of the cavity.



Scene

IF YOU WANT YOUR SWITCHBOARD TO MAKE THE SCENE, KEEP YOUR BATTERY SAVVY UP-TO-DATE.



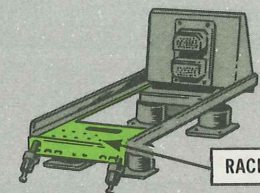
Naturally, you want to keep the control-panel function buttons from binding to the plastic connection of the lens cap, so use a little moisture on the plastic portion of the cap any time the rubber boot drags.

Keep the keyboard cover on when the switchboard's not in use. Besides blocking out some of the dust, this'll discourage any fiddlin' with the KEY sender buttons, which can be damaged from needless over-action.

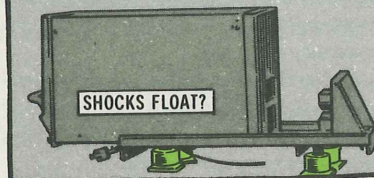
Got The Right Vibrations?

A top-rung radio line man (like you, right?) wants to guard against vibration-caused holes in the rack of the MT-3791 (/)ARC-134 radio mount on the Huey Cobra.

Here's the road to follow:



Check the isolators (shock absorbers, FSN 5340-089-6335) every 25 hours of flight-time and replace 'em if they don't have the proper "float".



Check the screws, FSN 5305-079-5835, that hold the mount tray to the isolators, and tighten 'em if they're loose.

Be sure a flat washer, FSN 5310-167-0812, is between the isolators and mount rack.

If any egg-shaped holes show on the mount rack, replace the rack with FSN 5821-165-3042.

So-o-o-o Gently...

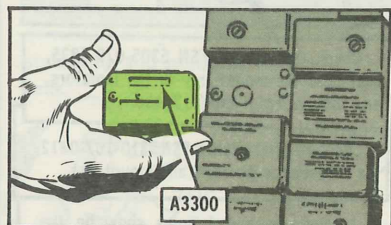
The Module Blues?

Yeah, you can sing 'em if you accidentally spring the interconnecting cable connector plug to modules in the RT-524 or -246 receiver-transmitter.



EASY DOES IT

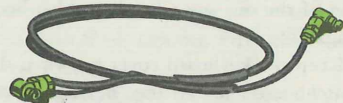
Distending or springing the plug that connects to modules such as the A3300, can put your set down with intermittent or zero reception.



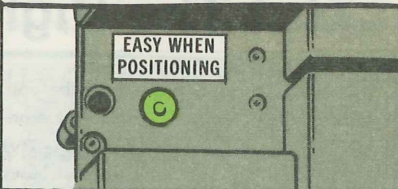
Therefore . . . try to swing a smooth, precise removal and replacement of the plugs. Forcing and jamming 'em in, or



jerking 'em out just doesn't pay off, and you might damage the cable.



The module pins on the main circuit board are delicate items—and you can break 'em off unless you're real careful, especially when you're putting the module back.



EASY WHEN POSITIONING

In lining up the pin with the module receptacle, you're working by touch, since you can't see the pin when the module's in position for replacement.

A good way to make the insertion is to line up the module by sight, with the motherboard receptacle, which should bring the center pin into good position for insertion.

However, test this positioning by pushing the module toward the pin—very gently. If you feel any resistance, back up and have another go at it.

For An OK EXRAY

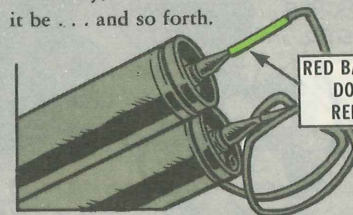
OOPS!

I TOLD YA NOT T' PULL THAT CABLE!



That red-banded implant cable between the battery and module stack of your AN/GRQ-21 EXRAY (expendable relay) is colored right to get its message through.

Namely, STOP! Do not remove! Let it be . . . and so forth.



RED BAND . . . DO NOT REMOVE

If you remove the cable once it's connected, you'll destroy the circuitry of the EXRAY.

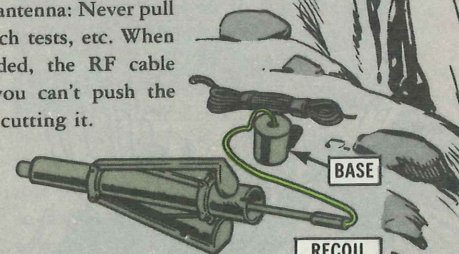
To recover the relay, use the white-banded cable, which bypasses the destruct circuitry.

Another point: if you implant a series of EXRAYs near each other, avoid having the transmitter of one on the same frequency as the receiver of another. Otherwise, they'll transmit to each other continuously, and the message will never get relayed back to the monitor. So, don't use any one channel twice . . . unless the EXRAYs are out of radio range of each other (beyond line of sight).

About the EXRAY antenna: Never pull the center out for bench tests, etc. When the antenna is extended, the RF cable comes out . . . and you can't push the cable back in without cutting it.

If you accidentally extend the antenna, detach the base and recoil the cable into the base by hand.

The antenna sections, when extended fully, are permanently set by an epoxy glue. So, unless you want to carry a long "fishing rod" into the Boonies, be careful when carrying or handling it.



BASE

RECOIL CABLE BY HAND



Be True Blue To Your Filters . . . KEEP YOUR DIESEL FLYING

EVEN THO' YOUR DIESELS ARE NOT AIRBORNE... FILTER PM IS STILL IMPORTANT!



If you had wings on your diesel-engine truck—or tank or dozer or generator or whatever—you'd sure hit those fuel filters before operation.



Just watch any flyboy doing his pre-flight. He'd sooner take off without his pants than forget to check his fuel—draining some off the tank into a container and checking it for dirt 'n' water.

His life depends on it!

And the life of your diesel engine (including multifuel engines) depends on your draining water and dirt from your fuel filters before every operation.

Maybe you don't believe it's all that important. Well, ol' buddy, that only shows that you need to know more about diesel engines.

DA Pam 750-11 (MAY 68) HAS SOME GOOD HINTS FOR OPERATORS OF ANY DIESEL-POWERED EQUIPMENT. GET COPIES BY ORDERING ON A DA FORM 17 FROM THE BALTIMORE PUBS CENTER.

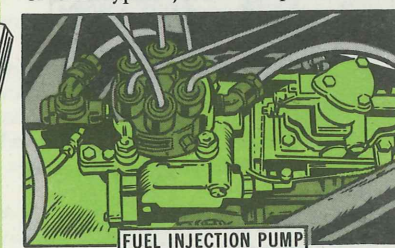


Sure, a diesel engine is tough 'n' powerful. And it does just great on fuel that's lower grade and cheaper than gasoline. Fact is, except for multifuels, the diesel engine can't run on gasoline—and even a multifuel runs better on diesel fuel.

But your diesel engine is mighty fussy about clean fuel—no water, no dirt, not even that fungus that grows in diesel fuel in the tropics.

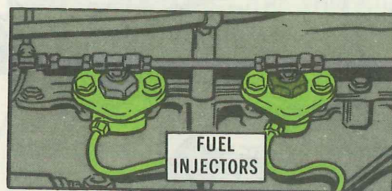
Why so fussy?

First, you've got a fuel injection pump or unit type injector that pushes fuel—

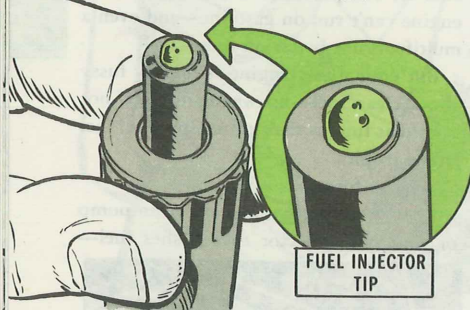


under terrific pressure—through the injector tip into your cylinders. The parts in this pump or unit injector are machined so fine and run so close together, they're as touchy as the parts in your watch. Just a tiny bit of dirt or water can foul up your injector pump.

Then you've got those fuel injectors.



Fuel has to come out of your injectors under high pressure, ramming into air that's already jammed in the cylinder under high pressure. This fuel's got to come out of the injector in a fine spray or mist so it'll burn good 'n' fast. That's why the injector has fine spray holes, so tiny that you'd have to be pretty steady to hit one with a human hair.



Now you can see how easy an injector can get plugged up with dirt.

How would you like to be an injector and have your hole plugged up against all that pressure?

But you've got fuel filters. The filter element strains out dirt. Water settles to the bottom of the filter housing.

No sweat, right?
Wrong!

Your filters do their job only if you help 'em. You, the operator—the guy who's responsible for that diesel-powered monster.

You drain those filters every day. You start with your primary filter and then hit the secondary and then the final—or however many you've got.

You drain about a half-cup from the filter—into a clean container.



You inspect this drained fuel for dirt and water. If you find either one coming



out of your primary filter, you keep draining until it runs clean 'n' clear.

Then you go on to your secondary filter—and so on.

If there's junk in your final filter, report it on your DA Form 2404. There's a chance this stuff is getting through to your fuel injector pump. Your fuel filters—all of 'em—need servicing by your mechanic. He'll clean 'em or put in new filter elements, depending on what kind of filters you've got.

You may not wear a flight jacket, but you can be just as good in your before-operations PM as those flyboys!

For Your Windshield Washer . . .

RECIPE FOR NO-ICE

THERE'S GOTTA
BE A BETTER
WAY.



THERE
IS!

You can't wash your windshield with ice—not if you're using the windshield washer on those new TM-218-series ¼-tonners (M151A2 etc.).

So far, those new ¼-tonners are the only vehicles issued with windshield washers.

So, depending on how cold it is, here's the recipe for mixing Cleaning Compound, Windshield, FSN 6850-926-2275, with water to keep your washer squirting:

- Above +40°F—no compound needed
- From +40°F to -10°F—1 part compound to 2 parts water
- From 0°F to -40°F—1 part compound to 1 part water
- From -30°F to -65°F—2 parts compound to 1 part water

But you can have a washer on any vehicle with a windshield—if your command wants you to. Like it says in Article 69, TB 750-981-3 (Jul 71), a windshield washer can be one of those "additional safety devices" authorized under AR 385-55 (Jul 70), paragraph 7-8.

This goes for any transport vehicle—even a tracked job like the M548 cargo carrier.

There's no Army-issue windshield washer kit, though, so you'll have to get a commercial-design job.

On M715 Truck . . . 5¢ WIRE VERSUS \$25 DEADLINE

Dear Half-Mast,

We lost several winch shafts off M715's, and all the drivers swore they never used the winch.

Then dawned the light: the trouble's not in the winch. It's the winch handle safety catch. When you tilt the battery box lid back for pre-op check, you can hit the handle and never know it. So there goes a shear pin and a shaft.

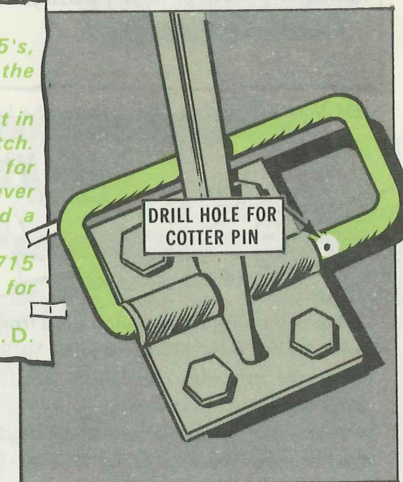
Other than using safety wire on every M715 winch slip catch, is there any other fix for this?

CW2 J.D.

Dear Mr. J.D.,

You can drill an ⅛-in hole in the shift lever lock to just clear the left retainer plate, and put in a cotter pin. TB 750-981-4 (Oct 69) had this fix.

Half-Mast



A TURN FOR THE BETTER

Dear Editor,

Until we figured out a solution, we often had a problem with rain getting into the engine air cleaner canisters on our 2½-ton multifuel trucks. Because of the position of the air intake hood, even a slight wind would drive the rain in. And it was even worse when the engine was running and sucking in the water.

With the filter element waterlogged, the engine was starved for air. So performance was cut tremendously and more unburned fuel was exhausted.

We remounted the air intake hood so it's better protected. All it takes is a 4-in 90 degree elbow (locally purchased for about 60 cents from a heating or air conditioning supply house) and 1 manhour labor for each installation.

This improvement is simple, inexpensive and easy. And now the filters remain dry—rain or shine, wash job or whatever.

William Morris, Jr.
OMS 2, 120th ARCOM
Greenville, SC

(Ed Note — You can also remove the hood and empty the water.)

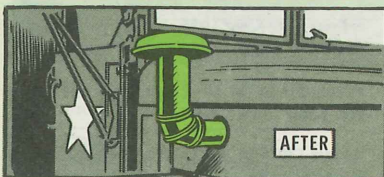
LEAKY BUS?

BETTER CHECK
TB 750-982-2
(APRIL 72).

Are you losing transmission fluid from your GMC Bus, Model DSPA 5019? This's the bus with the Allison MT40-series automatic transmission.

If so, you'd better make with the check rundown in Article 4-1, TB 750-982-2, (Apr 72).

I GOT A
BETTER WAY.



TM-206-Series 10-Ton Truck . . .

I WANNA
GO
THIS-A-WAY!

TIPSY TRACTOR TRUCK?

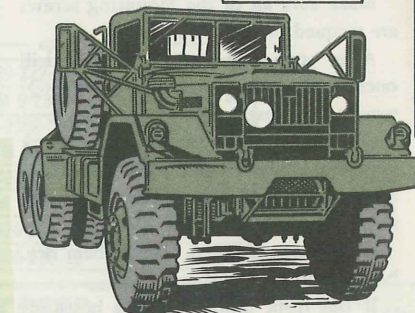
NO!
THIS-A-WAY!

Have you noticed something funny about your M123A1C 10-ton tractor truck? Like when the front axle's engaged, your truck wants to pull or dive to one side?

That's not funny! There's a good chance you could lose control and mess up a lot of things—including you.

Waste no time. Take no chances. Get your truck to your DS for a checkup. You may have one of those babies with the wrong pinion gears in the differential—gears that're intended only for the gasoline-engine 10-tonner. If so, your support will put in the right gears.

ACTING FUNNY?
GET IT TO DS



NO TURN SIGNALS?

Some older Army vehicles don't have directional turn signals.

But they can—and should—have 'em.

It's up to your CO.

AR 385-55 (Jul 70), para 7-8, gives the word.

There's no kit for installing military-type turn signals right from scratch. So, if your vehicle never got any kind of turn signals, you'll have to settle for a civilian-type setup—with SB 9-203 (Mar 62) giving you the poop on local procurement and installation.

HEY! WOTCHA CHECKING OUT?

ROADWHEEL ARM HOUSINGS

Some roadwheel arm housings are cracking because they were made a little on the brittle side and some housing mounting bolts are shearing off.

So check all roadwheel arm housings on your M48A3, M60/M60A1, M60A2 tanks, M728 CEV or AVBL.

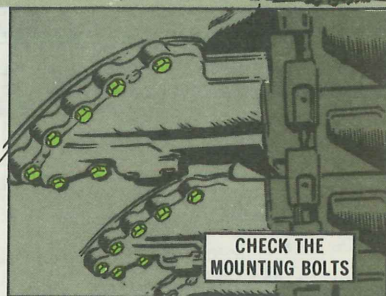
Make sure all of the mounting screws are torqued to 400-450 ft lbs.

After you've gone through this drill once, schedule it for every quarterly (Q) service after that.

On the quarterly service you check only the left and right front roadwheel arm housings for cracks and for mounting screw torque less than 400-450 ft lbs.

If bolts are replaced, install them dry. Never lubricate the threads.

If the front roadwheel arm housings



are OK, that's as far as you need to go. If, on 'tuther hand, some of the mounting screws are loose in the left or right front roadwheel housings, then check the torque on all the mounting screws on all of the roadwheel arm housings.

You should be seeing this info in a future change to your -20 TM.

M114A1E1 C&R Carrier . . .

PROTECT PERISCOPES

It's free:

FSN 2590-078-2402 will get you a guard kit for the M19 and M26 periscopes on your M114A1E1 command and reconnaissance armored carrier.

Then they won't get damaged by flying shell casings when you fire over the driver's hatch.

All the poop on installing the kit is in TB 750-981-2 (Apr 72).



OPTIONAL TRACK TENSION GAGE

With a little patience you can make a track tension gage for any or all of your track vehicles. Stamp vehicle and TM numbers with 1/4-in high die set on a 4-in long piece of octagonal shape aluminum cut 3/8-in (across flats).

On each face, drill a 1/16-in hole about 1/8-in deep (indicated by the • sign) as far in from the near end of the gage as the figures (5/32, etc.) call for.

To use the gage, first identify the vehicle and read up on track tension

adjustment in the operator's manual.

Now with your finger at the hole on the face dealing with your vehicle, the distance between your finger and the near end of the gage shows the allowable track tension for that particular vehicle.

If you don't need the 8-faced version of this gage you could make yourself a simpler one out of hex stock for 6-faces or even square stock with 4 information faces. The same principles apply.



M88 TM 9-2320-222-10	•	5/32
M108-M109 TM 9-2350-217-10	•	7/32
M113A1 TM 9-2300-257-10	•	7/32
M60/M60A1 TM 9-2350-215-10	•	9/32
M578 TM 9-2320-238-10	• •	11/32 & 1 3/32
M107-M110 TM 9-2300-216-10	• •	11/32 & 1 3/32
M114 TM 9-2320-224-10	•	1 19/32
M551 TM 9-2350-230-12		No hole

TANK IDLE SPEED CRITICAL

Your tank engine can get too cold even in moderate temperatures. Course this is even more likely to happen when it's real cold out.

Normal engine idle speed is 700-750 RPM but you need to idle at 1000-1200 RPM to warm up your engine, and prevent smoking and engine damage.

If you need electrical power (like for the radios) when the tank is not moving, you have to have an idle speed of 1400 to 1500 RPM to give the engine the right operating temperature. (Naturally, the lower the outside temperature the higher you have to set your tank idle.)

In real cold weather you may have to step up your engine speed to 1600.

If you have to use a lower engine speed for tactical reasons, pump the manifold heater now and again for a few seconds to make the engine work better.



AT LEAST 1000 RPM FOR WARM UP ON TRACK VEHICLE AVDS-1790-2/2A ENGINES.



TOW ARMING LEVER INFO

Let's say you have a missile in your TOW launch tube, but you decide not to fire.

Does it matter what position your arming lever is in?

Yep! It matters about \$5,000 worth because that's how much the missile costs that you could ruin by doing the wrong thing.

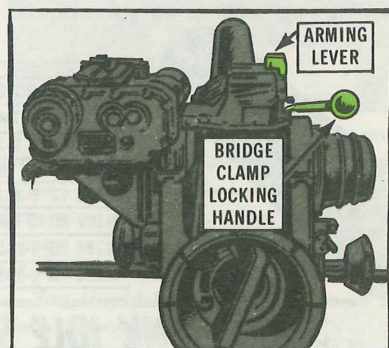
The arming lever has to be in the down position before you raise the bridge clamp locking handle from the lowered (locked) position.

You might not think this makes any difference because if the arming lever is in the up position it flips back to the down position anyway when you raise the bridge clamp locking handle.

But because of the way the TOW is wired, when the locking handle is raised after the missile has been fired, the wire cutter switch closes to the command-link wires.

This is OK and just what should happen if the missile has already been fired.

But if it hasn't, it never will be. With cut wires, it's just a \$5,000 ruin.



So always be careful to have the arming lever in the down position before you raise the bridge clamp locking handle when you want to unload a missile without firing it.

TANK PHONE FIX NOW OK



Tired of spending long hours repairing rear telephone cables on M60/M60A1 tanks and M728 CEV's? Read pages 21-25 in TB 750-981-1 (Jan 72), the EIR and Maintenance Digest for Tank Automotive Equipment. The article OK's putting in a 2-piece rear interphone cable that's easy to replace when damaged.

STOP STUMPING YOUR TOW!

Like maybe you're stumbling 'n' fumbling the components of your TOW guided missile system as you sprint across the boonies to set up for a tank-busting caper.

Forget this shin-digging deal. Get your mitts on Bag assembly FSN 1440-078-1641, and TOW strap assembly FSN 1440-478-0334.

This lightweight, waterproof bag protects the optical unit from hard knocks, dust, dirt, and moisture.

The straps'll ease the tripod, missile guidance set (MGS), launch tube, traversing unit, and missile carrying job.

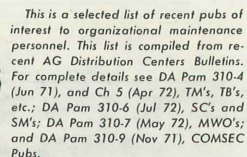
Watch for these handy handling items to show up in TM 9-1425-470-12 (Feb 72).



Been getting stung with short range firings lately? It's probably 'cause you've been taking off the jungle wrap before you need the ammo.

Sure, when that messy wax coating gets hot, it sticks to your hair, hands, clothes, ammo—everything! BUT . . . it's there to prevent short range firings and misfires due to moisture.

So till a better waterproofing method is found, keep your powder dry by not unpacking too soon. Sticky or not, that jungle wrap is good bees-ness!



TM 5-810-5 May Plumbing
TM 5-665-218-20P Jun Semi-Trailer
 Mid Gen Plant Mdl CMST-300
TM 5-3820-241-20P May Pneum
 Drill Mdl RAM-M5, 450A-DR
TM 5-4310-341-14 Jun 15 CFM Recirc
 Compress Mdl P4R1SG-J
TM 5-5420-202-20 May Bridge
 Launcher, M60A1 Tank Chassis
TM 5-5420-203-24P Jun 60-FT
 Aluminum Launched Bridge
TM 5-6115-574-14 Jun 100 KW Gen
 Set, Mdl MB-16
TM 1-9430-560-24P-1 Jun Radar
 Integration Station AN/MSQ-80 (XO-1)
TM 1-9430-560-24P-3 Jun Data
 Processing Station AN/MSQ-79 (XO-1)
TM 1-9430-588-20P Jun Radar Set
 AN/MPQ-49 (XO-2)
TM 2-3230-242-10 C2 Jun 1 1/4 Tan
 Trucks: M561 Cargo and M792
 Ambulance
TM 2-3230-271-14 May Semitrailer,
 Van: Electronic MS574, MS574E1,
 XM654, XM680, XM738, XM739,
 XM739E1, XM823, and XM824
TM 2-3230-238-20P Apr M578 Armld
 Full Tracked Light Recovery Vehicle
TM 10-1101 May Petrol Hdg Equip
TM 11-1510-202-E5C Jul Electronic
 Equip Configs in Army Mdl O-1 Series
 Aclt
TM 11-1520-204-E5C Jul For
 Electronic Equip Configurations in
 Army Mdls OH-13 and TH-13T
 Helicopters

TM 11-5815-334-12 C1 May Radio
 TT Sets AN/JRC-142, 142A, 142B, 122,
 122A and 122B
 TM 11-5820-467-15 C4 Jun Antenna
 Group AN/GRA-50
 TM 11-5820-690-15 C1 Jul Receivers,
 Radio R-1421A/URR and R1421B/URR
 TM 11-5820-762-15 Jun Radio Set
 Groups OA-698B/MRC-85(V)1 and
 OA-7007/MRC-85(V)2
 TM 11-6625-2411-20P Jun Sig
 Converter AN/ASM-46
 TM 55-1510-201-20 C8 and C8 Jul
 U-8D, G, RU-8D, U-8F
 TM 55-1520-209-PMI C2 Jun CH-47A
 TM 55-1520-210-20 C2 Mar UH-1D/H
 TM 55-1520-210-20 C2 Jul UH-1D/H
 TM 55-1520-210-20P-2 C3 Jul UH-1B,
 C, D, H, M
 TM 55-1520-217-10/1 C10 Jul
 CH-54A
 TM 55-1520-217-10/2 C10A May
 CH-54B
 TM 55-1520-217-10/2 C11 Jul
 CH-54B
 TM 55-1520-220-20 C22 Jul
 UH-1C/M
 TM 55-1520-227-20-1 C9 Jul
 CH-47B, C
 TM 55-1520-227-20-2 C2 Jun
 CH-47B, C
 TM 55-1520-228-20 C11 Jul OH-58A
 TM 55-2810-218-20P Jun Recip
 Acft Eng
 TM 55-2840-229-24 C5 Jul Engine,
 Shaft Trainer Mdls T53-L9A, 11, 11A, B,
 C, D, L-13A, B

TM 55-2840-230-20P Jun Free
Turbine Acft Eng
TM 55-2840-233-20P May Turboprop
Acft Eng LT-53-L-7, -7A, -15

DA Cir 310-36 Jul Revisions of Mil Pubs
FM 29-25 Mar Direct Exchange, Shop Supply and Operational Readiness
Flood Procedures
IO 5-2410-123-21-1 Apr D5A Tractor, Crawler
IO 5-2805-259-12 Apr Eng. 20 HP Mill
Sid Mds 4A084-2 and -3
IO 9-1005-299-12 Jun M35 Armrt
Subsys AH-1G
IO 9-1430-588-12 Jun Radar Set
AN/MPQ-49 (XO-1)
MWO 9-4900-250-30/18 May
Trailer Mid Electronic Shop Test Equip Group
MWO 55-1520-210-30/37 May Install Provisions for AN/ARC-115 (VHF/AM Radio) in UH-1D/H
SB 700-20 Jun Army Adopted and Other Items of Material Selected for Authorization
SB 700-25 Jun Supplementary Interchangeable and Substitute Item List (SISIL)
TB 750-240 CI Jul Maint and Repair Procedures for S-141/G, S-144/G, S-250/G, S-280/G, and S-318/G Type Shelters

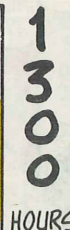
There are still some weapons Organizational modification work orders around. Here're a few:

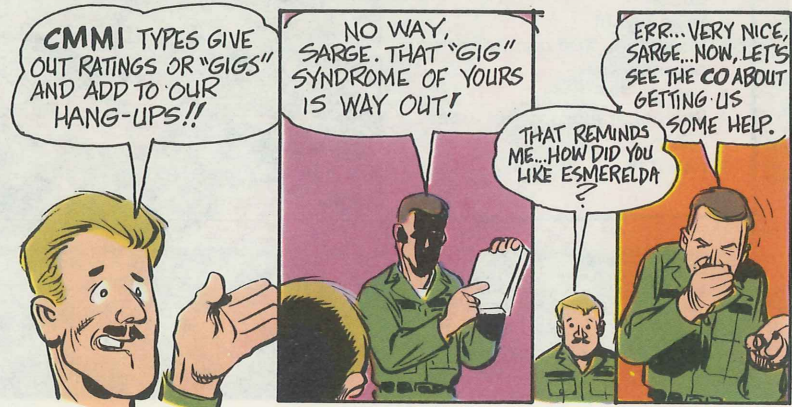
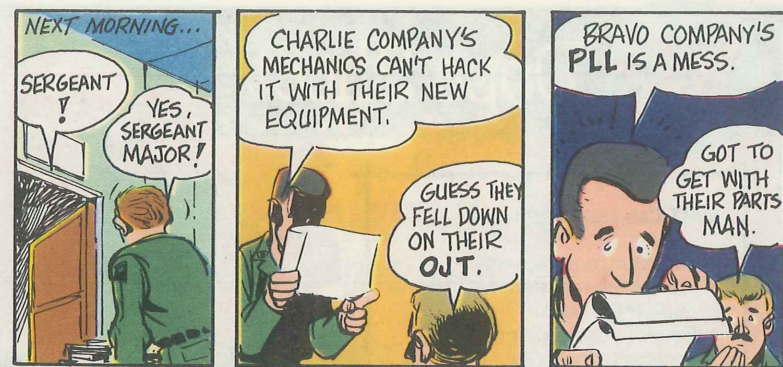
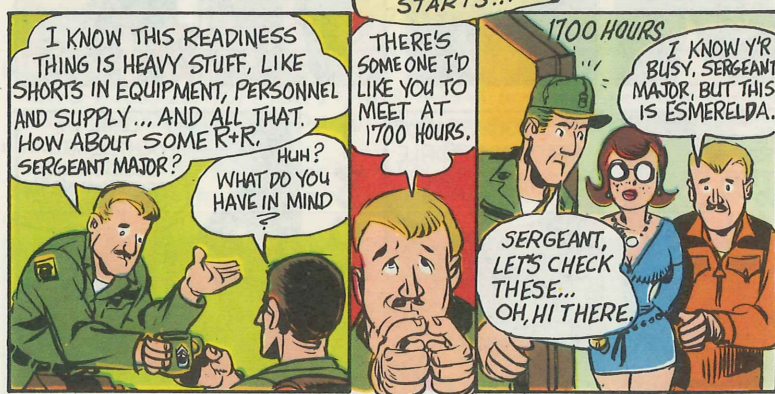
MWO 9-1005-257-20/1 (Oct 71) M18, M18A1 armament pod and fairing.
MWO 9-1005-298-20/2 (Oct 70) M27 armament subsystem and reflex sight.

MWO 9-2350-217-20/15 (Dec 71) M109 155-MM SP howitzer.

Now's the time to put them on your equipment. All new MWO's will be applied by support units.

For paratroopers left dangling in the air with their 35-ft back pack 'chute snagged on a limb, MWO 10-1670-213-20/1 (Jun 71) is for you. This MWO enlarges the orifice, adds control lines to the canopy, changes the slip risers to a fixed deal, and adds a control line guide ring. Before your next drop, ask for the modified 'chute. It'll help you get into smaller DZ's with greater accuracy.







Dope Sheet

MAIT Can Help With:

- Operator requirements.
- Preventive maintenance and equipment repair.
- Equipment condition and serviceability— (e.g., ESC and tech inspections).
- Unit readiness reporting.
- Repair parts supply procedures.
- Records and reports management.
- Modification work orders (MWO), calibration and administrative storage.
- Proper use of tools, test equipment, trouble shooting and fault diagnosis.
- Maintenance personnel management and training.
- Proper use of publications, to include distribution procedures.
- Shop layout.
- Production and quality control procedures.
- Safety.
- Shop operations, to include SOP's.
- Facilities.

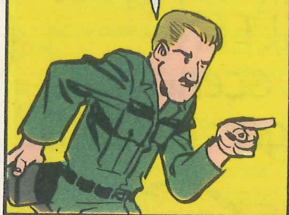
When your rig's in an UNREADY STATE,
And your unit's next MISSION won't WAIT--
Buddy, get in the GREEN,
And start MAKIN' the scene...
Don't get caught in a wringer... call MAIT!



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.

SERGEANT MAJOR, I KNOW WE KIN USE HELP. WE FOUND ALL THE **WHYS** OF THE PROBLEM ON THE 2406'S...



...AND WE GOT THE READINESS PROFILE FROM THE 2715'S.



SO, WE **DO** NEED HELP.



BY THE WAY, ... I WANT YOU TO MEET SOMEONE...



LATER AT 1800 HOURS...



SERGEANT MAJOR, I KNOW YOU'RE BUSY, BUT THIS IS HEXABAH...

PLEASED TO MEET YOU.

NEXT MORNING

THAT'S RIGHT, PHIL... HE DIDN'T LIKE HER EITHER... BUT WE GOTTA KEEP ON IT... SEE YOU AT TH' NCO CLUB FOR LUNCH.



SPECIALIST, WE NEED AN APPOINTMENT WITH **MAIT**... ITS EXTENSION IS 6248.



RIGHT, SINCE OUR COMMAND HAS A 4-DIGIT PHONE EXTENSION, WE JUST DIAL **M-A-I-T**.

SIR, WE'RE CALLING **MAIT**, DO YOU WANT TO SPEAK TO 'EM?



YES, SERGEANT MAJOR... BUT FILL ME IN FIRST.

WELL, SIR, **MAIT** IS NOT LIKE THE OLD CMMI.



HOW SO?

WELL, WE GOT A COUPLA HANG-UPS IN SOME OF OUR UNITS... AND THEY'LL HELP US OUT.



LIKE HOW?

JUST TELL 'EM OUR PROBLEMS, THEY'LL SEND A TEAM OVER TO SEE WHAT CAN BE DONE.



...AND "GIG" OUR PANTS OFF IN THE PROCESS, I PRESUME.



NO WAY. NO, SIR.

THESE GUYS INSTRUCT AND ASSIST... THEY NEVER INSPECT...



IT'S ALL IN PARA 5d AND 5i OF AR 750-51 (MAR 72).



THOSE GUYS CAN HELP IN THINGS, LIKE ...



... PM, ESC, TECH INSPECTIONS, UNIT READINESS, MWO, CALIBRATION, USE OF PUBS, SAFETY- AND LOTS MORE.



OK, I'LL TALK TO 'EM.

AT THE NCO CLUB



KEEP YOUR DIRTY HANDS OFF!

AIR MOBILITY

Inspecting your bird is a dirty-hands deal. You have to check a heap o' electrical, oil and fuel line connections.

But using one of these connections as a handy pull up—instead of using a maintenance stand—as you scamper around your bird is guaranteed to blow your MO's mind. It could mean a red X'd bird for expensive repairs—or worse.

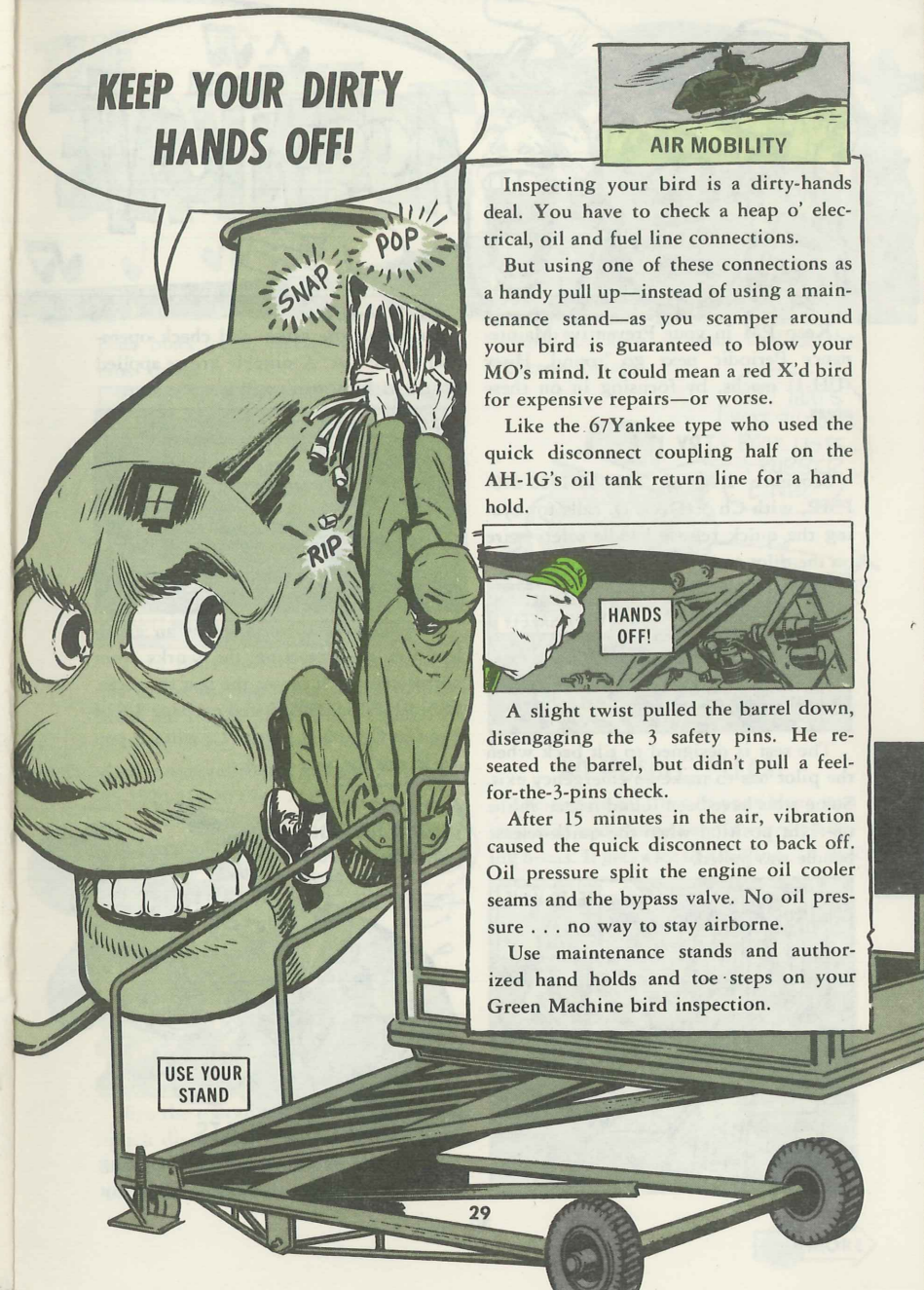
Like the 67Yankee type who used the quick disconnect coupling half on the AH-1G's oil tank return line for a hand hold.



A slight twist pulled the barrel down, disengaging the 3 safety pins. He re-seated the barrel, but didn't pull a feel-for-the-3-pins check.

After 15 minutes in the air, vibration caused the quick disconnect to back off. Oil pressure split the engine oil cooler seams and the bypass valve. No oil pressure . . . no way to stay airborne.

Use maintenance stands and authorized hand holds and toe steps on your Green Machine bird inspection.





Keep PM in your Preventive Maintenance Periodic next go 'round, Huey (UH-1) mechs, by focusing in on these areas.

TRY IT!

Sequence 2.14 of TM 55-1520-210-PMP, with Ch 3 (Dec 71), calls for eyeing the quick release handle safety wire on the pilot and co-pilot seat.



The seat is designed to tilt back when the pilot has to make an emergency exit. Some seats have been found frozen in the up-right position when the quick-release handle was pulled.



So, break the safety and check operation of the seat. A suitable grease applied to any sticking parts will free the seat.



Molybdenum disulfide does an excellent job of protecting the works from corrosion which causes the seat to freeze. FSN 9150-754-2595, listed on page 3.6 of Fed Cat C-9100-IL (Dec 71), will get you a 1-lb can for only \$1.18.

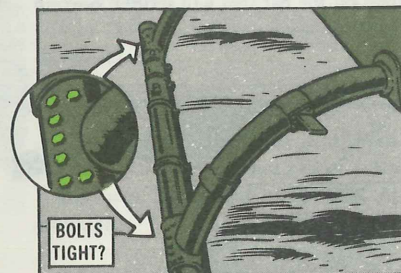


TIGHTEN BOLTS

When you eye your baby for landing gear spread you may find some of the nut

THE POSITIVE

plate bolts loose, especially on the rear cross tubes.



Thru bolts are not an authorized replacement for loose nut plates so make with the torque wrench and tighten the existing bolts. The bolts take the standard torque called out in Table 1-3 of TM 55-1520-210-20 (Sep 71).



BACK TO RUBBER

Eye the transmission oil-out line to the quick disconnect in the hell hole. If you have the newer type teflon line, instead of rubber, make sure it's routed right and



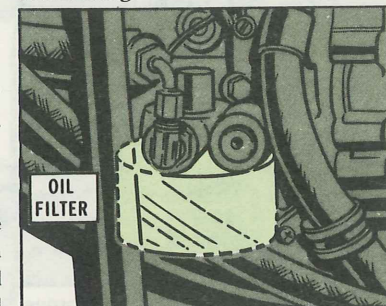
clamped to keep it from chafing the collective linkage.



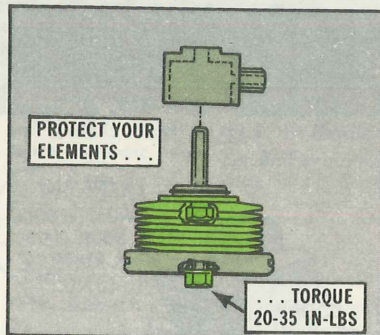
TM 55-1520-210-20P (Jan 72) again calls for the line to be made from rubber, MS87028K0312E140, which has enough flexibility to eliminate the chafing problem.

NO MUSCLE, PLEASE

The engine oil filter in your Huey gets inspected and cleaned about every 50 flying hours. It gets a lot of handling... also mishandling.

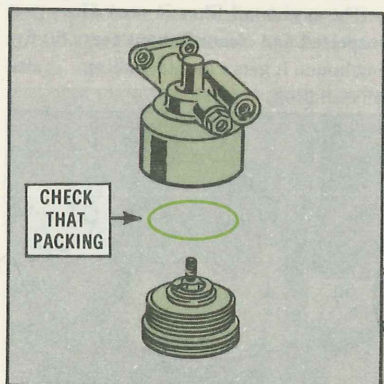


Some of those filters leak when the filter cover is put back on the housing because mechs are using excess muscle on the filter attaching bolt. The result is crushed filter elements that have to be replaced.



So, follow Para 5-99 of TM 55-2840-229-24 (Apr 71), the engine manual. The attaching bolt gets a special torque of 20-35 inch-pounds—no more.

If you've had filter leaks in the past, chances are you didn't change the O-ring packing. Old packings lose flexibility. You've got to use a new O-ring to get a complete seal on the filter.



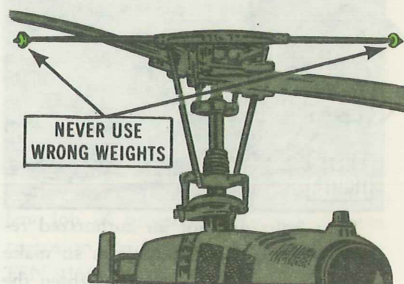
Never guess you have the right torque,

either. Your arm is not calibrated. Use a torque wrench.

PUB WILL CLUE YA

One glance at the Huey parts pub will clue you that the C/M model door hinge rotor pylon is not the same as the one for the D/H model.

Some stabilizer bar weights have been switched. Sure, the wrong weights will fit on the bar but you'll add additional stress on the bar that will shorten bearing life.



The stabilizer weights carry different part numbers for each type of pylon. Never mix 'em.

LIKE THE SONG SAYS...
"ELIMINATE TH' NEGATIVE."
GET WITH THAT GOOD
P.M.



THE BUBBLE GUM TREATMENT

PANT PUFF
PUFF

STOP!
STOP!
YA GOTTA USE
PART A OF
METAL-SET
A-4.

It's SOP to use a spline filler when connecting stabilizer bar dampers on your Huey (UH-1).

You don't want to cement the connection, tho, making future removal almost impossible.

So, coat the damper shaft splines and lever arm splines with Metal-Set, A-4. FSN 8040-944-7292 will get you the kit.

'Course, Metal-Set comes in 2 parts. Part A is resin and Part B is hardener. Together they make a mighty potent adhesive, which you don't want.

Use only the bubble gum—Part A—on the damper splines and avoid a sticky situation.

USE THE LATEST INFO

RIGHT ON, WINDY.

Dear Windy,

Table 5-1 of Ch 7 (Mar 68) to TM 55-1520-202-20 lists the valve clearance for the Choctaw (CH-34) as 0.010-in during operation. This is what we've used for years on the R-1820-84 engine.

But Ch 6 (Jun 71) of the Dash 35 says to set the valves at 0.003-in when clearances are less than 0.001 or more than 0.008-in. Which book do we follow and why the change?

SFC C. W. T.

Dear Sergeant C. W. T.,

AR 310-1 (Aug 71), para 1-26, says that the pub with the latest date applies in case of conflict between 2 pubs. Follow the valve clearance poop in the Dash 35.

While the R-1820-84 engine has been around a long time the manufacturer has come up with improved procedures to give you more accurate valve adjustments.

Windy

IF YOU FIXED-WING
TYPES WANNA KEEP
ME UP HERE... SWIVEL
YOUR EYEBALLS TOWARD
THIS INFO.

NO MINI'S ALLOWED

Dear Windy,

The pilot and co-pilot seat belts
we received for our Ute (U-21A)
came up short . . . they wouldn't
reach the floor.

Is it OK to attach the belts to
the seat frame instead of the air
frame?

SP6 R.E.S., Jr.

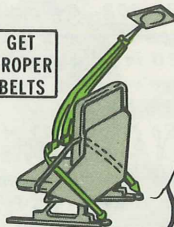
Dear Specialist R.E.S.,

Negative! The seat frame is not strong
enough to withstand the "G" forces of a
big bump. Ask again for the belts listed
in the parts pub.

Whip off an EIR (DA Form 2407) any-
time you get parts that are all wrong.
That way you can help get the right parts
into the supply system.

Windy

GET
PROPER
BELTS



UTE LUBE CHANGE

Increase the frequency of lubing the
Ute (U-21) nose gear lower drag leg and
support bushings, bird mechs—items 49
and 50 in the TM 55-1510-209-20/1 and
-20/3—items 46 and 47 in -20/2 (Jan 72)
lube charts.

Making with the hand action every 600
hours will help keep bushings and bolts
from corroding.



SO FAR -- SO GOOD

Never go overboard when you remove
the propeller governor on your Ute
(U-21A) for replacement, 67 Golf types.

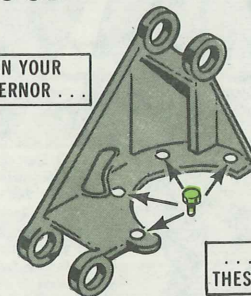
Disconnect the propeller speed control
cable terminal and the mounting nuts . . .
and stop!

Never touch any of the 4 screws that
hold the lever support bracket in place,
or change the lift rod lever nut assembly.

Each governor is adjusted to fit its
mounting bracket. Any messing around with just one of the screws means a trip to
support.

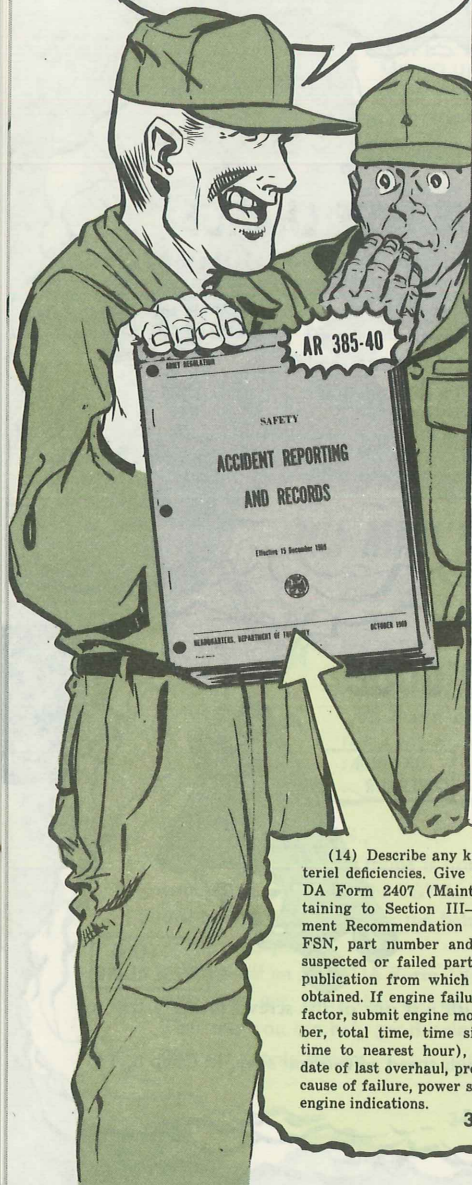
Governor adjustment is limited to the high speed adjustment stop, in Chap 8, TM
55-1510-209-20/1 (Jan 72).

ON YOUR
GOVERNOR . . .



... LEAVE
THESE ALONE

**GIVE WITH THE
FACTS, MAN!**



Anytime an aircraft mission is aborted the wires start humming when you air types process an accident, incident, forced landing or precautionary landing message.

So be it.

But when the abort is due to failure or suspected failure of equipment give the head shed types a chance to improve the bird you fly.

Sure, maybe you won't have all the details in your message because the word has to go forward within the next 8 hours of duty. You also process a supplemental message, if needed, and additional forms.

When you fill out your message, according to the poop in AR 385-40 (Oct 69) on accident reporting and records, focus in on para 4-2e(14), for real.

Describe any known or suspected materiel deficiencies, giving the control number from a DA Form 2407, pertaining to Section III—the equipment improvement recommendation.

Process the required EIR on materiel deficiencies as soon as you have all the facts.

With the message in one hand and the EIR in the other, an AVSCOM engineer can dig in and solve a problem area on your bird.

Keep those EIR's coming!

(14) Describe any known or suspected materiel deficiencies. Give the control number of DA Form 2407 (Maintenance Request) pertaining to Section III—Equipment Improvement Recommendation (EIR). Give complete FSN, part number and nomenclature of the suspected or failed part and the name of the publication from which this information was obtained. If engine failure or malfunction is a factor, submit engine model, series, serial number, total time, time since overhaul (report time to nearest hour), overhaul facility and date of last overhaul, previous storage history, cause of failure, power settings and significant engine indications.

CUT FOR THE BETTER

OH...
MY DIAGONAL
BRACES
ARE
KILLING ME!

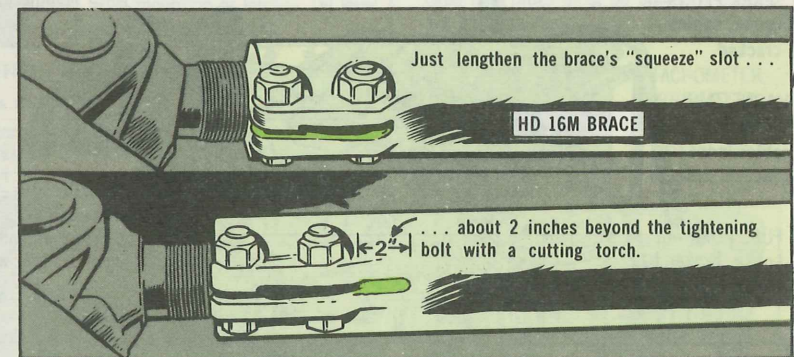
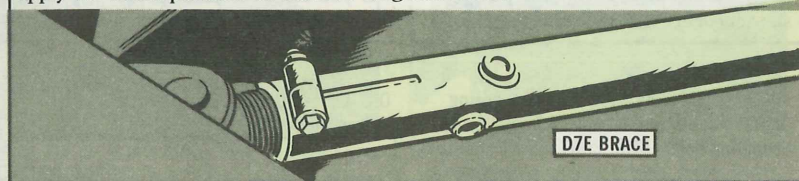


Do your HD 16M tractor's bulldozer diagonal braces work loose and strip its adjusting screw threads?

Keep the adjusting screw clamp tight. Tighten it often because that's the only way to prevent this damage.

DIAGONAL
BRACE

To make the clamp tighter and give it a better grip on the adjusting screw you can apply the technique used on the D7's diagonal braces.



O'course, you'll have to remove the adjusting screw before cutting.

The longer slot gives the clamp a tighter grip and'll stop it from loosening. Until you can lengthen the slots, tighten that clamp after about 50 hours of operation.

Be Your Own Inspector . . .

THE 350-GPM PUMP



One thing for sure about the 350-GPM centrifugal pump—you always get out what you put into it, if you go the full PM route.

This means checking the pump before, during and after you operate it. All parts of the engine, the pump and the trailer get your steady eye. A POL pro knows shortcuts here lead to a dead end.

Map out your inspection plan like this one. The serious faults are in bold type.

If you find one of these on your pump, take care of it fast.

If you can't correct it yourself, yell for help.

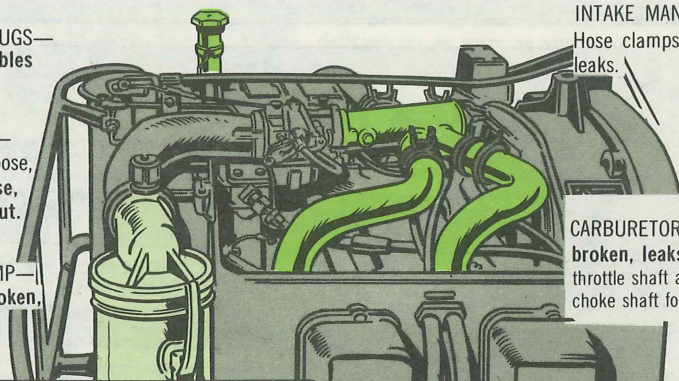
THE ENGINE CHECK

OVERALL APPEARANCE—Leaks; wiring loose, insulation broken, frayed; loose mounting bolts.

SPARK PLUGS—Loose, cables cracked.

MAGNETO—Mounting loose, cables loose, cracked, cut.

FUEL PUMP—Loose, broken, leaks.



OIL LEVEL—Low.

Not within operating range—check every 5 hours during normal operations. After an oil change, run the engine about 5 minutes before level check.

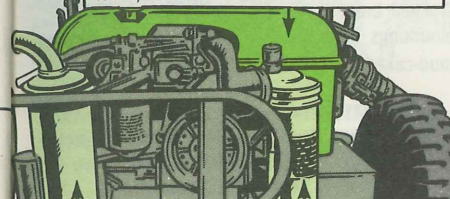
OIL LEVEL GAGE—Bent, cracked, cap doesn't fit or seal.

INTAKE MANIFOLD—Hose clamps loose, leaks.

CARBURETOR—Loose, broken, leaks. Check throttle shaft and choke shaft for wear.

OIL FILTER—Leaks, loose mounting. Dirty, more than 50 hours of operation since last element change.

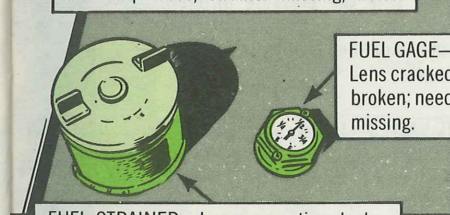
ENGINE SHROUD—Bent, loose, missing. (Is it cutting the throttle cable?) Catches loose, broken.



AIR CLEANER—Dirty filter; restriction indicator in red; sight window painted over; loose mounting or latches. Oil level low in cup. Hose loose, leaks.

MUFFLER—Holes, rust. Guard broken, bent. Is the condensation drain plug secure?

FUEL TANK—Cap won't seal, leaks; strap and strip loose, strainer missing, holes.



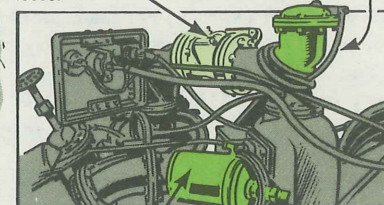
FUEL GAGE—Lens cracked, broken; needle missing.

FUEL STRAINER—Loose mounting, leaks, cracked bowl. Drain water and clean weekly.

THE PUMP INSPECTION

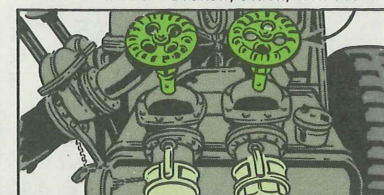
AIR ELIMINATOR—Loose mounting; weight valve won't work; spring sprung; cracked, broken. Drain hose missing.

CHECK VALVE—Broken, sticks, loose.



SUCTION STRAINER—Gaskets leak; cap loose; screen torn, clogged; yoke cracked.

GATE VALVES—Broken, stuck, won't seat.

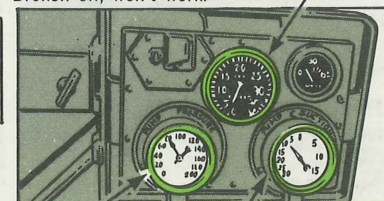


HOSES, DUST CAPS AND PLUGS—Cap missing, hose clamps broken, loose. Dust caps and plugs must be on when hoses are disconnected.

INSTRUMENTS—Loose mountings; wiring worn; connections loose, lens broken.

STARTING SWITCHES—Broken off, won't work.

TACHOMETER, HOURMETER—Lens or needle broken, won't operate.



PRESSURE GAGE—Lens or needle broken.

SUCTION GAGE—Lens or needle broken.

YOUR HELPING HANDS

Before you start the pump with the Mil Std engine, be sure you have the engine parts on hand. They're TM 5-2805-259-14 with Ch 1 (Jul 71) and TM 5-2805-259-24P with Ch 2 (Apr 71). For the engine lube info, use LO 5-2805-259-12 (Apr 72).

You get the operating details on this pump from TM 5-4320-242-15 with Ch 3 (Jan 70). The repair parts are listed in TM 5-4320-242-20P with Ch 1 (Aug 69).

For the poop on the pump with the Wisconsin engine, see TM 5-4320-218-15 with Ch 6 (Feb 70), TM 5-4320-218-20P with Ch 2 (Mar 71) and LO 5-4320-218-15 (Jan 61).

You get a good coverage on general petroleum supply and management activities in AR 703-1 (Jan 71).

Don't forget to ground your pump before you put it into operation. Drive the rods down about 2 feet and connect the ground wire from the top of rod to the trailer frame.

You can tow the 350-GPM pump a short distance but if you've got to move it a long way or over rough terrain, carry it on a transporter.

THE FILTER/SEPARATOR

Manuals: TM 5-4330-200-15 (Apr 61), TM 5-4330-200-25P (May 61) and TM 5-4330-231-13 (Apr 71)

LIFTING MECHANISM—Bent, broken.

ELEMENTS, CANISTERS—Bends, cracks; screen torn, dirty.

SEPARATOR SHELL—Rusty; paint peeling; loose mounting bolts, leaks.

FRAME—Bent, cracked, bolts missing; drawbar bent; pintle hook bent, broken and parts missing.

REAR STAND—Bent, broken.

LIFTING EYE—Bent, stuck, nuts missing. (Must not strike the air vent valve.)

UNIT MARKINGS—Missing, wrong, not readable.

REFLECTORS—Cracked, broken, mountings loose, mud-caked.

BATTERY—Cracks, leaks; cover missing, loose. Terminals corroded, loose. Electrolyte low (Should be $\frac{3}{8}$ inch above the plates). Vent hole clogged.

FIRE EXTINGUISHER—Missing, not fully charged. Check pressure indicator or weight monthly. For info on dry chemical type, see TB 5-4200-200-10 (May 72).

PRESSURE GAGE—Lens broken; pointer bent. While operating the filter separator, be sure the pressure differential doesn't go over the manufacturer's recommendation. If it does replace the elements.

GATE VALVES—Frozen, leaks, won't close. PRESSURE RELIEF VALVE—Clogged, broken spring, painted over.

DRAIN VALVE—Stuck, leaks.

THE TRAILER

BASIC ISSUE ITEMS—All on hand?

GROUND ROD ASSEMBLY—Missing, not connected when pump is operating.

TOOL BOX—Loose mounting, bent, hinges missing.

PUBLICATIONS—Missing, torn, unreadable, not up-to-date.

LOG BOOK—Missing DA Forms 2408, 2408-1, 2408-5, 2408-7, 2408-8, 2408-10 or 2408-14.

TIRES—Cuts, breaks, blisters, flat spots, valve stem leaks, valve caps missing, low inflation. Inflation should be 45 PSI.

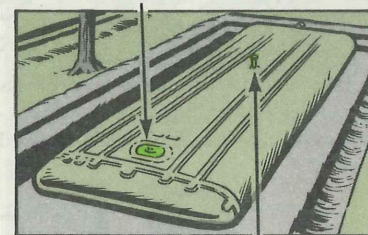
Keep in mind your particular pump might have special problems not mentioned here. Be on the look-out for 'em all the time.

10,000-GAL FABRIC TANK

Manuals: TM 10-1109 (Feb 68), TM 10-1101 (May 72).

GENERAL CONDITION—Worn, punctured, missing parts, leaks, trench filled with debris, holes (Use repair kit, FSN 5430-641-8957).

ACCESS DOOR—Leaks. Check bottom of tank for sludge or sedimentation.



HAND STRAPS—Broken, worn.

OVERFLOW PIPE—Dirty, loose debris.

FUEL LOAD—OVER FULL Tanks within their normal life cycle fill to capacity 10,000-gal. Old tanks beyond their life cycle fill to 70 per cent capacity.

HOSE LINES

Manuals: TM 5-678 (Oct 65), TM 10-1109 (Feb 68).

VALVES—Leaks, don't operate smoothly, rusted, dirty.

COUPLINGS—Gasket leaks, worn.



HOSES—Kinks, chafing, leaks, splits.

FITTINGS—Leaks, broken, loose.

CLAMPS—Loose, missing, broken.

GATE VALVES—Bent, stuck, won't close, leaks.

LIQUID LEVEL GAGE—Glass cracked, unreadable. Guard missing.

LINES, FITTINGS—Leaks. Crimps, breaks.

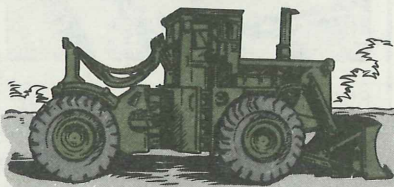
ADAPTER DUST COVER—Missing, chain broken.

VESSEL AND SKID—Broken, cracked welds, bent skid, dirty.

THE PAUSE THAT REFRESHES



The 3-minute waiting period counts most when you're checking out the crankcase oil level of the Model 290M wheeled tractor.



If you forget it, you could end up with an oil-starved engine and this could sideline your tractor for big repairs.

So, stay in business with a good dipstick reading.

You get it only if you go through the whole procedure the right way.

Here's how:

1. Take a cold-engine oil level reading. If it's not in the operating range pour in enough to bring the oil to the full mark on the dipstick.



2. Then you start the engine and let it idle for 3 to 5 minutes, or until it reaches operating temperature.



3. Now stop the engine and wait 3 minutes. (The 30-minute wait given in the TM is a typo.) This pause gives the oil a chance to settle. It's the only way you can get the correct reading.



Check your dipstick for the oil level. If it's not at the full mark, add oil until it is.

It's important to you to have the level at the full mark at the start of the day's operation. This'll give you protection against it getting below the add mark during the day, especially when working on a slope.

You go through the same check procedure when changing the engine oil filters too.

FAIR WARNING



A word to a wise 290M tractor operator is enough.

After a day's operation include the turbocharger in your after-operation PM services.

Open the petcock at the base of the intake manifold air box. If oil comes out—even a little—you've got turbocharger troubles. It's a sign the seals are going bad and may not last out the next day's operation. It could also tear up a costly turbocharger. And you may get stuck out in the boondocks. Never move out until your mechanic or DS people look it over.

If you didn't operate the tractor on the previous day—make the check before you go to work. Or monthly if the tractor sees very little action.

To keep those seals and bearings in top shape, don't rev up sudden-like when starting. And idle about 5 minutes before shutdown.

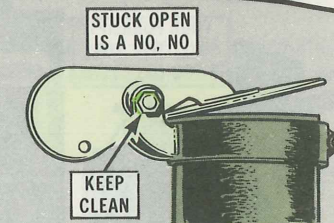


A NEEDED FLAP

A butterfly rain-cap sits on many a tractor's exhaust stack. It's there to keep rain water from pooling in the turbocharger—a cupful can tear it up quick as a blink.

When your D7E or 290M or what have you, is shutdown the cap should fall free and cover the stack opening. One that's stuck open invites trouble.

To keep it flipping free, clean the friction points with a little vinegar and lube it with grease FSN 9150-943-6880 (2 oz



tube). Never lube it with regular greases or oil; they'll only add to the sticking problem.

Dry and carbon free works best if you don't have the high temperature grease.

CLAMP THOSE HOSES



Don't wait till you're down and out.
Clamp the loosely swinging bucket
hoses of your Model 645M scoop loader.



It doesn't take much to get 'em caught
between the bucket and the boom exten-
sion. This could break, cut or pinch 'em.
Standard hose clamps will harness 'em
and keep you on the job.

Get the clamps with FSN 4730-908-
6293.

THE WISE OWL KNOWS

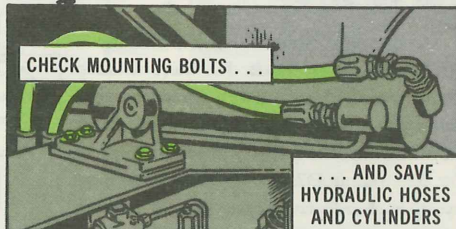
Don't wait for a little bird to tell you
the slave cylinder of the 6,000-lb RT fork-
lift is about to fly off its mount.

The smart move is to check out the
mounting bolts before you put the fork-
lift into operation.

YOUR FORKLIFT
WILL TELL YOU
IF YOU ONLY LOOK



CHECK MOUNTING BOLTS . . .



... AND SAVE
HYDRAULIC HOSES
AND CYLINDERS

It may be too late and you'll be stuck
with a tangled mess of hydraulic hoses
and cylinders.

A loose, cracked or missing bolt means
trouble is brewing.

You're safe only if you make sure
they're good and tight all the time.

SPRING CLIP FOR LOCKERS



Take a look at para 16 in TB 750-971-2
(1972), EIR Digest, for information on in-
stalling a spring clip through the staple
on your plywood foot locker, FSN 8460-
243-3234.

The present lid hasp is a hazard to
children who may crawl inside and suf-
focate. When the hasp's all the way down
on the staple, it won't come off the staple
no matter how hard the lid's pushed on
from the inside. The spring clip provides
tension and keeps the hasp from going all
the way down on the staple unless
pressure's applied.

DRY YOUR DISPENSER

Your M3 portable agent dispenser can
take minor rusting or corrosion in its
agent tanks. So forget about treating
them with rust preservative oil after you
clean 'em.

For one, you'll not be able to get all the
excess oil out of the tanks. Then, next
time you load your M3, the oil will cause
the agent to lump—and that'll clog your
M3's gun, but good.

Best thing to do is dry the inside of the
tanks . . . do a good job. After you drain
the tanks as best you can, use compressed



air (5 to 10 PSI) to clear out any remain-
ing moisture.

See para 4-15, TM 3-1040-214-12 (Feb
72), for complete M3 cleaning care.


OIL IN TANKS . . .
WILL CLOG GUN



Scan These for Your...

MAINTENANCE-PUBS

BOOKSHELF



ARE YOU A
NEWCOMER TO
THE MAINTENANCE
BUSINESS... OR AN
OLD-TIMER WHO'S
BEEN OUT OF THE
SHOP SLOT FOR A
SPELL?

ARE YOU STILL A BIT
LOST ON IMPORTANT
PM KNOW-HOW? WELL,
COULD BE THIS LIST
OF PUBS IS FOR
YOU.

INDEXES

DA Pam 310-1—AR's, Pam's, Circulars and other admin type pubs.
DA Pam 310-2—Blank forms.
DA Pam 310-3—FM's, TOE's, TA's, etc.
DA Pam 310-4—TM's, TMP's, SB's, LO's, TB's.
DA Pam 310-6—Supply Catalogs.
DA Pam 310-7—MWO's.

AR'S

AR 220-1 (Sep 71) Unit Readiness.
AR 350-13 (Mar 67) Materiel Readiness. This one calls out a slew of DA Pam's covering maintenance training courses on tactical and combat equipment.
AR 385-40 (Oct 69) Accident Reporting And Records.
AR 385-55 (Jul 70) Prevention of Motor Vehicle Accidents.
AR 710-2 (Aug 71) Supply SOP.
AR 746-1 (Apr 72) Marking and Packing of Supplies and Equipment.
AR 750-1 (May 72) Maintenance Concepts.
AR 750-51 (Mar 72) Maintenance Assistance and Instruction Team (MAIT).

TM'S

TM 5-461 (Jun 66) Engineer Handtools.
TM 5-725 (Oct 68) Rigging.
TM 9-207 (Dec 70) Extreme Cold Weather Operation and Maintenance.
TM 9-214 (Nov 59) Inspection, Care, and Maintenance of Bearings.
TM 9-237 (Nov 67) Welding.
TM 9-243 (Sep 60) Hand Tools, Measuring Tools.
TM 9-269 (Apr 71) Shop Mathematics.
TM 9-500 (Sep 62) Data Sheets for Ordnance-Type Materiel.
TM 9-2610-200-20 (Jan 71) Pneumatic Tires, Inner Tubes.
TM 9-2610-201-14 (Jul 72) Inspection and Classification of Tires.
TM 9-2630-200-14 (Jun 72) Solid Rubber Tires and Track Components.
TM 9-6140-200-14 (Aug 71) Storage Batteries: Lead-Acid Type.
TM 11-6140-203-15-1, -2, and -3 (Dec 69) Nickel-Cadmium Batteries.
TM 9-8000 (Jan 56) Principles of Automotive Vehicles.
TM 38-600 (May 66) Administrative-Use Vehicle Management.
TM 38-750 (Dec 69) The Army Maintenance Management System (TAMMS).
TM 740-90-1 (Mar 71) Administrative Storage of Equipment.
TM 750-116 (Oct 71) Purging and Charging Fire Control Instruments.
TM 750-254 (Mar 72) Cooling Systems.

TB'S

TB 9-255 (May 60) Oil Seals, Packings, and Packing Materials, and Gasket and Gasket Materials.
TB 9-337 (Mar 61) Guided Missile Systems: Corrosion Control and Treatment.
TB 9-352 (May 72) Load Testing Vehicles Used to Handle Missiles and Rockets.
TB 9-356 (Oct 60) Load Testing Wreckers Used for Handling Missiles and Other Explosive Equipment.
TB 9-2300-295-series. Check this series of TB's in the numerical listing of TB's in DA Pam 310-4 for info on vehicle deficiencies during warranty periods.
TB Ord 390 (Jul 52) Cold-Starting Kit.
TB Ord 1032 (Aug 61) Adhesives.
TB 385-3 (Jan 68) Fire Prevention and Protection, Military Gas Cans.
TB 385-101 (Jan 71) Safe Use of Cranes, Crane Shovels, Draglines and Similar Equipment Near Electric Power Lines.
TB 746-series. Check this series of TB's for info on marking and painting all kinds of equipment. See the numerical listing of TB's in DA Pam 310-4.
TB 750-236 (Feb 72) Calibration.
TB 750-651 (Jan 71) Antifreeze and Cleaning Compounds—Engine Cooling Systems.
TB 750-series. Scan this series for all kinds of maintenance info. For example, in the TB 750-94-series through TB 750-99-series you'll find info on maintenance expenditure limits of equipment. And the TB 750-900-series covers the EIR (Equipment Improvement Recommendations) Digest. Check the numerical listing of TB's in DA Pam 310-4.

SB'S

SB 9-16 (Aug 70) Winterization Kits for Tank-Auto Materiel.
SB 9-203 (Mar 62) Military Vehicles: Directional Signal Lights.
SB 11-131 (Nov 68) Vehicular Radio Sets and Authorized Installation.
SB 38-100 (Jun 71) Preservation, Packaging, Packing, and Marking.
SB 700-20 Army Adopted Items of Materiel.
SB 700-20-1 Reportable Items.
SB 700-25 (Mar 72) Consolidated Interchangeable and Substitute Item List (CISIL).
SB 746-1 (Oct 71) Publications for Packaging Army General Supplies.

DA PAM'S

DA Pam 108-1 (May 69) Index to Army Motion Pictures and Related Audio-Visual Aids. Check this index for training films on equipment maintenance SOP.
DA Pam 310-10 (Feb 69) Guide for Publications Supply Personnel. This Pam's loaded with info on requesting publications.
DA Pam 700-2 (Dec 68) Supply and Maintenance Handbook.
DA Pam 750-1 (Jan 71) Commander's Guide of PM Indicators.
DA Pam 750-11 (May 68) The Multifuel Engine Operator.
DA Pam 750-31 The M561 Gama Goat.
DA Pam 750-38 (May 70) TAAMS.

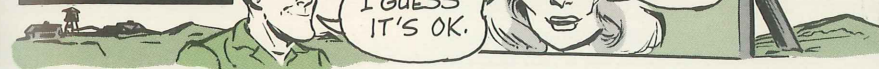
FM'S

FM 5-36 (Jan 70) Route Reconnaissance and Classification. Provides weight (load) and marking info for vehicles, bridge classification, etc.
FM 20-22 (Jul 70) Vehicle Recovery Operations.
FM 29-2 (Aug 71) Organizational Maintenance Management.

IF YOU DON'T HAVE SOME OF THESE, ORDER 'EM ON DA FORM 17.

KEEP ALL YOUR PUBS CURRENT!

Connie's Mini Mini's



IF SHE SAYS SO, I GUESS IT'S OK.

GET WITH MAIT.

Goat Radios

There's been a change of thought on cab-mounted radios for the M561 GAMA GOAT . . . so forget those FSN's for cab-mounts in PS 238. Radios in the cab make for cramped positions . . . and crunched sets.

Slim And Trim

You'll notice that this issue of PS Magazine is smaller. It has fewer pages. This cut is part of the slimming process that's going on all around the Army.

Hang in there with PM.

Cocky FSN

To get the drain cock that fits the heater shut-off hose setup in your M151 family of vehicles, use FSN 4820-026-8473. FSN 4820-287-4268 listed on page 247 in your TM 9-2320-218-20P fetches the wrong cock.

BJIL Tow-Bar

You can hang on to the V-shaped tow bar, FSN 4910-735-6056, for your 5-ton wrecker (M816 or M819). It's still good for your BJIL. It just accidentally slipped out of the BJIL in TM 9-2320-260-10 (Jan 72). It'll be added when the pub's changed. Pocket-size TM9-4910-496-10 (Dec 71) covers the tow bar.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1972 - 759-498/4

Ambulance Keys

Best you guys watch the handling of keys for the rear door on your M725 1¼-ton ambulance. You could lose 'em. Get some insurance—extra keys. Support'll have a key duplicating machine for making up new keys.

Right-On!

If you're in an airmobile unit and you think you need new organizational tool kits for your OH-58A Kiowa choppers—wait one. If you're stocked with FSN 4920-947-3471, you're in. These older kits, although identified to the OH-6A Cayuse, are also used with the new birds.

New SMR Codes

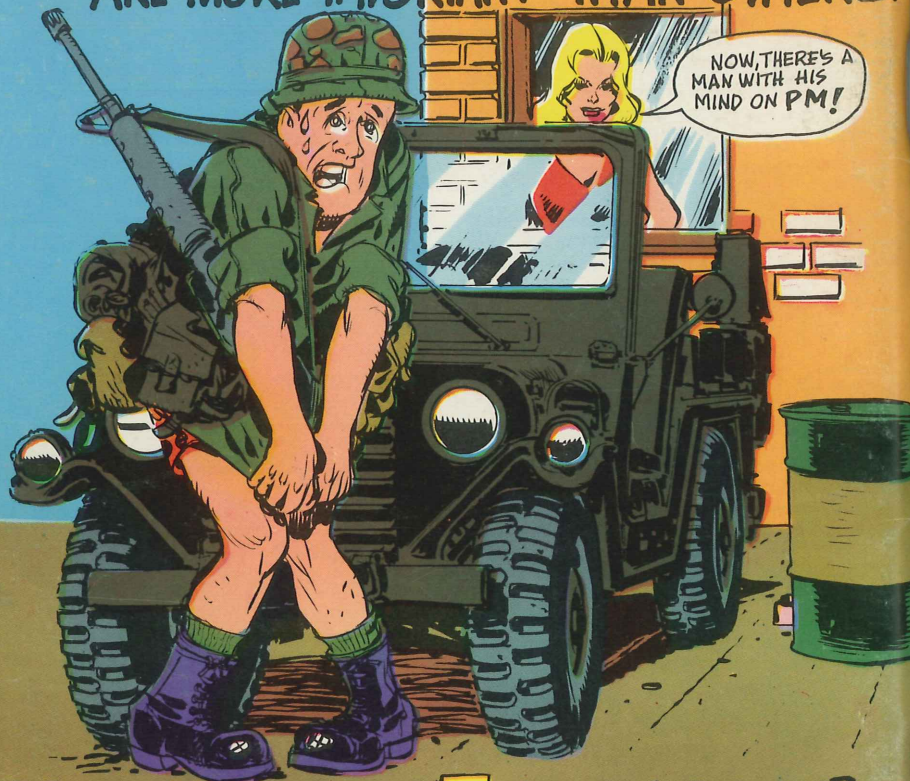
New Source, Maintenance and Recoverability (SMR) codes may soon start showing up in your -20P TM's and other supply pubs. They'll have 5—maybe 6—letters instead of the 3 now in these pubs.

.45-Cal Pistol Part

Forget it if you've been trying to get that firing pin stop for your M1911 .45-cal pistol. The dope in PS Issue 220, page 13, has been changed. It's being kept as a support-level repair part.

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

SOME BEFORE OPERATION CHECKS
ARE MORE IMPORTANT THAN OTHERS.



- ☐ FUEL TANK FULL? ☐ AIR FILTER CLEAN?
- ☐ OIL LEVEL OK? ☐ TIRES OK?
- ☐ COOLANT LEVEL OK? ☐ BATTERY ELECTROLYTE
- ☐ FUEL FILTERS DRAINED? ☐ LEVEL OK?