

Issue 338

PS

January
1981

THE
PREVENTIVE
MAINTENANCE
MONTHLY

Y' SHOULDA KNOWN
THIS RADIATOR HOSE
WAS GONNA BLOW!...
IT'S ALL CRACKED
AN' MUSHY!

DIDN'T YUH CHECK
IT BEFORE WE
STARTED?

!GULP! --ER--
WELL ... SURE --
I TOOK A QUICK
LOOK UNDER TH' HOOD
BUT TH' HOSE WASN'T
LEAKIN' THEN!

MURPHY
ANDERSON

Correspondence Courses—



Making a GOOD Soldier BETTER

You want to learn more about your job but you don't have time to go to school.

Let the training come to you thru the Army Correspondence Course Program (ACCP).

Correspondence courses are easily available to help you do your job better. Not only that, but if you're in grades E-5 and below, you get one promotion point for each 5 credit hours of course material you complete successfully.

The ACCP can also help you prepare for the Skill Qualification Test (SQT) and the Army Training and Evaluation Program (ARTEP).

Each branch service school has a correspondence course catalog (DA Pam 351-20-series). See the index, DA Pam 310-1, for a listing under "Pamphlets".

Several courses are available on maintenance and supply. The ones you need may be offered by more than one school.

If you're looking for a specific branch-oriented course, you can probably find it in the catalog for that particular service school.

Your unit training office and MOS library have copies of the catalogs. Or, your pubs clerk can order them from the AG Publications Center, Baltimore.

Get your unit education officer to help you find and select the courses or subcourses that interest you. Then, submit a completed DA Form 145 Army Correspondence Course Enrollment Application.

QMO 012
Unit and Org Supply

INO 330
M16A1 Rifle

DEPARTMENT OF THE ARMY PAMPHLET

ARO 450
Small Arms and Machineguns

MMO 810
Shillelagh Missile System

ISO 200
Records Mgmt

US ARMY ARMOR SCHOOL
CORRESPONDENCE COURSE CATALOG

FA 353
Maint Inspec and PM Mgmt

QMO 468
Intro to Org Maint of Small Arms

ARO 729
Tracked Vehicle Maint

HEADQUARTERS, DEPARTMENT OF THE ARMY

INO 584
Maint Mgmt

ARO 102
Tank Crew Maint

EDUCATION OFFICER



Follow the enrollment instructions printed in the catalog from which the course was selected.

**MOST APPLICATIONS
WILL BE SENT TO...**

The Army Institute for Professional Development
US Army Training Support Center
Newport News, VA 23628

INO 109
NBC Operations

MMO 801
TOW Weapon Systems

ARO 450
Small Arms and Machine Guns

PS THE PREVENTIVE MAINTENANCE MONTHLY

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

ISSUE No. 338 JANUARY 1981

GROUND MOBILITY 2-18, 29-36

M915-Series Vehicles	2-9	M872 Semitrailer Trailer Brakes	13
M880-Series Vehicles	10-12	STE/ICE Lead-Acid Batteries	14-18
Multifuel Engines	12		29-36

FIREPOWER 19-27, 37-43

M109-Series Howitzers	19	M36E1 Periscope	24
Tank Air Cleaners	20-21	M88A1 M16A1	26-27
M113A2/A1 M60 Tanks	22,23 24,25	M12 Weapon Rack	38-39
		TOW	40-43

AIR MOBILITY 44-49

UH-60A Black Hawk	44-49	Aviation Messages	49
-------------------	-------	-------------------	----

COMMO/ELECTRONICS 50-56

CVC Helmet MT-1029, -1898	50-53 52-53	PCM Cables Battery Charge	54-55 56
---------------------------	-------------	---------------------------	----------

TROOP SUPPORT

New Publications	28	Crane Outriggers	61
PLL	57	20-Ton RT Crane	62-63
General Purpose Tents	58-59	Cat Tractor	63
Immersion Heater	60	Medium Girder Bridges	64

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 Lexington, KY 40511**

Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 23 February 1979 in accordance with AR-310-1. DISTRIBUTION: In accordance with requirements submitted on DA Form 12-5. Private subscriptions: Order from US Govt Printing Office, Supt. of Documents, Washington, DC 20402 \$9.00 per year.

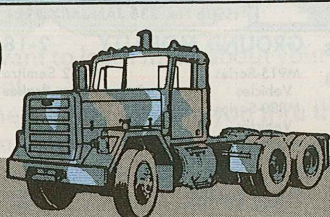
GROUND
MOBILITY

Your M915-Series

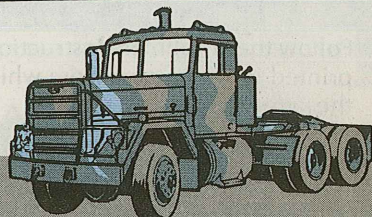
TRUCKS

When you talk about the whole fleet, you call 'em the M915-series. There'll be a lot of 'em spread around—mostly in transportation, engineer and maintenance outfits.

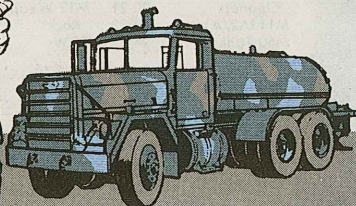
HERE'S
THE
FAMILY...



M915, 6x4, line haul tractor



M916, 6x6, light equipment transporter tractor



M918, 6x6, bituminous distributor



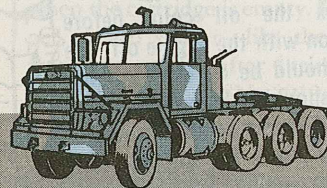
M919, 8x6, mobile concrete mixer

Nearly all the components of these vehicles are off-the-shelf commercial parts. Order part numbered repair parts on your DD Form 1348-6.

REPAIR UNDER
WARRANTY IS COVERED BY
TB 9-2300-295-15/17!



M917, 8x6, 20-ton dump



M920, 8x6, medium equipment transporter tractor

OTHER PUBS
NEEDED FOR
ALL 6 MODELS
ARE...

LO 9-2320-273-12
TM 9-2320-273-10
TM 9-2320-273-20
TM 9-2320-273-20P

THEN, DEPENDING
ON WHICH BODY IS ON
YOUR TRUCK, YOU
NEED THESE PUBS...

M917—
LO 5-3805-274-12
TM 5-3805-274-10
TM 5-3805-274-24&P

M918—
LO 5-3895-371-12
TM 5-3895-371-10
TM 5-3895-371-24&P

M919—
LO 5-3895-372-12
TM 5-3895-372-10
TM 5-3895-372-20
TM 5-3895-372-20P

To get the 9-series pubs by pinpoint, fill in line B-25 of DA Form 12-38.

Use DA Form 12-25B to get the 5-series pubs—Line B-44 for the M917, Line B-42 for the M918, Line B-43 for the M919. Write in your requirements.

The weapon/equipment system designator codes (W/ESDC) shown in the initial fielding plan are wrong.

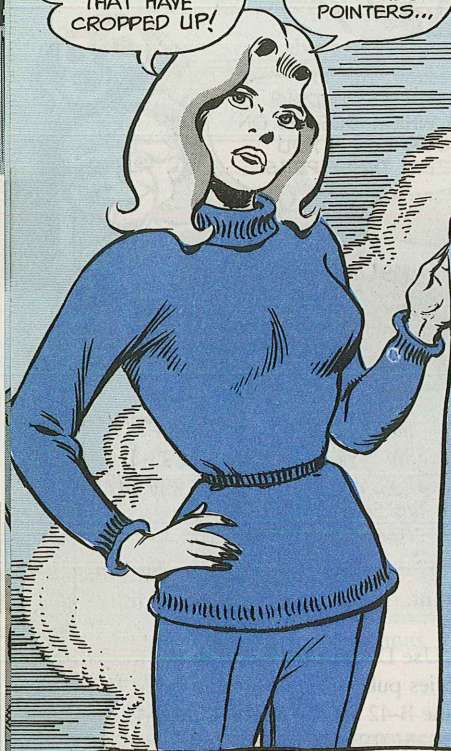
USE THESE...

M915 MZ
M917 MR
M918 7W

Look for W/ESDC on M916, M919 and M920 in mid 1981.

HERE'RE
SOME PROBLEMS
THAT HAVE
CROPPED UP!

READ AND
HEED THESE
POINTERS...



LO Intervals

The draft copy of LO 9-2320-273-12 is goofed up on intervals, lubes and notes. The Tank-Automotive headshed sent out 2 worldwide letters to major commands with corrections. If you didn't get a copy, write to Commander, USATACOM, ATTN: DRCPM-HT, Warren, MI 48090.

Transmission Oil

You don't check the transmission oil level exactly like it says in TM 9-2320-273-10 on Page 2-32.

HERE'S HOW...

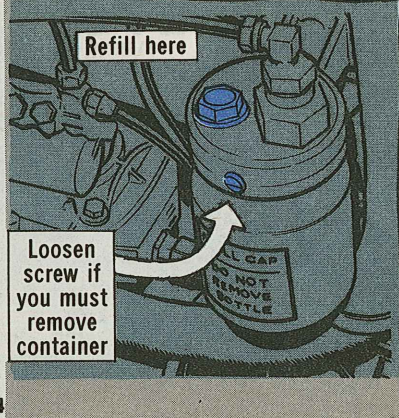
Check the oil cold, before operation with the engine off. The truck should be on level ground. The oil should be between the ADD and FULL marks on the dipstick.

If you check the oil hot, shut down the engine. Wait at least 2 minutes for the oil to run back down out of all the cavities. Then check it.



Alcohol Evaporator

Add alcohol thru the fill hole...just like it says on page 2-42, item 40, in your -10TM. There's no good reason to remove the container to refill it. You could lose the gasket—it drops out of the body. Fill the container $\frac{2}{3}$ full with methyl alcohol when the temperature is freezing and below. NSN 6810-00-597-3608 gets 1 gallon and NSN 6810-00-275-6010 gets 5 gallons. There's no need to use alcohol in warm weather.



4

Power Steering Fluid

Despite what the LO says, you can use OE/HDO 10 oil for power steering fluid after your truck's warranty has expired. Your truck came with DEXRON, but you don't need to use it. If the fluid's low, just add OE/HDO 10 (OEA for arctic).

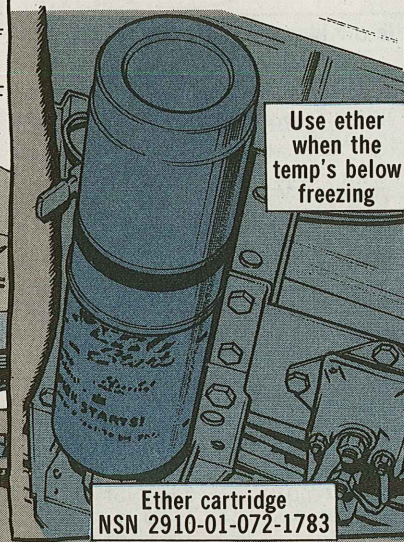
IT'S
OK
TO MIX
'EM!



Ether Quick-Start

Use it when the temperature is 32°F and below.

There's no sure-fire way to tell when the cartridge is empty. So, if you get a hard starter—like the engine won't fire and run after 4 tries—get a new cartridge, NSN 2910-01-072-1783.



5

Windshield Washer

Check the windshield washer container fluid. If it's low, get Cleaning Compound NSN 6850-00-926-2275.



1981

THERE'RE
DIFFERENT
MIXES TO
PREVENT
FREEZING...

From 40°F to -10°F , use 1 part compound to 2 parts water.
From 0°F to -40°F , use 1 part compound and 1 part water.
From -30°F to -65°F , use 2 parts compound to 1 part water.

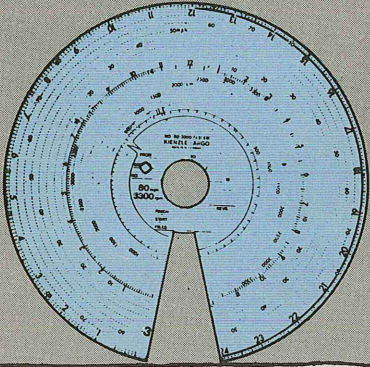


PS MORE

Tachograph Charts

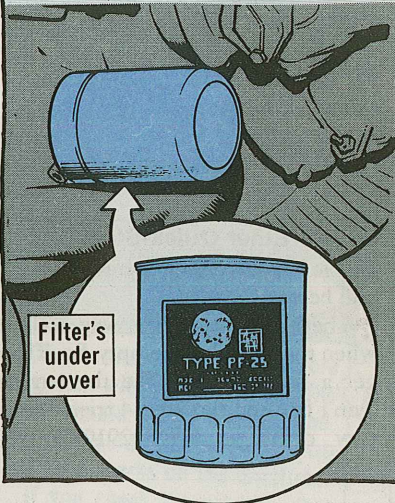
Get a package of 10 7-day charts with NSN 7530-01-060-1628.

You must have a chart in the tachograph! If you don't have a new chart, don't take out the old one. Operate a truck without a chart and you'll ruin the tachograph. An expensive mistake—\$600 or more.



M915 Front Differential

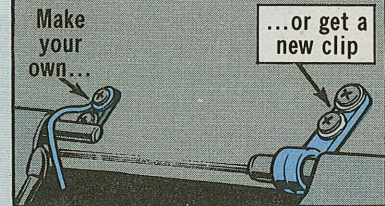
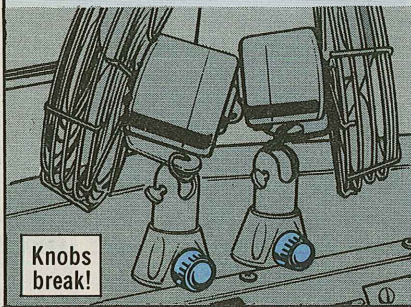
The M915 is the only truck with an oil filter on the forward rear axle differential. Use NSN 2940-00-221-3470 to get it.



Vibration is a Killer

Knobs on the auxiliary windshield fans have a nasty habit of breaking. Not from abuse—from vibration. The knob's not listed in your parts TM. You can get a new one with FSCM 19163 PN 60615-G1.

Sun visor clips—brackets—are victims of vibration, too. They're not listed in your parts TM, either. You can make your own or get a new one with FSCM 34623 PN MB52-2-0000.



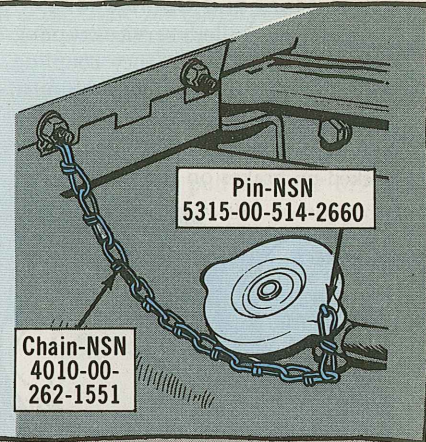
Engine Oil Filter

To get the right engine oil filter use 2940-01-019-4513. The NSN on page 13, TM 9-2320-273-20P is wrong.

6

Radiator Cap

The radiator cap may get lost. Your mech can chain it for you. Use 6 or 7 inches of Chain, NSN 4010-00-262-1551 and a Retaining Pin, 5315-00-514-2660. Drill a hole in an ear of the radiator cap for the pin. A hood hinge bolt will hold the other end of the chain.



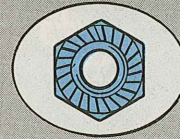
Circuit Breakers

The main circuit breaker in the dash shorts out because it has some bum hardware. The nuts loosen. This causes arcing, sparking—even fires—at the terminals.

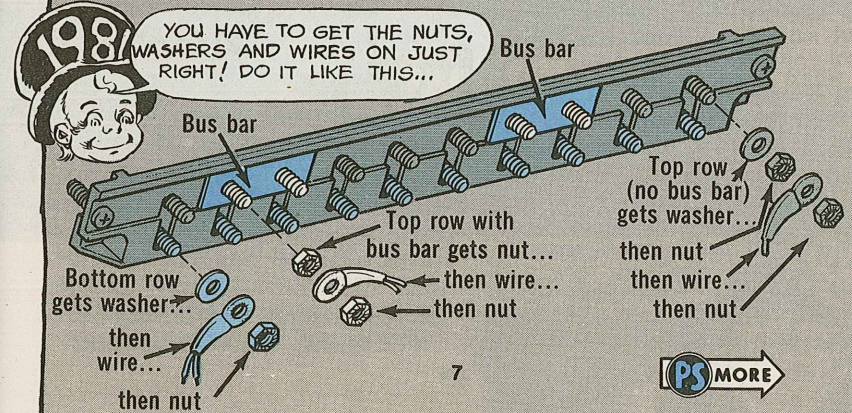


Check your circuit breakers. If you don't see serrated nuts on the terminals, the hook-up is wrong. Get it fixed.

You'll need serrated nuts and brass flat washers. Get the nuts with FSCM 11873 PN 5247 and the washers with FSCM 11873 PN 1119.



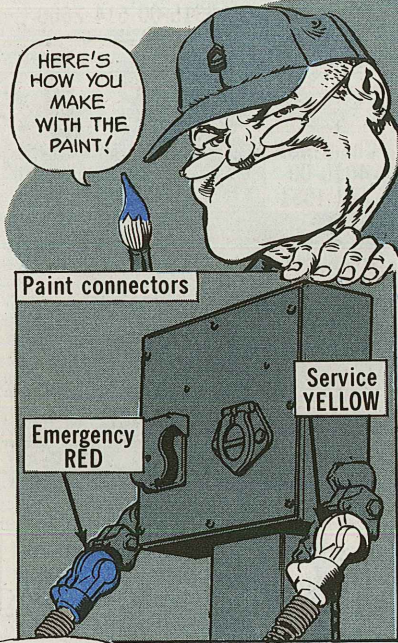
Serrated nuts on terminals means circuit breaker's OK



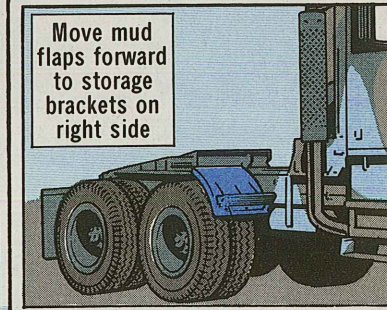
7

Air Lines and Connections

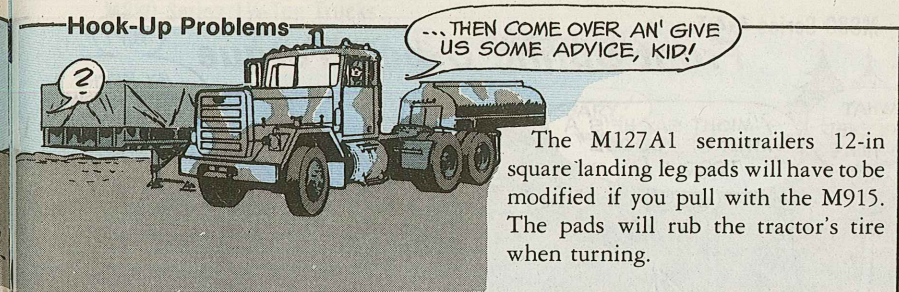
Paint your trailer's service coupling yellow and the emergency coupling red. Do the truck's inter-vehicular hose connectors the same way. Then you won't reverse 'em and cause locked-up brakes on the trailer.



Move the M915's mud flaps forward to the brackets on the right side of the truck when you hook onto one of the older military trailers—like the M127 12-ton semitrailer or the M131-series 5,000-gal tanker. If you don't, the mud flap support rods will hit the trailer's landing legs when you turn.

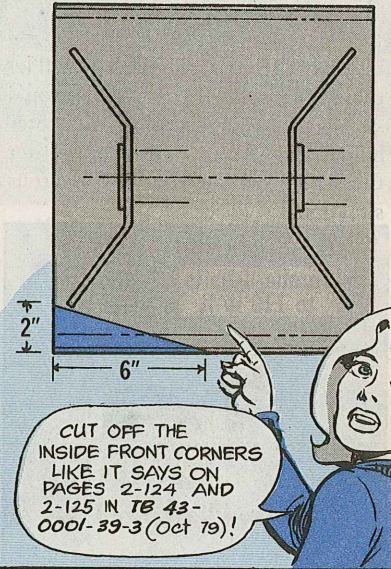
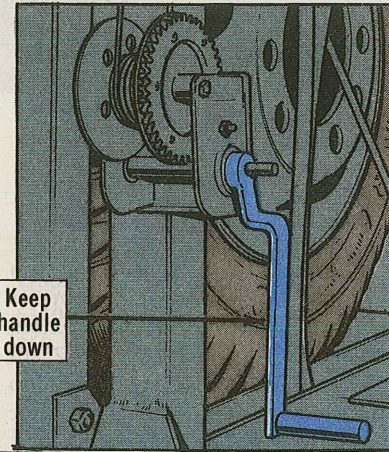


Hook-Up Problems



The M127A1 semitrailers 12-in square landing leg pads will have to be modified if you pull with the M915. The pads will rub the tractor's tire when turning.

Always keep the M915's spare tire winch handle down. If it's out to the side, the front of the trailer will bump it—ruin it—when you turn.



YEH, KID! I'M USIN METHYL-ETHYL-KETONE... WHY?

NO, SOLDIER, NOT ON AN M911 !! IT'LL RUIN TH' SYSTEM!

Alcohol for

Air Brakes

You're heading for trouble if you use methyl-ethyl-ketone in your M911 air brake system—and that's what you get with the NSN on Page D-2, TM 9-

2320-270-10. It'll cause the alcohol evaporator bottle—and other plastic and rubber parts—to get brittle. Then vibration will bust 'em.

What you need, instead, is methyl alcohol (methanol technical), NSN 6810-00-597-3608 (1 gallon) or NSN 6810-00-275-6010 (5 gallons).

Alcohol prevents moisture freeze-up, so you need it only when the temperature is 32°F or below.

IF YOU NEED A NEW ALCOHOL EVAPORATOR BOTTLE, GET IT WITH NSN 2530-00-870-4491!



M880-Series 4x4 Trucks...

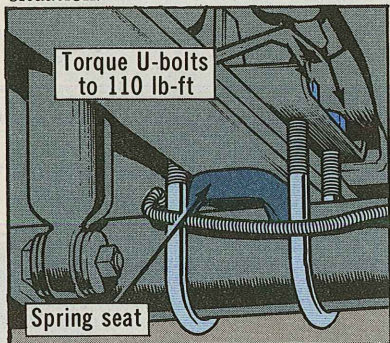
Front Spring U-bolt Torque

WHAT HAPPENED TO HIM?

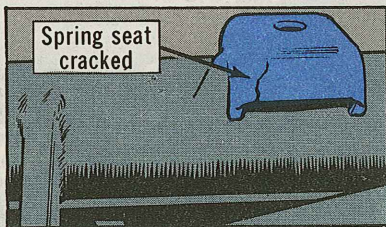
Y'MIGHT SAY HE'S A VICTIM OF "LOOSE" TORQUE!

YUP!
MY MECHS DON'T KNOW WHAT THEY'RE "TORQUING" ABOUT!

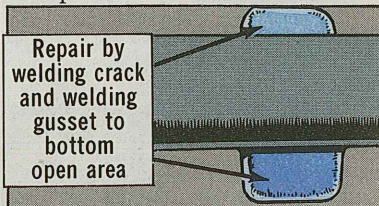
A loose front spring U-bolt will let the spring slide on the axle. It could slide far enough to shear off the center bolt. Then there's nothing to center the spring on the axle—a dangerous situation.



A loose spring will also let the spring slap—or hammer—the spring seat. This hammering or slapping action can crack the spring seat.



So check the U-bolt on both sides of the truck, but especially on the left side. Look for shiny metal or signs of shifting. Check the seat for splits and cracks. If the seat is split, DS'll weld it or replace the axle.



Keep the U-bolts tight. Torque 'em to 110 lb-ft. This torque is shown for U-bolts under "Springs and Shock Absorbers" on page 1-5 in TM 9-2320-266-20 (Jan 76). But pay no mind to the torque for U-bolts shown for "Axles" on that page. It's wrong.

M880 Oil Pan Plug

There's a new NSN for Plug, Drain, Item 9, Fig 10, Page 2-2, TM 9-2320-266-20P. This oil pan drain plug for M880-series 1/4-ton trucks now comes under NSN 5365-00-854-1506.

M880-Series 1/4-Ton Trucks...

Towing Brackets NSN's

IT'S NO USE, SARGE... WE CAN'T MAKE THIS HOOK UP!

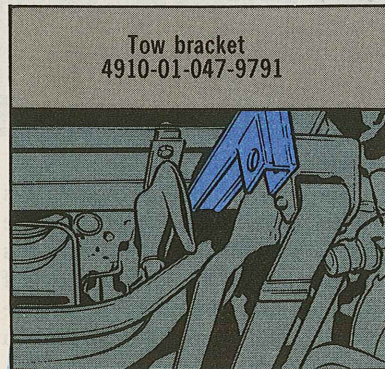
HMMM—WONDER IF WE CAN MAKE UP SPECIAL BRACKETS!

NOT NECESSARY!
HERE'S TH' BABY YOU NEED!

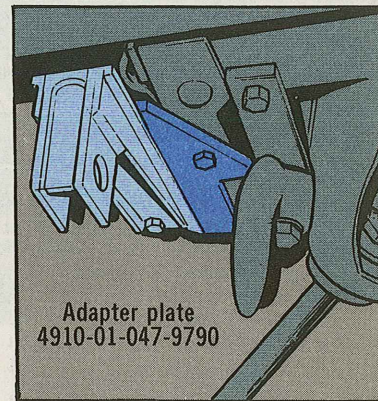


To hook up a tow bar on the front of these 1/4-ton trucks, you need special brackets.

Your unit may have already made up a set. If not, order NSN 4910-01-047-9791, the tow bracket for all M880-series trucks. You'll need 4 nuts 5310-00-732-0558, 4 screws 5305-00-269-3214 and 4 lockwashers 5310-00-637-9541 to mount 2 brackets to your truck.



If you have a 4x2 model, you'll also need 2 adapter plates 4910-01-047-9790 and 4 more screws, nuts and lockwashers.



Use the brackets (for 4x4 trucks) or the brackets and plates (for 4x2 trucks) with tow bar NSN 4910-00-735-6056 on your 5-ton wrecker. Or get tow bar NSN 4910-00-433-7094 that includes the brackets and plates.

M880-Series 1¼-Ton Trucks...

Skid Plate... Maybe

WOW! DOES THIS TRUCK HAVE A TRANSFER SKID PLATE?

OUCH! THESE RUTS ARE KILLIN' ME!

DUNNO!

KLUNK!

Your 4x4 1¼-ton truck may or may not have a transfer skid plate.

A few of the very first trucks have them but newer trucks do not.

The skid plate reinforces the engine rear crossmember and protects the

transfer during cross-country driving. If your truck bottoms out on a rock or a stump, the transfer will be protected.

Your CO can give you the OK to add the skid plate. You'll find all the parts needed on page 2-88 in TM 9-2320-266-20P (Feb 78). Frame and crossmember repair are jobs for DSU.

Multifuel Engines... Hissing Allowed

YOU SOME KINDA SMART GUY?

H-HONEST... I DIDN'T HISS, FELLAS!

I'M SO EMBARRASSED!

Don't rush to direct support to get a new headgasket just because your 465-series multifuel engine makes a hissing noise.

These engines were modified to include a new type headgasket with a loose fire ring and a venting system. The venting system allows gases to be released outside the engine, producing

a hissing noise.

Don't panic...this hissing sound is normal if the engine is cold. But if the engine is hot and the hissing is accompanied by a loss of power, or if air bubbles appear in the engine coolant, chances are you have a blown headgasket.

M872 34-Ton Semitrailer...

Spare Tire Spared

The chain holding the spare tire in its carrier is too weak for the job and it breaks.

This lets the spare fall out of the carrier. You'll lose the spare...and the nearly \$200 it costs to replace it.

Get your mech to put a heavier chain on it. He'll need about 5 feet of size 2-0 welded chain. Order NSN 4010-00-273-2986 by the foot. Secure the tire with Padlock NSN 5340-00-158-3805.

This chain is too light for job

Trailer Brake Medicine

THIS DURN TRACTOR'S GOT NO POWER!

OH YEAH? WELL OUR TRAILER'S GOT NO BRAKES... OR TIRES NOW!

Rip Van Winkle's joints may've been pretty rusty when he finally stirred, but your trailer's brakes suffer even more when they've had no exercise for a long spell.

Rust causes the brake shoes to "freeze" onto the anchor pins—and then the shoes can't move. You'll find that your brakes are either stuck ON or OFF—depending on what kind of trailer you've got.

Exercising your brakes at least every 30 days is a big help. But you can get extra insurance by using Cleaner, lubricant and preservative (CLP) on the anchor pins to keep your brakes limber. Just a thin coating is enough.

NSN 9150-01-054-6453 gets a pint container with trigger sprayer.

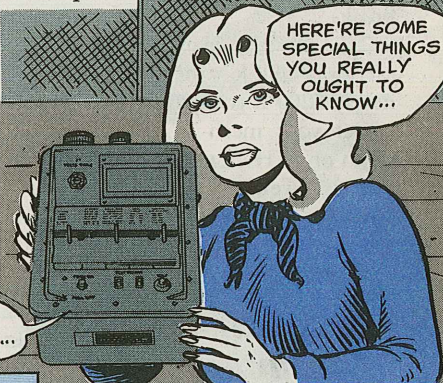
Hit anchor pins with CLP

Keep COOL with STE//ICE

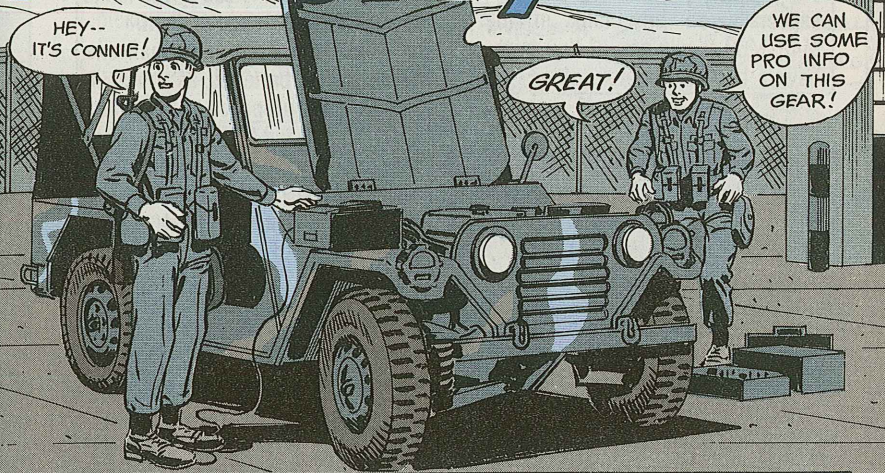
Simplified Test Equipment for Internal Combustion Engines (STE//ICE) gives you a cool tool in the motor pool.

Some units already have STE//ICE, and others will soon. This computerized test equipment tells you what is wrong with tanks, personnel carriers, SP artillery and trucks. It checks out engine oil pressure and electrical systems, engine compression, vacuum, dwell and timing, and many other things—even tire pressures.

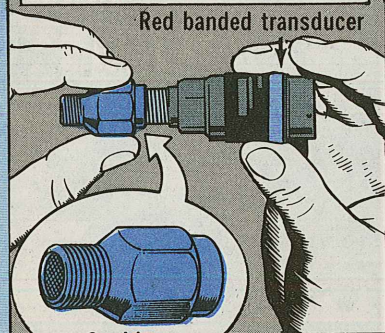
STE//ICE, NSN 4910-00-124-2554, is covered by TM 9-4910-571-124P (Feb 79)...



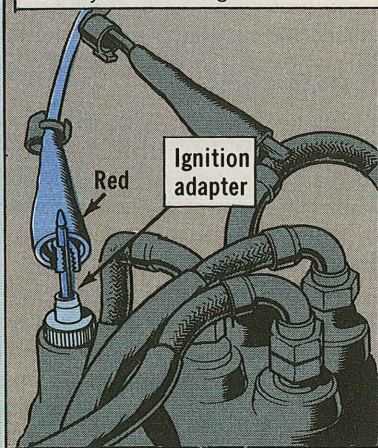
HEY-- IT'S CONNIE!



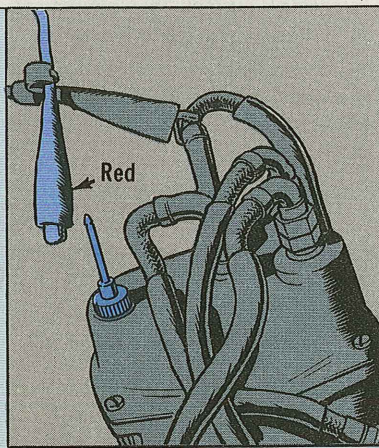
1 The red-banded transducer (PN 12258877) is used for both low-pressure readings (0 to +25 PSI) and for vacuum readings (0 to 30-in of Hg). However, for vacuum readings, the transducer must be hooked into the snubber (PN 12258881). Unless you make this test with both parts hooked together you can damage the transducer.



2 The ignition adapter, NSN 4910-00-356-7492, you use to test the engine on the M151A2 family of ¼-ton trucks sometimes goes bad. If the engine cranks but won't start when you're testing it with the



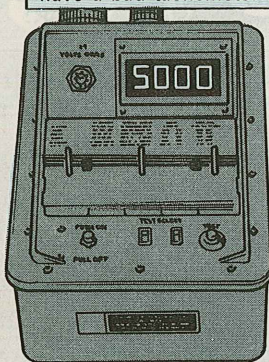
STE//ICE, (but it will start without the STE//ICE), you should check for a possible bad ignition adapter. Do this by uncoupling the red lead to the ignition adapter. If the engine continues to crank but won't start,



screw out the ignition adapter from the top of the distributor. If the engine now starts, get a replacement adapter. One reason the adapter goes bad is from overtightening. Hand tighten only.

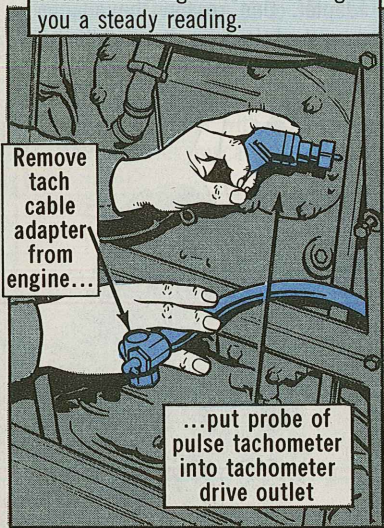


3 Do you get fluctuation when you're checking RPM readings, especially on any tank in the M48/M60 family group? You might have a bad tachometer cable.



RPM's jump around 2000 and 5000?

Unhook the tach cable adapter from the engine and stick the probe of the pulse tachometer (12258875) directly into the tachometer drive outlet in the engine. This should give you a steady reading.

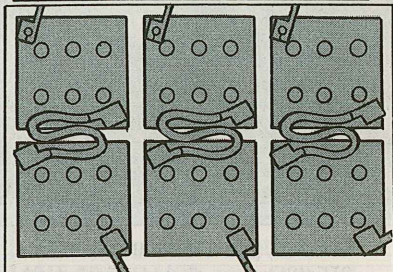


Remove tach cable adapter from engine...

...put probe of pulse tachometer into tachometer drive outlet

4 The TM gives the limits for total system current instead of the limits for individual battery current.

Where you have more than one series pair of batteries, as you do in tanks, self-propelled howitzers, GOERs and 5-ton trucks, you have to take current measurements from each series pair and add them together to get the total system current.



One series + one series pair + one series pair = reading

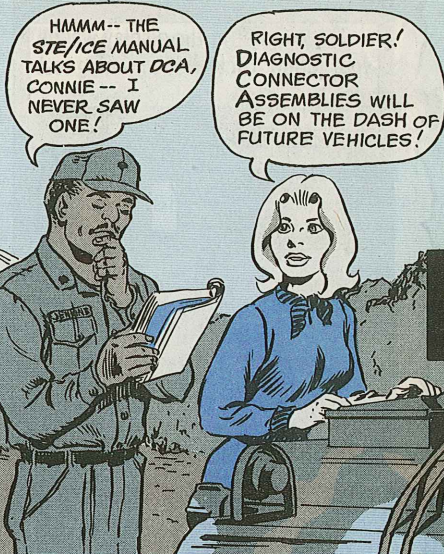
This applies when you're measuring starter first peak current, cranking current or alternator output current at the batteries. You have to take a measurement from each series pair and add them together to get a total system current.

'COURSE, IF YOU HAVE ONLY ONE BATTERY, OR ONE SERIES OF BATTERIES, YOU JUST TAKE ONE READING!



5 You need a special adapter to do STE/ICE tests that call for a tach pickup if you're testing the Gama Goat. This adapter can be ordered using PN 12296274 and FSCM 19207. There's no NSN yet.

6 You won't be able to find the "Diagnostic Connector Assemblies" (DCA) that your STE/ICE manual talks about. They will be on most future Army vehicles but no vehicle in the field has them yet. The diagnostic plugs will be mounted on the dash so you can hook them to the STE/ICE.

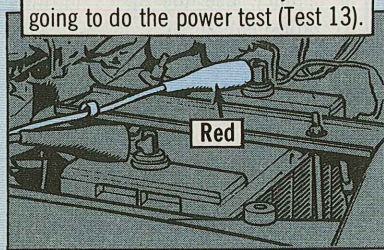


HMMM-- THE STE/ICE MANUAL TALKS ABOUT DCA, CONNIE -- I NEVER SAW ONE!

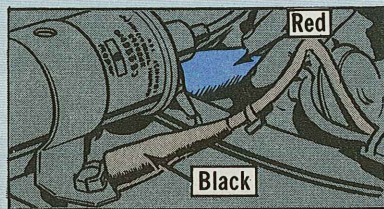
RIGHT, SOLDIER! DIAGNOSTIC CONNECTOR ASSEMBLIES WILL BE ON THE DASH OF FUTURE VEHICLES!

7 The current TM 9-4910-571-12&P does not show you how to check the timing on the M880 truck, but it can be done. First connect STE/ICE to the M880 as if you were going to do the power test (Test 13).

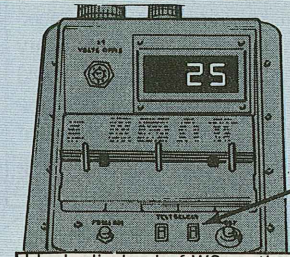
Next, enter a vehicle ID number of 25 into your STE/ICE. Then, without changing the setup (red clip lead of cable W3 on the coil terminal and



Red



Black

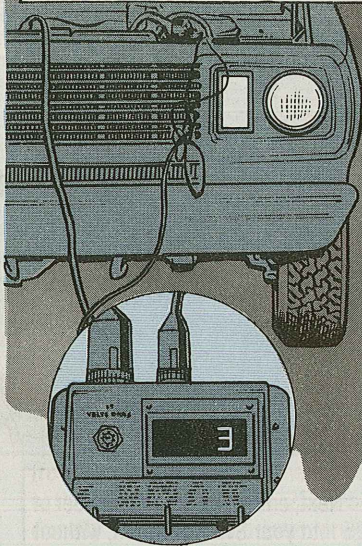


Enter VID 25

black clip lead of W3 on the ground strap or other good ground), do Step 3 of the Ignition Timing check, (Test 19).



The number in the display will be your M880 truck ignition timing test result.



8 Make sure you have good connections when you do battery tests. Your STE/ICE reading could show a bad battery when, in fact, the battery is OK but the cable end needs cleaning, tightening or replacement.

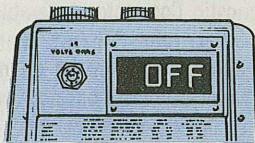
CAN'T BELIEVE IT, CONNIE!
STE/ICE SAYS WE GOT A DEAD BATTERY!



MAYBE NOT-- THE CABLE END MIGHT NEED CLEANING!

9 When you do a power test on spark ignition engines, press the accelerator quickly to the floor and hold it there until the engine cuts off. If you don't do this, you'll get either a LO reading or an error code E011.

Compression ignition engines give you the same result, except the engine doesn't cut off automatically.



Remember, when you see OFF in the STE/ICE display, take your foot off the accelerator.

10 You'll sometimes find minor differences between the vehicle specs in the STE/ICE manual and the specs in the TM for the particular vehicle you are working with. In case of conflict, use the specs in the STE/ICE manual.

11 To get on pin-point distribution for STE/ICE publications, you do a "write-in" order in Block B26 on DA Form 12-38.



M109-Series Howitzers...

Fan Towers Need GIA

HOW 'BOUT MY FAN TOWER FITTING?

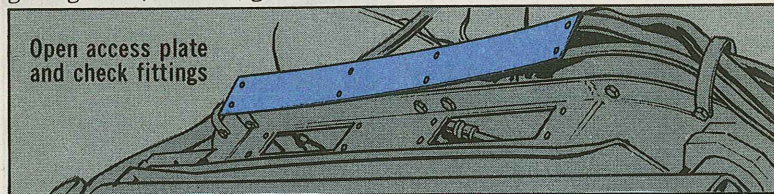


The fan towers in your howitzer need a fan letter because they do a good job under heavy odds.

What they need even more is a semi-annual lubing with grease, aircraft and instrument (GIA) the way it says in Note 39 on page 18 of your LO 9-2350-217-12N (Jun 78). (The reference numbers are turned around in the note. The lube fitting is 55 and the relief fitting is 54.)

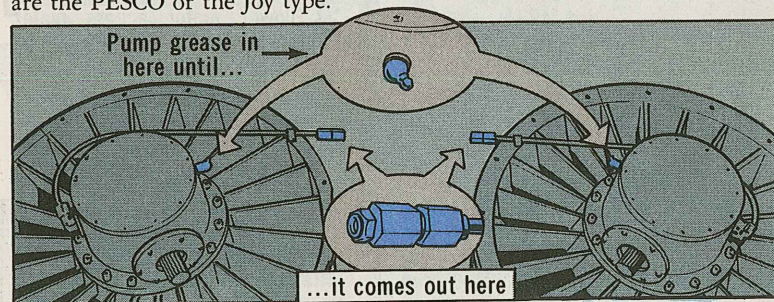
The fans sometimes get shorted on lube because crewmen have to take off the access cover to get to the fittings, and that's a little trouble. As a result of not getting lubed, the fans, gear shaft and gears fail.

Open access plate and check fittings



Unless you're sure they've been lubed within the last 6 months, open the access plate and check 'em out. There'll be some grease at the pressure relief fittings if the fans have been lubed. This is true regardless of whether your fans are the PESCO or the Joy type.

Pump grease in here until...



'Course, there's a chance that they've never been altered to take the grease fitting and pressure relief fitting.

In that case, your direct support can do the job for you the next time the power pack is removed. Instructions are on page 3-78 of TM 43-0143 (Jun 77), the EIR and Maintenance Summary for TARCOM Equipment.

GIA comes as NSN 9150-00-985-7246, 1 1/4 lb can; NSN 9150-00-985-7247, 7 1/2 lb can; or NSN 9150-00-985-7248, 35-lb can.

With
Cleaner
Air...

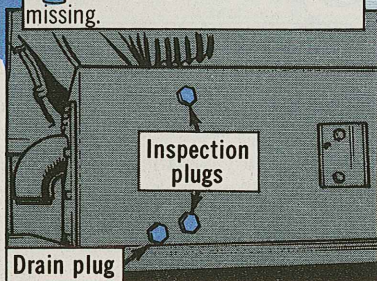
You Can Help Stop Wear!

When your tank air cleaners don't clean the air that goes into the engine, the engine wears out in a hurry. It takes only 8 ounces of dirt to completely destroy a tank engine.

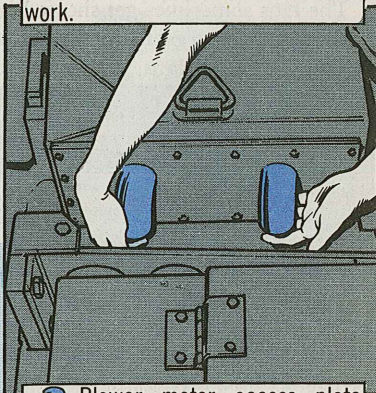
These air cleaner faults are so damaging that you shouldn't run the tank at all. Make a note on your DA Form 2404 and get help from your mechanics.

**YOUR TANK IS
NOT READY TO
OPERATE, IF.....**

1 Drain plugs or inspection plugs missing.

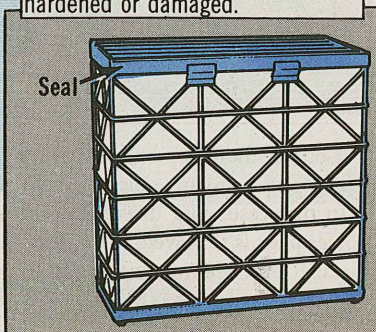


2 Both blower motors on the same air cleaner assembly won't work.

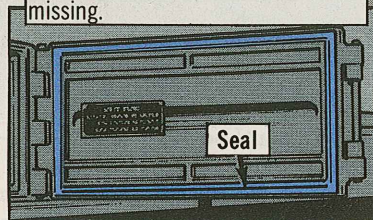


3 Blower motor access plate mounting bolts are loose, stripped or missing.

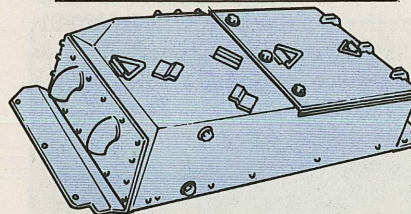
4 The filter element is damaged or missing, or element seal is torn, hardened or damaged.



5 Access door damaged, missing, hinges bent or broken, seal missing, hardened or damaged, locking bolts loose, stripped or missing.



6 Air cleaner housing cracked or dented.

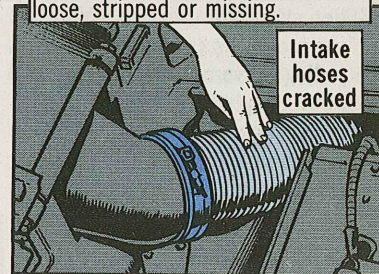


7 Restriction indicator or pipe plug (depending on how your tank is equipped) missing or damaged, or indicator stays red after resetting.

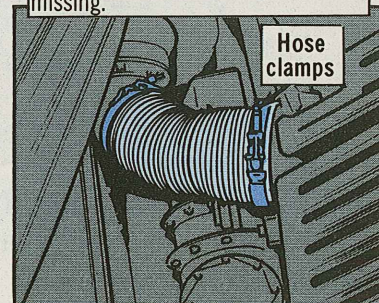


8 Any air cleaner gaskets missing or damaged.

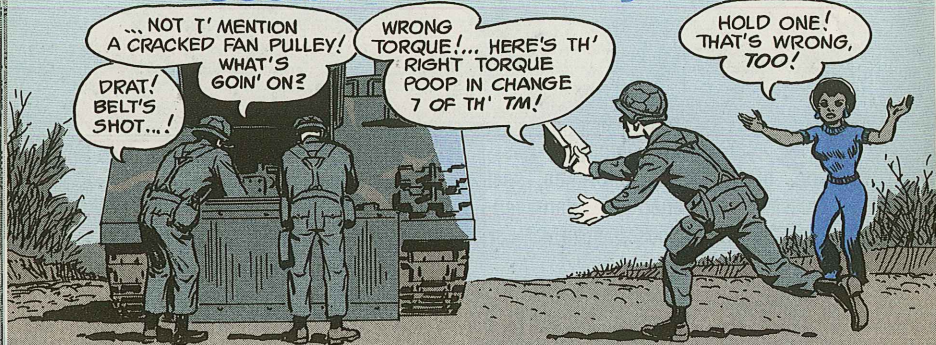
9 Intake hose clamps broken, missing; threads stripped. Hoses cracked, torn or damaged. Elbow loose or damaged; mounting bolts loose, stripped or missing.



10 Outlet hose (air cleaner to turbosupercharger) damaged or missing. Hose clamps damaged or missing. Elbow loose or damaged. Mounting bolts loose, stripped or missing.



Coolant Fan Pulley Bust



The clamping lip on M113A2 cooling fan pulleys can crack. This lets the pulley move out on the shaft and the belts whip off.

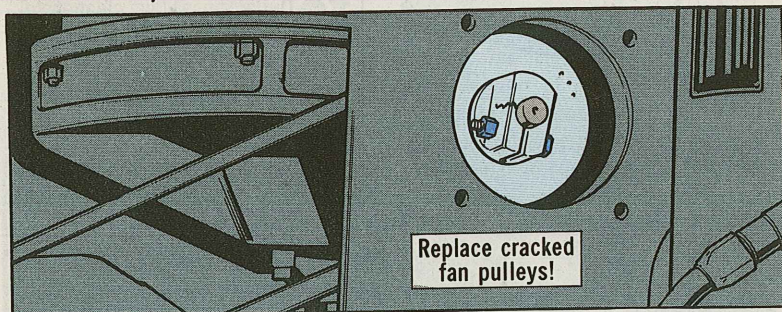
The pulley cracks because the manufacturer used the wrong torque—too much. The torque given in TM 9-2300-257-20, Para 2-99.12 in C 7 is also wrong.

Check the fan pulleys on all your carriers. If they're cracked or broken,

replace 'em. Use NSN 3020-01-060-2546.

Loosen the clamping screw then torque it to 16-18 lb-ft. If you use Torque Adapter NSN 5120-00-977-7421, the torque should be 13-15 lb-ft.

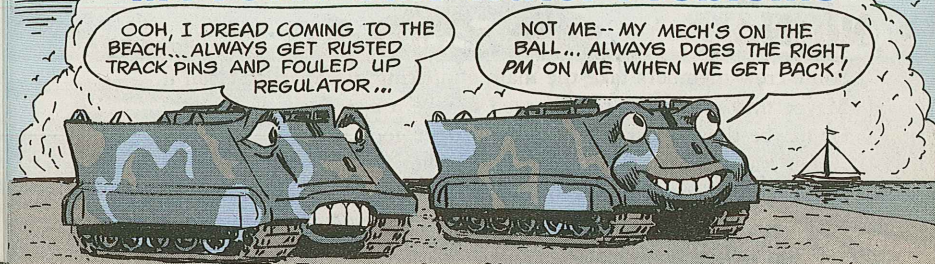
If you need belts, NSN 3020-01-065-6264 gets a 3-belt set—not 2 as shown on page 31, C 3 to TM 9-2300-257-20P.



M113 Carrier Spindle NSN

Use NSN 2530-01-079-3105 to get the idler arm support spindle for your M113A2 carriers. The NSN for item 1, Fig 119.1, on page 73 in TM 9-2300-257-20P (Aug 75) C 3, is wrong.

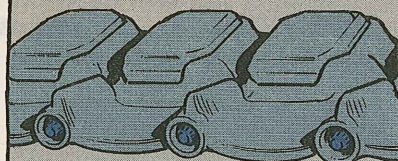
M113A1 Salt-Water Problems



Your M113A1-series vehicle can get covered with salt without being harmed provided it is handled right afterward.

There are 2 places that are 'specially vulnerable—the track pins and the inside of the voltage regulators. Here's what to do about them.

TRACK PINS—After exposure to salt water or sea breezes, the track pins quickly rust in place.

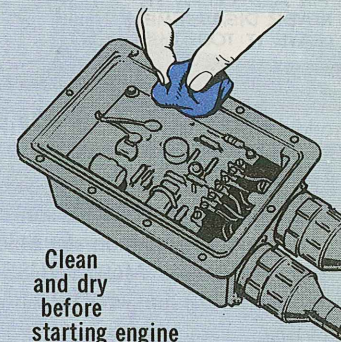


To prevent this, wash the track thoroughly in fresh water.

Soak the track pins with engine oil and then operate the vehicle so the track pins can turn the way they are supposed to.

If this does not work, the track must be cut apart and replacement track installed.

VOLTAGE REGULATORS—The inside of the voltage regulator is very vulnerable to salt air, and even to tropical rains. After such exposure, it must be cleaned and dried before you try to start the engine.



Make sure the regulator cover is properly secured before you install the regulator. Also see that the adjustment access plug is correctly installed and secured after doing any maintenance. Failure to do these 2 things is the big cause of salt and water getting into the voltage regulators.

Firing Pin No-No

HEY! WHY DON'T YOU FIRE!



Some crew members take the main gun firing pin apart to clean it. Maybe they think they're supposed to take it apart. Or maybe they're just trying to do a super good job. Either way, the firing pin gets put together wrong. The plastic washer is being installed backwards—with the countersunk side towards the threaded

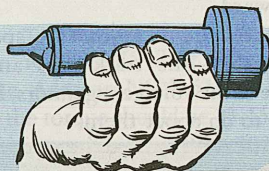
This washer gets put in backwards...



...hub then cracks washer

end of the pin. As the metal end hub is screwed onto the pin body, the plastic washer gets cracked. The final result is a main gun no-fire condition. The firing pin has to be replaced.

IT'S A OK TO TAKE OUT THE PIN AND CLEAN IT, BUT NEVER DISASSEMBLE IT! LEAVE IT TOGETHER!



M36E1 Periscope Peculiarity

HEY! ARE YA GONNA FIRE?

DUNNO... PERISCOPE JUST SHUT ITSELF OFF!

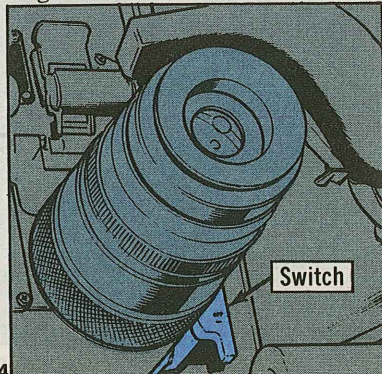
The passive elbow on the M36E1 periscope in your M60A1 RISE or M60A3 tank can shut itself off without warning.

When this happens, the only way to get it working again is to turn its switch to OFF and then back to ON again.

Dirty or worn contacts on the cupola slip rings are the most likely reason the periscope shuts itself off.

If you have any problems with this, get your direct support to check out the contacts on the slip rings. They can

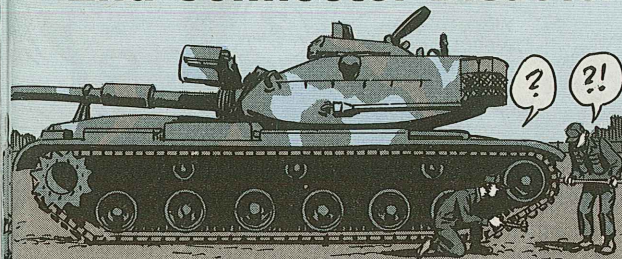
either clean or replace the cupola slip rings as needed.



End Connector Disaster

HEY--NO!

NEVER REMOVE AN END CONNECTOR THAT WAY!



You could get a chunk of metal in your face if you try to remove end connectors with a sledge hammer.

It happened to 2 soldiers recently.

In both cases, a soldier was holding a 2-lb ball peen hammer on an end connector while his buddy beat on it with a 10-lb sledge hammer.

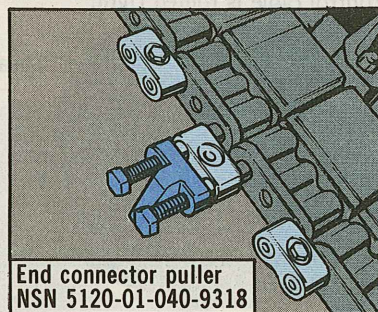
In each case, slivers of metal flew off the end connector.

One man was hit in the eye and blinded.

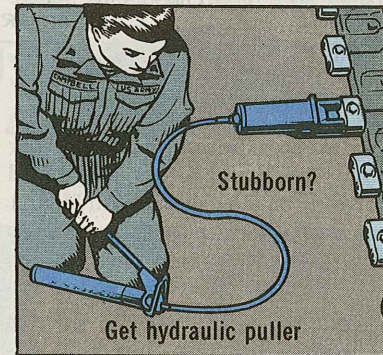
The other wasn't so lucky. He was killed.

Use the right tool.

There's an end connector puller as part of the basic issue items for every tank. If you don't have one, get it with NSN 5120-01-040-9318.



End connector puller
NSN 5120-01-040-9318



Get hydraulic puller

Winch Warning



Y'GOTTA BE CAREFUL AROUND ANY WINCH!



Listen up, you M88A1 recovery vehicle drivers.

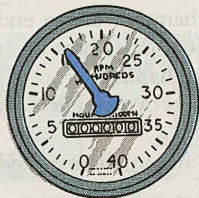
To engage winch, idle the engine, and move the power control lever to ON.

During winching operations when you have the power control ON, the solenoid link will break if you force the engine RPM above 1800.

On the other hand, if you go under a minimum RPM of 1500, the oil pump won't work fast enough to do a good job.

So keep your RPM between 1500 and 1800 when you're winching.

When you're done winching and want to drive the vehicle away, always bring the engine to idle before shifting the power control lever to OFF! If you leave it ON when you drive, you'll override the solenoid and break the solenoid link when your engine speed gets above 1800 RPM.



Keep RPM here when winching

Cable Routing

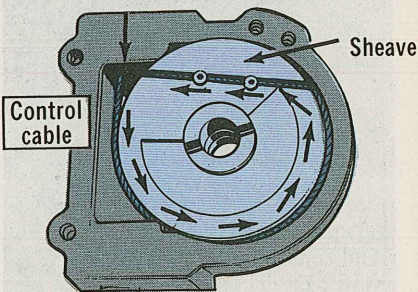
QUICK! PULL THE EXTINGUISHER HANDLE!

ER-RR...

Get your mechanic to see that the control cable is routed right.



Make sure the control cables of your fixed fire extinguishers are routed correctly on their sheaves. An M88A1 recovery vehicle burned up recently because the cables were put in wrong. When the handles were pulled, the cables did not discharge the extinguishers.



Safety Warning

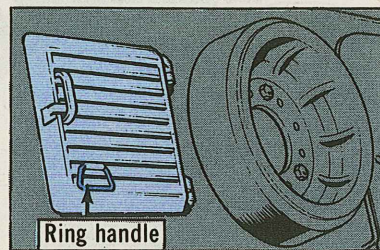


When you open the access door on your M88A1 recovery vehicle to service the auxiliary power generator, make sure it stays open.

when that heavy door closes is going to get badly mashed.

Use one of the stowage straps from the vehicle (or a strong piece of rope) to tie the door back when you're working.

Route the strap through the lower door ring handle and stowed roadwheel hub and tie it.



The spare road wheel mounted on the face of the hull keeps the access door from opening completely. It's in an unstable position and can slam shut.

Whatever part of you is in the way



Supply Info

TM 9-2350-256-20P (May 77) doesn't list NSN 6620-00-814-4770 for the transmission oil pressure transmitter. It's item 3, Fig 98, on page 162.



JOT DOWN THE NSN UNTIL THE BOOK'S UPDATED!



PUBS

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AOG Distribution Centers Bulletins. For complete details see DA Pam 310-4, DA Pam 310-6 and DA Pam (C) 310-9.

TECHNICAL MANUALS

TM 5-3805-255-14&P Jul Scoop loader, DED, COE IHC Mod H1100C
 C 4, TM 5-5420-212-12 Jul Med girder bridge
 C 1, TM 5-6115-332-14 Jul Generator GED 5-KW, AC, 120/240V
 C 8, TM 9-1300-251-20 Sep Artillery ammo
 TM 9-1425-655-L Aug Pubs list AN/TSQ-73
 TM 9-1430-529-24P Jul Radar AN/MPO-51 (XO-1) Improved HAWK
 TM 9-1440-531-24P Aug Improved HAWK
 TM 9-2320-260-10-2 Aug 5-ton M809-series trucks
 C 5, TM 9-2320-266-20 Aug M880-series

truck, 1½ ton
 TM 9-2350-215-20-2-2-2 Jul Part 2 troubleshooting turret for tanks M60A1, M60A1 AOS
 TM 9-2350-215-20-2-3-1 Jul Part 1 turret for tanks M60A1, M60A1 AOS
 TM 9-2350-215-20-2-3-2 Jul Part 2 turret for tanks M60A1, M60A1 AOS
 TM 9-2350-257-20-2-2-1 Jul Part 1 troubleshooting turret for tanks M60A1 RISE, M60A1 RISE Passive
 TM 9-2540-495-24&P Aug Personnel heater 2540-00-854-4449, -00-930-8938, -01-013-0846; engine coolant heater 2540-00-997-1532
 TM 9-6920-429-12 Aug Stinger training set
 TM 9-8140-375-20P Jul Pershing 1A
 C 3, TM 11-1520-210-20-1 Sep Electronic expl UH-1H
 TM 11-1520-242-20P Aug Electronic expl EH-1H
 TM 11-2300-459-14&P-3 May Installation kit for AN/VRC-12 in M882 or M892
 TM 11-4920-296-14&P Sep AN/APM-378 test set
 TM 11-5805-304-24P Aug SB-86/P

switchboard
 C 1, TM 11-5810-262-20 Jul TESC/KY-58
 TM 11-5841-272-20P-1 Sep Altimeter set, electronic AN/AN-171A (V) 1
 TM 11-5841-286-13 Jul AN/ARC-164 (V) 12 radio
 TM 11-5855-249-23P-1 Aug AN/VVS-2 (V) 1 driver's night vision viewer
 TM 11-5855-249-23P-2 Aug AN/VVS-2 (V) 2 driver's night vision viewer
 TM 11-5895-366-14-2-HR Sep AN/TRC-117 (V) 1 and AN/TRC-117 (V) 2 radio terminal sets
 TM 11-5895-1047-10 Jun AN/TRS-2 (V) 1-6-plateon early warning sys
 TM 43-0001-28-2 Jun Artillery ammo C 1, TM 55-1670-251-20&P Jul Aerial recovery kit
 TM 55-2640-247-23P Jun Engine, aircraft, turbine T-53-L-703
MISCELLANEOUS
 MCRL-1 Oct Master cross ref list (fiche)
 MCRL-3 Oct Master cross ref list Part 3 (fiche)
 ML-A Oct Mgt data list (fiche)
 SB 725-12-12 Nonexpnd reusable ship, storage containers

AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

TEC LESSONS
 030-051-6374-A AN/PR5-7 Mine detector
 030-051-6425-J 27-ft diesel bridge erection boat
 030-051-6482-F Intro bridge anchor sys
 043-441-5922-F Vulcan controls, instruments, indicators Part I
 043-441-6027-F Nick-cad battery maint Part I
 043-441-6028-F Nick-cad battery maint Part II
 043-441-7883-F Chaparral carrier M730 Part I and II, PMCS
 101-113-7103-A Intercom set AN/VIC-1 troubleshooting
 101-113-7144-A Install AN/VRC-12 in track
 101-113-7145-A AN/VRC-12
 101-113-7146-A AN/VRC-12 Q-PM
 101-113-7155-A Replace BNC connector on coax
 101-113-7160-A Measure resistance, voltage with mul-

timeter AN/URM-105
 102-906-1004-A AN/URM-127 signal gen
 102-906-2009-A AN/GLR-9 (V) alignment Part I
 102-906-2010-A AN/GLR-9 (V) alignment Part II
 102-906-2013-A
 Troubleshoot power supply of CU-872A/U antenna coupler
 102-906-2015-A
 Troubleshoot CU-872A/U antenna coupler Part II
 104-301-7510-J AN/PPS-5, SA-53 radar
 104-301-7549-J Maint test facilities kit MK-980/PPS-5 and MK-980A/PPS-5
 121-093-6612-A Repair of TFFS
 121-093-6613-A
 Troubleshoot TFFS
 121-093-6617-A
 Troubleshoot power source unit (PSU) (TOW field test set)
 121-093-6618-A

Troubleshoot target collimator unit (TCU) (TOW field test set)
 121-093-6619-A
 Troubleshoot power supply modulator-test adapter (PSM-TA)
 121-093-6622-A TOW MGS unit verification tests
 121-093-6623-A Console unit
 121-093-6624-A Battery charger
 202-113-5126-A AN/TRC-113 (antenna)
 202-113-5127-A AN/TRC-113 (cabling, presets)
 202-113-5128-A Radio repeater AN/TRC-113 tune radio
 202-113-5129-A Radio repeater AN/TRC-113 sys line-up and troubleshooting
 231-006-3049-A AN/TNH-20 (V) PM
 551-101-8210-A Manual property book
 551-101-8225-A Receive

supplies and eqpt, Part I
 551-101-8226-A Receive supplies, Part II
 551-101-8227-A Issue supplies and eqpt on temp hand receipt
 611-171-1703-A Start troubleshooting main hyd sys M88A1
 830-191-6028-F 38 Revolver
 830-191-6051-F Hand and arm signals Part I
 830-191-6054-F Flashlight traffic signals
 918-101-0005-A AMDF
 918-101-0006-A AMDF Part I
 918-101-0007-A AMDF Part II
 918-101-0010-A Master cross reference list (MCRL)
 945-171-0004-A Track veh recovery
 945-171-0062-F Op M113A1/M577A1 Part I
 945-171-0064-F Op M113A1/M577A1 Part 3
 947-071-0190-F AN/PPS-11 mine detector

2½-Ton Wheel Lugs

Proper torque for outer wheel lug nuts on TM-209-series 2½-ton trucks is 325-355 lb-ft. Forget what it says in Para 203.b (1), TM 9-2320-209-20 and Para 2-135.b, TM 9-2320-209-20-1.

Extended Hot-End

You Black Hawk types now only have to wrestle with the APU every 1000 flying hours (instead of 500) on a hot-end inspection. The word's in TSARCOM Msg 242005Z Sep 80.

JOE'S DOPE Lead-Acid Batteries

AWAH!

THERE I WAS AT 1,000 FEET-- ME OL' WINTER HAWK-- WHEN I POUNCED ON FT. SHIVER, CATCHING THE 999th TRANS WITH ITS BATTERIES DOWN ... AND SGT. HUSKY'S BLOOD PRESSURE UP!

WHADDA-YA MEAN!

... MOST OF OUR TRUCKS WON'T START?

WELL, SARGE... YESTERDAY IT WAS +35° F... TODAY IT'S -10° F...

WHAT HE'S GETTIN' AT IS, THE BATTERIES DON'T HAVE ENUFF POOP TO TURN THE ENGINES OVER!

ARRGHH-- WE'RE SCHEDULED T' MARCH T' FT. GREESON TOMORROW A.M.!

EITHER ALL OUR TRUCKS ROLL THEN... OR OUR HEADS WILL!

GULP: SARGE, SINCE MANY OF US ARE NEW TO THIS POST...

CAPTAIN COLE ARRANGED FOR A COLD WEATHER EXPERT TO GIVE US A HAND WITH OUR PM PROCEDURES.

HEY! THAT'S RIGHT!..

CONNIE'RODD'S FLYIN' IN T'DAY FROM FT. DIXON... ZOWEE!

GREAT! MEANTIME, LET'S PULL THE REST OF THE PMCS ON THESE TRUCKS!



HAPPY YOU'RE HERE, CONNIE-- WE CAN SURE USE SOME EXPERT INSTRUCTION ON COLD WEATHER BATTERY PM!

MEET SPECS ANDERS, JONES AND THEIR BUDDIES! PLEASE WORK CLOSELY WITH THEM... THEY'RE NEW HERE!

PLEASED TO MEET YOU ALL!

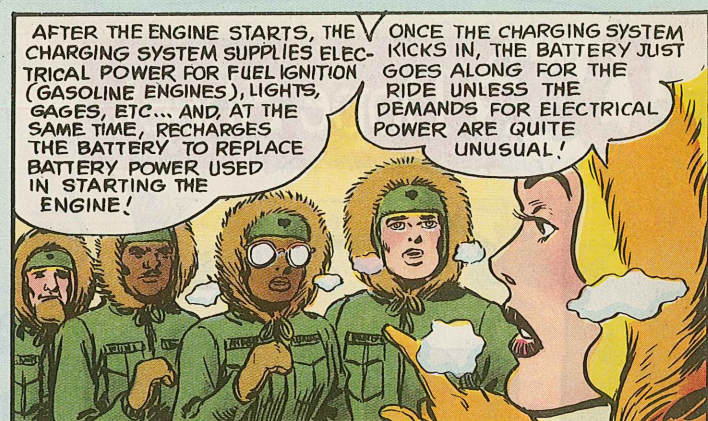
UNDERSTAND YOUR PROBLEM, SERGEANT...

COLD WEATHER REALLY PUTS EQUIPMENT OPERATORS TO THE TEST!

VA-VOOM!!

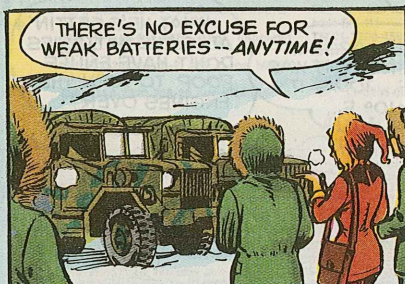


THAT BATTERY'S MAIN JOB IS TO GET YOUR ENGINE STARTED!



AFTER THE ENGINE STARTS, THE CHARGING SYSTEM SUPPLIES ELECTRICAL POWER FOR FUEL IGNITION (GASOLINE ENGINES), LIGHTS, GAGES, ETC... AND, AT THE SAME TIME, RECHARGES THE BATTERY TO REPLACE BATTERY POWER USED IN STARTING THE ENGINE!

ONCE THE CHARGING SYSTEM KICKS IN, THE BATTERY JUST GOES ALONG FOR THE RIDE UNLESS THE DEMANDS FOR ELECTRICAL POWER ARE QUITE UNUSUAL!

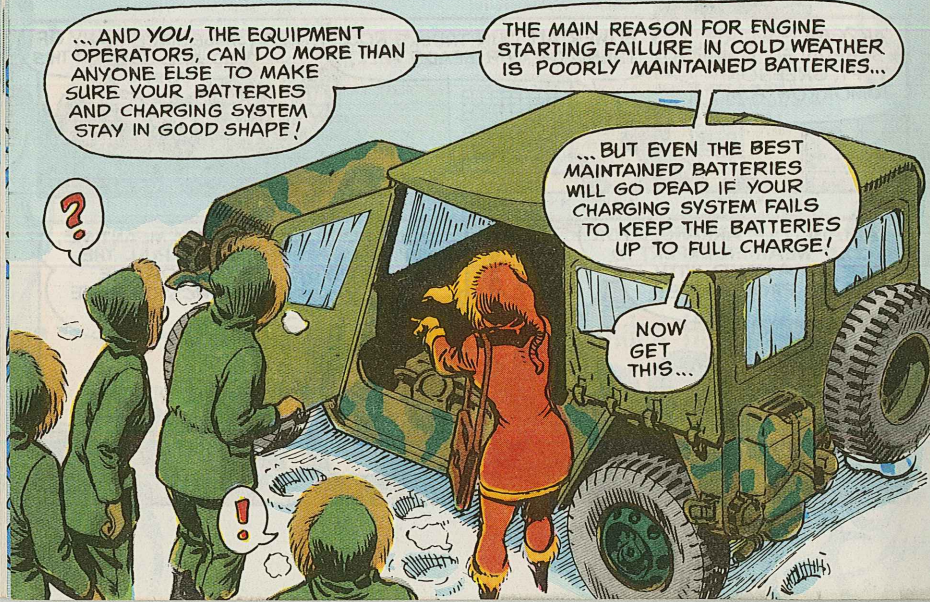


THERE'S NO EXCUSE FOR WEAK BATTERIES--ANYTIME!



IT'S AS SIMPLE AS KEEPING YOUR BATTERIES AND YOUR CHARGING SYSTEM IN GOOD SHAPE...

YOU KNOW IT, CONNIE!



... AND YOU, THE EQUIPMENT OPERATORS, CAN DO MORE THAN ANYONE ELSE TO MAKE SURE YOUR BATTERIES AND CHARGING SYSTEM STAY IN GOOD SHAPE!

THE MAIN REASON FOR ENGINE STARTING FAILURE IN COLD WEATHER IS POORLY MAINTAINED BATTERIES...

... BUT EVEN THE BEST MAINTAINED BATTERIES WILL GO DEAD IF YOUR CHARGING SYSTEM FAILS TO KEEP THE BATTERIES UP TO FULL CHARGE!

NOW GET THIS...



ANYONE WHO OPERATES GROUND EQUIPMENT MUST REALIZE THAT HE OR SHE IS MOST RESPONSIBLE FOR THE BATTERY'S SUCCESS OR FAILURE IN STARTING THE ENGINE!

HIS OR HER JOB IS NOT TOUGH AND DOES NOT TAKE A LOT OF TIME!



SOUNDS GOOD, CONNIE...

YEAH, CONNIE, BUT WHAT EXACTLY DOES AN OPERATOR DO TO MAKE SURE THERE'S ENUFF BATTERY POWER FOR ENGINE STARTING?

MOST EVERYTHING YOU NEED TO KNOW IS SPELLED OUT IN THE PUBS YOU SEE IN THIS POSTER!

JOE'S Dope Sheet

Cold weather is no time for flirtin'
 With battery power that's hurtin'
 PM sure and steady
 Will make sure you're ready
 With Go-Power that's quick and certain!



A woman with long, flowing blonde hair, wearing a red and yellow outfit, is holding a maintenance manual. She has a speech bubble above her head containing a poem about battery power. The manual she is holding is titled 'Preventive Maintenance of LEAD-ACID BATTERIES' and includes a table of maintenance checks and a diagram of a battery.

HERE'S YOUR
DA Pamphlet 750-34
 1 MAY 1978

Preventive Maintenance of LEAD-ACID BATTERIES

TM 9 6140 200 14

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL FOR LEAD ACID STORAGE BATTERIES

4HN, 24 VOLT (6140 00 059 3528); MS75047 1
 2HN, 12 VOLT (6140 00 057 2553); MS3500H 1
 6TN, 12 VOLT (6140 00 057 2554); MS3500H 1

HEADQUARTERS DEPARTMENT OF THE ARMY
 APRIL 1978

TM 9 6140 200 10
TABLE 3-1 OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS & SER

NOTE: These checks are to be performed on the battery.

OPERATOR'S MANUAL

B - Before operation
 D - During operation
 A - After operation
 W - Weekly
 M - Monthly

ITEM NO.	INTERVAL					ITEMS TO BE INSPECTED	PROCEDURES: CHECK FOR AND HAVE REPAIRED OR ADJUSTED
	B	D	A	W	M		

FOR READ REPORTING, NOT LABEL

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.



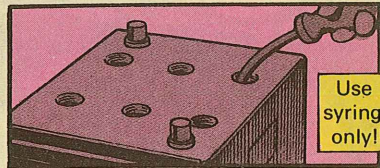
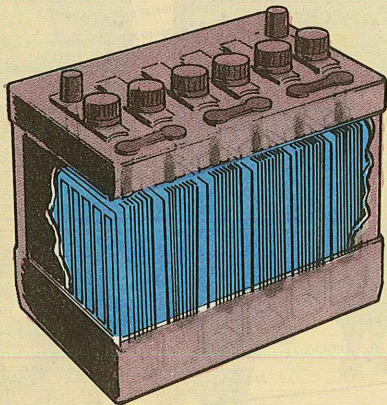
GOING STRICTLY BY THE BOOK, EQUIPMENT OPERATORS JUST INSPECT AND REPORT THESE PROBLEMS...

... BUT SOME COMMANDERS MAY FEEL THEIR OPERATORS ARE GOOD ENUFF TO HANDLE SUCH SIMPLE JOBS AS THESE...



Keep electrolyte (battery acid) over the tops of the plates in the battery.

Add water (distilled preferably) if needed.



Use syringe only!!

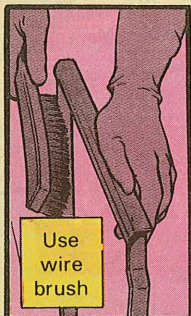
Do not overfill.



Hose is a NO-NO here

Keep battery holddowns and cable connections clean... free of dirt and corrosion.

Check for tight electrical connections.



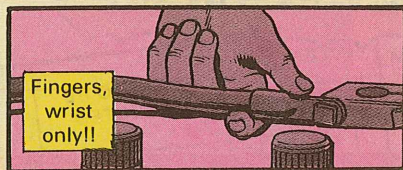
Use wire brush



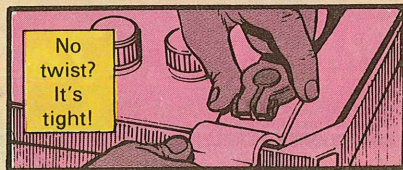
After cleaning your battery, rinse...

...use low pressure water only!

34



Fingers, wrist only!!



No twist? It's tight!

GEE... THAT'S A SNAP, CONNIE.

IS THAT ALL?

NO, NOT QUITE! IT'S IMPORTANT THAT YOU IMMEDIATELY...

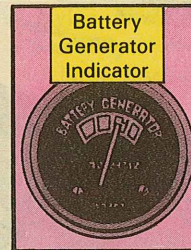
REPORT CHARGING SYSTEM TROUBLE...

REPORT ANY TROUBLE TO YOUR SUPERVISOR!

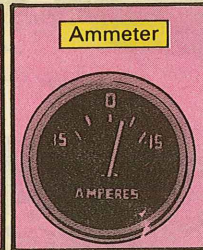


Watch the battery/generator indicator (or ammeter on some equipment) to make sure the charging system is charging the battery—enough but not too much.

IF YOUR OPERATOR'S TM DOESN'T EXPLAIN HOW YOUR BATTERY GENERATOR INDICATOR OR AMMETER WORKS, GET THE FULL STORY IN DA PAM 750-34, PAGES 4 AND 5.



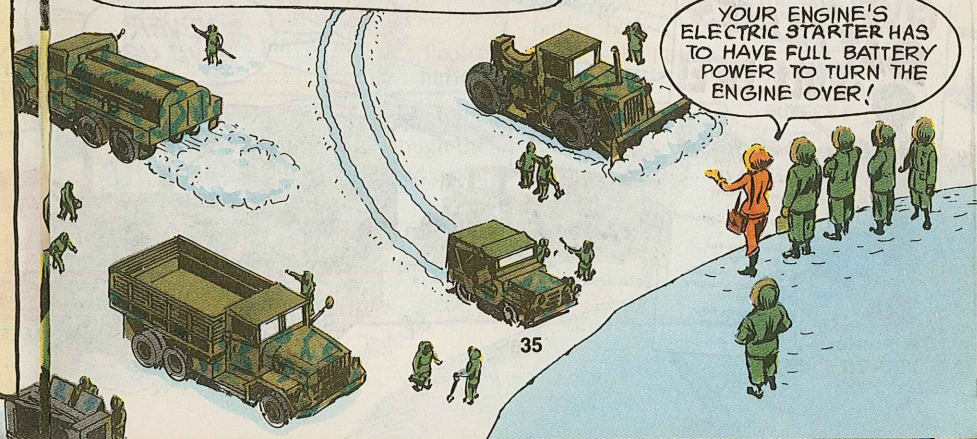
Gages are meant to be watched!



ALL OF THAT EQUIPMENT DEPENDS ON FULLY CHARGED BATTERIES FOR ENGINE STARTING -- AND THE STARTING JOB GETS TOUGHER AS THE WEATHER GETS COLDER!

ENGINES ARE HARDER TO START WHEN COLD THICKENS ENGINE OIL!

YOUR ENGINE'S ELECTRIC STARTER HAS TO HAVE FULL BATTERY POWER TO TURN THE ENGINE OVER!



35

GOOD SHOW, CONNIE! NOW I'M SURE THOSE SOLDIERS WILL NEVER PERMIT ANY FUTURE BATTERY DOWN-TIME!

THANKS, SARGE! OLD WINTER HAWK'LL BE BEATEN IF HE TRIES PUNCH OUT TH' 999TH AGAIN!

RIGHT!

YOU KNOW IT!

OK, TROOPS-- LET'S GET WITH IT!...

... WE GOT A DOZEN TRUCKS T'GET ROLLIN'... AND LESS THAN 12 HOURS T' DO IT!

LET US AT 'EM, SARGE!

WELL, THEY'RE OFF, CAPT. COLE! RIGHT ON SCHEDULE!

YES, CONNIE! EVEN THO IT WAS NIP AND TUCK FOR A WHILE, TH' GOOD OLD 999TH CAME THRU ON TIME.

GRR-AWKK!! ... AND SO THEY DID! FOR NOW, THE 999TH TRANS HAS BEATEN ME...

BUT JUST WAIT!! IF THEY LET THEIR GUARD DOWN AGAIN...

...OL' WINTER HAWK WILL STRIKE AGAIN!!

I NEVER GIVE UP!

GIVE YOUR BATTERIES A FULL LIFE!

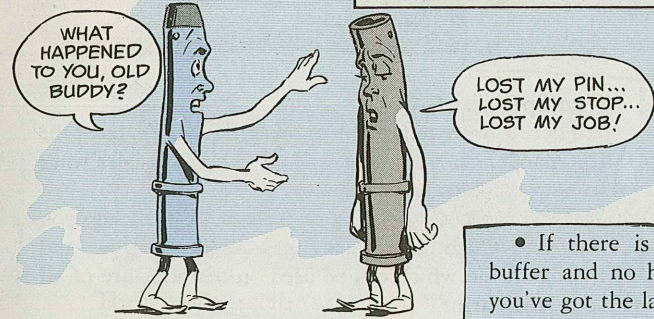
ALWAYS...

- Keep Electrolyte Over Plates
- Clean Dirt & Corrosion Off Battery
- Keep Cables and Clamps Tight
- Get Over-Charging and Under-Charging Corrected
- Run Engines After Adding Water to Batteries

DA Poster 750-76

FIREPOWER

M16A1 Buffer Pin Check

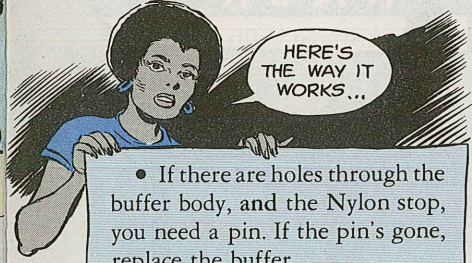


Play it cool if you find no pin in the Nylon stop of your M16A1 rifle buffer assembly.

New assemblies and stops don't need a pin.

- If there is no hole in the buffer and no hole in the stop, you've got the latest design.

No hole anywhere ...latest design



- If there are holes through the buffer body, and the Nylon stop, you need a pin. If the pin's gone, replace the buffer.

Pin **Hole... but no pin? ...** **...Replace buffer**

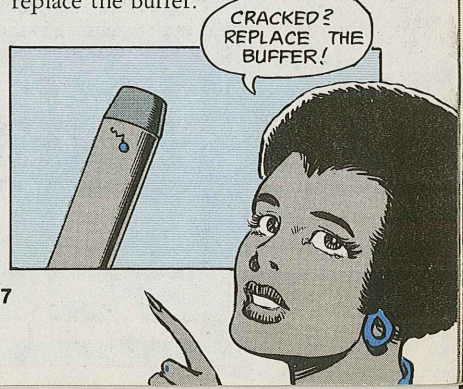
- If there is a hole through the buffer body but none through the Nylon stop, you don't need a pin.

No hole... in stop **No pin needed**

The idea is, you've got to have holes in both the stop and the buffer to need a pin, but since a lot of buffer bodies are still in the system, a lot of hole-less Nylon stops will be matching up with them.

Just take a look. Never try to remove or twist the stop to check for a hole. You can damage the stop.

While you're looking, if you find a crack spreading from the hole in the buffer body toward the Nylon stop, replace the buffer.



MARKING the M12 RACK

Dear Half-Mast,
I've been trying to find the proper marking of M12 weapon racks. No luck. Can you help?

SP4 L. G. H.

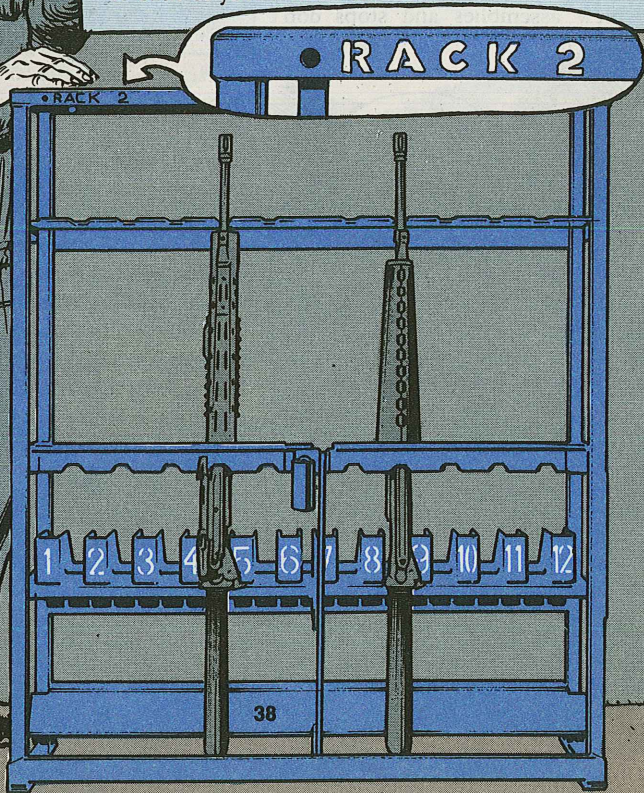
Dear Specialist L. G. H.,

There's no requirement to mark the M12's, but your commander can authorize it. Your CO also decides what to put on the racks and where.

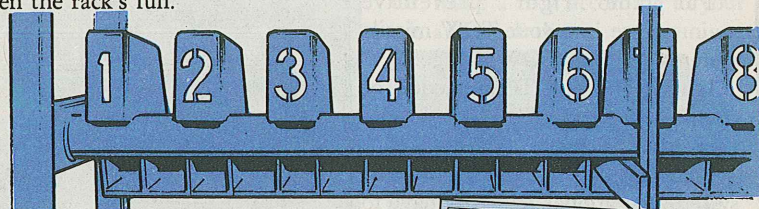
If you can get your CO's nod, there are markings you can use which saves armorers a lot of time and trouble...time which can be used on maintenance of all your small arms.

Like so: Mark your racks by rack and slot number. For instance, Rack 1, Slot 1, 2. Rack 2, Slot 1, 2, 3. Assign a slot to each of your unit's riflemen.

SURE!
HERE'S
TH'
POOP...



Naturally, put the slot number on each slot...in a place you can easily see when the rack's full.



RACK WEAPONS RECEIPT		RACK NO. 6	
UNIT AND LOCATION	NAME	WEAPON	WEAPON SERIAL NO.
B Co 37	McKnight, I. J.	M16	127634
DATE	TIME	I hereby acknowledge receipt of the above weapon from the Army.	
07	04	Name of: J. G. Mc Knight	
SIGNATURE		DATE/TIME	

Then, on the soldier's receipt card, mark down the weapon's serial number, the rifleman's name and unit...and the rack and slot number where his weapon will be stored.

When the rifleman presents his card, take it to his rack and slot, leave the card in the slot, make a quick check of serial numbers...and give him his rifle.

When the rifle's returned, check the serial number, store it in its rack and give the rifleman his card back.

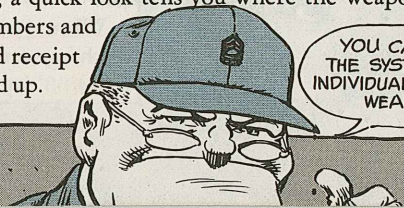
For soldiers who forget their rack and slot number, a wall roster near the turn-in window or bench is another time saver.

NAME	UNIT	SER. NO.	RACK	SLOT
Adam, W. A.	B Co, 3/7	023294	2	1
Brown, J. T.	B Co, 3/7	147291	2	2
Carson, K. T.	B Co, 3/7	017373	2	3
Doyle, B. B.	B Co, 3/7	056184	2	4
Edwards, V. R.	B Co, 3/7	13827	2	5
McKnight, I. J.	B Co, 3/7	127634	2	6

List each rifleman alphabetically. Include his name, unit, weapon serial number...and the good old rack and slot numbers...on the roster. With the roster hanging handily, a quick look tells you where the weapon goes.

Use the rack/slot numbers and the roster, and issue and receipt of rifles will really speed up.

YOU CAN ALSO USE THE SYSTEM ON OTHER INDIVIDUALLY ASSIGNED WEAPONS!



Getting Your TOW to GO

Put the right preventive maintenance into your TOW missile systems and your TOW will go.

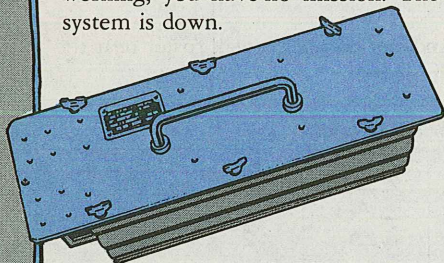
Ignore PM, and TOW tactical or training missions will skid to a halt.

So what's new?

Nothing, but if you want your system operational, or if you have to have it that way, or if you may have to, listen well.

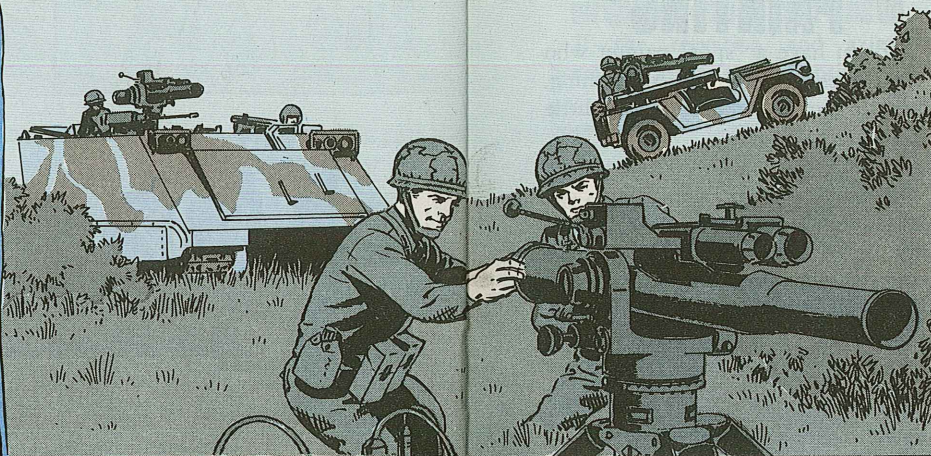
BATTERIES

Your nickel-cadmium battery is an expensive but small component of your system, but when it's not working, you have no mission. The system is down.



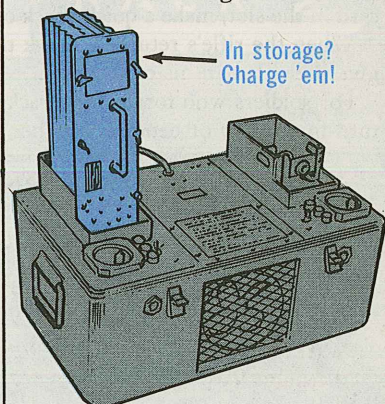
TM 9-1425-472-12 and 9-6130-470-12 fill you in on the maintenance and proper charging your battery needs.

HERE'S A SUMMARY OF OLD AND NEW BATTERY PROBLEMS...



Storage

Batteries in storage from mission to mission must be charged while stored.



If you store them indefinitely without a charge, battery life will shorten, your unit will need more replacements, and somebody will catch the stuff off the fan.

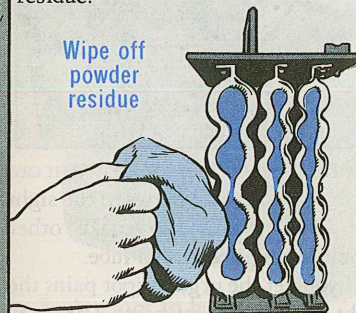
When your batteries are idle, discharge and fully charge them once every 30 days.

Clean 'Em

The book tells you to clean powder residue from batteries.

Some units turn batteries in for replacements because of powder residue.

Wipe off powder residue



Among other references, para 2-18 of TM 9-1425-472-12 (Jan 80) says clean them.

The powder is a normal chemical deposit. To remove it, wet down a clean rag and wipe the powder off with the rag. You can get tough spots with a brush (no wire brush, please).

Stacking

Stored batteries are damaged by stacking them atop each other.

Prevent damage by putting soft padding between them.

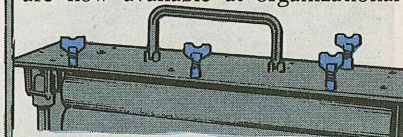
Or, make a rack according to your needs and stack them.



Or, as the picture shows, rig up a box and store them so the case ends of the batteries are down and protected.

Fasteners & Jump Charge

Stud fasteners for securing the battery in the MGS or storage boxes are now available at organizational



You replace fasteners

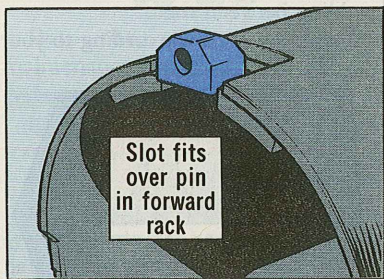
maintenance level. Check your TM's.

It's been said hard and strong before...jump charging (shortening the charging cycle) kills batteries quick. They develop a memory cycle for the short charge, can't perform a mission, and have to be replaced. You may get away with it 2 or 3 times, but then you can kiss the battery goodbye.

The key is, fully discharge a battery and then fully charge it. Your TM's again, spell it out.

LAUNCH TUBE

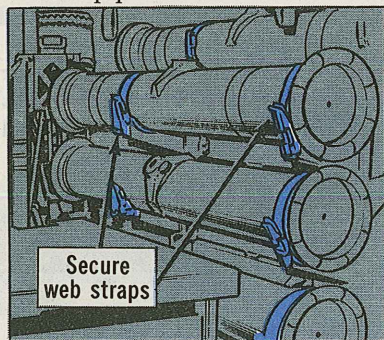
When you store the launch tube in a vehicle rack, be sure the slot on the rear end of the tube fits snugly over



Slot fits over pin in forward rack

the fixed pin in the forward support rack.

Then, strap the tube down with the web strap provided.



Secure web straps

With the pin secure and the strap tight, the tube won't bounce around and get damaged.

*!★ THERE'S PAINT ON OUR SIGHT!

WOW! IT'S BONNIE!

GREAT! THIS FIRING RANGE NEEDS HER!

PHILBY STRIKES AGAIN!

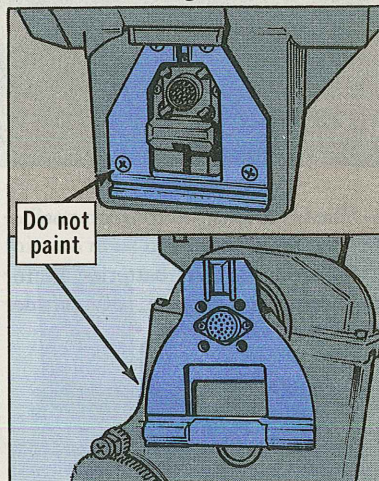
YEH...

HE DID IT TO US, TOO!

PAINTING

If you have a "spot" painter who can't resist painting everything, hog-tie him or something. Very little painting is needed.

If you see what looks like bare metal and want to cover it with paint or dry or solid film lube, keep that stuff off the index plates of the optical sight and the traversing unit (TU).



If the index plates are coated, it can cause misalignment between the sight and TU. It also can make other problems. No paint. No lube.

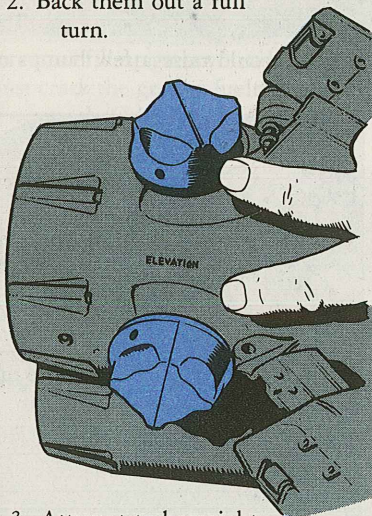
If you get the urge to spot paint the sight, never use spray paint. The spray gets on lenses. Getting it off is hard and you can damage the lenses.

BORESIGHTING

If the elevation and azimuth boresight knobs on the optical sight get out of band and you can't boresight...

TRY THIS...

1. Turn each knob all the way in.
2. Back them out a full turn.



3. Attempt to boresight.
4. No luck? Turn the sight in to support.

OUR MGS IS ON THE FRITZ, SARGE!

I TOLD PHILBY TO TURN IT IN TO SUPPORT...

WHERE IS HE?

OUTTA SIGHT!

SIGHT

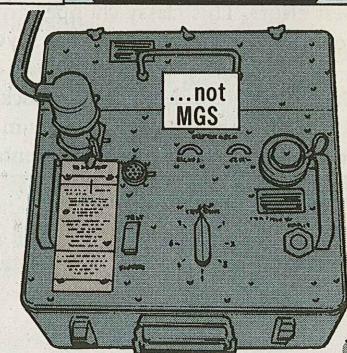
If your optical sight malfunctions, do not try to check it out by using it with another missile guidance set (MGS).

Instead, get a known good sight and try it on your original MGS.

If the sight works, you've got trouble with the old sight. If it doesn't work, turn in your original sight and MGS to your support for a check.



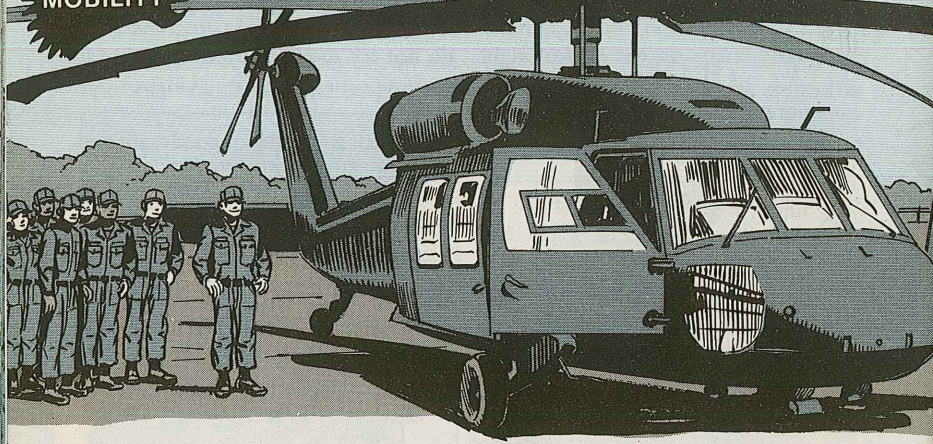
Switch sight...



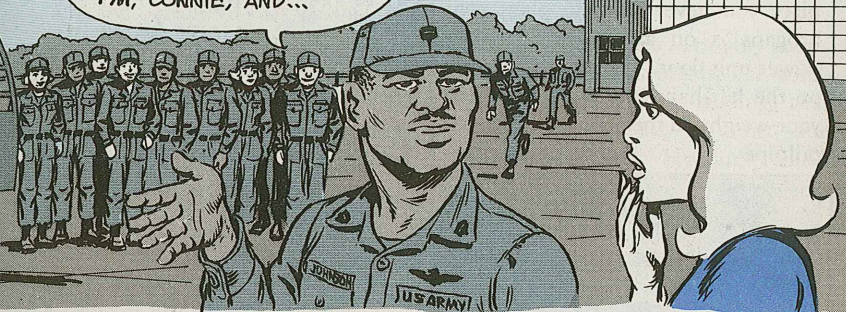
...not MGS

Checking your sight on other MGS's can burn out expensive A5 cards in the MGS's.

A Greater Challenge

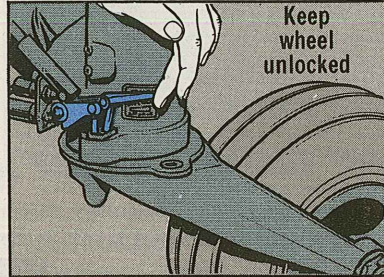


WELL... THE WORD GOT OUT THAT YOU WERE STOPPING BY TO GIVE MY CREW A FEW POINTERS ON BLACK HAWK PM, CONNIE, AND...



When a flock of Black Hawks roosts on your pad, give the new breed your best effort. This classy chopper gives you a chance to use all of your savvy. When towing, keep an eyeball on the tail wheel. The wheel is unlocked for turning purposes. On bumpy surfaces, tho, the wheel can accidental-

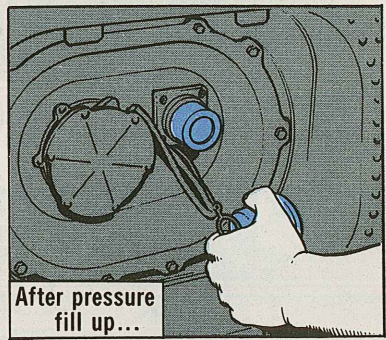
sudden...could raise a few bumps on the noggin!



ly lock again, snapping the lock pin on the next turn.

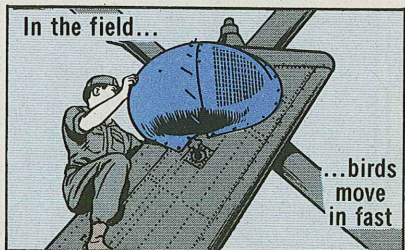
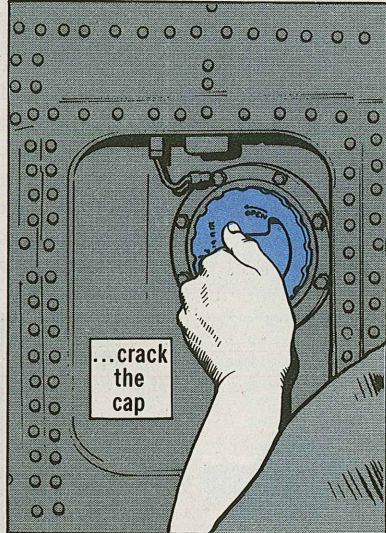
An area to stay clear of—when AC power is used—is underneath the stabilator. If the stabilator has been manually slewed UP, it will return to the down position all of a

Easy does it when checking the fuel tank level after a pressure fill-up. A

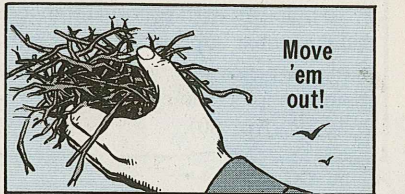


pressure fill-up gives you full measure. Just crack the gravity fuel cap slightly for a peek. Otherwise, fuel will come gushing out at you.

handhold in the cover gives birds access to a first-class birdhouse. In the



field they'll move in within 24 hours. So keep the gear box clean.



Another area you don't want to overlook is the tail gear box. The

Be real careful when you close the cargo door. If you close it with the handle in the LOCKED position, you'll break the mechanism. Door locks cost big bucks!

Watch Your Step

When mounting your bird, one place you never want to plant your brogans is on an "open" auxiliary power unit door. The dude rests right on the left-hand engine exhaust and your weight on the door will crack the tailpipe.



To help you with your maintenance tasks, combat support aviation companies are now authorized portable maintenance cranes in TM 55-1520-237-23P (Apr 80).

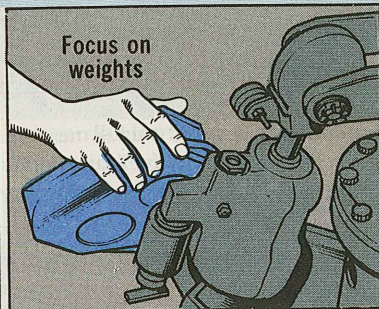
IF YOU NEED A LIFT, ASK FOR CRANE NSN 1560-01- H62-1997!



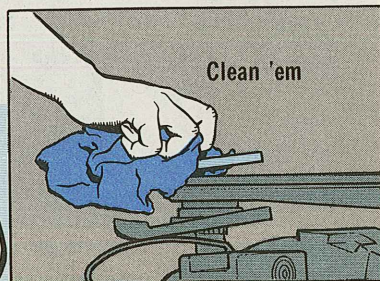
Pull

Since you do not have a daily inspection, show your stuff on the 5-day/10-hr inspection spelled out in TM 55-1520-237-PMS-1.

Focus on the bifilar weights, for real. Sequence 6.8 of the pub says to lube the bifilar bushings, pins and washers with Lubriplate 630AA. You can get a 5-lb pail with NSN 9150-00-663-1770.

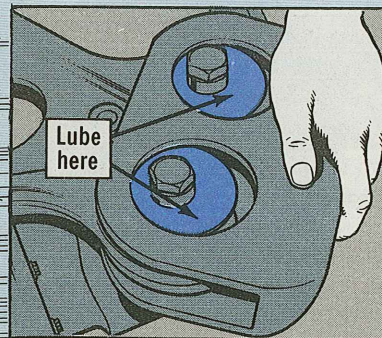


The bifilar lube chore is determined by operating conditions. It's a good idea, tho, to make with the grease every 5-day/10-hr inspection. If those weights do not move freely, they won't dampen out airframe vibrations. You'll get a 4-to-1 vibration—4 beats for every rotation of the rotor.

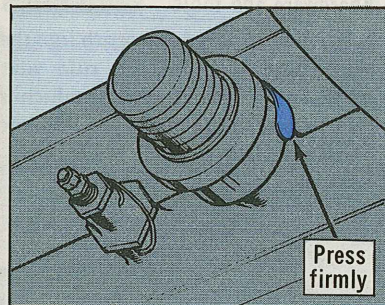


Thorough Checks

Use a clean rag to wipe off the crud. Then add a thin coating of general purpose grease. Be sure you lube the top and bottom of each washer.



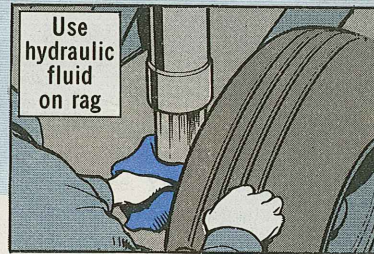
When you test the serviceability of the main rotor blades with the pressure indicator, press in on the manual lever (grenade-type handle) firmly. This will prevent an excessive bleed-off of spar pressure caused by a partial opening of the valve plunger.



Unnecessary pressure loss is also caused by pilots testing those babies on their pre-flight. It's not necessary to observe the Bim indicators changing from yellow (safe) to red (unsafe)

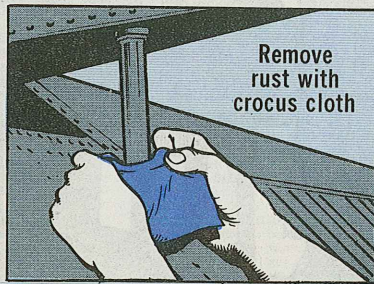
on a daily basis. Excessive blade testing could require servicing the system with nitrogen more often than every 6 months.

A clean rag comes in mighty handy as you make your rounds, like when eyeballing the main landing gear lower shock struts for dirt and corrosion. A little Hydraulic Fluid,



MIL-H-5606, on your rag—plus some elbow grease—will remove any buildup of grit from the piston and prevent cut seals and hydraulic leaks. NSN 9150-00-252-6383 will get you a 1-qt can.

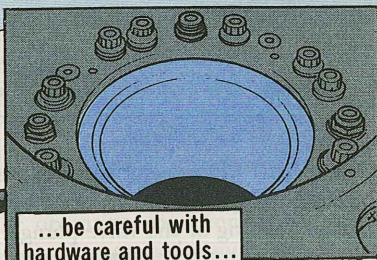
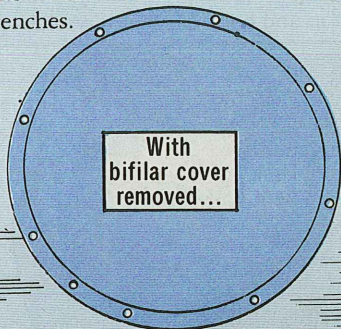
The same deal goes for the stabilator actuator rod. Keep it clean. A little crocus cloth will also remove any rust that may have formed on the rod.



Other PM Tips

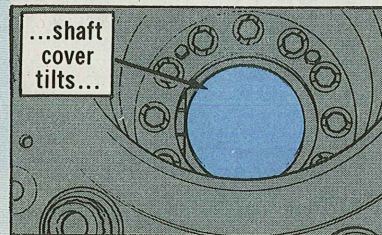
ANY TIME YOU'RE WORKING ON THE MAIN ROTOR HEAD OF YOUR BLACK HAWK, BE CAREFUL HOW YOU HANDLE TOOLS AND HARDWARE!

When removing the bifilar, for example, you have to remove the cover. Then you remove the bifilar bolts and washers with suitable wrenches.



If you drop a socket wrench into the main rotor shaft, it can ruin your whole day. The shaft cover—which is glued in the shaft—has a very shallow bearing surface.

When the socket hits the cover, it breaks the glue seal, tilts the cover, and



falls right into the transmission. If you can't fish the wrench out, it means a transmission change—for real!



How come the cover is only glued in place? It has to be removed for insertion of a deicing tube during winter flying.

The manufacture is working on an improved shaft cover with a broader flange to resist the "tilting" action of the present cover. Meanwhile, if you find the cover loose, use Adhesive NSN 8040-01-012-8749 to hold it in place.



When you put the bifilar cover back in place, be sure the gasket is still in good shape. You need a tight seal to keep water from corroding the shaft extension and leaking into the transmission.

So, follow the manuals, use a little savvy, and top-notch PM will come naturally. That's the way to keep 'em flying!



Aviation Messages

If your unit has not received these messages, check with your next higher headquarters.

- AH-1-80-17 Maint notice AH-1S heads up display (HUD) night filter DRSTS-MEA 181505Z Aug 80
- AH-1-80-18 Maint notice inspect chamfered washers DRSTS-MEA 052200Z Sep 80
- AH-1-80-19 Maint notice Engine start proced. AH-1S (MOD) DRSTS-MEA 111610Z Sep 80
- UH-1-80-12 Maint notice Honeycomb panel replace and elevator inspect criteria DRSTS-MEA 092010Z Sep 80
- UH-1-80-13 SOF Suspend closed circuit refueling of UH-1C/M w/roll over vent valves DRSTS-MEA 241340Z Sep 80
- CH-47-80-08 SOF Emergency Inspect all CH-47A/B/C engine-to-engine transmission installation, TB 55-1520-241-20 DRSTS-MEA (2) 232200Z Jul 80
- CH-47-80-09 SOF technical Inspect all CH-47A/B/C aft transmission TB 55-1520-241-20-11 DRSTS-MEA 2121300Z

- Jul 80
- CH-47-80-10 Maint notice CH-47 rotary head protect cover (rainshield) DRSTS-MEA (2) 221445Z Aug 80
- GEN-80-18 SOF PM in volcanic ash environment (all aircraft) DRSTS-MEA 031905Z Jul 80
- GEN-80-19 SOPE Leg garter assys used w/MK-J5D eject seat OV-1/RV-1 DRSTS-MAPL (1) 091400Z Jul 80
- GEN-80-20 SOF Maint notice, Altimeters, Three pointer and counter drum pointer type. See msg DRSTS-MED (2) 261515Z Jun 80
- GEN-80-21 SOPE safety vest assy, hoist op DRSTS-MAPL (1) 051400Z Aug 80
- GEN-80-22 SOPE Urgent deadlining FF-2 automatic ripcord release NSN 1670-01-008-7751 DRSTS-MAPL (1) 22552100 Aug 80
- GEN-80-23 SOPE Fit OV-1/RV-1 lap belt assy NSN 1680-00-193-1460 to individ DRSTS-MAPL (1) 152000Z Aug 80
- GEN-80-24 SOPE Dispose instructs for

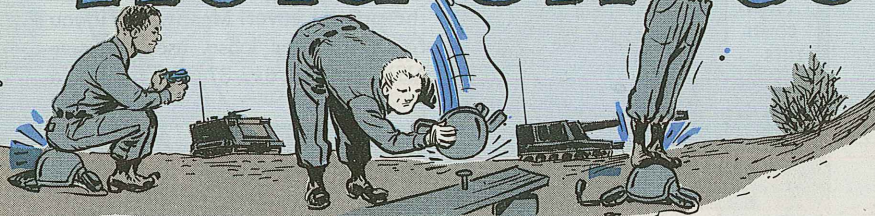
- medical materiel DRSTS-MAPL (1) 111600Z Sep 80
- UH-60A-80-28 SOF UH-60A Black Hawk electromag interfere DRDAV-EEB 021530Z Jul 80
- UH-60A-80-29 SOF UH-60A technical inspect UH-60A Black Hawk main xmsn housing fit control locator dowel pins TB 55-1520-237-20-7 DRDAV-EEB 081800Z Jul 80
- UH-60A-80-30 SOF maint notice UH-60A Black Hawk tail wheel bearings DRDAV-EEB 301510 Jul 80
- UH-60A-80-31 SOF technical inspect UH-60A Black Hawk pressure refuel receptacle bolt torque, TB 55-1520-237-20-8 DRDAV-EEB 091400Z Aug 80
- UH-60A-80-32 SOF technical maint notice UH-60A Black Hawk main xmsn housing dowel pins TB 55-1520-237-20-7 DRDAV-EEB 222010Z Sep 80
- UH-60A-80-33 SOF technical maint notice UH-60A Black Hawk APU hot end inspect DRDAV-EEB 2681400Z Sep 80

COMMO/
ELECTRONICS

CVC
Helmet
PM...

JJ J "T" FOR TO
AND TO FOR "T"
JJ

Hold on to



LOOK! IT'S A CHAIR... IT'S A HAMMER... IT'S A STEPLADDER!



SORRY, SUPERFANS!
IT'S JUST YOUR DH-132
COMBAT VEHICLE CREWMAN'S
(CVC) HELMET!

Your Hats

Course, you can use it for all of the wrong reasons—and many others—but you won't use it long.

On the other hand, if you use the hard outer shell to protect your noggin from various bumps and bruises, and use the commo kit to talk to your crew and on the radio set, you'll find it lasts a lo-o-ong time.

But, some troops find that shell too heavy. They take it off and use only the soft inner liner. That's not a lot of protection from heavy hatches or sharp corners.

You can keep that shell in business a lot longer by watching how you treat it.

Keep it out of the way of ramps and hatch covers, other vehicles and feet.

It's not a water bucket, either. Some troops take it off and lay it on its top. No sweat if it's sunny. But a good rain can fill it up. There goes your commo.

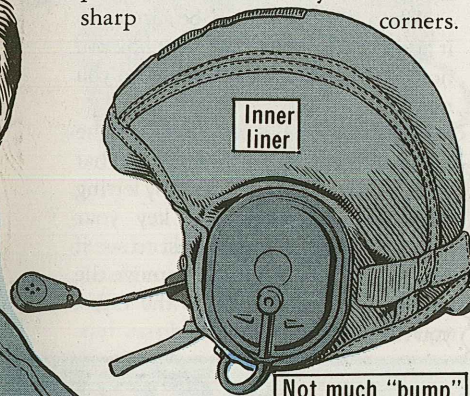
NICE
GOLDFISH
BOWL
Y'GOT?



Even right side up, that CVC is prone to commo killing moisture. Do your best to keep water out. If it gets a good soaking, let it dry out naturally. If its soaking was with salt water, rinse it with fresh water before drying.

A way to stop the little soaks is to be sure your earphone gaskets are OK. Your support checks 'em out and replaces bad ones.

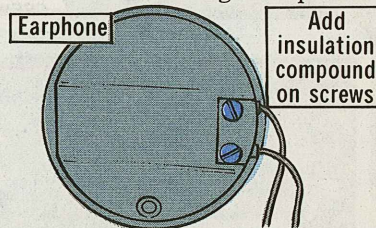
Once you're sure the sealers are OK, add a little Insulating Compound



If your shell has cracked, you can get a replacement. Use these part numbers with FSCM 97427:

Small or medium
Large

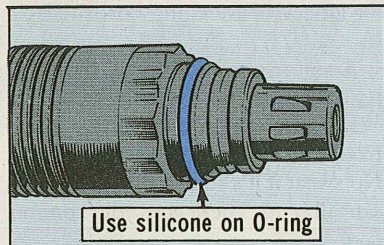
72-D-2504-1
72-D-2504-2



NSN 5970-00-181-0190 on the screws and cord leading to the earpiece.

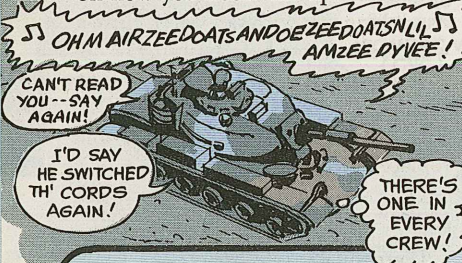
Cord care is another priority. Dragging your CVC outside a hatch and laying it down puts that cord at the mercy of a falling hatch. Cut and crushed cords don't make it.

Be sure your breakaway connector will break away. Eyeball that connec-

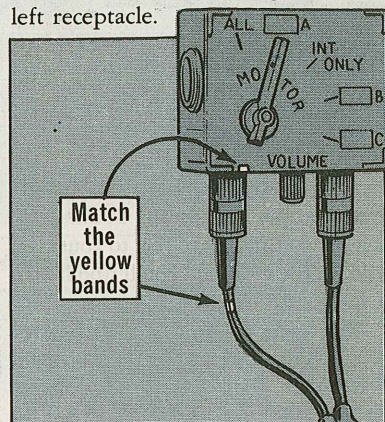


tion. Wipe away dirt and dust with a soft brush. If the male plug's O-ring is dry, wet it with a little Silicone NSN 6850-00-880-7616.

Course, your cords can be in good shape and still stop commo. It depends on how you hook 'em up.

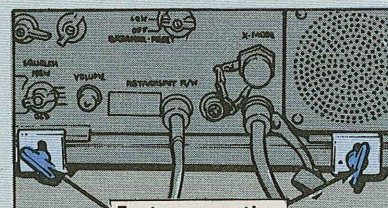


Look for yellow bands. One's on the connector, the other's on the cord. Match 'em. If the bands are gone, remember to hook the long cord to the left receptacle.



When you disconnect, be sure to do it at the control box. The next box you hook to might not have the cord you need.

Switching the cords (long to the right) will give you a "hot mike". That fouls up everybody's commo by letting you override when you key your helmet's switch. A quick test to see if you're hooked up right is to move the switch forward. If it keys the radio, you're OK.



Put the SCREWS to 'Em

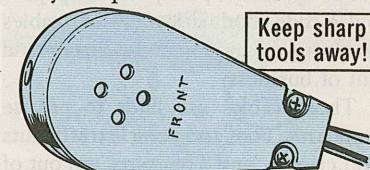
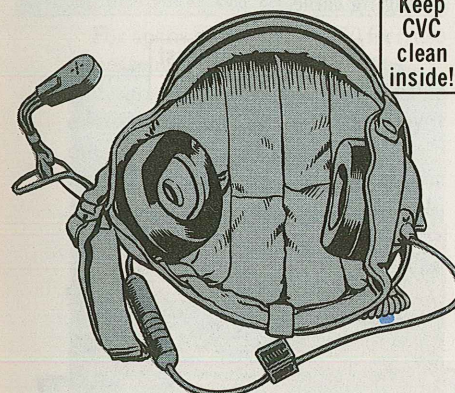
If you want to keep your radio from hitting the road when you do, tighten the screws.

That's the mounting clamp thumb-screws on the MT-1029 and -1898 mounts, of course. Left loose, they can let your set go flying.



Keep your CVC clean. Check inside for dirt and fungus. See any? Get rid of

matter. Keep sharp tools away, tho. They can puncture moisture seals.



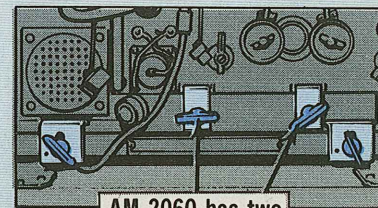
The liner and protective pads can be removed and washed in mild detergent and water, too.

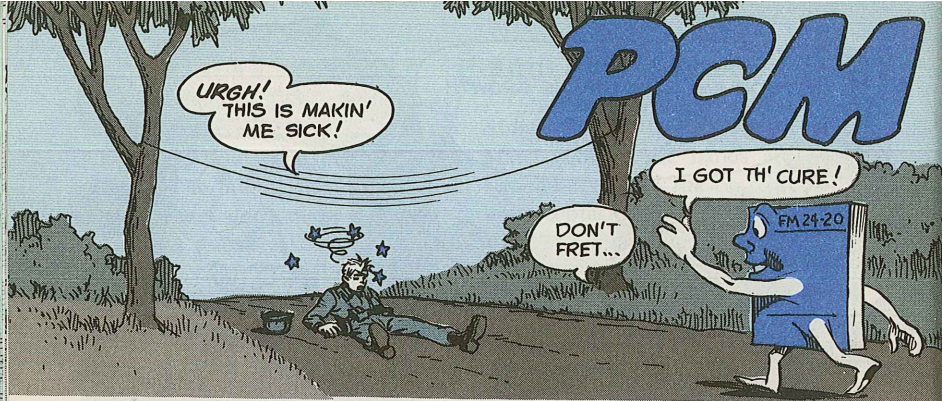
Finally, a big help is now available for finding repair parts for the MK-1697 headset-microphone kit. The latest edition of TM 11-5965-286-23P (Aug 79) has many that were hard to come by before. Get a copy.

it with a clean cloth, dampened in mild detergent.

For more on maintaining the helmet itself, see Chap 5 of TM 10-8400-201-23 (Jun 70).

Look over the openings in the mike and earphones. Remove any foreign





PCM

PRESCRIPTION

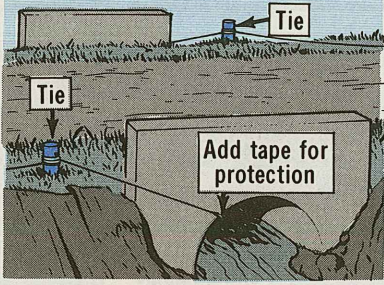
An up or out policy can keep your pulse-code modulation (PCM) cables from ending up down and dirty—and out of business.

Those cables are built to precise standards. Foot and vehicle traffic cuts and crimps 'em. That puts 'em out of business.

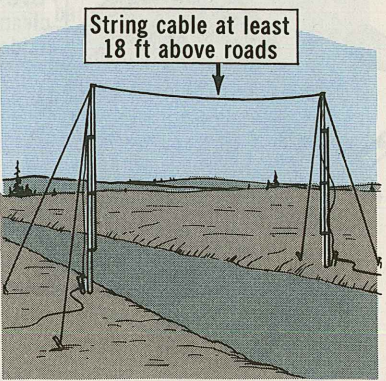


Keep them up and out. Up off the ground if possible and out of the way if you can't.

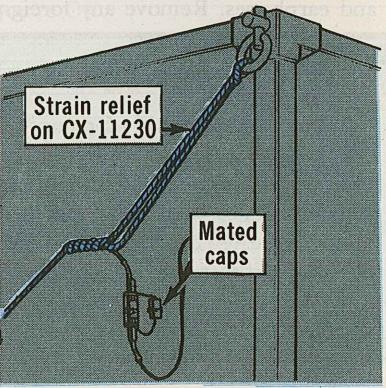
That means if you have to cross a road, put the cable in a trench or through a culvert. Going overhead?



Follow the tips in FM 24-20 for stringing cable.



Use ND-0104 Wire Grips NSN 5975-00-400-2630 or a weave of WD-1 wire as a strain relief when hanging



cable. This eases the strain on connectors. Put the grip on the CX-11230, tho, and not the CX-10734/G adapter cable.

You also protect hanging cable by giving it just the right sag. Minimum sags and spans are:

Span in feet	100	125	150	175	200
Sag in inches	16	24	36	48	72

For spans of more than 200 feet, use a messenger cable.

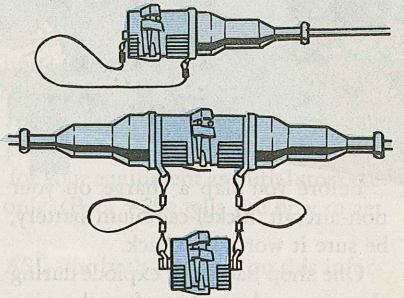
Course, you protect your PCM cable other ways, too. Like when you pay it out. Slow the reel down to a creep before you get to the end. Putting the snap to the connector could snap it off.

Then, when you reel it back in, check it out for breaks or cracks. Clean it off too.

Stowing the cable? Use the assembly's electrical Cap NSN 5999-

00-136-9040. It keeps moisture, dust and dirt out of the UG-1870 connector.

Cap it when you aren't using it...

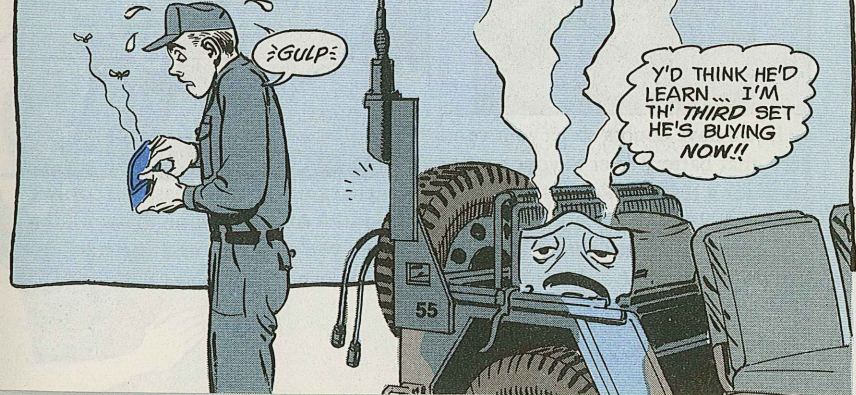


...and mate the caps when you are!

On your CX-10734 adapter cable, keep the UG-1871 and -1872 connectors mated for protection...either to the mating cables or to each other.

It Shouldn't Happen...

HQ didn't get the message, but PFC S.S.B. did when he tried a radio transmission without hooking up an antenna. His signal backed up and zapped his set. He'll have it paid for in another 12 not-so-easy payments.



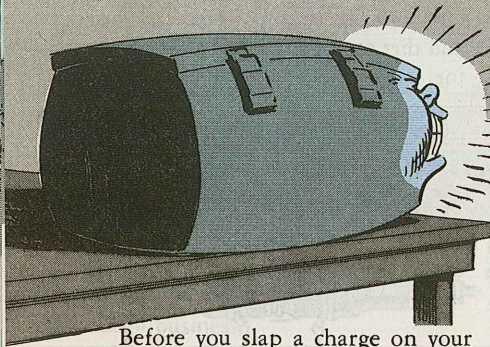
Pressure-Packed Battery

ARRRGHH—
I'M ABOUT T' BLOWW-WWW!

GOT A FUNNY
FEELING SOMETHING'S
WRONG...

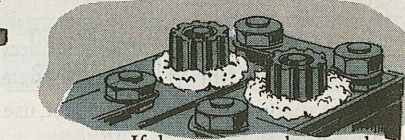
... BEEN
WATCHIN' TOO
MUCH HORROR
TV, I GUESS!

First, watch for a buildup of white powder on top of the cells and



Before you slap a charge on your non-aircraft nickel-cadmium battery, be sure it won't slap back.

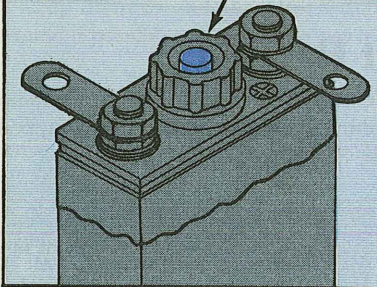
One shop had a cell explode during charging and another after charging because the vent valves didn't vent.



connectors. If dry, remove the powder with a Nylon brush. If wet, flush it off with water. Either way, tho, be sure filler caps are tight so none of the white stuff gets in the cells.

Be sure batteries are dry before you try to use 'em again, of course. Dry 'em with a cloth or compressed air.

Check vent
valves often



Secondly, do not add water to cells before charging. One of the purposes



of charging is to release electrolyte from the cells. Combine that with the water you've added and the cells can bubble over. That plugs vents, too.

If you have doubts about your vents, turn that battery over to your support shop for a test per Para 5-13, TM 11-6140-203-14-3 (Nov 79).

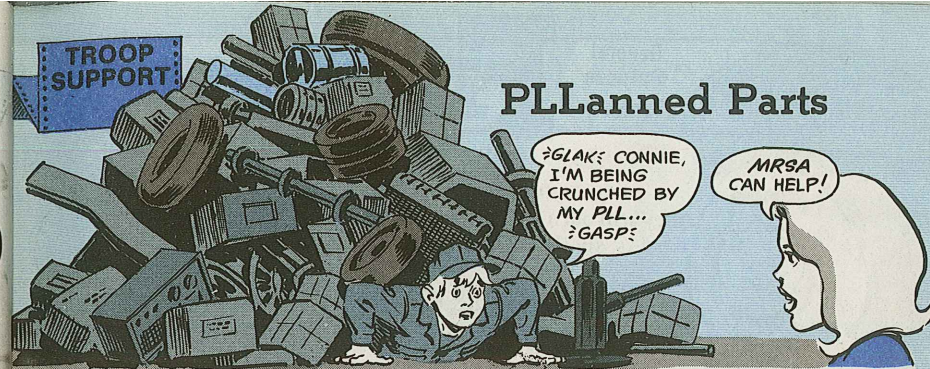
'Course, there are some things you can do to keep the risks down.

TROOP
SUPPORT

PLLanned Parts

?GLAKE CONNIE,
I'M BEING
CRUNCHED BY
MY PLL...
?GASP?

MRSA
CAN HELP!



New equipment arriving in your unit? Or maybe you need a Prescribed Load List (PLL) for all your equipment.

Either way, the folks at the US Army Materiel Readiness Support Activity (MRSA) can help. Read over para 2-37e of AR 710-2. MRSA can send you a PLL for all the parts OK'ed for your equipment as initial stockage. That means nonrecoverable parts only. (Para 3-29e tells you how to get an ASL).

Just send a letter asking for a PLL or ASL—or both—based on this information:

- NSN, model and quantity of each end item.
- Days of Support (ie 15, 30, 45, etc.)
- Maintenance level your unit pulls. (If you do different levels of work on some equipment, tell them so).
- Engine NSN and quantity (for aircraft only).
- Your unit's DODAAC (if you have one.)
- Your name and telephone number in case they need to talk to you.

THAT'S ALL!
IN RETURN, YOU'LL GET A PLL AND/OR AN
ASL PRINTOUT TO START YOUR REPAIR
PARTS SUPPLY OFF RIGHT!

END ITEM PLL LISTING

2320001779258.

LINE NO	SUP ITEM NSN	NOUN	UI	COMP QTY
1	4730-000142431	INVERTED N	EA	2
2	6240-002669940	LAMP, INCAN	EA	2
3	2610-002697332	INNER TUBE	EA	2
4	2920-002879135	PLUG	EA	2
5	2920-002883126	SPARK PLUG	EA	2
6	2610-006781363	TIRE PNEUM	EA	2
7	2520-006783115	PARTS KIT	EA	2



General Purpose Tents...

Fireproof

They're

Yep, your general purpose tents are fire resistant, but they will burn. They may not burst into flames, but hot cinders, sparks or soot can burn holes in 'em.

HERE'RE SOME *FM* POINTERS THAT'LL MAKE THEM LAST MUCH LONGER WHEN YOU USE THE M1941 OR M1950 RADIANT TYPE HEATERS...

LOOK--IT'S CONNIE RODD!

CONNIE--WE NEED YOUR HELP--WE GOT A LOOSE SMOKE PIPE...

1. Keep the smoke pipe joints clean and tight. No soot or carbon buildup allowed.
2. Keep soot buildup in the spark arrestors or draft diverters to a mini-bit.
3. Empty ashes and clinkers out of the ashpit daily...more often if the weather is extremely cold.
4. Never overheat the smoke pipe.
5. Never operate the heaters at full capacity...not even in extreme cold weather.
6. Check the outside of the tent surface frequently during high winds if you have not added the spark arrestors or the diverters.

Without these components, strong winds can draw sparks out of the smoke pipe...and drop 'em on the top of your tent.

7. If your smoke pipe sections don't have holes for 2 rivets—NSN 5320-00-010-4447—put 'em in. Without 2 rivets the section will come undone when the heater cools off or heats up. A loose smoke pipe is a real fire hazard. Para 2-5b(5) (b) and Fig 2-2, TM 10-4500-200-13 has the show 'n' tell poop for 3 rivets...but you need only 2. NSN is not on the AMDF, but add it to your request for added identification. The PN is MS35684-9 FSCM 96906, and the RIC is S91.

Other Tent Tips

Before you erect the medium or large general purpose tents, take a look at the silicone rubber coated tent stovepipe shield NSN 8340-00-896-9053.

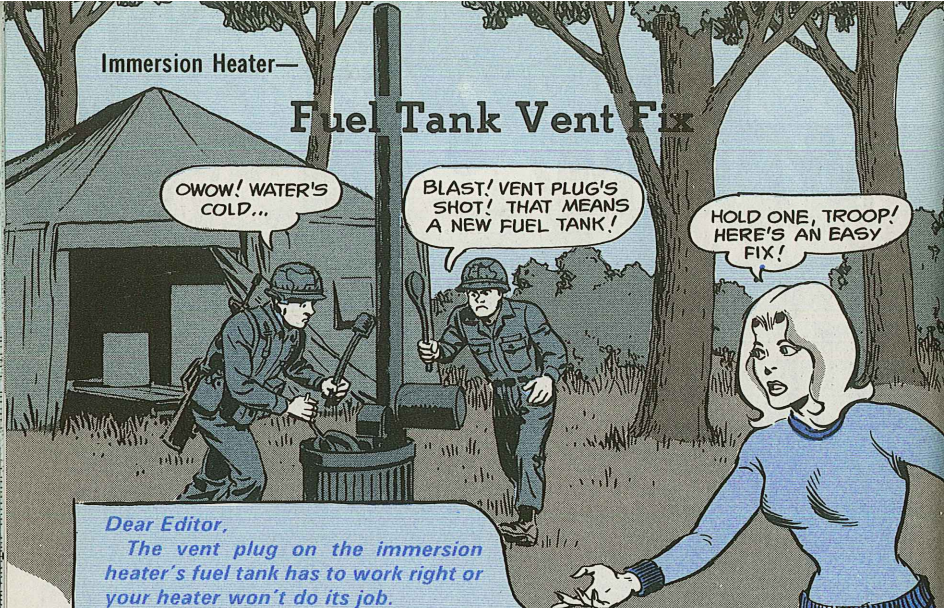
Some tents have been issued with the shield's oblong opening running horizontally.

If your tent comes like this, turn it in to your support unit. They will rip out the shield...sew it in with the oblong opening in a vertical position. This way, the smoke pipe will fit as advertized.

Some training areas have permanent frames for easy tent erection. Great. Except...never nail the tent sides to the frame. Use guy lines and tent pins.



Fuel Tank Vent Fix



Dear Editor,

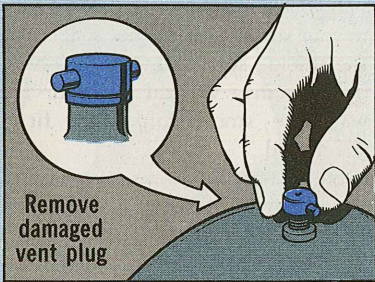
The vent plug on the immersion heater's fuel tank has to work right or your heater won't do its job.

Trouble is, some troops are overdoing the "Open vent plug as far as possible" bit in Para 4-11b(1), TM 10-4500-200-13.

They strip the vent plug threads or screw the plug all the way out of the tank when they preheat the flue. A damaged plug means replacing the fuel tank.

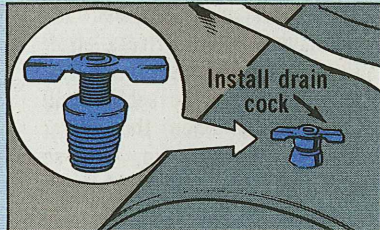
Here's a fix that saves money and maintenance time:

1. Remove the damaged vent plug from the tank. Use as little force as possible.



2. Make new threads with a 1/8-in pipe plug tap from the No. 1 or No. 2 Common shop set. Caution: Be sure not to leave any metal chips in the tank that could plug the fuel valve.

3. Install a drain cock—NSN 4820-00-752-9040—in the new tapped

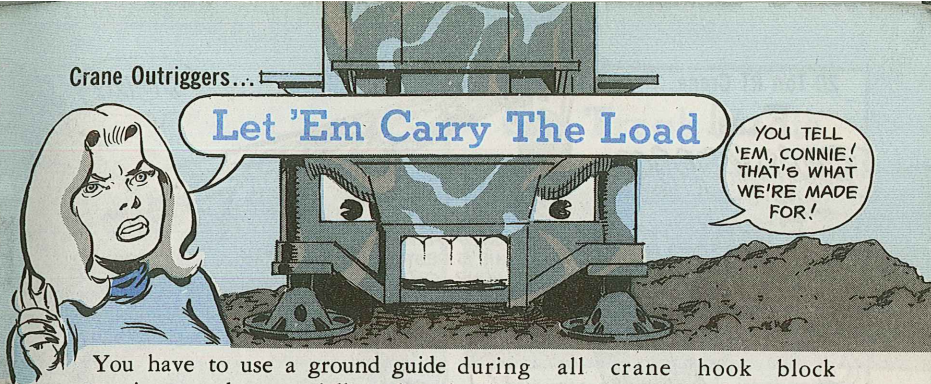


hole. You'll find the drain cock in the No. 1 and No. 2 Common shop sets. 4. When you preheat the flue, open the drain cock as far as possible...but without extra force. OK?

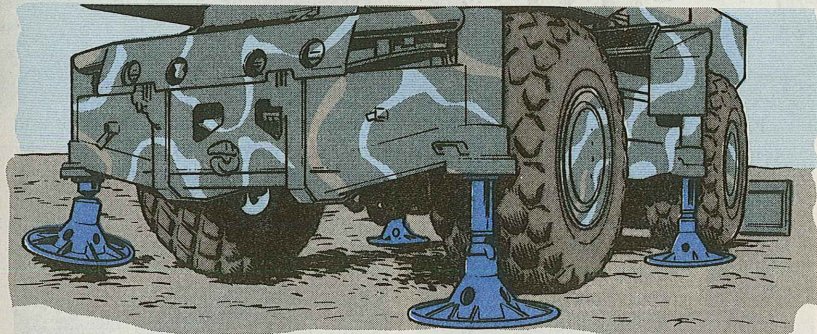
Sgt David J. Myrand
25th Inf Div

(Ed Note—A dollars-saving winner without a doubt.)

Let 'Em Carry The Load



You have to use a ground guide during all crane hook block operations...and especially when leveling your crane. It'll save you a lot of downtime. The guide can let you know when all 4 outrigger float pads are resting on solid, level ground, (you may have to crib under each pad to get this solid footing.) When you're moving the boom load from side to side or front to rear, etc., the float pads take the load (weight).



Outrigger pads take the weight

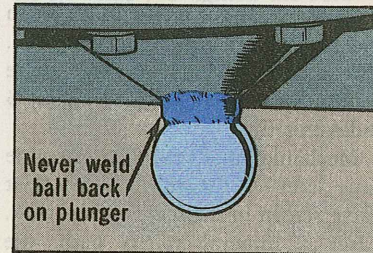
If a float pad is on a stump, rock, soft or uneven ground, it'll tilt under the load. The pressure of the float pad assembly snaps off the ball on the hydraulic cylinder plunger.

One thing you never do is weld the ball back on to the hydraulic plunger. Not you...not anybody!

A broken ball on the outrigger assembly cylinder plunger is a field maintenance repair job.

It's a good idea to check each float

pad ever so often during operation to be sure one of 'em hasn't changed its good solid footing.



20-Ton RT Crane...

Fuel FUNGUS Fight

PM IS THE ONLY WAY TO CONTROL HIM!



OH, NO! STOP FUNGUS! HE'S DESTROYING OUR OR STATUS!

YUM!

!

?

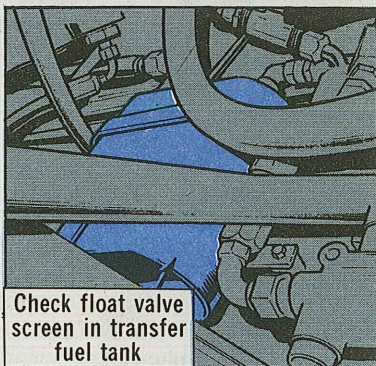
Keeping fuel filter screens and elements clean is a must...or your mission's a bust...when you're operating equipment in a hot, humid climate.

This may mean doubling—or tripling—your inspections to be sure fungus has not formed on fuel filter screens and elements. Fungus grows fast where heat and humidity battle for high readings...or when equipment is not operated regularly.

Recently, a Model 2380 crane in a southern state got only 2 miles down the pike before the engine stopped. The crew checked out the crane...started it again...and went 3 miles this time before it stopped.

Mechanics found the problem some time later—a fungus—clogged float valve screen in the fuel transfer tank.

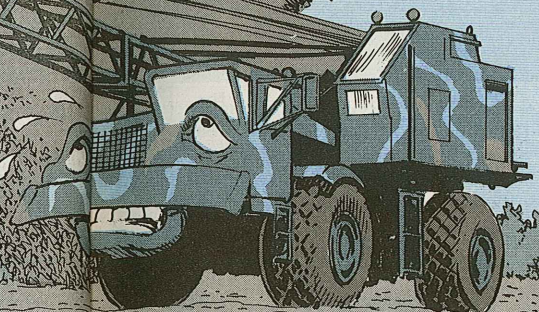
strainer was put back in the tank and the crane operated OK.



Check float valve screen in transfer fuel tank

Isolated case? No way. The unit found 2 other Model 2380 cranes with fungus-clad float valve screens.

If fungus seems to grow fast in your fuel, check the other fuel filter screens and elements and clean them if necessary.



Remove and steam clean the fuel tanks to get rid of fungus, sludge, water, etc. Dry them out.

Next, check your fuel source. Be sure you're getting clean diesel fuel to put into your equipment.

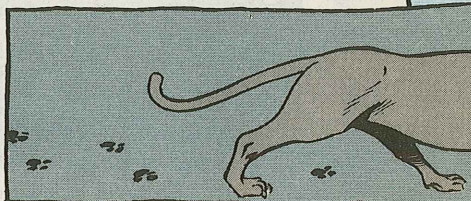
If you shut down your crane for more'n an hour during a day of operation, before you start the engine, open the fuel drain cocks on the fuel filters and tanks to drain off any condensation.



Open drain cocks

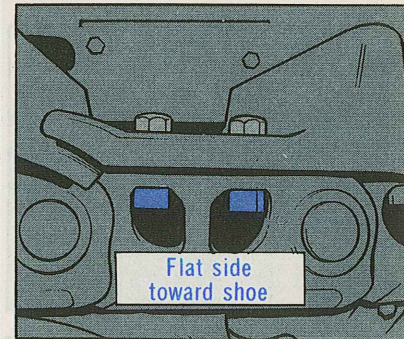
A 99-cent fungus-clad strainer less than 2 inches long stopped a \$120,000 crane. It's the small things—PM-wise—that mean big savings in maintenance downtime and expensive parts replacement.

Cat Track Facts



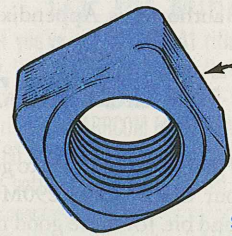
Your cat tractor needs its shoes to leave tracks.

And for the want of a nut, your tractor can lose its grouser shoe. The nut can loosen if it's put on upside down.



Flat side toward shoe

The grouser shoe nuts have a rounded side and a flat side. Make sure the flat side is toward the shoe. This holds the nut tight in the track link notch while you tighten the bolt.



Install flat side against grouser shoe

Medium Girder Bridges...

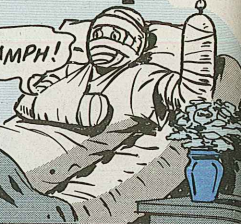
Hydraulic Jack PM Tips

LOOK--
I FINALLY
PUT A NEW
SEAL ON
OUR JACK,
FRED!



--AN' I BROUGHT
YOU A LIST OF
PM TIPS ON
JACK
CARE!

MMGRMMPH!



Sooner or later a hydraulic jack with damaged seals will let you down—or lay you up in a hospital—or worse.

Before you use the hydraulic jack—NSN 5420-00-271-9319—to assemble/disassemble the medium girder bridge do this:

1. Raise the jack ram at least a half inch above the seal.



2. Use a clean rag to wipe the ram and top of the jack seal area clean of any dirt, sand and oil.



Taking pains with a wee bit of ram PM could save you some aches and pains.

If your jack is a victim of poor PM—busted seals, for example—you can repair it with jack servicing kit P/N MEXE1215, FSCM 67822. The RIC is B17.

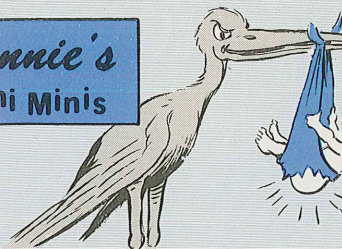
Dipstick NSN

Use NSN 5210-01-083-2926 to get a dipstick for your 600-gal capacity fuel tanks. Your authority is Appendix A, CTA 50-970.

290M Tractor Parts

Use NSN 3805-01-081-6444 to get the left-hand end bit for the semi-u-dozer blade on your Clark model 290M tractor. NSN 3805-01-077-1495 gets the right-hand end bit. Jot these good numbers down in your TM 5-2420-206-20P.

Connie's
Mini Minis



CONNIE, WE GOT
A MAINTENANCE
PROBLEM!

--AN' IT'S
EMBARRASSING!

I'LL
SAY!



1/4-Ton Seat Frames

Try your can point if you need to replace the seat frames on your M151. If the can point's bare, maybe you can still get the frames. NSN 2540-00-177-7782 (PN 10950994) is for the front seat frame. The rear seat frame is NSN 2540-00-177-7780 (PN 11598984). Seat frames are in short supply, so if you have to order them, be prepared for a long wait. Jot these numbers down. They're not in your -20P TM.

M88/M88A1 Road Wheels Again

Do you have aluminum road wheels on your recovery vehicle? Get 'em off. They're for M60 tanks only. Don't wait like it says on page 23 in PS 332. Put on steel wheels now. The TACOM headshed now says those aluminum wheels could cause a problem. You can't get the hub nuts tightened down completely. The nuts could work loose and you'd lose a wheel.

Cans Out!

Do not ask for the 16-oz aerosol can of Deicing-Defrosting fluid NSN 6850-00-835-0484 listed on page 42 of PS 335 for your aircraft. GSA Msg 241540Z Mar 80 calls for removal of those cans from supply because of an explosive potential. Stick with isopropyl alcohol, making sure you keep it off Plexiglas.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1980-757-003/2

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

Saving Solvent \$\$

Grab a copy of FM 10-227, Petroleum Supply Company. You'll find it full of maintenance-oriented, cost-saving ideas. For instance, Fig 7-5 shows you how to reclaim 75 percent of your cleaning solvent. The pub also has some safety tips for all troops who handle POL equipment.

4.2-KW Regulator Mount

To mount one of those new 300-amp solid state regulators—NSN 2920-01-054-0479—on your M577 command post carrier GED generator set, you'll need 2 Brackets NSN 2920-01-070-8034, and Wiring Harness NSN 2920-01-070-8270.

Goat NSN Notes

Forget the NSN's in TM 9-2320-242-20P for the Gama Goat U-joint parts kit listed on page 120 and for the brake line, Item 21, Fig 95. Get the U-joint parts kit with NSN 2520-00-086-1967. To get the correct metal brake line assembly, use NSN 4710-00-081-0672. Jot down these NSN's.

CLP For M16A1

If you've got an M16A1 rifle, you need the new 1/2-oz bottle of Cleaner/Lubricant/Preservative (CLP), NSN 9150-01-102-1473. It fits in the rifle butt. ARRCOM Msg DRSAR-MA 1015152 Oct 80 authorizes it. Nobody will be getting the 1-oz bottle. It won't be stocked.

Save Fuel, Vehicles and \$\$\$

- 
- Keep engine tuned
 - Idle only when necessary
 - Check for fuel leaks
 - Accelerate slowly and smoothly
 - Keep fuel and air filters clean
 - Stay within speed limit
 - Combine trips and avoid unnecessary trips
 - Never overload
 - Never lug engine
 - No jackrabbit takeoffs
 - Use right tire pressure
 - Never ride clutch or brake
 - Fully release parking brake
 - Keep oil and coolant at right levels