

PREVENTIVE MAINTENANCE MONTHLY

nty Cork

min

17 Mar 19

Dear Son Timothy-Herewith please find one Shillelage As the eldest man child in the Dee Clan, it is your responsibility to henceforth assume trusteeship of the glorious "Dee Shillelagh" now that ye have come of age --919 years to be exact! Since this treasure has been

> in our family for 50 generations, need I remind ye that ye must take good care of it. Your Father,

The Army is thinking about having PS Magazine articles on some equipment extracted and reprinted as small booklets for use by soldiers.

LIKE TO SEE COLLECTED PS ARTICLES ABOUT YOUR GEAR

REPRINTED IN BOOKLET FORM?

IF SO,

FILL OUT

AND SHOOT

SOONEST !.

OFF THIS CARD ...

5-Year Index

It would work about like this: All the articles on the <sup>1</sup>/<sub>4</sub>-Ton M151A2, for example, would be pulled out of PS Magazine issues. The information would be checked out and updated. Then, copies would be printed and sent to any Army unit that needs them.

The idea is to help you keep your equipment maintained.

Reprints may be done on other trucks as well as personnel carriers, tanks, artillery, radios, masks, rifles, machine guns, radar and generators.

Another thing in the idea stage is a 5-year Index to PS Magazine.

Now, do you need the reprints and Index? Let Bonnie and Connie know with the post card attached. Fill it out and drop it in the mail today.

What you tell Bonnie and Connie will help the Pentagon "wheels" decide on the reprints and the 5-year Index.



USEFUL !...



Published by the Department of the Army for the information of all soldiers assigned to combat and combat support units, and all soldiers with organizational maintenance and supply duties. Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Materiel Readiness Support Activity, Lexington, KY 40511.

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.. SEND

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MSG Half-Mast PS wants your ideas and contribu PS Magazine tions, and is glad to answer you

questions. Name and address an Lexington, KY kept in confidence. Just write to 40511

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IS ABOUT TO

BEGIN.

Run a

pipe

MAGAZINE CATCH: When you clean the rifle, or whether you're just killing time, stifle the urge to rotate the magazine catch. It's set right to hold the magazine in place, so if you



rotate the catch, your magazine won't stay in . . . or it'll fall out as you use it.

If necessary, it's OK to adjust the catch. To tighten, push it in and turn it clockwise (to the right). To loosen, push it and turn the other way. Remember, though, you're not supposed to take it off.

SELECTOR LEVER: If the selector lever's hard to turn never force it. You



can break it. First, remember that you have to cock the hammer to put the lever on SAFE. If you cocked the hammer and it still won't go, get your armorer to check it out.

FLASH SUPPRESSOR: Here's an old one that needs re-telling. The flash suppressor is not and should not be used as a pry bar. Do it and you'll break



the suppressor. Get enough leverage and you'll shoot a hole in a bent barrel next time you're on the range.

DETENT SPRINGS: Umpteenth reminder to armorers on detent springs-



When you install the spring in the lower receiver and slide the buttstock home, be sure the spring goes into the buttstock recess. .. BEGIN

MOVE OUT GALACTIC IF YOU LOSE BROTHERS. THE SPRING OR DAMAGE IT, THE TAKEDOWN PIN CAN COME OUT FAITH! AND THE RIFLE

PIECES!

PM COMPETITION ?!! WILL BE IN DON'T THEY KNOW 'TIS ST. PADDY'S DAY?

OPERATIO

PM!

HERE Sight SOURCE OF RADI-Procedures ATION

Prome

Lend an ear, unit armorers. and installation of M16A1 rifle low field commands. light level promethium sights.

M16A1 Rifle ...

LEAK

DS/GS still installs the initial sight, but under US Army ARRCOM Msg DRSAR-MAG 161959Z Aug 78 armorers now remove damaged promethium sights and install Luminous eplacements. sight

The message was distributed world-You have new procedures on safety wide; it was supported by messages of

TAKE THIS WEAPON TO

ARMORER ..

O SOLDIER.

The armorer or local radiological protection officer arranges for disposal of damaged sights as spelled out in AR 755-15 (armorers turn them in to DS/GS).

Also, armorers now decontaminate rifles with broken sights. The details are in the ARRCOM message.

Riflemen can get the cleaning and handling scoop on their promethium sights from page 41, TM 9-1005-249-10 (Apr 77).

## M203 Handguard Removal HIM! NOT AN

If the handguard of your M203 grenade launcher gives you a rough time when you try to remove it, don't

HE DID IT.

CONNIE!



That is, do the necessary things like pushing back on the slip ring, lifting up on the handguard and pushing it to the rear. But, if it won't come off, don't try to pry it free. You'll break it.

Try this: Push back on both sides of the slip ring and lift. If that doesn't free it, let your armorer have a go at it.



Watered down fuel's a headache. And you get just that on the M60-series tanks without the automatic dump fuel/water separator.

Water in fuel can cause fuel injector and engine problems.

And dirt, sludge and water-condensate-will plug up a new fuel filter pronto.

You've got to get that crud out of there.

During cold weather you're supposed to pump out the condensate from both fuel tanks daily on the M60, M60A1 and M60A2 vehicles. That's the word on page 3-39 in TM 9-2350-215-10 (Feb 65) for the M60/M60A1 and page 3-37 in TM 9-2350-232-10 (Apr 73) for the M60A2. Your M60A1 (RISE) manual doesn't call for daily pumping because it has a fuel/water separator with an automatic water dump.

Both TM-215-20 and TM-232-20-1 call for complete fuel tank draining semi-annually. There's nothing in your M60A1 (RISE) manual, TM 9-2350-257-20-1 (Dec 75) about a scheduled draining. Don't let that stop you, tho. Drain both tanks semi-annually. This change'll be picked up in your TM soon. You'll need a fuel dispensing pump, NSN 4930-00-735-7745.



Two fuel hoses come with the dispensing pump. If you ruin one you can get another with NSN 4720-00-679-4952. Sect II, page 64 of CTA 50-970 (Jul 74) authorizes 1 pump per platoon and 1 per maintenance section. Use the same CTA, App A, as the authority for the fuel hose and quick-disconnect coupling. Here's what to do:

DON'T KNOW--I LEFT IT RIGHT THERE!

CLEANER PUMP?

When you pull your Q-service, take an extra 20 minutes or so and pump out the dirt, water and sludge from the fuel tanks.

Pump out the condensate from the tank—about 5 to 10 gallons. Catch the sediments in a bucket, can, barrel—anything. Never pump it out on the ground. Now go to the right fuel tank and do the same thing.



# **M60A1 Tank Searchlight Parts**



The AN/VSS-1 or -3 searchlight on your M60A1 tank won't work right if one of the pin and chain assemblies or one of the ball sockets is missing. So how can you order one of these parts?

Need securing bolts for the new armored air cleaners on your M60-series tanks? NSN 5305-01-027-5920 gets you the bolt, with built-in washer and spring.





The pin and chain assembly is called

# **Lockout Cylinder Knockout**

Some of the crew jocks on M107 and M110 artillery and M578 recovery vehicles have been keeping them going even when most of the lockout cylinders were knocked out.

This puts a heavy strain on the lockout cylinders that are still working and soon ruins them.

So the ESC's have been changed. Your vehicle is now RED if you have a front, rear, or 3 or more intermediate cylinders missing or not serviceable or if any one cylinder leaks.

Change your copy of TM 9-2300-216-ESC (for the M107/M110s) or TM 9-2350-238-ESC (for the M578) ...

	min	many	SO RATINGS	1
(	RATINGS	· · · · · · · · · · · · · · · · · · ·	SO RATINGS OF ITEM 5 LOOK LIKE THIS!	-
3	AMBER	RED		
5	Condition	Condition RED if a	( 6 0)	
<	AMBER if one or	front, rear, or three or		
2	two intermediate	more intermediate	> 4-	
}	lockout cylinders	cylinders missing or not		1
5	missing or	serviceable or if any one	I S C P	
>	unserviceable.	cylinder leaks.		
6	man	mon	- ST IR	

TARCOM Msg DRSTA-MCB 221130Z Sep 78 is your authority to make the changes.



**Back Issues Available** 

Looking for some back issues to complete your collection of PS Magazines? No sweat! There are still some available for the asking. Drop a line to Bonnie, PS Magazine, Lexington, KY 40511 and you'll be in business.







NSN 2940-00-930-2065 and NSN 2940-00-168-2337 are not interchangeable between the 2 kinds of M113A1 housings (buckets).

Clean the air cleaner element by gently tapping it or by cleaning it with soap and water. Pages 3-28 and 3-29 of TM 9-2300-257-10 (Aug 78) tell you how.

Never use the cleaning-by-compressed-air method at 100 PSI even though it is listed in your -10TM. This has been outlawed but the TM doesn't have the news yet. You can use only 30 PSI for cleaning. Use air gun NSN 4940-00-333-5541. It is in your Common No. 1 and No. 2 shop sets. Wear goggles! Also, never clean the filter element in gasoline or in any other petroleum solvent.

A correctly cleaned filter element can last as long as 5 years.







14

A cool Triple IF in your AN/MPQ-46 Improved HAWK HIPIR helps your radar to lock in on a target. Way to go.

But, let that ol' Triple IF (Triple Stage Intermediate Frequency Amplifier) get overheated from lack of cooling air, and your radar's performance will nosedive. Bad.

Here are ways to turn off the heat:

Cooling air gets to the Triple IF only after sufficient air pressure builds up in compartments of adjoining components.

transmitter antenna.



Missing bolts let air escape. Be sure Keep all doors or covers tightly all bolts are in place and snug before closed during operation, especially the you operate. The bolts on the 2 doors door on the rear of the radar of the head assembly get special notice. There are a lot of 'em, but you

COOL TERIPLE 2515

need every one. And, keep 'em all snug.



You know you've got to make a monthly check and perhaps clean the air intake filter in the access cover of the pedestal base, so you do it, right?



Well, there's a screen in the radar performance. pedestal, unseen and often forgotten, that's just as important to air flow. If ponents and readjustment of circuits. it's not checked or cleaned monthly, it can clog and steal the air from the system.

GOTCHA

BUDD

That little job is the safety screen that sits over the air duct inside the pedestal base. It also sits directly over the fan that pulls in the cooling outside and feeds that air up through the antenna and to the Triple IF.

Clean that screen, ol' buddy, or you'll have more than Triple IF problems.



The idea is, these precautions add up to a cool antenna system and a cool Triple IF . . . which needs cooling because it generates heat. Its circuits are sensitive to that heat. When they get too much, there's a high signal to noise ratio ... and you've got poor

That can mean damage to com-

KEEP



Backing a Gama Goat/M167A1 towed Vulcan combination is a tricky job under any circumstances.

Backing that rig without a ground guide to help you can only lead to grief. In short, you need your eyes and the guide's eyes ... 4 eyes ... to keep from mashing the Goat or the Vulcan.

Most common damage: The towed Vulcan jack-knifes, the Goat carrier

use a guide even if you're just backing the Gama Goat. IF THE TOWED VULCAN IS HOOKED ON, A GUIDE IS EVEN MORE ESSENTIAL. Bumper could break bracket

breaks or the carriage frame is bent.

up at depot for overhaul . . . because

drivers tried their luck and not their

guides. It gets expensive and it sure

shoots holes in operational readiness.

242-10 (nice big "WARNING"), you

As it says in para 2-8 of TM 9-2320-

Bent carriage frames are showing

ME! Our support says we've got no problem with our multifuel-engine trucks and Dear Half-Mast, other diesel-engine rigs when wetness shows up at the exhaust manifold joints. This wetness goes away when our DSU gives the vehicle a good run. They say

this proves there's nothing to worry about. What do you say?

Diesel

OOPS!

SCUSE

SFC C. F. S.

### Dear Sergeant C. F. S.,

Your support's probably right. That wetness is usually nothing more than "diesel slobber"-unburned fuel and condensation, pretty common when humidity's high and temperature's low.

Before you toss the ball to your support, pull the same test they do. Give your vehicle a good road run. Or, if it's some diesel-engine stationary equipment, run the engine at about half-way between idle and full speed for a few minutes.

THEN STOP THE ENGINE

AND LOOK FOR THAT WETNESS!

( IF IT'S GONE, NO PROBLEM!

BUT IF IT'S STILL LEAKING OIL,

17

GET YOUR SUPPORT TO CHECK

IT OUT!



Where engine exhaust parts fit together is where you'll likely spot diesel slobber



You have to stay on your toes to give that 2<sup>1</sup>/<sub>2</sub>-ton truck a good boot—a steering knuckle boot that is. It's no snap job.

HILI

TM-209-Series 2<sup>1</sup>/<sub>2</sub>-Ton Truck . .

OK -- IF THAT'S

WHAT YOU NEED,

Here're some tips you can add to the instructions in para 169, TM 9-2320-209-20 (Apr 65), and para 2-104, TM 9-2320-209-20-1 (Aug 78):

Put trestles from the No. 1 Common Shop Set under the front ax'e of the truck. Set 'em so you can turn the wheels to get at the clamps. Better yet, make the job easier by pulling the wheels.

Take off the steering knuckle boot guard. Push the brake hose up out of the way.

Remove the boot clamps, cut the boot along the zipper, pull it off and trashcan it.

The new boot has to go on right and tight. And it has to have a good seal so grease won't ooze out and water can't seep in.

HERE'S TH' BOOT HE NEEDS, SIMON!

Use NSN 2530-00-741-0883 to get the boot—with cement. If you need more cement, NSN 8040-01-018-2845 gets a quart.

Reuse any good hardware. If your clamps are shot, NSN 5340-00-707-1100 gets the inner (smaller) and NSN 5340-00-707-1099 gets the outer one.

NSN 5305-00-752-1693 is for a clamp screw. For the nut, use NSN 5310-00-707-1097.

Place the boot inside-out over the axle housing with the zipper side away from the axle.

Close the zipper and seal the inside with cement.



**Clean out** 

grooves

for boot

BY CROM ! YOU HAVE THAT TYPE OF TROOP ON EARTH, TOO?

AFRAID



20

NO, NO ... YO-YO!

Remove

guard

Push break hose

up out of the way

133

MY STEERING KNUCKLE BOOT



Aline the word TOP on the boot with the top center of the steering knuckle.

Work the boot ridge over the axle housing groove. Set the inner clamp in the groove made for it. Tighten the clamp.



Grab the boot on each side and twist your wrists so the boot'll go right-side out. Work the outer boot ridge over the groove in the knuckle. Fit the outer clamp in its groove. Tighten it.



Lock the zipper with fine wire. Cut off the excess wire. Seal the outside of the zipper with cement.



Put the guard back on and refasten the brake hose."



# DONE RIGHT :

# Dear Sergeant J. M. W., Yep, got a couple of 'em.

SGT J.M.W.

It's bad enough that rust is tearing

up the air line couplings at the rear of

the reach on our M796 4-ton bolster

trailers—the nipple and rings rust solid

But then we find there're no repair

parts for these quick disconnects in TM 9-2330-287-14 (Oct 71).

M796 Bolster Trailer

and can't be taken apart.

Got any answers?

Dear Half-Mast,

A Couple o' Coupling Tips

The male part comes under NSN 4730-00-494-3271. The proper female half is not yet available, but you can get by with NSN 4730-00-494-3273. The straight poop will be showing up in a TM change or revision.

Before you put on the new parts, though, head off the rust problem by giving the male nipple a light coat of GAA. Don't worry about the grease hurting the O-rings in the female part of the coupling-they're a special synthetic rubber.

Half-Mast

TUST

LIGHT COAT

# **M880 NSN** Is Bummer

You won't get the right hub dust seal for your M880-series 4×4 1<sup>1</sup>/<sub>4</sub>-ton truck when you order by NSN 5330-00-843-2045. Cross out the NSN on page 2-74, TM 9-2320-266-20P (Feb 78). Until a new NSN comes along, order by the Part Number and FSCM-but ask for hand-processing of your order by specifying "To be processed offline." And add this for justification: "Incorrect part received using NSN 5330-00-843-2045. Do not cross over to NSN."

**Scratch Plastic Coating** Forget about plastic coating com-

Head off rust

with GAA

pound NSN 8030-00-145-0151 for battery hold-downs and such. It takes too many fancy gizmos-which you don't have-to use it. So knock that NSN out of TM 9-6140-200-14 (Apr 78), pages 3-5 and 3-10, and DA PAM 750-34 (May 78), page 8.

SCRATCH IT

FROM PAGE 19

OF PS 300

ALSO!

23

Trying to manhandle those big truck and bus wheels is the pits. It's a real mean job getting 'em off or on a vehicle.

▲○↔☆(

THANKS FER TH' HELP,

RZO ... BUT NOW HOW DO I GET TH' WHEEL ON TH' STUPS?

> There's a wheel lift truck available with the No. 1 or No. 2 Common Shop Set to make the job easier. But what do you do if you don't have one?

> Some outfits make a slide and a lift to handle those big wheels.

Here's a homemade wood slide to remove the wheel—or the duals together.



When you're ready to use the slide, spread some liquid soap, tire lubricant or ethylene glycol on it. This'll make it easier for the wheel to slide.

You can make a lift to raise the wheel when you're ready to put it back on the truck. You'll need some %-in

Use

5/8-in

round

steel

rod

60'

round steel rod, NSN 9510-00-596-2065.

32"

Weld 3

5/8-in × 1-in

pieces of rod on each

leg 6-in

apart to hold tire



HERE'S JUST WHAT YA NEED, SLIM!

### TM-209-Series 21/2-Ton Trucks . . .

# A and B Tool Sets



Most of these tools are shown in Figures 349-351 in TM 9-2320-209-20P (Oct 76).

## MUST U-Pack Trailers . . . Hydraulic Pump Protector

Water in the hydraulic pump on the M689E1 dolly set can give you a case of maintenance heartburn. Here's a PM tip for your U-pack hauler that'll stop your boilover:

Get a gallon-size cooking oil can from your mess sergeant. Cut it in half. Rout out a notch in the narrow side so the can will slip down over the hydraulic pump bleed lever.

'Course, you'll have to take the protector off every time you use the set to haul the U-pack, but it'll sure keep rain out of the pump when the dolly's on standby.





Water in the reservoirshoppers-on your trailer-mounted hopper. Keep it dry. Lubricating and Servicing Unit-NSN 4930-00-935-4451-is bad news. 'Specially when it gets into the grease hopper.

A little water fouls up the grease pump in a hurry. Water works itself thru the grease . . . settles in the bottom of the hopper. If left there, it's sucked into the grease pump and stops your grease servicing.

Keeping water out of the hopper compartment starts with an eagle eye PM check on the enclosure lifting ring and gasket. Replace a damaged or missing gasket, or a loose lifting ring.



**Check lifting** ring....

Check the cover gasket, NSN 5330-00-825-1964, on the hopper. Water seeps and drips past a damaged or loose-fitting gasket.



Also check the handle area on the



Check for water in the grease hopper by unscrewing the drain plug under the unit. Uncontaminated



grease is too thick to run out ... but if water's present you could get a minibath.



and RL-172A/G Reeling Machine

Ch 1, TM 11-4940-238-15 Oct AN/ASM-

146A and -147A Shelter Mounted

This is a selected list of recent pubs of Ch 3, TM 11-3895-207-20 Sep RL-172/G interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Oct 77), TM's, TB's, etc; DA Pam 310-6 (Jul 78) and Ch 1 (Oct 78), SC's and SM's and DA Pam (C) 310-9 (Nov 76), COM-SEC pubs.

#### TECHNICAL MANUALS

Ch 2. TM 3-4230-213-10 Oct M258 Skin Decon Kit Ch 4. TM 5-6115-457-12 Apr Gen Set. DED TM 9-1100-204-10 Jul M454 Atomic Proinctile

Avionics Electronics Shops Ch 6, TM 11-5820-695-12 Aug AN/GRC-144 Radio Ch 1, TM 11-5820-773-15 Sep AN/TRC-138 Radio Repeater Ch 3. TM 11-5895-453-14 Sep AN/TRC-145(V)1, (V)2, (V)3, AN/TRC-145A(V)1, (V)2, (V)3 Radio Terminal Sets TM 55-1500-220-PM Sep AH-1S Phased Maint Checklist Ch 1, TM 55-1520-227-23-2 Nov CH-47B, CH-47C Ch 6. TM 55-1520-228-PMS Oct OH-

TM 1500-2 Sets of Divider Cards MISCELLANEOUS

CTA 50-900 Oct Clothing & Individual Eqpt FM 11-05B Jul Radio Operator

LO 5-2805-256-12 Jul Engine, 1% HP, Mil Std Mods 1A08-1, -2 and -3 Ch 1. Pam 310-6 Oct Index of SC's and SM's except types 7, 8, 9 TB IG 1 Nov IG Inspection Guide TB 55-1500-340-20-1 Sep Inspect Prop Mounting Bolts, U-21, RU-21, UV-18, C-12

TC 11-72E1/2(JB) Jun Telecom Ctr Operator

### **AUDIO-VISUAL STUFF**

#### Available at battalion or post Learning Center

FILM. TV TAPES TVT 19-51 J-SIIDS TF 46-6110 Smoke Warhead for 2 75-in Bocket

**TEC LESSONS** 020-171-1661-F Before Op Checks Sycs, M551 Part III 020-171-5308-F Computer. M60A2 020-171-5318-F Cupola Operation

020-171-5320-F Laser Rangefinder 043-441-5430-F Improved HAWK Wear 043-441-5435-F Improved HAWK Ammo 202-113-5206-A AN/TSC-76 Part III 202-113-5208-A AN/TSC-76 Part V 610-091-6086-J Clutches on V-ton truck 610-091-6251-J Fuel Systems in M35-Series Multifuel Truck Heater

643-091-5703-F Test Turret 800-101-8414-J Gasoline Elect Components of M551 I antern 643-091-5708-F Gun Tube 946-093-7604-A Demolition Firing Systems 645-093-7251-A Identif of 947-071-0180-F M16A1 Anti-Personnel Mine 645-093-7288-F Prep Report 947-071-0181-F M16A1 Antiof Item Discrepancy (ROID) 645-093-7293-F Emergency Personnel Mine 947-071-0182-F M16A1 Anti-Destruction of Ammo Personnel Mine 947-071-0183-F M16A1 Anti-645-093-7300-A Loading, Bracing Ammo in MILVAN Personnel Mine 948-071-0151-F 800-101-8403-F Immersion **Training Set** 

Dragon

## HAWK Protection

Lost a protective cover (PN 9176098-003) lately off the transformer assembly of your Improved HAWK AN/MPQ-46? Replace the retaining screw with screw, PN 10018762-045. and add washer. NSN 5310-00-595-6211, between the lug and screw head. That'll hold the cover better.

## Dust Cover Fix

Those plastic dust covers, NSN 5999-00-892-8123, on your AM-2060 amplifier-power supply are supposed to fit easily over the Set 935-7672, if your Vulcan cable markers are Power and Antenna Control receptacles. If they don't, use scissors or a knife to slit the side wall.

# AN/USC-3 Cable

If you have trouble connecting your AN/VSC-3 radio teletypewriter's DC Loop No. 1, maybe you've got a short cable. You need the 7-ft W3 cable in TM 11-5815-332-15 (Jan 71). It's NSN 5995-00-252-5849.

## Cable Markers

Forget that stock number for a cable identification labeling kit on page 27 of PS Magazine 309. The kit will not be available. You can use a single marker, NSN 9905-00lost or damaged. The NSN gets you one each for 10 cents. Die stamp the cable number on the marker.







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





When you take out the radio gear from your MT-1029 or -1898 mounts, be sure you put on the rubber connector cover.

Cover Up!)

HUH? ARE

THE BIRDS COMIN'?



MY PINS.

BUB!

Without the cover, the connector is an easy victim for water-rain or hose-type. A little rust build-up will slow you down next time you try to mate mount and radio. A lot of rust will mean a new connector.

HE MEANS YER RAPIO

115 LECTRONICS

GOT

RIGHTS;

TOO, Y'KNOW!

MOUNT CONNECTOR

If your cover's gone, order a new one with NSN 5935-00-911-2323.

YEH.

LAY OFF CIRCUIT-BLOWER.

out panels. A wrong move can KO key to seat it. panel pins.

Your first move is to turn off your with needlenose pliers. TD, tho. Plugging into a switched-on set can blow your new card's printed circuits.

Then, take care when removing or installing the panels. Those pins are fragile. Push and pull 'em straight.



You've gotta go straight when Before pushing in a new card, be sure handling TD-660 multiplexer pluck- it's the right one. Then, use the square

If you do bend a pin, straighten it



When you're done, replace the set's card cell cover. Without the cover, the cards can jiggle loose. This gives you poor contact or none at all. It also lets in dirt and dust which can short you out.

HMMM ... NO, YIR NOT DEAD, BEE - 4 !... BUT ...

YER BATTERIES ARE -- MUCH B'FORE

THEIR TIME!

OPP, CONNIE ... WE REINSTALLED

ONLY THIS A.M ....

HIS BATTERIES

Like all good soldiers, dry-cell batteries never die ... their charge just fades away.

**Dry-Cell Batteries** 

Careless or rough handling can muster out a battery before its time. tho. It takes a double-barreled dose of common sense and PM from you to keep 'em on the line until they fade away naturally.

Store the batteries in a cool place until you use them. The cooler the better, but keep them between 0 and 35° F. Need a refrigerator for cooling? CTA 50-915 (Apr 76) OK's it.

While it's good to keep 'em cool before use, it's vital after you start using 'em.

Once the battery starts discharging thru use, it continues to discharge even when it's out of the equipment. By keeping the battery cool between working days, you can slow down the power drain.

... RIGHT

OUT OF

STORAGE

... BUT DID YOU

STORE THEM IN

A COOL PLACE?



When you're through communicatin' for the day, pull the battery from your equipment. You not only save the battery; you save your equipment. Corrosion sets in if the two are mated for a long time.

**Mustering Out?** 

SAVES THEOR GLO

Another way to reduce water worries is to defrost your refrigerator. The best time to do that is when your battery stock is down. Use cloth or heavy paper to keep the cool in batteries you take out.

ROTATE

YER STOCK!

ONE MORE

COOL HINT!

THIS PROMISES

USEFUL LIFE

FOR EACH BATTERY YE BUY



Same thing if you're going to another power source-like mounting your man-pack radio on a vehicle. Pull the battery.

If you don't store batteries in a refrigerator, be sure to give your storage place a venting about once a week. The gas from those discharging dry cells can build up in a closed room.

'Course, there's no reason for you to continue storing unusable batteries. You can spot them right off. They're buldging, corroding or leaking. Get rid of them. They're dangerous to have around. The headshed says either mutilate 'em before you toss 'em out, or bury them.



Watch for mercury batteries, tho. Those you turn in. They have BA numbers between 1000 and 1999.

Another kind of leaking isn't always a problem. Loose white powder can grow on battery cases and terminals. It's caused by minor loss of electrolyte. A small amount won't affect battery life much. But, in time, or if moisture's present, it can damage terminals and sap battery strength.

Brush off the powder with a nylon brush. A tooth brush is fine, Lay off wire brushes, tho. Or, wipe the battery clean with a damp paper towel or cloth.

To make sure your batteries work again once you take 'em out of cold storage, let them thaw before returning them to the equipment. Warm 'em up to about 70°.

Hold off on the urge to speed up Mother Nature. It's dangerous playing with that hydrogen gas. No hot plates, heaters or ovens allowed. Use body heat or



If you've stored them awhile and wonder if they're still good, test 'em. For many of the batteries, one tester does the trick. The AN/PSM-13 battery test set and its adapters are OK'd to company level by SB 11-623 (Jan 69). The SB lists the connectors available and which batteries they test.



If batteries don't test up to snuff with a normal 60-sec check, leave 'em under load for another minute or so. If they still don't measure up, replace 'em.

Putting batteries into equipment calls for a soft touch. If the force is with you here, the battery won't be for long. For instance, your AN/PRR-9 radio receiving set has both big and little pins. Its BA-505 battery has the same kind of holes. Line 'em up.





Likewise, go easy on the BA-4386 battery that goes in your AN/PRC-25 and -77 radio sets. Lower it carefully onto the connector pins. A cracked receptacle can cause shorts which could ignite leaking gas.

41



If the BA-4386 won't fit snugly in the battery box, use a cardboard shim to tighten it. Loose batteries can damage connector pins.

...use

a shim

MACNESIUM

BA-4386 loose?..

Too tight a fit is just as bad. If you don't lift the battery straight out, you can break either the radio set's pins or the battery's receptacle.

If your dry cells are the terminal type, don't overtighten the nuts. Just snug 'em up.



Now that you've learned about keeping batteries cool, there's another lesson to be learned—how to keep them warm.

SOME BATTERIES Come cold weather time, some YOU PROTECT FROM COLD equipment takes different batteries. BY KEEPIN' For instance, your SB-22 and -86 'EM INSIDE switchboards and TA-43 and TA-312 YOUR CLOTHES! telephone sets. They both go from BA-30's to cold-loving BA-3030's. It's not too hard to keep these warm if the

HEY, CONNIE -- I'M PART

To keep operating, you need connecting cables. CX-11991/PRT-4 (NSN 5995-00-179-8257) gives you transmitting power. Receiving power is carried by CX-11990/PRR-9 (NSN 5995-00-179-8256).



There's no need to toss out these partly used cold-weather batteries when the temps rise again. Replace 'em only when they can't supply the power you need.



### CHECK THESE

SB 11-6 (Jan 77)-Shows which equipment gets which batteries and vice versa. It also gives battery consumption data, which should help You keep right on using your you decide how many to keep on hand. SB 11-30 (Apr 77)-Gives storing, ordering and shelf-life info. It also has the technical characteristics of your batteries.



But, other gear's not so lucky. Like vour AN/PRC-25 and -77 radio sets. They take a BA-398 battery in cold times. The battery stays inside your clothing for protection. To hook it to your radio set, you need CX-8808/G special purpose electrical cable assembly, NSN 5995-00-901-3647.

equipment is sheltered or in tents.

CAN YA KEEP ME WARM

I'M A MEMBER OF MY COMPANY BASEBALL

TEAM'S BATTERY!



AN/PRT-4's BA-399 and AN/PRR-9's BA-505 when temperatures drop. So, you protect these batteries by keeping 'em inside your clothes.

WHEN DID YOU LAST CLEAN YOUR COOLING SYSTEM, EARTHLING?

## Leave It Outside

. DO NOW

US. ARMY T

MACON

Whipping your AN/VRC-12 receiver-transmitter's cooling system into shape means taking a brush to it.

TRANSMITTER'S

OVERHEATING?

( IMPOSSIBLE !

Without a good cleaning, dirt and dust build up inside your set. Once inside, they act as insulation, holding the heat. Long-term overheating does real dirt to your set, like blowing the power amplifier tube.

So, like your manual says, clean it once a month. If necessary, do it more often.

Remove the side and rear panels. Eyeball the heat exchanger vanes. If dirt's really caked on, take a stiff brush to it. Usually, a toothbrush will do the trick.



Once the vanes are clean, move on to the power transistor assembly. Dirt holds heat there, too.



Then, brush off the fins of your blower motor fan. That's one way dirt gets to the vanes in the first place.



Finally, be sure to replace the RT panels.

Your TA-312/PT telephone's deicing screen does its best work when it's left out. Left outside the mouthpiece cover, that is.

WHOA, SOLDIER! DON'T YOU KNOW THAT THE DE-ICING SCREEN

ALWAYS STAYS ON THE OUTSIDE

Some folks think it's too easy to lose out there so they put it inside.

The screen keeps your warm breath from getting in the mouthpiece and creating moisture. By putting the screen inside, you're keeping it from doing its job.

Installed right, it stays put. Just line up the dot on the screen with the

notch on the mouthpiece. Then press evenly around the rim.

HAH! ANY

RECRUIT KNOWS

THAT!

HMMPH

AN' GREEN

IS NO RAISIN

YE KIN BE REPLACE BY LEPRECHAUNS, Y'KNOW!

FER SICH CONCEIT

JUST BECAUSE YER SMALL

Keep sharpies like screwdrivers and knives away from the screen, tho. If that protective layer is broken, you've lost your seal.

No screen? Order one with NSN 5805-00-392-7628. It's in the H-60 handset pub, TM 11-5965-224-14P (Mar 75).

When you're not using the screen, store it between the set and carrying case. That'll keep it handy and safe.





### **Check Out Pubs**

Take the EIR and Maintenance Digest, for example.

when the forward pylon yoke is in the full down position on a parked CH-47, it contacts a rivet on the pylon deck. The rivet head can damage the yoke beyond allowable repair limits ... can mean sidelining your bird for some

time. WE HAVE SOME CONTACT HERE. RIGHT.

To head off damage to the yoke make a phenolic bumper block, according to the Digest.



One of the most important pubs on your Chinook is the bird tech manual.

For example, para 7-151 in TM 55-1520-227-20-1 (Aug 73) has the info TB 43-0001-2-1 (Oct 78) says that on how to keep those fore and aft rotor blades in phase so "never the twain shall meet."



The bird pub is constantly being updated. The latest servicing poop for the landing gear tires and struts is in Change 33 (Dec 77) to the pub.

Another example is the hardware change on the synchronizing drive shaft adapters. The rivets thru the 2 bolts and nuts that attach the coupling plate packs to the steel adapters are now being deleted at overhaul.



So, when you remove a drive shaft or adapter, never remove more than 1 bolt from between the steel adapter and the coupling pack. The pack is a balanced assembly and using different hardware could throw the whole deal out of whack.



### Savvy Pays Off

The experience you get on the job goes a long way toward keeping your bird out of the repair hangar.

The experienced mech doesn't slide off the tunnel and plant his size 13 brogans on the fuel pods—or walk on 'em either. That gives those pods a real beating and leads to early repair or replacement.



A pro uses the handholds and steps when mounting and dismounting the bird. He also "looks sharp" during inspections to correct equipment



defects before an emergency develops. Take the fuel, oil and hydraulic lines. Rotating, twisting, vibrating lines will chafe.

In close quarters lines may need some special protection and this is where you can use your know-how. Focus-in on lines that may be touching, or are about to touch. You must have some line separation in both the dynamic and static mode.

You can use spiral wrap anti-chafe sleeve on lines. But you never want to get carried away by using it all over the place. The wrap is tough. So tough, in fact, that when used on a flexible line it'll chafe thru any hard line that it contacts.



YOUR URGENT NEEDS ARE NOTED AND YOUR NEW MECHANICS ARE GOING TO SPIRAL WRAP YOUR FLEXIBLE LINES FIRST THING!

GREAT

When used on 2 adjacent hard lines that make contact, one or both lines will rupture. So, use the spiral wrap only on flexible lines that may be about to chafe. Use clamps to space hard lines right.





T Spiral wrap will even wear into the airframe when the wrong length line is used or if supporting clamps are not in the right place. 'Course, para 7-41 in TM 55-1500-204-25/1 (Apr 70) has the word on putting those flexible lines on your bird the right way.



Where the use of spiral wrap may damage the airframe, tho, use antichafing tape. Use it to protect lines from sharp-edged metal seams and rivets. NSN 9330-00-664-4893 will get you a 50-yd roll for \$18.30.





• If the engine performance decreases:

• If exhaust gas temperature increases steadily during normal operation:

• If the engine has been operating in salt-laden air.

'Course, the idea behind Phase Maintenance is to save time, resources ... and the aircraft!

50



That's the word in TSARCOM

message DRSTS-MEU 191953Z JUN

the proper handhold.

Meanwhile, take a second to locate

78.

Yes!

pin.

Fuel

arm.



METAL!

EXPERT IS HERE

WITH A "FILTER

TIP" FOR YOU!

Identifying the paper and metal hydraulic oil filters in your Huey or Cobra is guaranteed to generate some spirited debate because they look alike.

FILTER

You had to learn the difference because you toss paper filter, NSN 4330-00-442-2484, at 100 hours, while the metal filter, NSN 4330-00-106-6764, is cleaned and reused at 1000 hours.

No more! The head hangar has standardized filter maintenance by putting a 400-hr life on both filters. 'Course, if the red indicator button on the module pops before the retirement interval, replace the filter. Change paper or metal filter after 400 hrs.

That's the word in TSARCOM Msg DRSTS-MEU 052050Z Apr 78.

# Safety-of-Flight Messages

AH-1-78-18	Maint Advisory AH-1G, AH-1S (MOD), AH-1S (PROD) Tail Rotor Gear Box DRSTS-MEU(2) 201741Z Nov 78
AH-1-78-19	Maint Advisory All AH-1 DRSTS-MEN(2) 202009Z Nov 78
AH-1-78-20	Maint Advisory AH-1S (PROD) Retrofit of New Improved Engine Mount Assy (TRIPOD) DRSTS- MEU(2) 211440Z Nov 78
OH-58-78-24	Maint Advisory OH-58A-78-24, TB 55-1520-228-20-25 DRSTS-MEL(2) 0116120Z Nov 78
CH-47-78-8	Safety Msg—One-Time Inspect CH-47A, B, C for Defective Landing Gear Attachment Bolts, TB 55-1520-241-20-1 DRSTS-MET(2) 201930Z Nov 78
CH-54-78-2	Safety Msg—One-Time Inspect CH-54A, B for Defective Landing Gear Attachment Bolts, TB 55- 1520-217-20-12 DRSTS-MET(2) 201945Z Nov 78
OV-1-78-8	Maint Advisory OV-1, RV-1-Series Control No. OV-1-78-8 DRSTS-MEW(2) 131930Z Nov 78
OV-1-78-9	Maint Advisory OV-1, RV-1-Series Control No. OV-1-78-9 DRSTS-MEW(2) 131930Z Nov 78
U-21-78-4	Overhaul Interval Increase U-21, RU-21-Series Engine R-74-700, T-74-702 DRSTS-MEP(2) 141611Z Nov 78

# **Hot End Check Out!**

You no longer have to pull the 300-hr and 600-hr hot end inspections on your T-55 engines, Chinook types. TSARCOM Msg DRSTS-MEP(2) 231417Z Jul 78 has the word.



An aircraft hydraulic line failed recently when a stainless steel identification tag chafed thru the wire braid, downing the bird.

So, give all flexible lines on your aircraft the once-over during the next Phase or Periodic check, bird mechs.

Remove any stainless steel tags and replace 'em with aluminum ones.

You'll find the info on how to make the aluminum tags for fuel, oil and hydraulic lines in Fig 7-37 of TM 551500-204-25/1 (Apr 70). Add the part number and other line info to the tag by following the poop in Para 7-41 of the pub.





Forget the wire rope NSN 4010-00-630-4838 you saw on page 21,PS 308. It's too expensive—about 42 bucks per foot—for your bird ground wire hookup. Use NSN 4010-00-222-4474 instead. This wire rope does just as good a job and costs a lot less—about 7 cents a foot.

When you need your M258 skin decontamination kit, you need it right bu now.

SUPPORT

OH, NO ! ENEMY USING CHEMICAL AGENTS !

Kit

contents



Here are a few ways that'll help you get the job done:

When the kit is issued to you, check the contents. If Capsule I is leaking or broken, resulting in less than 2½ inches of fluid, then turn it back in. It's unserviceable.



If the ampoule in Capsule II is broken, turn it in.

OH. NO!

QUICK, MEN! BREAK

Capsule II

inner ampoule

broken?

**Replace** it!

OUT DECON KITS.

MY CAPSULES

ARE STUCK!

(Note to supply types: Don't store the kits where the temperature goes above 110°F. Keep them away from steam pipes. The kit contents swell and the troops can't get 'em out.)

To get the contents out of the kit soonest, open the cover and tap one edge of the kit with the palm of your hand . . . until a capsule works free. Then, get the other capsule out.



Some capsules really fit snug, and fingertips can't hack it. And, if you're wearing gloves, the palm tap is a must. To puncture Capsules I or II with the cover spike, punch a hole in their sides at least an inch from the bottom. That's the softest part of the capsules. Getting through the thick top or bottom takes time.

TH' AMPOULE

S CRACKED



line around them about midway. To open them quickly, aim the line at the rounded edge of your rifle stock or something similar . . . and break the ampoule.

### Instruction for use



If the ampoule has no line, hit it about midway to break it.

Get familiar with the instructions on the kit case.

If you use a training kit, or if you take the capsules out of yours, be careful when you put the capsules back in.

If you reverse the capsules, you can punch a hole in them with the cover spike.

So, with the cover up, put Capsule II. on the right-hand side. The capsule should fit snug on 3 sides. If it's loose, turn it (the sides are different sizes).

Spike between capsules clears both

> Put capsule II on the right

GOOD THING

THIS IS ONLY

A SURPRISE READINESS

CHARGE O' THIS OUTFIT'S DECON PM



If you've got any doubts, eyeball that offset cover spike. When the capsules are right, the spike clears them when you lower the cover.







But if you use a DD Form 1970 to dispatch equipment with an X in the DA Form 2408-1 column of Appendix E, you still transfer fuel, mileage and other needed info to the DA Form 2408-1.

You may also use the DD Form 1970 when you dispatch equipment with no X in the DA Form 2408-1 column of Appendix E.

So, if the situation or your local command SOP requires it, the DD Form 1970 can still be used as a dispatch record.

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Half-Mast



## Hi, Ho, the LO

Hi, Ho, to grease a truck you go...to follow the LO...as DA Poster 750-24 reminds you. Tack up the poster, and don't guess about lube points. Get it with a DA Form 17 to Baltimore Pubs Center. CHASSIS GREASING IS NO GUESS



FOLLOW THE LO-GET ALL FITTINGS

61



It's not who you are anymore-it's whether you can prove it. Just try to cash a check-or pick up your laundry-without some sort of ID. No way!

That goes for repair parts and supplies at supply support shops like your DS Maintenance Company, Quick Supply Store or Self-Service Supply Center, too.

You must not only identify yourself with a picture ID card but you must also be listed on a DA Form 1687-Notice of Delegation of Authority-Receipt of Supplies.

One DA Form 1687—signed by you and your CO—is filed at each support store where your unit shops. You put both your name and initials on the form kept at each place.

Your signature and initials on the form OK's you to pick up items for delivery to your motor pool, shop or office.

'Natch, the DA 1687-like all forms-is not good forever. You, your CO-or anyone listed on the form—may transfer out to Fort Boonie or Camp Wellaway at any time.

IF HE AIN'T SIGNED OFF

ON A **DA 1687, SHAWGUM...** HE AIN'T GETTIN' SUPPLIES FROM ANY SUPPORT SHOP!

HEY

I REPLACED

MCCLELLAN OVER

A MONTH AGO

When your CO goes, new 1687's with your new CO's signature must be filed at each support store.

The new forms list the names, signatures and initials of the folks your new CO trusts to pick up items-even if nobody changes but the CO.

If you go, your CO may just ask each store to drop your name and signature from the 1687's already on file-but only if the forms list other names besides yours and your CO's-and only if that's in line with local SOP.

If not, new 1687's must be filed. The new forms drop your name and signature while adding to or just relisting the names, signatures and initials of people who pick up and deliver parts and supplies for the unit.



HMMM ...

EFFECTIVE,

TIM DEE!

PRIMITIVE BUT



Depending on which is earlier, you enter either your ETS or PCS date (if the date falls within the next year). You enter the date a year from now if you know—or think you know—you won't ETS or PCS during the year. The same goes for your CO when he/she signs the forms.

That date, though, is only a reminder. It reminds the folks at the support stores to check with your CO on that date to see if the DA 1687's still good.





## Generator Cover

Need a terminal cover for the Leece-Neville Model 3002AC vehicle generator (alternator) NSN 2920-00-909-2483? You can get one with NSN 2920-00-059-4892.

## Worth a Look

If your specialty is maintaining aircraft tires and inner tubes, you'll find some good poop in the new TM 55-2620-200-24 (Aug 78). It supplements the info in individual bird pubs.

# Hot MIO2 Howitzer?

You could have a real "hot" M102 105-MM howitzer if a wheel spindle is cracked and ready to break. Metal fatigue could be setting in. Get your piece scheduled in to support for a spindle metal check.

# M167 Al Pipe Plug Jape

Oops! We slipped a digit on the NSN for pipe plug anti-seizing tape in that M167A1 Vulcan article on page 28 of PS 312. The correct NSN is 8030-00-889-3534.

## Get Clipped

Belt clip missing from your TA-1/PT telephone set? Turn it in. The clip, NSN 5340-00-064-5426, is item 13 on page 13 of TM 11-5805-243-34P (Jan 77). DS replaces it.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1979-657-003/5

# AN/PRS-4 Batteries

You can track down stock numbers for your AN/PRS-4 mine detector batteries in SB 11-6 (Jun 77). The BA-15A is NSN 6135-00-120-1025, and your BA-51 is NSN 6135-00-120-1005. In temps below freezing, substitute BA-3051's (NSN 6135-00-935-2582) for BA-51's.

## M203 Jrigger Pin

You can get the trigger retaining pin for your M203 grenade launcher with NSN 5315-00-237-1896. Jot it down in your TM 9-1010-221-24 (Mar 72). You also need pin, spring, NSN 5315-00-282-3642, to hold the trigger pin.

## Sampling Optional

The 30-day sampling of aircraft in storage is no longer required. That's the word in TSARCOM Msg DRSTS-QEP(2) 171405Z Oct 78. TB 43-0106 (Jul 78) is being updated to provide optional component sampling to guard unprotected birds from water contamination.

## Accept No Substitute!

The generators on some U-8 and RU-8 bird engines have come loose in flight and damaged the generator mounting studs. It seems plain nuts were used on the studs instead of self-locking nuts, NSN 5310-00-982-4908. Nuff said?

Would You Stake Your Life Mon the Condition of Your Equipment?

