

Issue 449

PS

April
1990

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-449

DON'T LET
THE THREE D'S--
DIRT, DAMPNESS
AND DAMAGE--
TAKE OVER!

METER

141010

ANT. LOAD

HIGH VOLT
LOW VOLT
PRIM.
GRID ●
DRIVE
PA. ●
CUR.
POWER OUT ●

TUNE — OPERATE
HV RESET —>

Approved For Public Release; Distribution is Unlimited

For RATT Rig Maintenance ...
See Page 27

Make Every Washday Dull



GOT HIM!

BOOM

WE ALWAYS GET HIT!!

YOU AND YOUR "LET'S POLISH OUR M113"

THE RED TEAM LOSES AGAIN!

SURE, THEY INSIST ON A HIGH SHINE ON THEIR VEHICLES!

Whoa-a-a! Don't grab that Armor-All, baby oil, brake fluid, diesel fuel, or anything like that to shine your camouflage-painted vehicle.

The shine might make your truck or tank pretty for a parade, but it'll stand out on the battlefield.

Camouflage is supposed to look dull and faded. Shiny cosmetic coatings defeat the purpose of the camouflage paint and pattern. Camouflage is a vehicle's cover-up that helps protect it and its crew from enemy detection.

Clean your vehicle by the TM. If someone has already used Armor-All or such to shine your vehicle, wash it off with a mixture of ammonia and water. You can use detergent and water, but it takes a lot longer.

APR 90



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-449, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

ISSUE 449 APRIL 1990

FIRE POWER

M88A1 RV	2, 3	Mounting M16A1	12-13
M578 RV	4-5	Filles	
M113-Series FOV	6, 7	M16's Gas System	14-15
MLRS	8-9	PM	15
Halon Fire Extinguishers	10-11	M9 Bayonet	16
M60-Series Tank	11	M9 Pistol	17
		Patriot Missile	17
		Chaparral	17

GROUND MOBILITY

2 1/2-, 5-ton Trucks	18-19, 20	Stowing Winch Chains	22-23
M819 Wrecker Trucks	20	Correct Tire Pressure	24
M939A1-Series Trucks	21	Recapped Tires	25
		Dump Truck Mud Flaps	25

AIR MOBILITY

Aviation Messages	35	CH-47	38, 39
UH-60A	36	UH-1	40
AH-64A	37	Ground Power Unit	41

COMMUNICATIONS

RATT Fig. Maintenance	27-34	S-280 Shelter Tiedown Kit	45
Circuit Card Handling	42-43	Shelter Skid PM	46-47
Antenna Installation	44	Ground Rod Parts	48
Kit	44	PP-1578A Charger	49
AN/VRC-47	45	S-KW Generator	49
		Computer Cues	50-51
		BUCS	51

TROOP SUPPORT

New Pubs, SOU's	26	130G Graders	57
Pubs Guide	35	Crane Caution	58
Fuel Tips	52-53	HEPA Vacuum Cleaner	59
6K/10K Forklifts	54	Protective Gloves	59
621B Scrapers	55	PS Distribution	60
Small Encampment Excavator	56	Bridge Erection Boat	60
Tool Storage	57	MW24C Ether Bottle	60

You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems, questions or comments on material published in PS. Just write to:

MSG Half-Mast
The Preventive Maintenance Monthly
Lexington, KY 40511-5101

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:
WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Lexington, KY 40511-5101. Second Class Postage is paid at the Lexington, KY post office and at additional mailing offices.

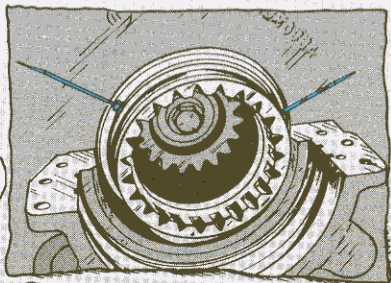
Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, US Army Pubs Cir, 2800 Eastern Blvd, Baltimore, MD 21220-2896.

This Tie Makes You A Winner

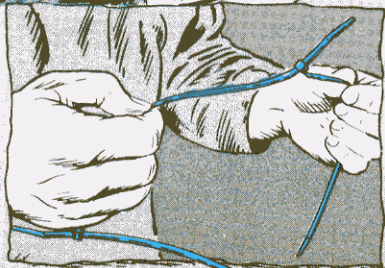
DEAR EDITOR,

BEFORE WE INSTALL AN M88A1 POWERPACK, TM9-2350-256-20 SAYS WE SHOULD MAKE A COUPLE OF STOPS FROM $\frac{1}{8}$ INCH STEEL STOCK. THEY ARE USED TO KEEP THE OUTPUT COUPLINGS FROM MOVING TOO FAR INTO THE FINAL DRIVES AS THE PACK IS LOWERED INTO THE HULL.

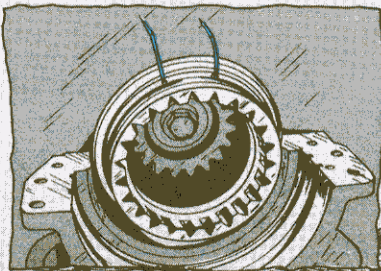
THOSE STOPS ARE HARD TO KEEP UP WITH AND NOT THAT EASY TO MAKE WHEN YOU'RE IN THE FIELD. I'VE FOUND THAT COMMON ELECTRICAL WIRE TIES DO THE JOB JUST AS WELL!



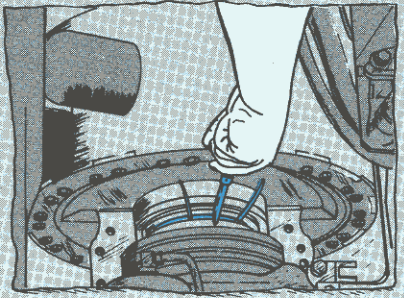
2. Position the ties between the transmission center section and the output reduction assembly on each final drive.



1. Hook together three (10 $\frac{1}{4}$ -inch) electrical wire ties, NSN 5975-00-570-9598, like so:



3. Snug the ties so that the "head" end of the ties prevents the coupling from sliding into the final drive.



4. Once the pack is in place, cut the ties and throw them away.

SPC Arnold D. Cason
Ft Benning, GA

(Editor's note: Truly blessed is the tie that binds!)

TM Wrong on Transmission Work



Pay no attention to the transmission removal and installation instructions in TM 9-2350-256-20 or in Change 1 (Sep 88) to that TM.

SERGEANT, SHOULD WE
SPLIT THE POWERPACK?

NO, NOW WE SEND
THE WHOLE
THING TO
SUPPORT!

Procedures	Page
Removing/installing transmission	3-16
Removing parts from main engine for reuse	3-18

REMOVING / INSTALLING TRANSMISSION

Special Tools:

Sling (Tool ref 141, App B)

NOTE

Discard all lockwashers, lockwires, cotter pins, packings, gaskets, and seals. Replace with new parts during installation.

Transmission removal and installation are support jobs, a fact that Change 1 noted in the Maintenance Allocation Chart on Page B-7. However, Change 1 did not delete the removal/installa-

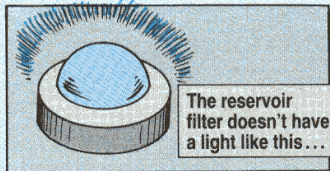
tion instructions found on Pages 3-16 through 3-18.

Do not split any more M88A1 powerpacks at unit level. Send the entire pack to support.

Clean Both Hydraulic Filters

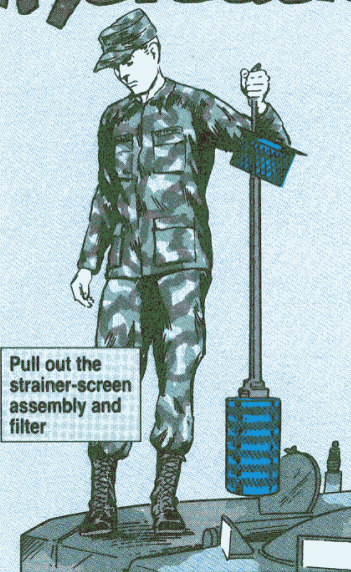
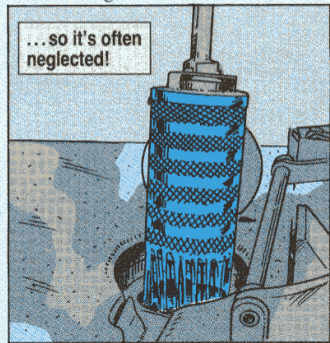
There are two hydraulic filter systems on your M578 recovery vehicle, and it's a good bet one of them doesn't get enough attention.

The one that gets the attention is the filter under the cab floor. That's because when the filter is clogged, the filter by-pass light on the cab control

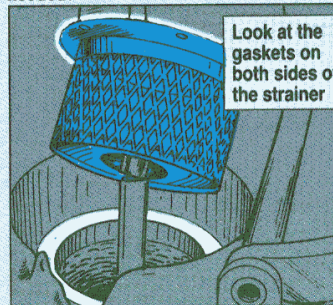


panel comes on. You crewmen know to get your mechanic on the job quickly, who can use repair kit, NSN 2590-00-478-5862, to clean up that problem.

The filter system that doesn't get the attention is in the hydraulic reservoir. It's part of the strainer-screen assembly that can be pulled out of the reservoir for servicing.



This used to be a quarterly service, but TM 9-2350-238-20 also says clean the strainer and screen more often if needed.



The strainer can clog up in real dusty conditions, and there are a couple of gaskets on either side of the strainer that can leak and let water into the reservoir.

You can tell if there's water in the oil by the milky, creamy color or by foaming oil. Both dirt (dust) and water will cause erratic operation and controls that won't work right.

You mechanics can get new gaskets with NSN 5330-00-991-8401.

The strainer-screen assembly must be cleaned whenever it gets dirty. When you open the reservoir cap during your after-operation checks, look for dirt, dust or sludge in the strainer. If the strainer's dirty, the screen is, too. Get your mechanic on the job, pronto.

You mechanics can clean the strainer-screen assembly with drycleaning solvent.



Track Gage Misses Bad Bushings

DON'T RELY ONLY ON THE GAGE...

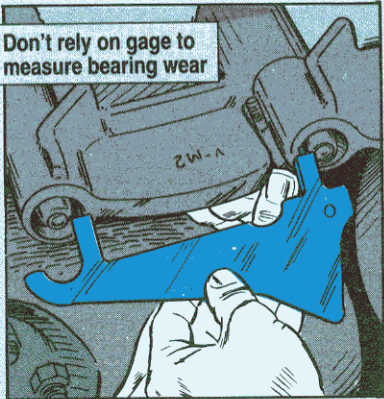
...ARE MY PIN NUTS CENTERED?

Track and sprocket gage, NSN 5220-01-041-9920, part of your vehicle's BII, will sometimes give you a GO condition for bushing wear, even though pin nuts have begun to rub bushing bores.

Since that's true, waiting for a NO GO condition could cause track failure and loss of steering.

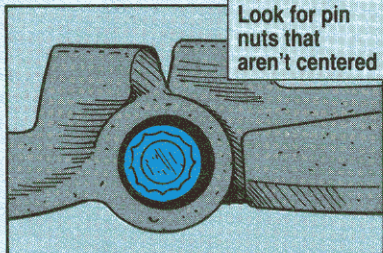
From now on, do not rely on the track and sprocket gage to measure

Don't rely on gage to measure bearing wear



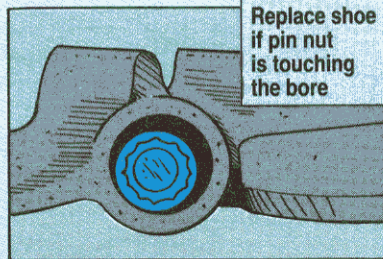
bushing wear. Instead, look for pin nuts that are not centered in the bushing bore. Any shoe having a pin nut that's not centered is suspect and should be watched carefully.

Look for pin nuts that aren't centered



If a pin nut is touching the inside surface of the bushing bore, replace the track shoe.

Replace shoe if pin nut is touching the bore



The track and sprocket gage is still good for measuring sprocket wear and track tension as described in your vehicle's -10 TM.

Beware the Pivot Steer

WHY THE STRING?

IS IT WORKING?




THAT'S TO REMIND ME TO FORGET THE PIVOT STEERING

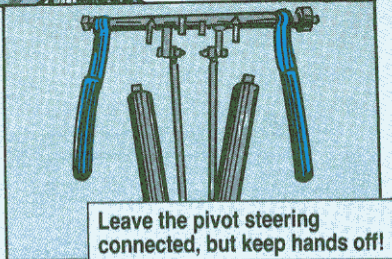
IS WHAT WORKING?



Pivot steering on M113-series vehicles creates so many problems your best bet is to forget it.

Here's why:

-  Swimming is still out for your carriers, so you don't need pivot steering for moving in water. That's always been pivot steering's main use.
-  Pivot steering used at more than 15 MPH or in any drive range other than 1-2 breaks U-joints and the transmission case. Even at speeds under 15 MPH, using pivot steering tears up U-joints, the transmission and the differential.
-  To prevent damage and possible injuries, some folks have disconnected

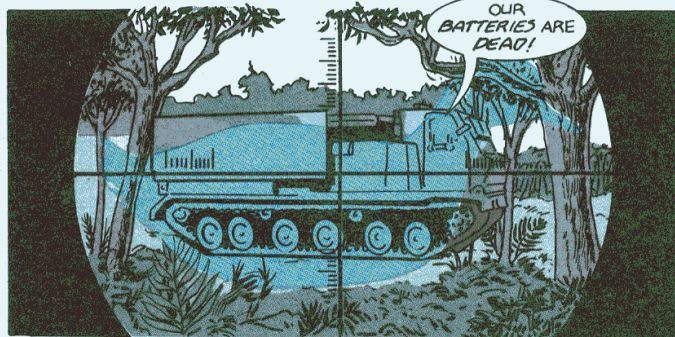


Leave the pivot steering connected, but keep hands off!

the pivot steering controls. That's no good either, because a loose horizontal rod can jam the steering laterals. Jammed laterals mean no control over the vehicle.

So, do yourself and others a big favor: Leave the pivot steering connected, and then leave it alone.

Keep Batteries

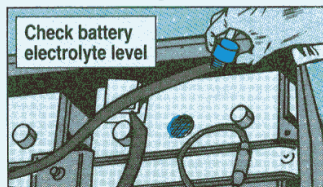


The MLRS puts out a huge amount of fire power... and that quickly exhausts its own power.

Even with all 10 batteries in perfect shape, the launcher/loader module (LLM) can operate only 20 minutes maximum on battery power. So you can easily end up dead in the field... if you haven't paid attention to battery PM.

BEFORE PMCS

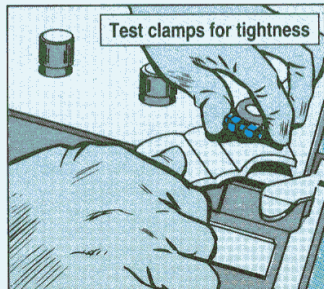
Before you go to the field, check the electrolyte levels in all 10 batteries and test the terminal connections. Unscrew the filler caps and look inside.



The electrolyte level must be over the tops of the plates. If electrolyte's low, report it.

Look for dirt or corrosion on connectors. Corrosion is that white stuff caked on battery posts and cable clamps. If dirt or corrosion are not bad, brush 'em off with a clean cloth. Your mechanic will have to handle tough jobs.

Make sure clamps are tight on the posts. Grab the clamp between your thumb and two fingers. Try to twist



Pumped Up

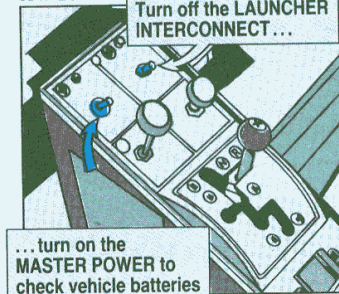
the clamp on the post. If it's loose, report it.

Before you do your PMCS, turn on the system power and check the BATT-GEN gage to see if the batteries are charged. If the indicator's not in the high yellow zone, run the engine at high idle—1,200 to 1,400 RPM—with the LAUNCHER INTERCONNECT switch on for at least 15 to 20 minutes to recharge the batteries.

Keep an eye on the gage. A normal reading is when the needle rests in the green zone.

Running the engine at high idle is the only way to recharge the LLM batteries. Low idle, in fact, further drains the batteries. The batteries recharge faster if you turn off all electrical systems during charging.

After the batteries are recharged, turn off the engine and turn on the LAUNCHER INTERCONNECT switch. Note the position of the voltage indicator. It should be in the high yellow zone.

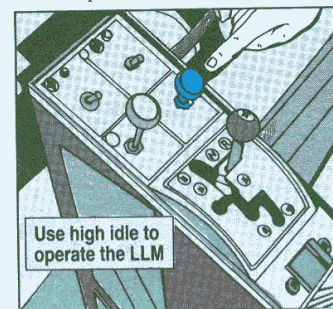


Turn off the LAUNCHER INTERCONNECT switch and turn on the MASTER POWER switch to check the condition of the vehicle batteries. If there's a big difference between the two voltage readings, something's wrong. Tell your repairman.

After you've finished PMCS, check the reading on the BATT-GEN gage with the LAUNCHER INTERCONNECT switch on to see if the batteries still have enough juice. If they don't, recharge 'em.

In the Field

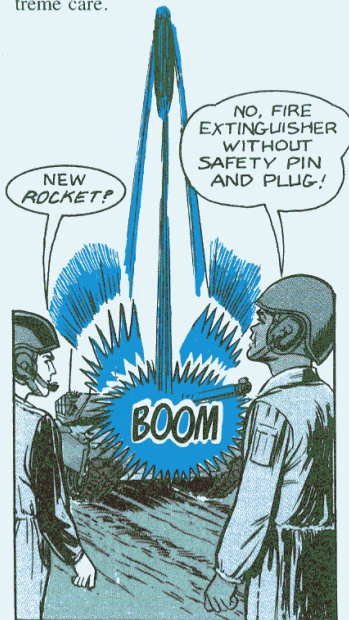
When possible, operate the LLM with the engine running at high idle. That keeps the LLM batteries charged.



If you must operate on battery power, recharge after every LLM cycle to prevent dead batteries. Run the engine for at least 15 minutes at high idle. Turn the engine off and check that the needle is in the high yellow zone on the BATT-GEN gage. If not, recharge the batteries again.

HANDLE WITH

Maintaining the halon fire extinguisher valves and bottles on M1-series tanks, M2/M3-series Bradleys, MLRS and M992 ammo carriers requires extreme care.

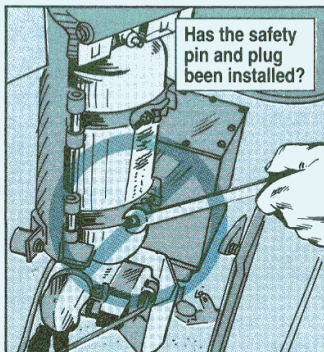


You can be seriously injured if the extinguishers discharge unexpectedly during maintenance.

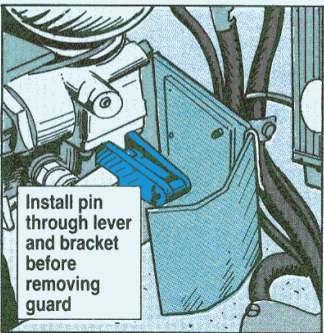
To stay as safe as possible, follow to the letter the info in your vehicle's TM's when pulling fire extinguisher maintenance.

Then make sure you follow these tips:

➤ Never remove the valve and bottle assembly from its mount until you have installed the safety pin and plug.

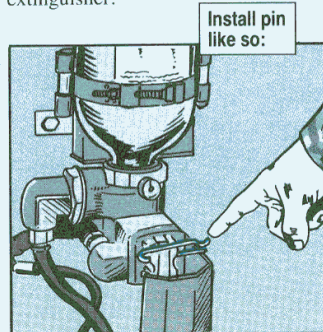


➤ Never handle, move or store the valve and bottle assembly unless the safety pin and plug are installed.



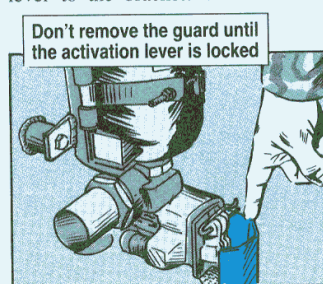
EXTREME CARE

The pin and plug together prevent the accidental discharge of the halon extinguisher.



You must be even more careful working on the extinguishers that are equipped with guards over the valve assembly. All M1-series tanks and M992 ammo carriers with serial numbers 1 through 344 have these guards.

The guards make it real hard to install the safety pin to lock the activation lever to the bracket. If the lever is



moved without the pin installed, the extinguisher can discharge.

Take your time and carefully install the pin, then remove the guard and install the plug.

Be sensitive with these extinguishers, or their sensitivity will ruin your day.

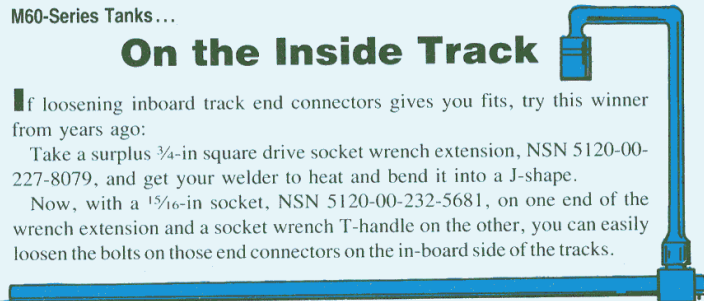
M60-Series Tanks...

On the Inside Track

If loosening inboard track end connectors gives you fits, try this winner from years ago:

Take a surplus 3/4-in square drive socket wrench extension, NSN 5120-00-227-8079, and get your welder to heat and bend it into a J-shape.

Now, with a 1 1/16-in socket, NSN 5120-00-232-5681, on one end of the wrench extension and a socket wrench T-handle on the other, you can easily loosen the bolts on those end connectors on the in-board side of the tracks.



Where to Mount

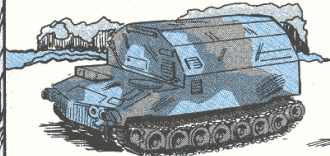
M16A1 Rifles

TM's are not always clear on where to mount M16A1's in your vehicles. Some have the info, others do not. Here's all the latest info.

Tracked Vehicles

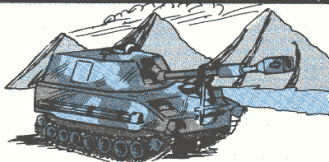
In almost all cases, instructions and the NSN's for the mounting equipment are in the -20 technical and parts manuals... with these exceptions:

• **M1/M1A1 Tank**—The only authorized M16A1 is mounted in front of the tank commander's seat. The barrel is secured to a tube welded to the cover next to the pamphlet bag. A bungee cord, NSN 4020-01-072-4558, holds the buttstock to the side of the turret.



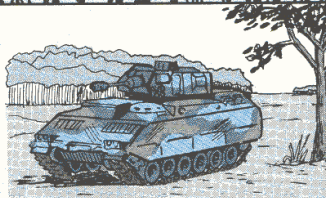
• **M992 Ammo Carrier**—One M16A1 is stored on each side of the conveyor and inside of the rear door with spring clips, NSN 5340-00-122-7159.

• **M109 Self-Propelled Howitzer**—One M16A1 is mounted on the right-hand side of the driver's seat with a spring clip, NSN 5340-00-920-7586. Four rifles are mounted on the left-front of the inside of the vehicle with the same clips.



• **M2/M2A1/M3/M3A1 Bradley Fighting Vehicle**—The missing NSN for the mounting bracket (Item 29, Fig 238, TM 9-2350-252-24P-1) is 2590-01-237-6980. All other mounting bracket NSN's are listed in -24P-1.

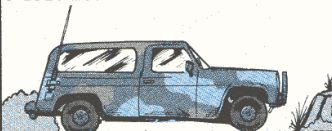
The M60-series tanks and M551 Sheridans are not authorized M16's.



Wheeled Vehicles

• M16A1 mounting instructions and equipment NSN's are in TM 9-2320-289-34P for the CUCV and TM 9-2320-280-20P for the HMMWV.

• Here are the mounting kit NSN's for other vehicles. Instructions come with the kits.

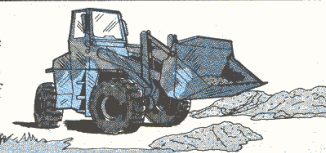


• There are no mounting kits or instructions available for these trucks: 915/915A1, M911, M123, M746, Goer, M880, and Gama Goat.

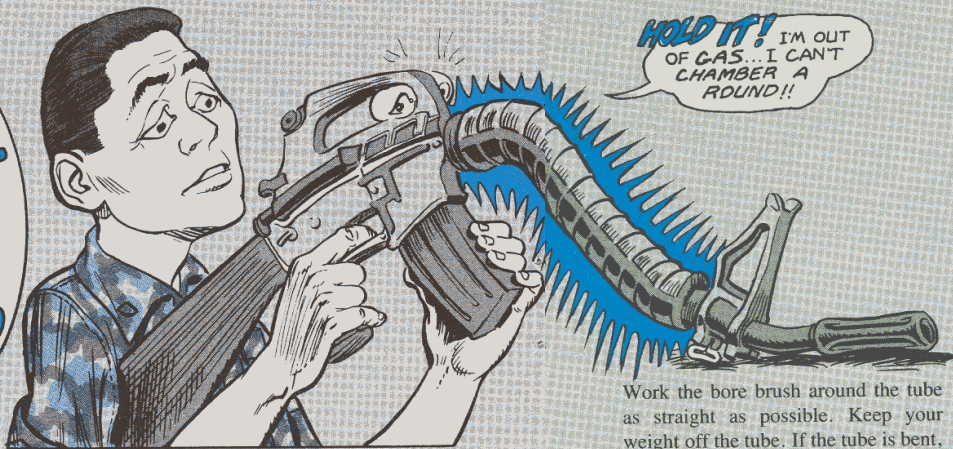
Vehicle	Kit NSN
M939-series trucks	2540-01-096-5020
M35/44-series trucks	2540-01-223-0041
M39/809-series trucks	2540-01-223-0041
HEMTT	1005-01-266-1233
M151-series trucks	1095-00-763-7348

Construction Equipment

• TB 750-246 tells how to install the mounting kit, NSN 2540-01-096-5020, on some construction equipment. If you can't find a copy, write PS.



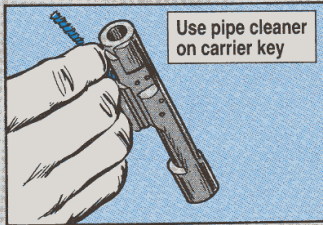
EW!
IT'S A
GAS



If your M16's gas system gets plugged or leaks, it runs out of gas. The rounds won't chamber or you get short recoil.

Keep your M16 gassed to go like this:

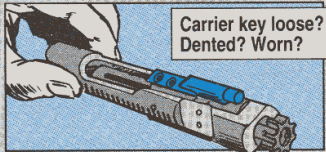
Clean the carrier key thoroughly with an old bore brush, CLP (or RBC), and a pipe cleaner. Work the bore brush all the way back in the key to get out all the carbon.



Use pipe cleaner on carrier key

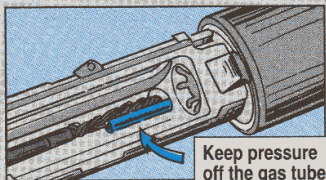
Never substitute a cotton tip for pipe cleaners. Cotton comes off and mixes with lube and carbon. The gunk hardens and plugs up the gas port.

Check the carrier key for looseness, dents, or wear. If the carrier key can't mate with the gas tube, you not only get short recoil, but damage the gas tube. Your armorer can have support fix bad carrier keys.



Carrier key loose? Dented? Worn?

Clean the outside of the receiver end of the gas tube with the bore brush and CLP (or RBC)—but very carefully.



Keep pressure off the gas tube

HOLD IT! I'M OUT OF GAS... I CAN'T CHAMBER A ROUND!!

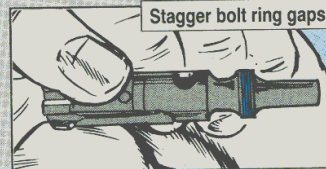
Work the bore brush around the tube as straight as possible. Keep your weight off the tube. If the tube is bent, it won't mate with the carrier key and may have to be replaced.

When the handguards are off, hands off the gas tube. It doesn't take much pressure to damage it.



Hands off gas tube

Before you put your M16 back together, make sure the gaps in the bolt rings are staggered. Otherwise, you get short recoil.

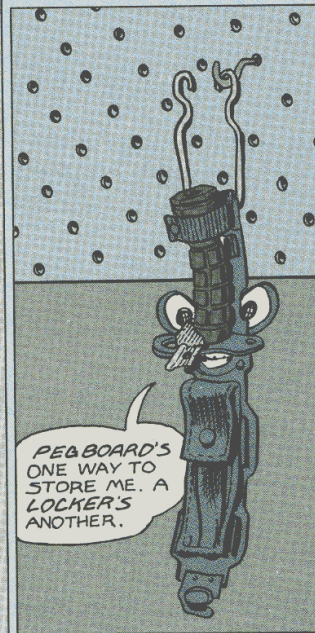


Stagger bolt ring gaps

Where to Keep 'em

There's no rack especially designed for storing the M9 bayonet.

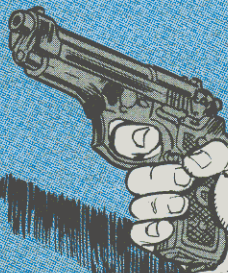
Your best bet is either to store them in a footlocker chained to the arms room wall or hang them on a pegboard in the arms room. Your local



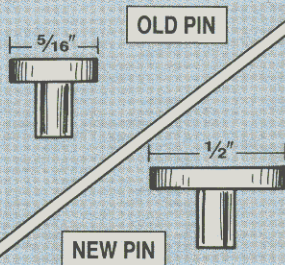
self-service supply center probably has pegboard. Be sure whatever storage method you choose meets the security requirements in AR 190-11.

MWO Cancels Slide Limit

A NEW MWO WILL KNOCK OUT THE 1,000 ROUND SLIDE LIMIT ON M9 PISTOLS.

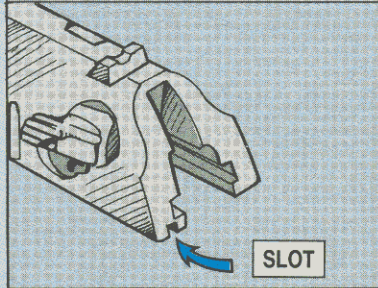


⚔ A 1/2-in hammer pin head, instead of the old 5/16-in head.



Your support will receive the kit for MWO 9-1005-317-30-1 through distribution. After they finish the modification, check for these three changes:

⚔ A slot cut in the underside of the slide's left rail.



⚔ A recessed area in the left grip for the hammer pin head.

If all three modifications haven't been done, send the pistol back to support. It's unsafe to fire.

Support should send the old slide and left pistol grip to:

**Anniston Army Depot
ATTN: SDSAN-DSP-WD
(Bill Hamby)
Anniston, AL 36201-9998**

Exercise the Outriggers

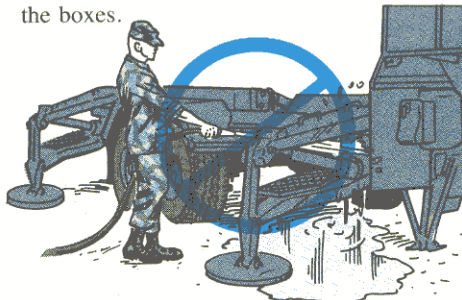


Lack of exercise and the use of high-pressure water can leave the outriggers on the radar set and launching station semitrailers out of action.

Unless you exercise the outriggers at least monthly, the actuator oil seals dry out and start leaking. The ball screws also need to move in and out of the ball nuts or they don't get a coating of lube. Screws rust and this freezes the outriggers in place.

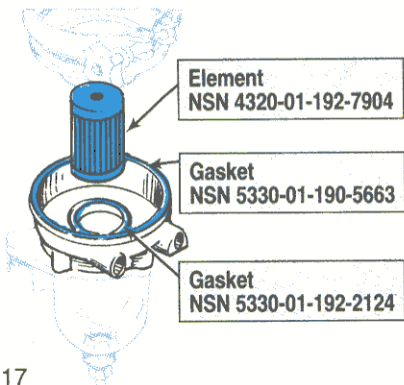
High pressure water sprayed on the

outrigger relay control boxes ruins their seals and causes electrical shorts. Keep high pressure water away from the boxes.



Chaparral Fuel Filter

Page 2-23 in TM 9-1440-2585-20-1 tells you Chaparral mechanics to change the M54A2 launching station fuel filter element every 200 hours. But TM 9-1440-1585-24P lists only the NSN for the whole filter assembly, NSN 2815-01-152-0361, at a cost of \$52.51. Get the filter element with NSN 4320-01-192-7904 for \$2.46. Get the upper lid gasket with NSN 5330-01-190-5663 and the lower lid gasket with NSN 5330-01-192-2124.



ACCESS TO ENGINE PANELS

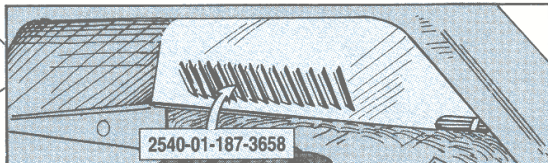
Access panels catch air and direct it into the engine area, cooling the engines on M44-, M39- and M809-series trucks.

If a panel gets damaged, it can be replaced, but the NSN's are not in the TM's.

M44

Driver's Side

HERE ARE THE NSN'S FOR THE M44-SERIES TRUCKS...

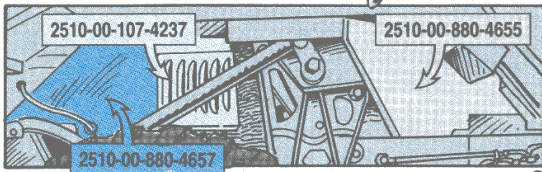


Curb Side



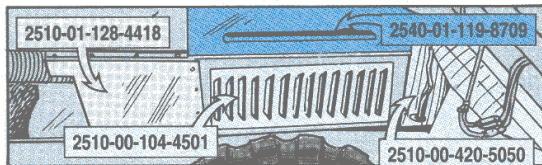
M39 Diesel / Multifuel

Driver's Side



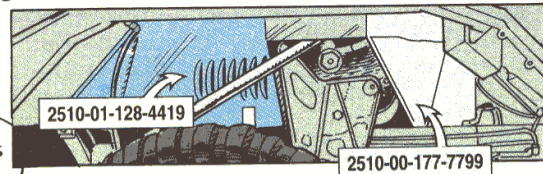
... AND HERE ARE THE NSN'S FOR M39 DIESEL/MULTIFUEL MODELS...

Curb Side



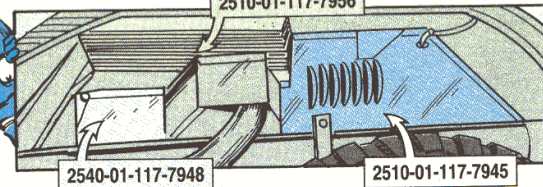
M39 Gas

Driver's Side



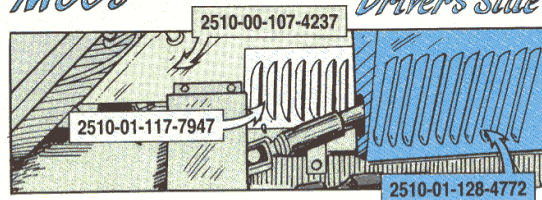
...AND THESE ARE THE NSN'S FOR THE M39 GASOLINE MODELS. DON'T MIX 'EM UP!...

Curb Side



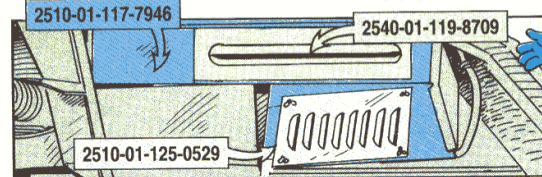
M809

Driver's Side



... AND FINALLY THE NSN'S FOR THE M809-SERIES.

Curb Side



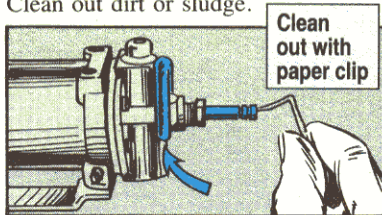
Beating Wiper Motor BLAHS



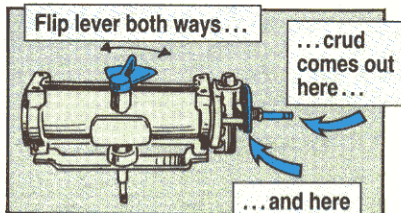
Wiper motors on 2½- and 5-ton trucks gum up and get the blahs. The fine mist of moisture and oil in the compressed air system turns to sludge. Sludge clogs the motor's air lines until the motor bogs down or stops.

Clean the air lines on the wiper motor like so:

- 1 Remove the clamp and hose from the fittings on the wiper motor.
- 2 Insert a paper clip into the hole. Clean out dirt or sludge.



- 3 Flip the hand control lever back and forth to blow out any crud.



- 4 Put the hose and clamp back in place.

M819 Wrecker...

Gondola Windshield Wiper NSN's

Windshield wiper parts for the wrecker gondola on the M819 wrecker are not in the -20P TM.

Take your stubby pencil and make a note until TM 9-2320-260-20P is updated.

Here're some of the main parts:

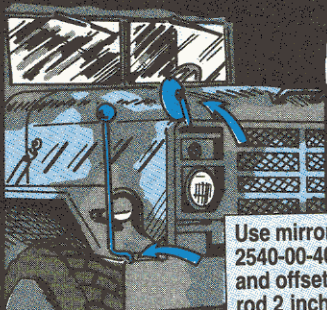
Item	NSN 2540-
Windshield wiper motor	01-133-7120
Wiper arm	00-050-0810
Wiper blade	00-255-9212

Mirror, Mirror Off the Wall

HMMM... TWO IDEAS FOR THE PRICE OF ONE - MIRROR AND GUIDE ROD!!

Dear Editor,

There's a blind spot on the right front side of our M923A1 cargo trucks. My unit mounted a mirror on the right front of the brushguard and now we can see along that side. We used mirror assembly, NSN 2540-00-401-8337. The mirror, brace arm, nuts and bolts come with the assembly.



We also added a guide rod to the front bumper to keep from bumping into things, like you suggested on Page 21 of PS 411. But we had to put a dogleg in the rod to open the hood and make the rod longer so we could see it from the seat.

**SGT Butch Rose
NJARNG**

(Editor's note: Two good ideas! You're right, you have to put a 2-in offset and add 6 inches to the rod. The offset lets you open the bigger hood on the M939-series trucks. The added length makes the rod high enough to see.)

Winch Wrap-Up

When the cable chain on a truck's winch gets free, it goes haywire. The chain whips and bangs against the winch's drum and bends the top plate of the winch. It whacks and dents the vehicle as it swings wild—up, down, and around.

The way to put—and keep—the cable chain in its place is to stow the winch's hook and chain right.

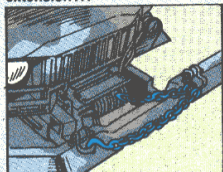
SAVE YOUR TRUCK A BEATING! STOW YOUR CABLE CHAIN RIGHT!

HOW DID THIS WRECKER GET DENTED?

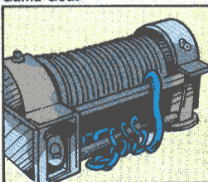
THE CABLE CHAIN WAS LOOSE!

Front Winches

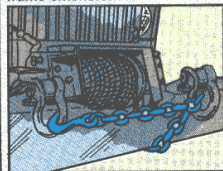
2½-ton
Cable chain over left frame extension...



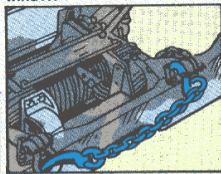
Gama Goat



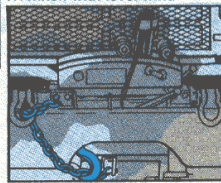
...cable chain under left frame extension



M39-, M809-, and M939-Series
5-Ton; Winch without level wind...

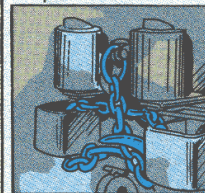


...winch with level wind

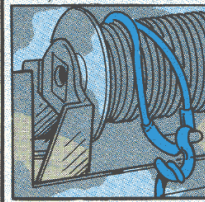


Rear Winches

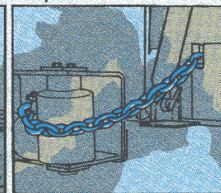
M62, M543-Series, M816, M936
5-Ton Wreckers with bumperettes



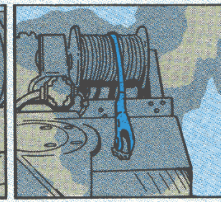
M916, M920 Tractor Truck



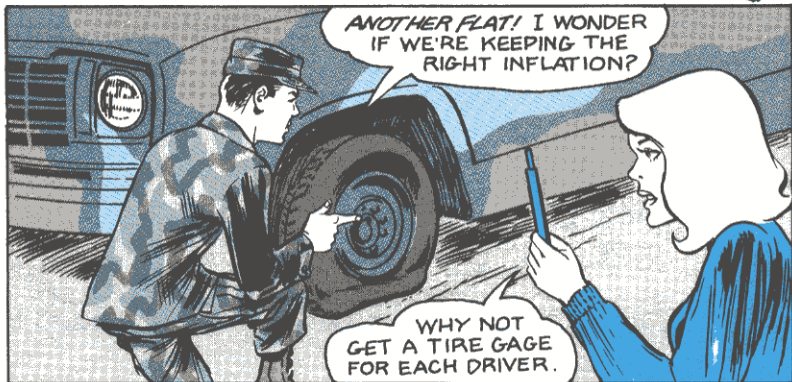
M62, M543-Series and M816
5-Ton Wreckers without bumperettes



M911 Tractor Truck



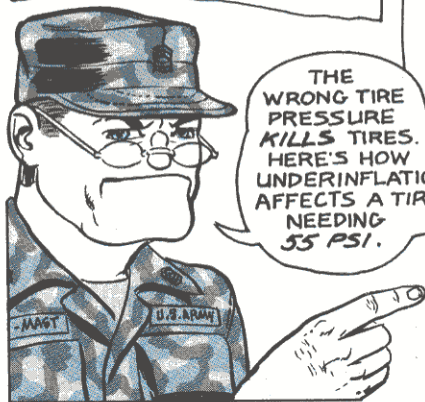
Make Tire Gaging Easy



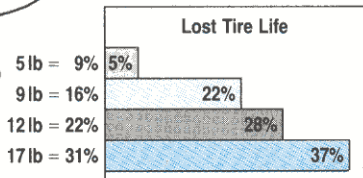
Dear Half-Mast,
 We've had a rash of tire failures in my outfit. My mechanics say it's because of wrong tire pressure. Drivers know it's important to keep the right air pressure in tires, but they do not take the time to get a gage and measure it. Any ideas?
 SFC J.T.

Dear SFC J.T.,
 Yep, correct tire pressure is important and the only accurate way to check it is with a tire gage. Make it easy for the drivers. Order a tire gage, NSN 4910-00-204-3170, for each assigned driver. Get one for your dispatcher, too. That way, drivers not assigned to a specific vehicle can easily find a gage. Then there's no excuse for not gaging a tire.

Cordially,
 Half-Mast

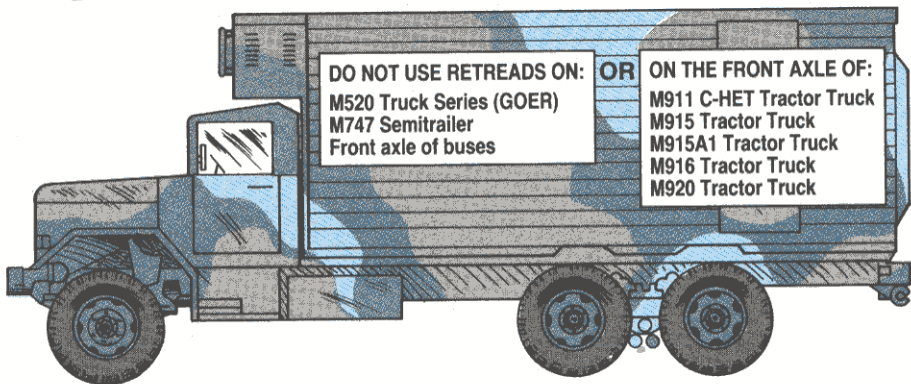


Underinflation



Recapped Tires Recapped

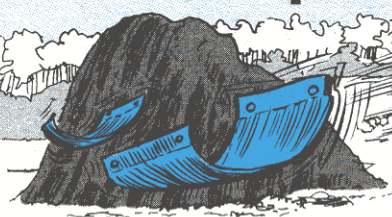
You can run retread tires on most trucks and trailers, with these exceptions.



The word on retread restrictions is in Para 4-46, Page 27 of AR 750-1 in DA Pam 738-750 Maintenance Management Update 12.

M929/M930 Dump Truck...

Flap Over Flaps



A lot of M929/M930 dump trucks are running around with torn or missing mud flaps.

Seems some careless drivers don't take that extra minute to hook up those flaps before dumping the load.

Then, when backing up and dumping, flaps get caught under the rear wheels. Before you know it, they're gone.

Those mud flaps have special hooks to keep them out of the way of the wheels when dumping. So use the hooks 'n' save a flap.



Flaps up when dumping



CONNIE,
CAN YOU
HELP ME
FIND SOME
PUBS?

FOR CONNIE'S HELP, SEE PAGE 35.

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer print-out provided by the Adjutant General.

TM 1-1520-250-23-1 Sep 89 General tie-down and mooring for AH-64; UH-60; CH-47; UH-1; AH-1 and OH-58

TM 5-4120-380-14 Oct 89 Air conditioner, 24,000 BTU EMD, model MOAC 226

TM 5-4520-242-23P Feb VBM 15-1 multifuel space heater

TM 10-1670-278-23&P Nov 89 Parachute, cargo type, 15-foot diameter

TM 10-5411-207-14 Sep 89 S-280C/G electrical equipment shelter

TM 11-1520-238-23P Mar AH-64A helicopter avionics configuration

TM 11-5805-764-23P Feb Small extension node switch AN/TTC-48(V)1, AN/TTC-48(V)2, AN/TTC-48A(V)1 and AN/TTC-48A(V)2

TM 11-5805-765-23P Feb Large extension node switch AN/TTC-46 and AN/TTC-46A(V)1

TM 11-5805-766-23P Feb Node center switch AN/TTC-47 and AN/TTC-47A(V)1

TM 11-5805-769-24P Feb C-11878/T MSE orderwire control

TM 11-5805-770-24P Feb Multiplexer TD-1426(P)/T MSE

TM 11-5805-771-24P Feb Modem, digital data MD-1231(P)/T

TM 11-5805-772-24P Feb Switchboard SB-4303(P)/G, MSE

TM 11-5805-773-23P Feb Central office, telephone, automatic AN/TTC-49, MSE

TM 11-5820-1022-13-2 Feb Radio access unit AN/TRC-191 and AN/TRC-191A

TM 11-5820-1022-23P Feb Radio access unit AN/TRC-191 and AN/TRC-191A

TM 11-5820-1023-23P Feb Line-of-sight multichannel radio terminal AN/TRC-190(V)1, AN/TRC-190(V)2, AN/TRC-190(V)3, AN/TRC-190(V)4, AN/TRC-190A(V)1, AN/TRC-190A(V)2, AN/TRC-190A(V)3 and AN/TRC-190A(V)4

TM 11-5820-1024-23P Feb Radio set AN/GRC-224, MSE

TM 11-5855-265-23P Nov 89 Pilot night vision sensor (PNVS) assembly AN/AAQ-11

TM 11-5895-1374-23P Feb System control center AN/TYQ-35(V)1, MSE

TM 11-5895-1375-23P Feb Management facility AN/TSQ-154

TM 11-5895-1465-13&P Feb MD-1270(P)/T MSE communication modem

TM 11-6625-3189-13&P Feb Test set, radio AN/USM-626(V)1 and AN/USM-626(V)2

TM 55-1520-214-CL Dec 89 OH-6A checklist

TM 55-1520-248-CL Nov 89 OH-58D checklist

TB 5-2350-262-15 Aug 89 Warranty program for the M9 Armored Combat Earthmover

TB 5-4610-215-24/3 Jun 89 Warranty for 600 GPH ROWPU

TB 55-1520-238-20-66 Sep 89 Inspect fire extinguishing systems

FM 1-508 Jan Maintaining aviation life support equipment

MWO 9-1270-200-20-1 Nov 89 Mod to helmet

UPDATE 3-12 Oct 89 Maintenance management (Issue No. 12)

UPDATE 5-14 Sep 89 All ranks personnel (Issue No. 14)

Maintenance & Safety-Of-Use Messages

AMCCOM Maintenance Advisory MSG—Broken cocking levers for the M287 9MM subcaliber ammunition practice launcher, AMSMC-MAW 182000Z Jan 90.

CECOM SOU-MSG-89-12-03—Operational, Mandatory, AN/MSQ-103C (Teampack), AMSEL-SF-SEC 191800Z Dec 89.

CECOM SOU-MSG-90-01-01—Operational, Mandatory, CN-811D/A Displacement gyroscope, Part of CH-47D, AMSEL-SF-SEC 041800Z Jan 90.

CECOM SOU-MSG-90-01-03—Mandatory, Operational, Mast

group, hydraulic-pneumatic OA-9054(V)4/G, part of the OE-349/MRC antenna mast group, AMSEL-SF-SEC 191800Z Jan 90.

MICOM SOU-MSG-89-02—Advisory, M22 sling beam wire rope assembly, AMSMI-LC-AM 101425Z Jan 90.

TACOM SOU-MSG-89-84—Advisory, Technical Maintenance, M39, M809, and M939 series 5-ton vehicles, AMSTA-M 121700Z Jan 90.

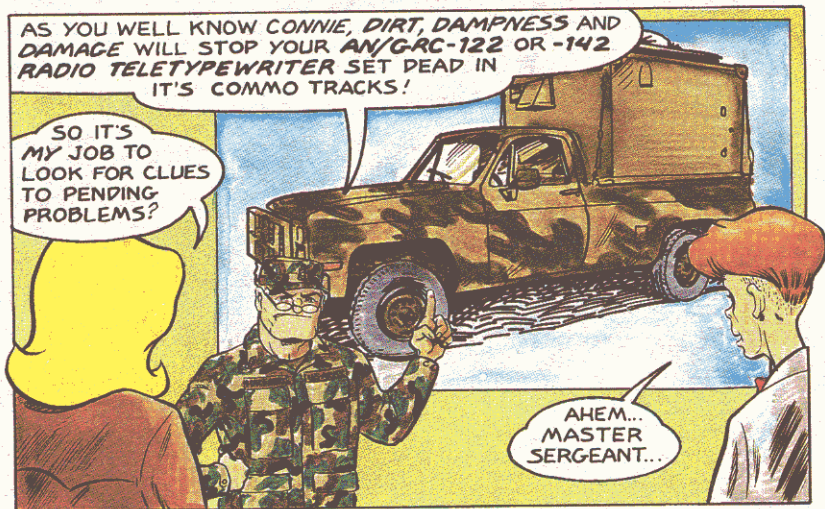
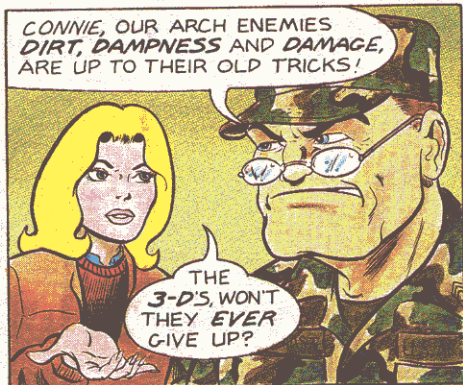
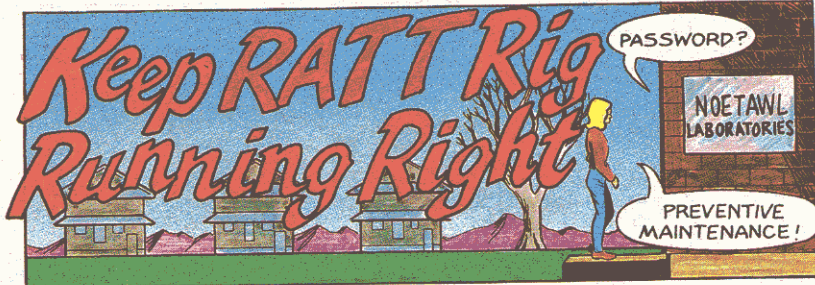
TACOM SOU-MSG-90-05—Operational, No swimming the M9 ar-

mored combat earthmover (ACE), AMSTA-M 022000Z Feb 90.

TROSCOM SOU-MSG-01-90—Advisory, 600 GPH reverse osmosis water purification unit (ROWPU), AMSTR-MES 291515Z Jan 90.

TROSCOM SOU-MSG-03-90—Limited One-Time Inspection, Asbestos on US Army watercraft, AMSTR-MES 262030Z Jan 90.

Your Direct Support or Logistic Assistance Office (LAO) can provide you with more information.





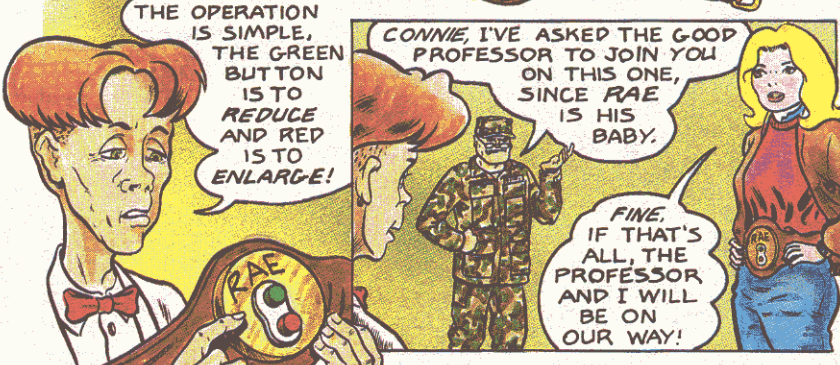
CONNIE, I'D LIKE YOU TO MEET PROFESSOR *NOETAWL*...

HE'S COME UP WITH A "LITTLE" SOMETHING TO AID YOU IN YOUR INVESTIGATION.

WELL MISS RODD, THIS STYLISH BELT IS ACTUALLY A REDUCING AND ENLARGING DEVICE...

HELLO, PROFESSOR. I'VE HEARD ABOUT YOUR WORK!

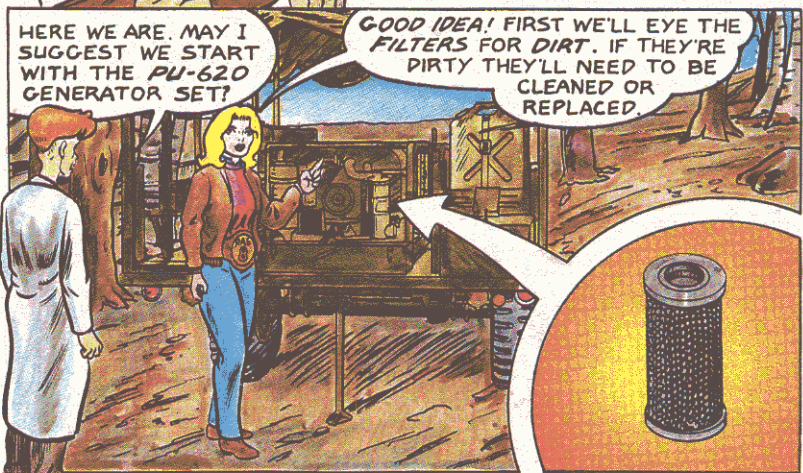
...RAE FOR SHORT!



THE OPERATION IS SIMPLE, THE GREEN BUTTON IS TO REDUCE AND RED IS TO ENLARGE!

CONNIE, I'VE ASKED THE GOOD PROFESSOR TO JOIN YOU ON THIS ONE, SINCE RAE IS HIS BABY.

FINE, IF THAT'S ALL, THE PROFESSOR AND I WILL BE ON OUR WAY!

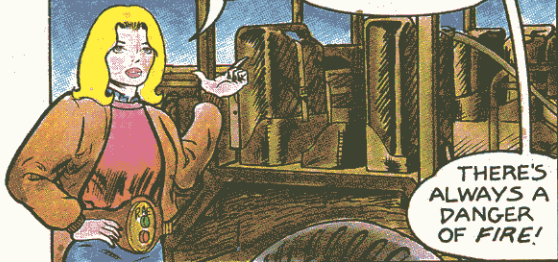


HERE WE ARE. MAY I SUGGEST WE START WITH THE *PU-620* GENERATOR SET?

GOOD IDEA! FIRST WE'LL EYE THE FILTERS FOR DIRT. IF THEY'RE DIRTY THEY'LL NEED TO BE CLEANED OR REPLACED.

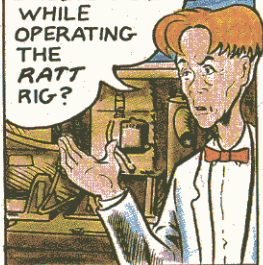


MAKE SURE FUEL CANS HAVE CAPS-AND THAT THE CAPS ARE ON THE CANS! NEVER PUT THE CANS NEAR THE GENERATOR!



THERE'S ALWAYS A DANGER OF FIRE!

BUT HOW FAR APART SHOULD THE GENERATOR TRAILER AND THE SHELTER BE - WHILE OPERATING THE RATT RIG?

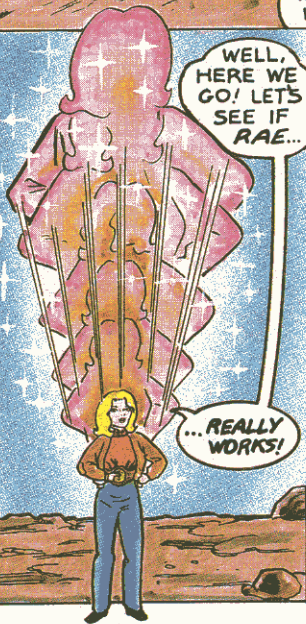


THE GENERATOR TRAILER SHOULD BE AT LEAST 25 FEET AWAY FROM THE SHELTER. THIS CUTS DOWN NOISE, AND IT'S SAFER!



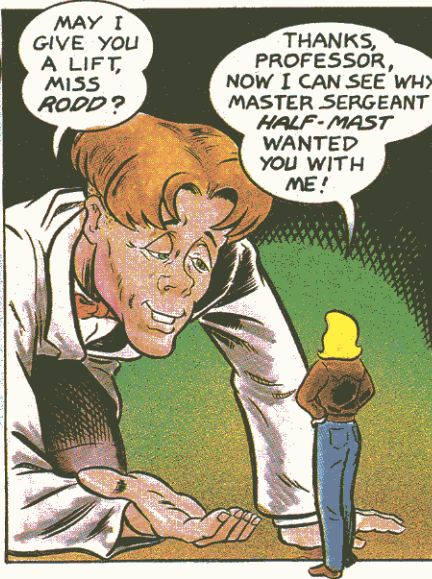
LET'S MOVE TO THE SHELTER AND GIVE THE COMMO EQUIPMENT THE ONCE-OVER. I'LL REDUCE WHEN WE GET THERE, TO GET INTO THE SPOTS WHERE THE 3-D'S DO THEIR WORST!

WELL, HERE WE GO! LET'S SEE IF RAE...

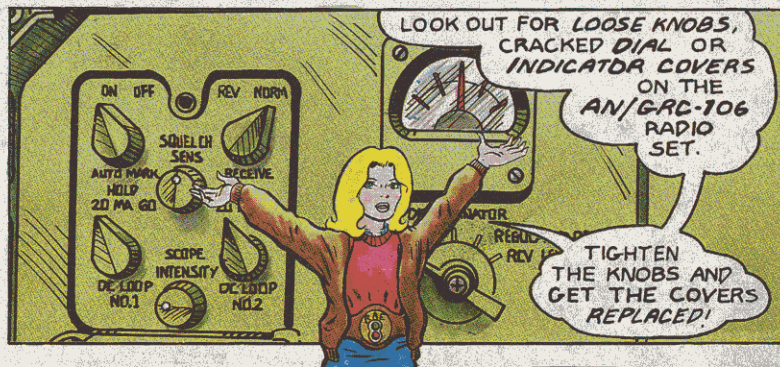


...REALLY WORKS!

MAY I GIVE YOU A LIFT, MISS RODD?

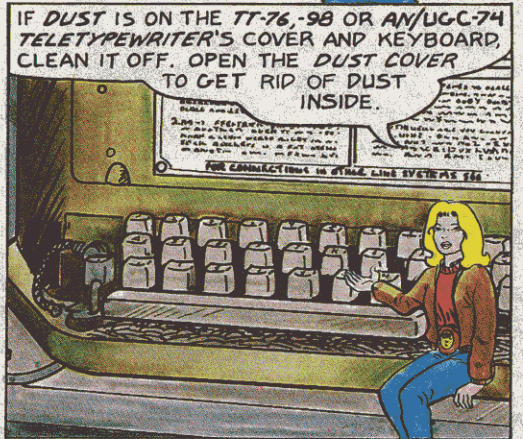


THANKS, PROFESSOR, NOW I CAN SEE WHY MASTER SERGEANT HALF-MAST WANTED YOU WITH ME!



LOOK OUT FOR LOOSE KNOBS, CRACKED DIAL OR INDICATOR COVERS ON THE AN/GRC-106 RADIO SET.

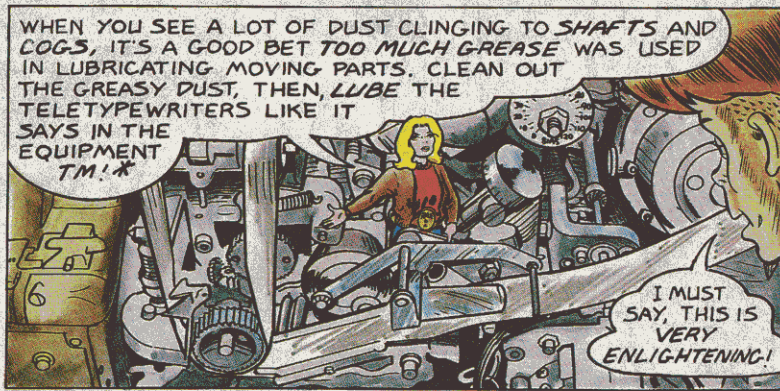
TIGHTEN THE KNOBS AND GET THE COVERS REPLACED!



IF DUST IS ON THE TT-76, -98 OR AN/UGC-74 TELETYPEWRITER'S COVER AND KEYBOARD, CLEAN IT OFF. OPEN THE DUST COVER TO GET RID OF DUST INSIDE.



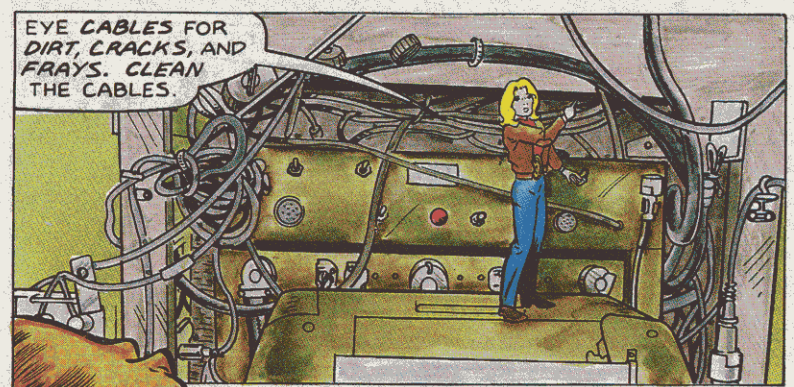
PROFESSOR, IF YOU COULD GIVE ME A HAND WITH THE COVER, WE'LL TAKE A LOOK AT THE SHAFTS AND COGS.



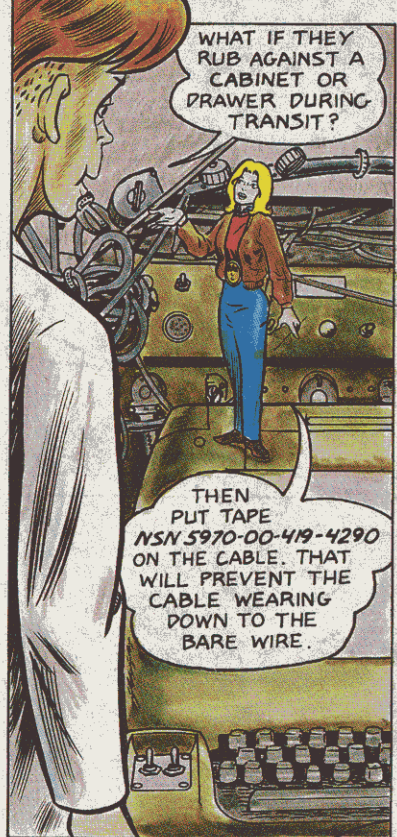
WHEN YOU SEE A LOT OF DUST CLINGING TO SHAFTS AND COGS, IT'S A GOOD BET TOO MUCH GREASE WAS USED IN LUBRICATING MOVING PARTS. CLEAN OUT THE GREASY DUST, THEN, LUBE THE TELETYPEWRITERS LIKE IT SAYS IN THE EQUIPMENT TM!*x

I MUST SAY, THIS IS VERY ENLIGHTENING!

* TM 11-5815-238-20 FOR THE TT-76, TM 11-5815-200-12 FOR THE TT-98 AND TM 11-5815-602-24 OR -24-1 FOR THE AN/UGC-74.

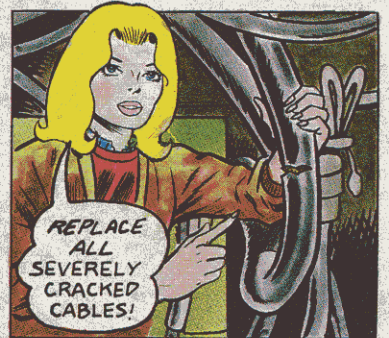


EYE CABLES FOR DIRT, CRACKS, AND FRAYS. CLEAN THE CABLES.

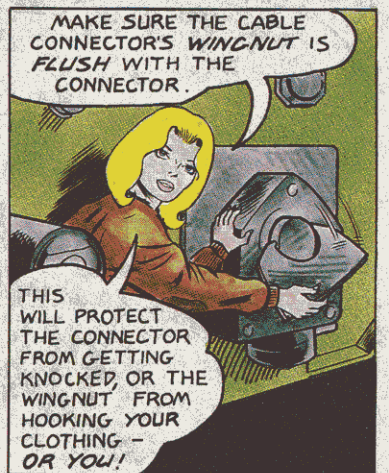


WHAT IF THEY RUB AGAINST A CABINET OR DRAWER DURING TRANSIT?

THEN PUT TAPE NSN 5970-00-419-4290 ON THE CABLE. THAT WILL PREVENT THE CABLE WEARING DOWN TO THE BARE WIRE.

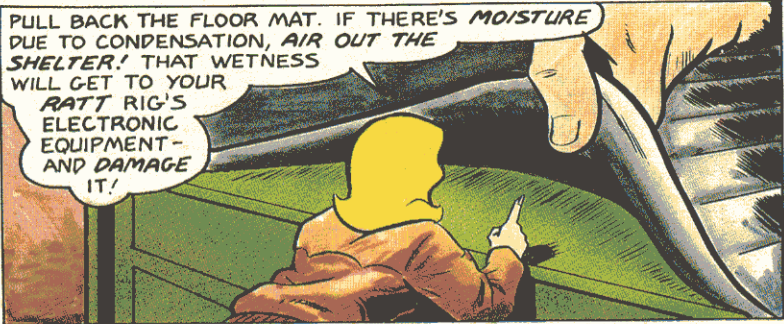


REPLACE ALL SEVERELY CRACKED CABLES!

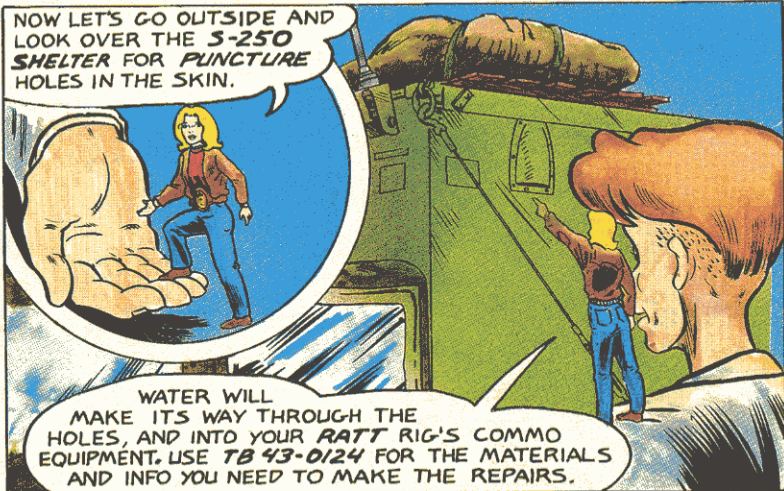


MAKE SURE THE CABLE CONNECTOR'S WINGNUT IS FLUSH WITH THE CONNECTOR.


THIS WILL PROTECT THE CONNECTOR FROM GETTING KNOCKED, OR THE WINGNUT FROM HOOKING YOUR CLOTHING - OR YOU!



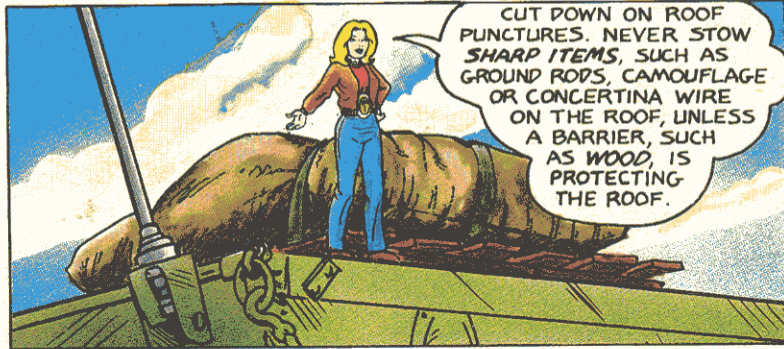
PULL BACK THE FLOOR MAT. IF THERE'S **MOISTURE** DUE TO CONDENSATION, **AIR OUT THE SHELTER!** THAT WETNESS WILL GET TO YOUR **RATT RIG'S** ELECTRONIC EQUIPMENT - AND DAMAGE IT!



NOW LET'S GO OUTSIDE AND LOOK OVER THE **S-250 SHELTER** FOR **PUNCTURE** HOLES IN THE SKIN.

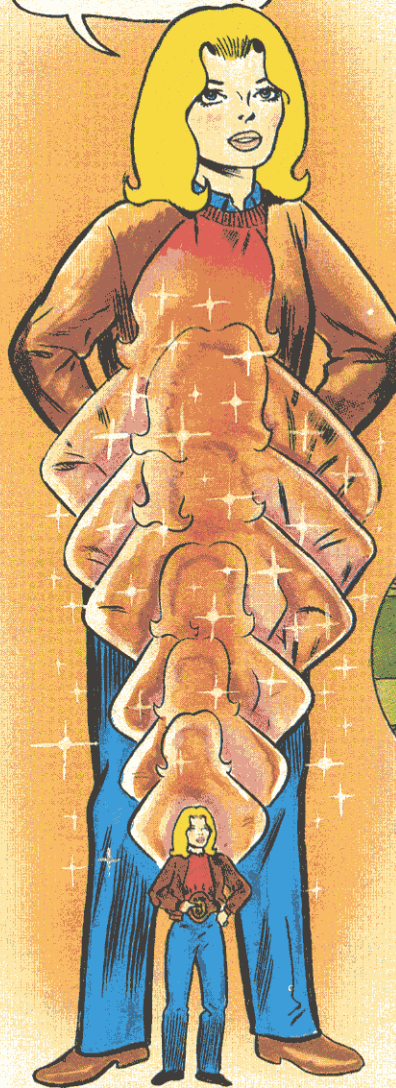


WATER WILL MAKE ITS WAY THROUGH THE HOLES, AND INTO YOUR **RATT RIG'S** COMMO EQUIPMENT. USE **TB 43-0124** FOR THE MATERIALS AND INFO YOU NEED TO MAKE THE REPAIRS.



CUT DOWN ON ROOF PUNCTURES. NEVER STOW **SHARP ITEMS**, SUCH AS GROUND RODS, CAMOUFLAGE OR CONCERTINA WIRE ON THE ROOF, UNLESS A BARRIER, SUCH AS **WOOD**, IS PROTECTING THE ROOF.

BEFORE WE HEAD INTO
GROUNDING, I THINK IT'S
TIME I RETURNED TO
MY ORIGINAL SIZE!

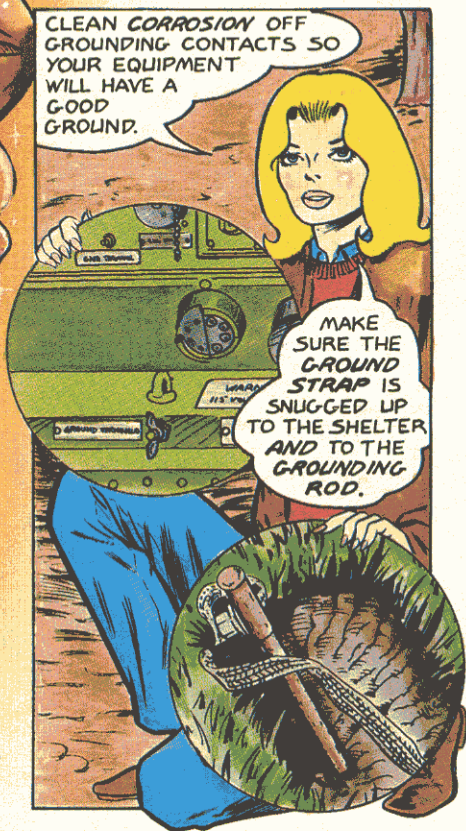


I'M GLAD TO SEE YOU'VE
MADE IT BACK!



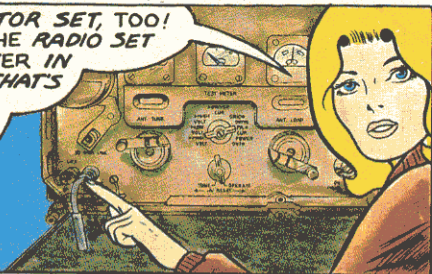
BELIEVE
ME, I'M GLAD
TO BE BACK!

CLEAN CORROSION OFF
GROUNDING CONTACTS SO
YOUR EQUIPMENT
WILL HAVE A
G-**OOD**
G-**R**OUND.



MAKE
SURE THE
G-ROUND
STRAP IS
SNUGGED UP
TO THE SHELTER
AND TO THE
G-ROUNDING
ROD.

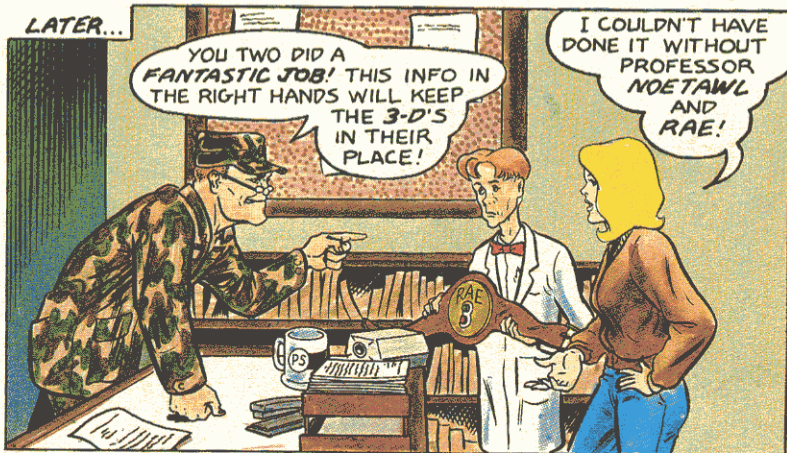
THAT GOES FOR THE **GENERATOR SET**, TOO!
SOMETIMES THE **STRAP** ON THE **RADIO SET**
IS HOOKED UP TO THE **RECEIVER** IN
BINDING POST BY MISTAKE. **THAT'S**
NO GOOD! MAKE SURE THE
STRAP IS CONNECTED TO
THE **GRD** BINDING POST
AND RUNS TO THE
RACK, SHELTER WALL
OR ANOTHER
CONVENIENT
SPOT.



LATER...

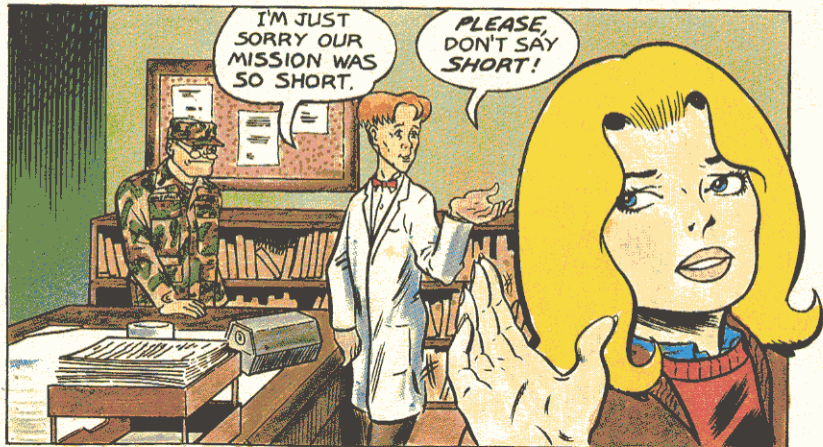
YOU TWO DID A
FANTASTIC JOB! THIS INFO
IN THE RIGHT HANDS WILL KEEP
THE **3-D'S** IN THEIR
PLACE!

I COULDN'T HAVE
DONE IT WITHOUT
PROFESSOR
NOETAWL
AND
RAE!



I'M JUST
SORRY OUR
MISSION WAS
SO SHORT.

PLEASE,
DON'T SAY
SHORT!



Handy Pubs Guide

CONNIE, I NEED SOME PUBS ASSISTANCE

YES, HERE'S A PUBLICATION TO HELP YOU GET YOUR TECHNICAL PUBLICATIONS LIBRARY UP TO SNUFF. IT'S YOURS FOR THE ASKING!

Write to:
**USAMC Materiel Readiness
Support Activity
ATTN: AMXMD-MP
Lexington, KY 40511-5101**
Or call:
**AUTOVON: 745-4276
Commercial: (606) 293-4276**
Just ask for the
MAINTENANCE PUBLICATIONS GUIDE

Aviation Messages

If your unit has not received a message you have an interest in, check with your next higher headquarters.

UH-60-89-13, SOF, Operational, Restrictions against using fitting assembly P/N 70700-20433-045 for rappelling, parachuting, and transportability tiedown operations, 051845Z Dec 89.

CH-47-89-14, SOF, Technical, Greasing combiner cooling fan drive shaft, 051900Z Nov 89.

AH-1-89-11, SOF, Maint Mandatory, Inspection for gap between spline plate and extension on main rotor mast, 052030Z Dec 89.

T-42-89-01, SOF, Maint Mandatory, Inspect wing forward spar

carry-through structure, 052200Z Dec 89.

BE-65-89-01, SOF, Technical, All U-8F and BE-65, Inspect elevator bellcrank push rod arms, 122215Z Dec 89.

U-8-89-01, SOF, Technical, All U-8F and BE-65, Elevator bellcrank push rod arms, 122215Z Dec 89.

AH-64-89-24, SOF, Inspect PNVS mounting screws, 141800Z Dec 89.

CH-47-89-15, SOF, Technical, Combiner cooling fan drive shaft inspections, 201700Z Dec 89.

OH-58-89-10, SOF, Technical,

Correction to one-time inspection of engine mounted fuel line clamps, 271500Z Dec 89.

OH-6-89-05, SOF, Technical, Correct one-time inspection of engine mounted fuel line clamps, 271500Z Dec 89.

OH-58-89-11, SOF, Technical, Inspect engine mounted fuel line clamps, 271500Z Dec 89.

OH-6-89-06, SOF, Technical, Correct one-time inspection of engine mounted fuel line clamps, 271500Z Dec 89.

AH-64-89-MIM-14, Fire extinguisher cartridge, 011800Z Dec 89.

CAT 1 EIR Phone:
AUTOVON 693-2066
(24 HOURS)

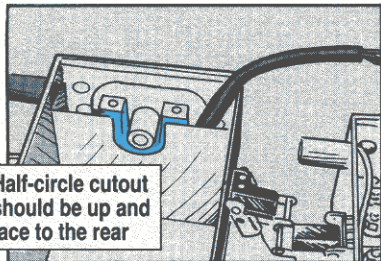
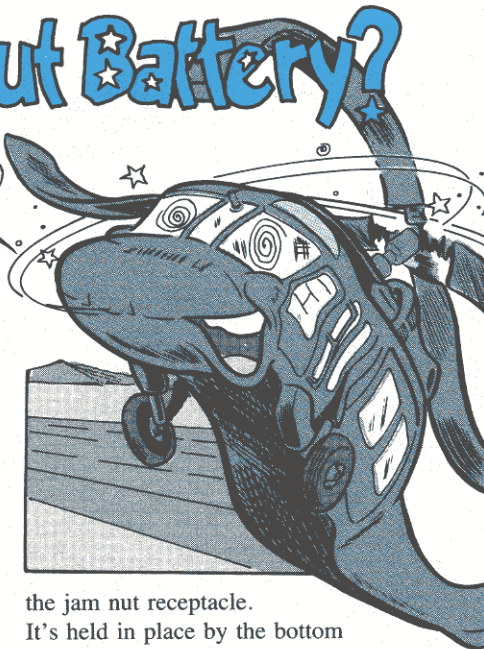
Spaced Out Battery?

WOULD YOU LIKE TO SWING ON A STAR!

Never turn your bird's BB-716/A nickel-cadmium battery upside down when you're installing or removing it.

You could short the positive battery terminal because the spacer in some batteries may have been installed wrong by the maintenance shop.

If the spacer's installed right, the half-circle cutout will face the rear of

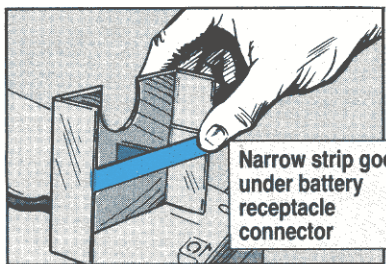


Half-circle cutout should be up and face to the rear

the battery and be on top, rather than on the bottom, of the spacer. The cutout allows clearance for the battery sensor assembly harness.

The narrow strip that forms the front side of the spacer should be between the battery receptacle connector and

the jam nut receptacle. It's held in place by the bottom

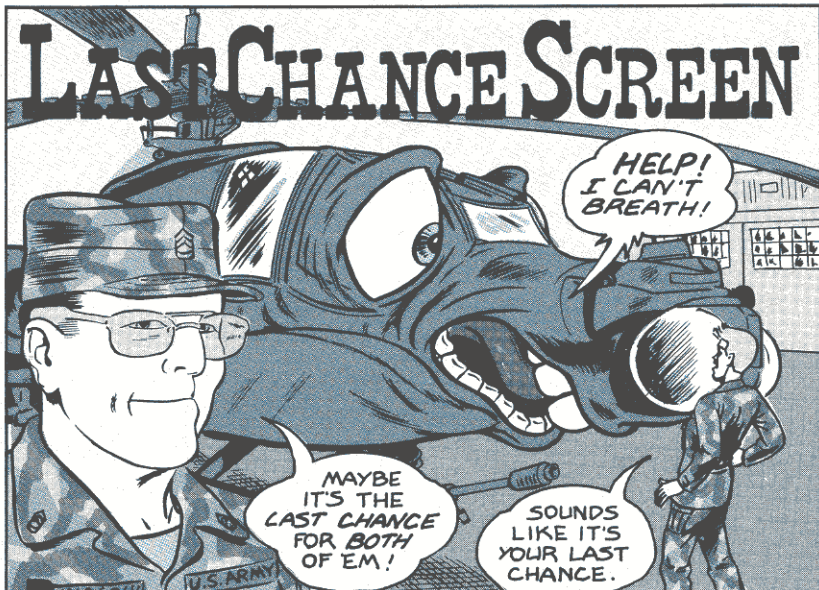


Narrow strip goes under battery receptacle connector

edge of the battery connector receptacle and prevents it from moving.

Compass Control Confusion

Some Black Hawk compass controls have part numbers that won't cross reference to an NSN in TM 11-1520-237-23P or on the AMDF. But if your bird is number 77-22714 through 86-24500, replace the compass control with NSN 6605-00-460-8158. If your bird is number 86-24501 or later, replace the compass with NSN 5821-01-237-4765.

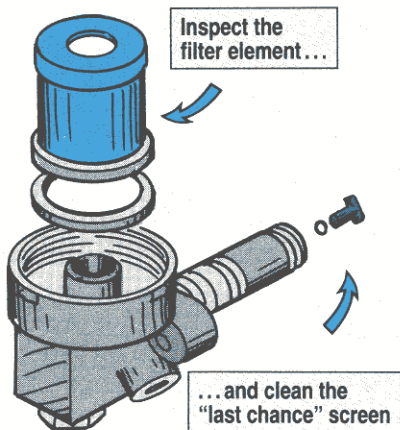


Dirt and trash accumulate on the filter screen of your Apache's main transmission accessory gearbox. That restricts oil flow to the shaft-driven compressor and causes the compressor to fail.

To head off this damage, inspect the paper filter element and clean the oil filter's "last chance" screen every 50 flight hours.

The inspection's not in TM 55-1520-238-23-1 and the screen cleaning is not in TM 55-1520-238-23-4.

Until the TM's are updated, see AVSCOM Msg AH-64-89-MIM-10 for inspection and cleaning procedures. If you don't have a copy of the message or can't get one from your AVSCOM Logistic Assistance Representative (LAR), write to Windy.



CH-47 Series...

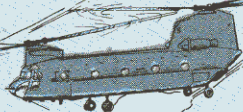
THE WAITING GAME

Dear Windy,

I can't find anything in TM 55-1500-204-25/1 or our CH-47C's TM's about waiting 30 minutes after shutdown before moving our birds. But if we don't wait for the vertical gyro to wind down, any movement will knock it out.

The VGI gyro is an Aviation Intensive Management Item (AIMI) and costs a king's ransom. Why isn't there some guidance in our TM's about waiting for the gyros to wind down before moving our aircraft?

R.E.F.



Dear R.E.F.,

The CAUTION on Page 1-46 of TM 55-1520-240-23-1 applies to the whole fleet of CH-47's. It says to wait at least 20 minutes after shutting down before moving your bird. Otherwise, the vertical gyros can be damaged.

Windy



Stifle Stressful Steering

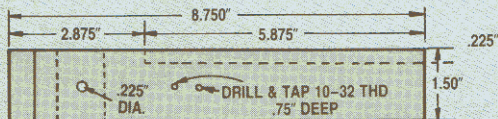
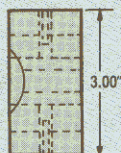
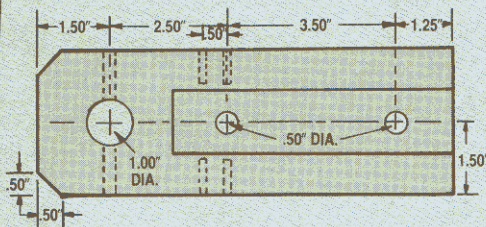
Dear Editor,

Steering bar assemblies for our CH-47 aircraft gouge the landing gear housing. This happens when the wheel is turned and when the bar is raised to a normal standing position.

Reversing the left and right steering assemblies solves that problem but creates another problem—the plate contacts the cast magnesium wheel around the rim and damages it.

So I had our AVIM machine shop make aluminum blocks to modify our steering bars.

STOCK: 1½ x 3 x 8¾ ALUMINUM

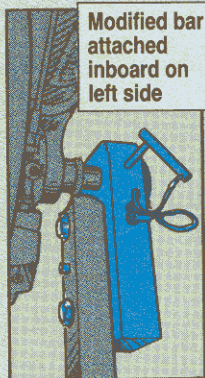


L.H. NSN 1730-00-080-7833
PN: 114G 1034-54
R.H. NSN 1730-00-080-7832
PN: 114G 1034-53

I removed the steel plate from inside of each bent leg and attached an adapter block on the outside of each bent leg using the following hardware: 2 bolts, NSN 5306-00-180-0153 and 2 nuts, NSN 5310-00-811-3494. Then I used a second slider pin and lock pin from an unserviceable steering assembly with each adapter block.

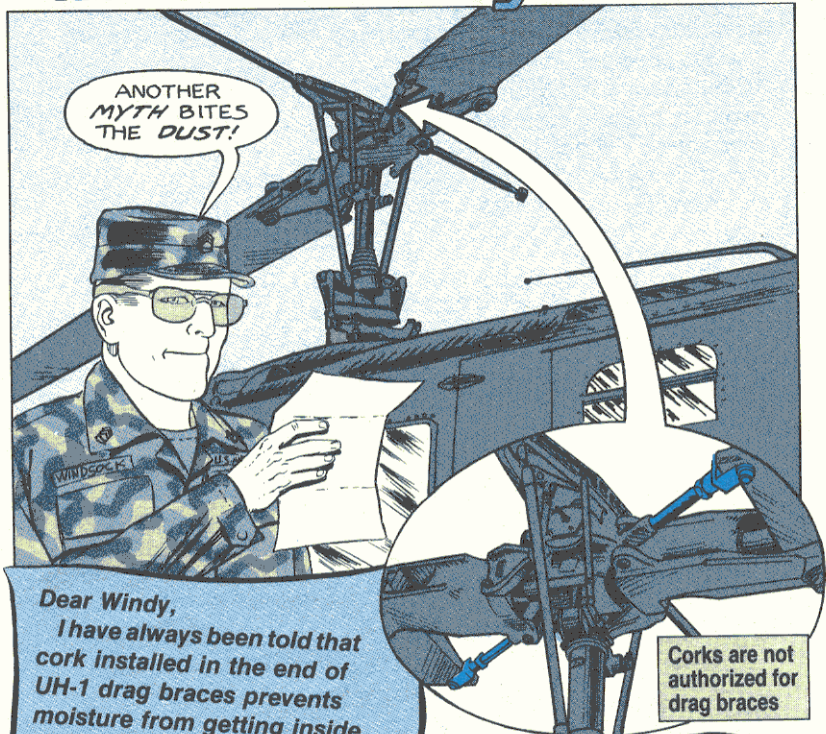
We can now use our modified steering bars on either of our Chinook's rear wheels without damaging the landing gear housing or wheel.

CW3 James W. Scott
Ft Campbell, Ky



(Editor's note: Sounds like a good fix.)

No Corks in Drag Braces



Dear Windy,
I have always been told that cork installed in the end of UH-1 drag braces prevents moisture from getting inside and causing corrosion.

But we recently received two birds which didn't have cork in the new type grease hubs. So I tried to find something in print that says that cork is required, but couldn't find anything.

Isn't cork required in the drag braces? Or have I been misled?

SSG E.Y.

Dear Sergeant E.Y.,

Corks have never been authorized for drag braces because they actually pick up moisture and contribute to corrosion instead of preventing it. If your birds have cork in the drag braces, there's no need to replace them until they become unserviceable. But never install cork in new drag braces.

Windy

No Pain To Drain

Drain your AGPU's hydraulic system or reservoir can be painfully slow if you go by the book.

Drip... drip... drip... drip...

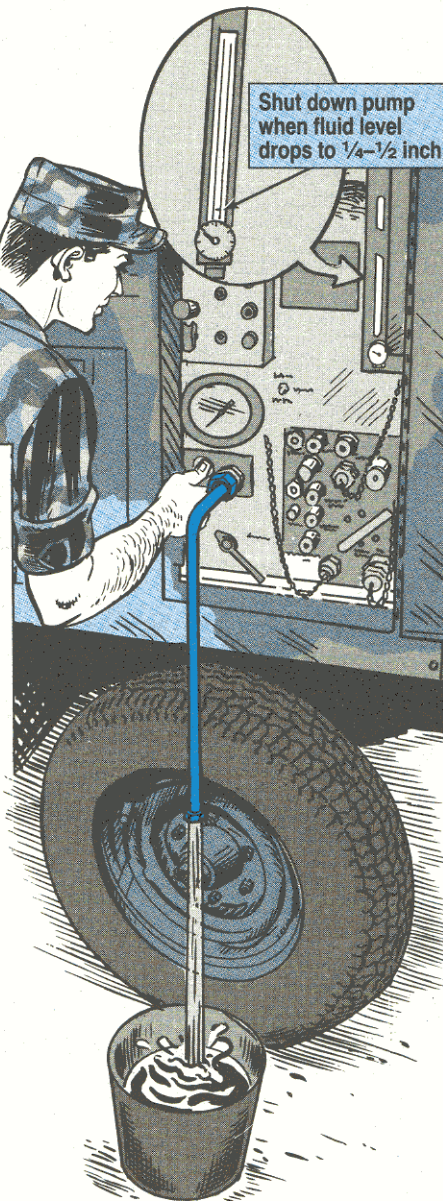
End those drippy doldrums by using the SYSTEM FILL port instead of the SYSTEM DRAIN port for draining.

Just connect the L-shaped metal tube to the SYSTEM FILL port with the long end of the tube pointing down. Place a bucket or some other container under the tube, turn on the pump and mash the PUSH TO FILL button.

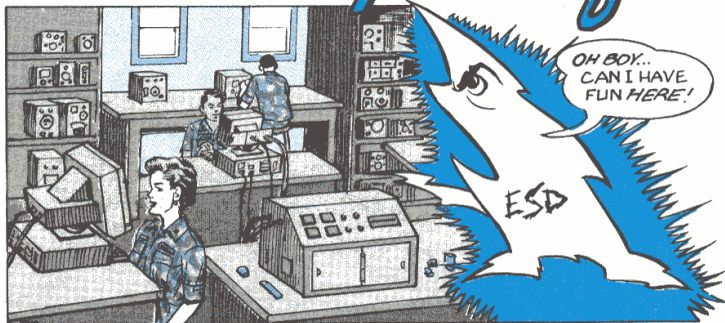
Be careful not to drain the system dry while the pump is operating or you'll damage the pump. Shut down the pump when you can still see $\frac{1}{4}$ to $\frac{1}{2}$ inch of hydraulic fluid in the reservoir sight gage. Drain the rest of the fluid by gravity.

Within minutes the bucket's full, the system's drained dry, there's no mess to clean up and you're free for your next maintenance task.

TM 55-1730-229-12 is being revised to include this method of draining the hydraulic system.



Stop ESD for



Keep your circuit card assemblies (CCA) from going from bad to worse. Protect them from electrostatic discharge (ESD).

Any time a component on a card, such as a capacitor or a resistor, burns out or a pin is broken, the card is down but not out. It can be back in supply in A-One condition with DS maintenance help.

That is, unless a CCA gets zapped by ESD. Then it's DOA.

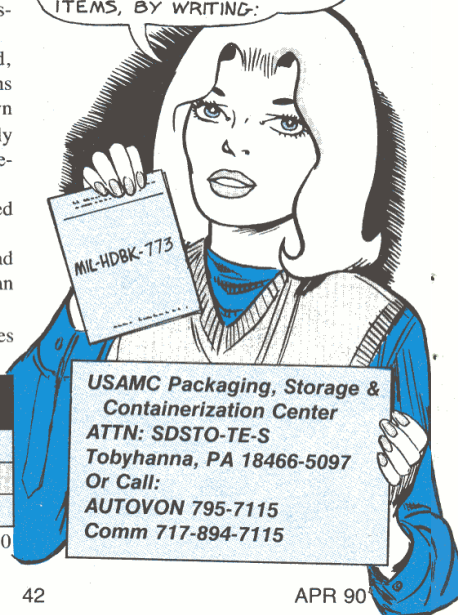
That's why you need to tag a bad circuit card and put the CCA in an ESD-free plastic bag.

Since CCA's are different sizes you'll need bags such as these:

Plastic Bag Size (in inches)	NSN 8105-01-
5x8	096-9527
8x12	097-4507
12x18	096-9528

For more bag sizes see Pages 29-30 of MIL-HDBK-773.

YOU CAN GET THIS HANDBOOK AND OTHER INFO ON HANDLING ESD SENSITIVE ITEMS, BY WRITING:



USAMC Packaging, Storage & Containerization Center
ATTN: SDSTO-TE-S
Tobyhanna, PA 18466-5097
Or Call:
AUTOVON 795-7115
Comm 717-894-7115

Better Card Deal

Then, put an ESD-sensitive item CAUTION label on the bag, in accordance with Mil-Std 129.

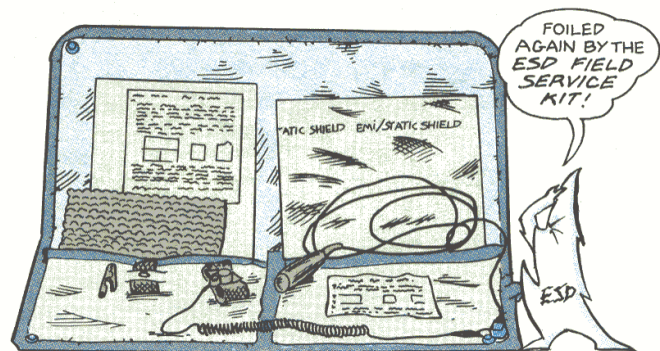




CAUTION
SENSITIVE ELECTRONIC DEVICES
 DO NOT SHIP OR STORE NEAR STRONG
 ELECTROSTATIC, ELECTROMAGNETIC,
 MAGNETIC OR RADIOACTIVE FIELDS

Size (in inches)	Quantity	NSN 7540-01-
2x2	500	109-8815
4x4	100	110-4906

When you put CCA's into or take them out of your electronics equipment, use an ESD field service kit, NSN 5920-01-253-5368. This will stop additional electrostatic discharge damage by grounding yourself before you touch the circuit cards or boards.



Antennas... Installation Kit for CUCV

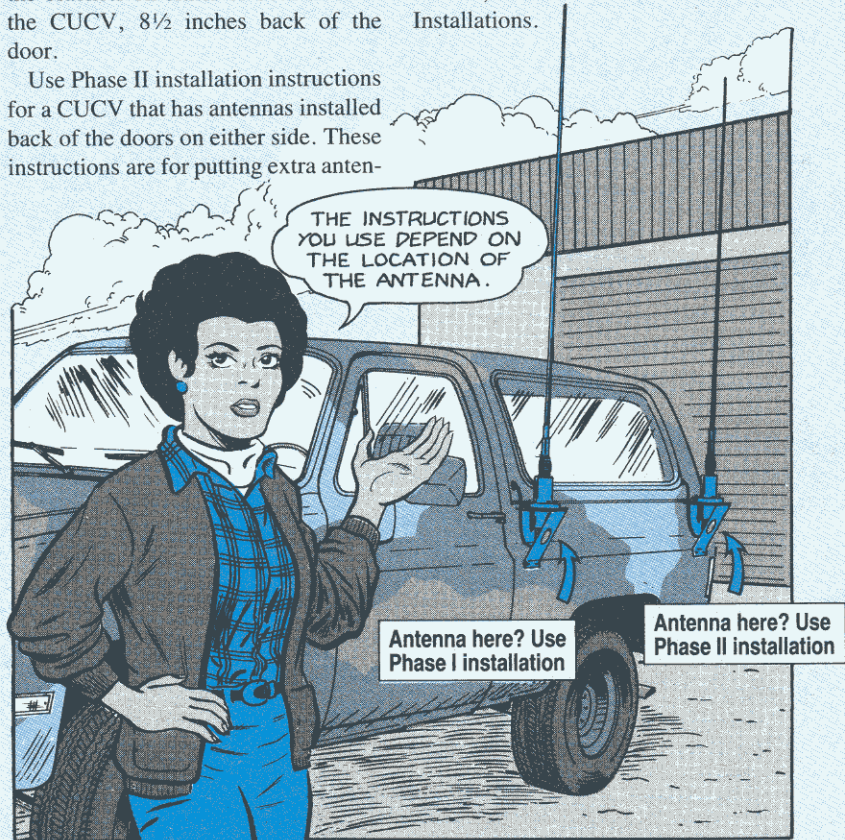
If you've already got a couple of antennas on your M1009 CUCV but you need one or two more, get a PPL10286 additional antenna bracket kit, NSN 5820-01-200-0180.

For a vehicle that has antennas mounted on either side at the rear, use Phase I installation instructions to put the brackets on either or both sides of the CUCV, 8½ inches back of the door.

Use Phase II installation instructions for a CUCV that has antennas installed back of the doors on either side. These instructions are for putting extra anten-

nas on either side at the rear of the vehicle.

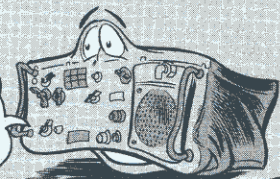
Have your DS get copies of CECOM Drawings A3046014 from the local CECOM Logistic Assistance Representative for the mid-vehicle mountings and A3046025 for rear side mountings. The kit will be added to SB 11-131, Vehicular Sets and Authorized Installations.



Install It in HumVee

Dear Half-Mast,
I have an AN/VRC-47 radio set that needs to go between the driver and passenger seats in my M1038 HMMWV. What kit do I need to install the radio?
SFC K.R.B.

NOW
THAT'S
GOING
FIRST
CLASS!



Dear Sergeant K.R.B.

You'll need a MK-2510 multi-purpose net radio installation kit. Use NSN 5820-01-208-1909 to order it.

You might make a note of the stock number until it's added to SB 11-131, Vehicle Sets and Authorized Installations.

Half-Mast

Hold Shelter Snug in Truck

Dear Half-Mast,
The S-280-type shelter in our 2½-ton truck shifts during transit, causing damage to the shelter, even though the tiedown kit, NSN 4030-00-956-5820, is made for the shelter. Is there another tie-down kit that'll hold the shelter in place?
MAJ. D.F.R.



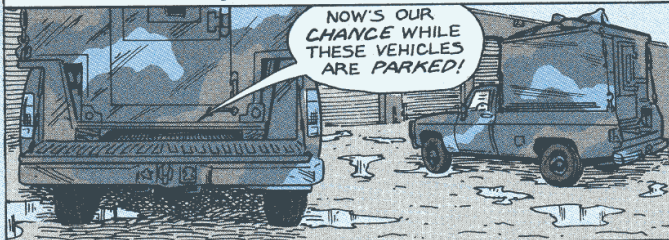
Dear Major D.F.R.,

There is a better plate and eyebolt assembly, NSN 5410-00-030-6925, that replaces the old one in your tiedown kit. Double rings with new parts hold your shelter stable on your truck.

Half-Mast

PUT THE SKIDS ON RUST

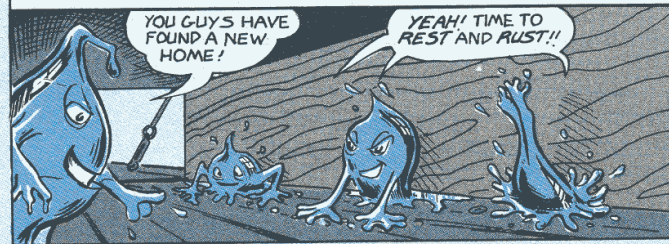
Rust can damage the cargo bed on your 1¼- or 2½-ton truck mounted with the S-250- or S-141-type shelter. It forms underneath the skids and eats like a cancer through the bed, if it goes undetected.



The skids keep the shelter off the bed. They put a gap between the shelter and the cargo bed that lets water run off and air flow through. This system works fine as long as the truck is moving. But leave the vehicle parked for awhile and you could have problems.

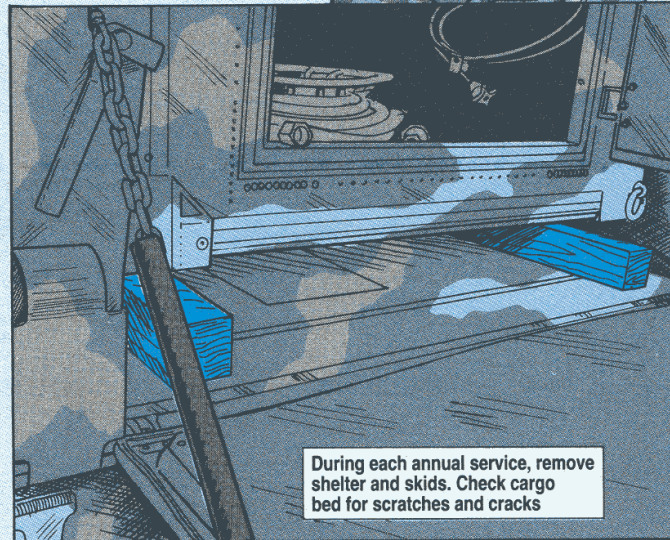


Moisture from rain and condensation collects under the skids of a parked truck. Rust starts anywhere it finds a crack or scratch in the bed's paint.



ON RUST

COMPLETE TOUCH-UP PAINTING INFO IS ON PAGES 27-29 OF PS 443.



Any bare metal will rust. When you find a scratch or a chip out of the paint, wash off the area with soap and water. Get rid of any rust with sandpaper or steel wool.

Clean the spot with thinner, NSN 8010-00-181-8079, and then coat the bare metal with coating compound, NSN 8030-00-850-7076. Wait at least 30 minutes and paint it with primer, NSN 8010-01-193-0516.

It takes the primer 30-90 minutes to dry. When it dries, paint the treated area with NSN 8010-01-229-7546. That NSN gets a quart of green CARC paint.

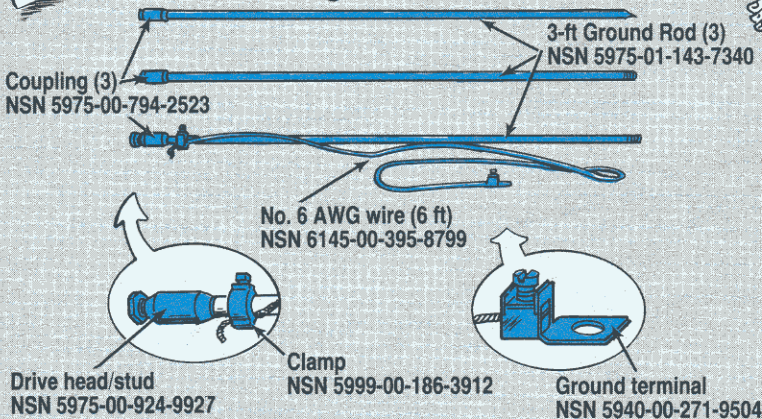
Ground Rod Parts

Dear Macon

I have been trying to find repair parts NSN's for our ground rod assembly, NSN 5975-00-878-3791. Can you help?

Sgt A.H.

YES, I CAN. HERE ARE THE REPAIR PARTS NSN'S:



For an easier time pounding rods into the ground and getting them out again, order slide hammer, NSN 5120-01-013-1676.

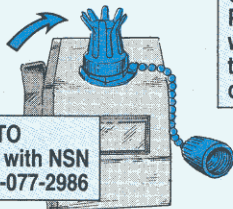
Check out TC 11-6 for more good info on grounding techniques.

Macon

Parts for Charger

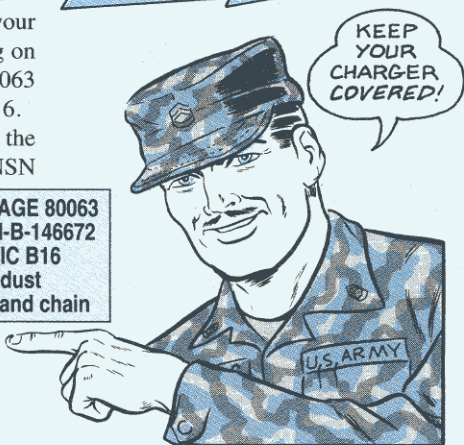
Get a dust cover and chain for your radiac detector charger by ordering on a DD Form 1348-6, using CAGE 80063 and PN SM-B-146672 from RIC B16.

The only other repair part for the charger is the NATO adapter, NSN 6665-01-077-2986.



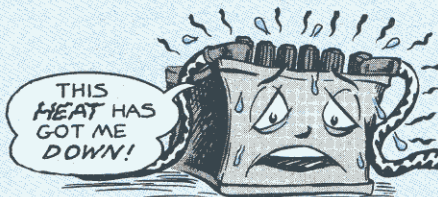
Get NATO adapter with NSN 6665-01-077-2986

Use CAGE 80063
PN SM-B-146672
with RIC B16
to get dust
cover and chain



5-KW Generator Sets...

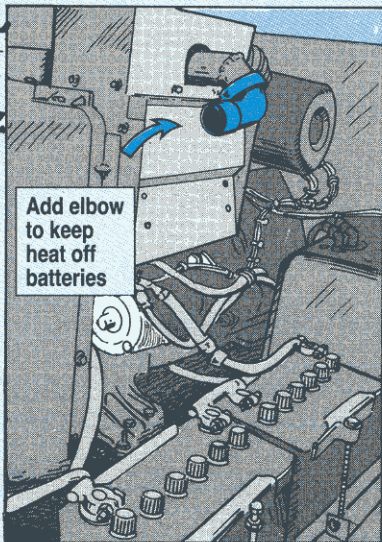
Take the Heat Off



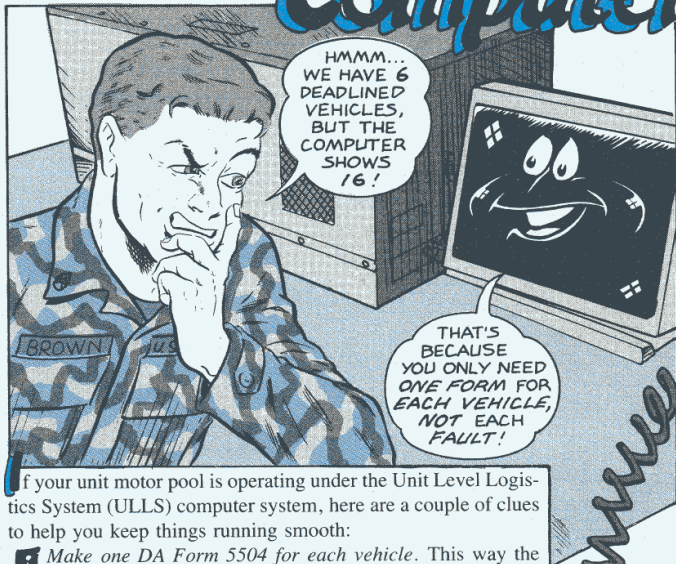
The exhaust muffler on the 5-KW DED generator points at the top of the batteries. The heat from the exhaust evaporates the water in the batteries real quick.

Mount a 1¼-in 45° elbow, NSN 4730-00-137-9218, on the exhaust muffler to deflect the heat.

The elbow can be used on the 10-KW DED generator, too, but you'll need two elbows—one to keep the heat away from the batteries and the other to keep heat off the fuel tank.

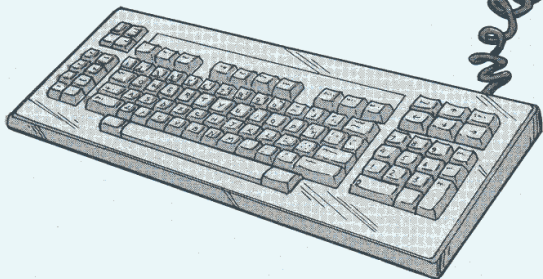


Computer

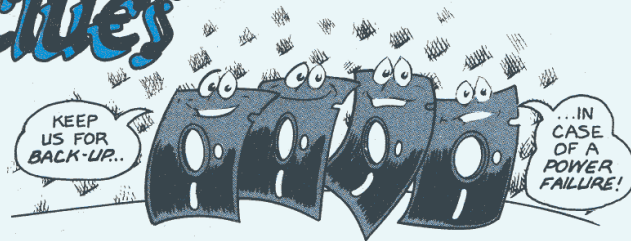


If your unit motor pool is operating under the Unit Level Logistics System (ULLS) computer system, here are a couple of clues to help you keep things running smooth:

■ **Make one DA Form 5504 for each vehicle.** This way the computer report shows only one deadlined vehicle. If you make separate 5504's for each fault, the computer reports them as different vehicles. So instead of showing one deadlined vehicle, the report shows several deadlined vehicles.



Clues



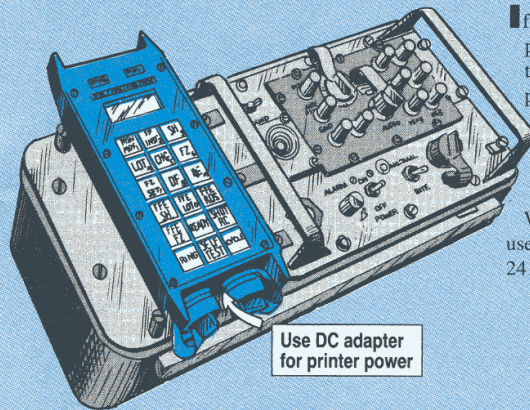
■ **Always put your daily work on a backup disk.** That way you have all the information needed to restore previous files in case of power failure, software problems, or operator error. If there's no backup, entries will need to be recreated from memory. That can get complicated if you handle a lot of supply and maintenance requests.

You can submit suggestions on ways to improve your computer systems. Send your ideas on DA Form 5000-R, Engineering Change Proposal-Software, through your MACOM to the Army Logistics Center at Ft Lee, VA.

Be sure to identify the problem, how it affects you and how you'd like to see it changed.

BUCS...

Adapters for Batteries



Use DC adapter for printer power

■ If your BUCS HP2225B printer is using DC batteries, you'll need a DC power adapter.

With a vehicle battery, use power supply adapter NSN 6130-01-241-8266.

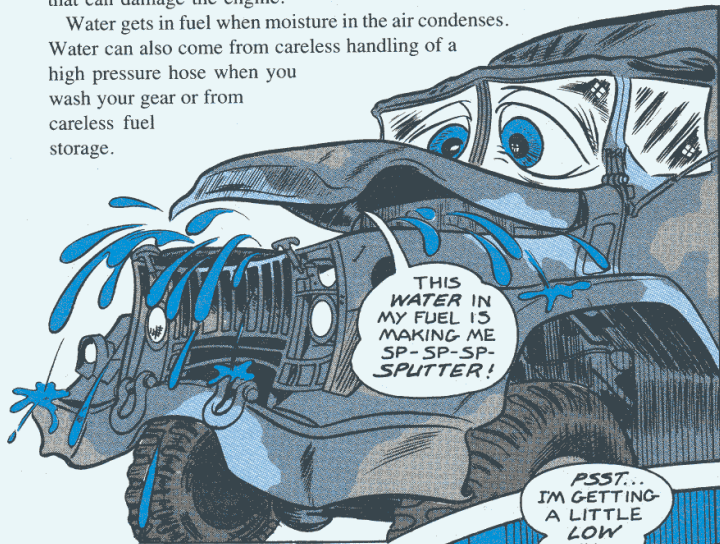
With a BA-4386 battery, use adapter NSN 6130-01-241-8267.

Fuel... FUEL + WATER

Every once in a while you read of a miracle tablet that turns plain old water into gasoline. That's plain old nonsense!

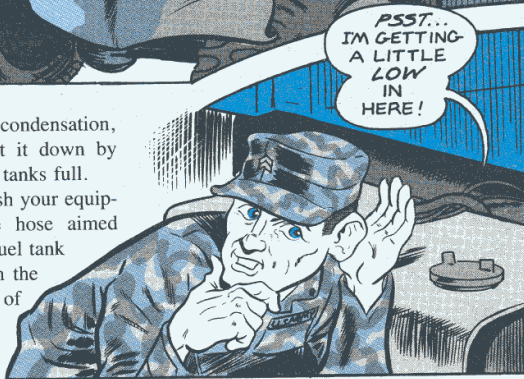
In the real world, water turns any fuel into a sputtering mess that can damage the engine.

Water gets in fuel when moisture in the air condenses. Water can also come from careless handling of a high pressure hose when you wash your gear or from careless fuel storage.



You can't stop condensation, but you can cut it down by keeping the fuel tanks full.

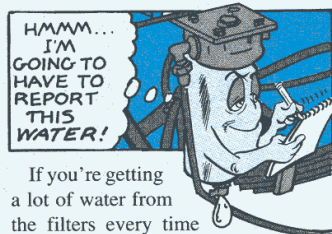
When you wash your equipment, keep the hose aimed away from the fuel tank filler. Even with the cap on, a blast of water can force its way into the tank.



= PROBLEMS!

Water Filtering

Get rid of water by draining fuel filters like your operator's manual says. This is the best way to fight water in fuel.



If you're getting a lot of water from the filters every time you drain them, chances are there's a lot of water in the tank. Report it so the tank can be drained.



Water Level Check

If there's a straight drop from the filler opening to the bottom of the fuel tank, check for water using water indicating paste, NSN 6850-00-001-4194 (3-oz tube), or NSN 6850-00-001-4193 (box of 24 2.5-oz jars). Smear paste on the end of a clean stick or rod. Insert the stick or rod until it touches the bottom of the tank. Pull it out and see if the paste changed color. That means water! Get the tank drained.

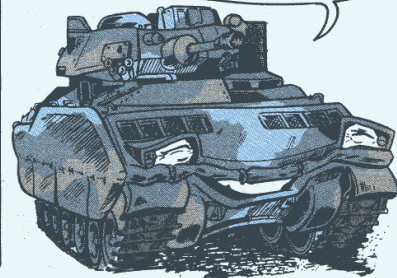
During cold weather, water in the fuel can freeze, plugging the filter or fuel lines. Prevent freeze ups with icing inhibitors.

For diesel fuel, use inhibitor, NSN 6850-00-753-5061 (5 gallons) or NSN 6850-00-060-5312 (55 gallons). Icing inhibitor for gasoline is NSN 6810-00-597-3608 (1 gallon) or NSN 6810-00-275-6010 (5 gallons).



Use one pint of inhibitor to 40 gallons of diesel or gasoline. Put the inhibitor in the tank before refueling so it'll get mixed in.

MY FUEL'S WATER FREE... AND I'M A HAPPY BRADLEY!



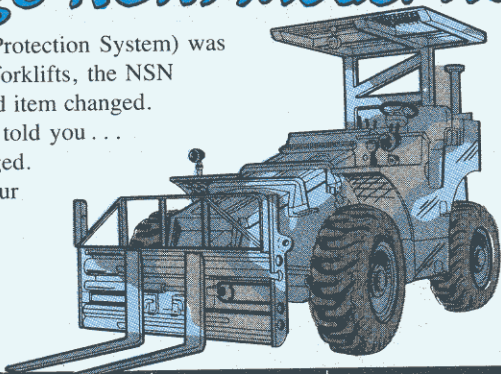
6K/10K Forklifts...

ROP Change NSN/Model No.

When ROPS (Roll Over Protection System) was added to your 6K and 10K forklifts, the NSN and model number of the end item changed. The big problem is, no one told you... nor was the data plate changed.

But you need to update your property books, unit status reporting records and hand receipts.

Here are the new NSN's and model numbers:



Old Model	New Model	Old NSN 3930-00-	New NSN 3930-01-
MLT-6	MLT-6 W/ROPS	903-0900	054-3831
MLT-6CH	MLT-6CH W/ROPS	937-0220	053-4823
ARTFT-6	ARTFT-6 W/ROPS	419-5744	054-3830
RTL-10	RTL-10 W/ROPS	903-0899	052-8997
RTL-10-1	RTL-10-1 W/ROPS	465-5869	053-4824

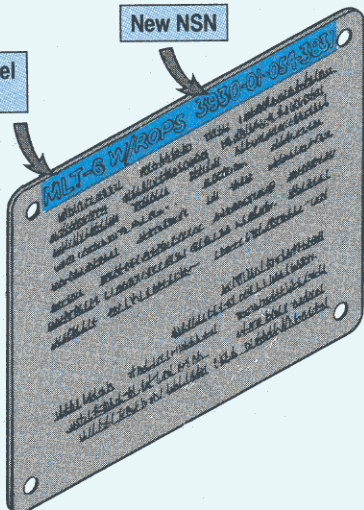
Change the NSN and model number on the existing data plate with a 1/8-in metal stamping die set, NSN 5110-00-289-0002.



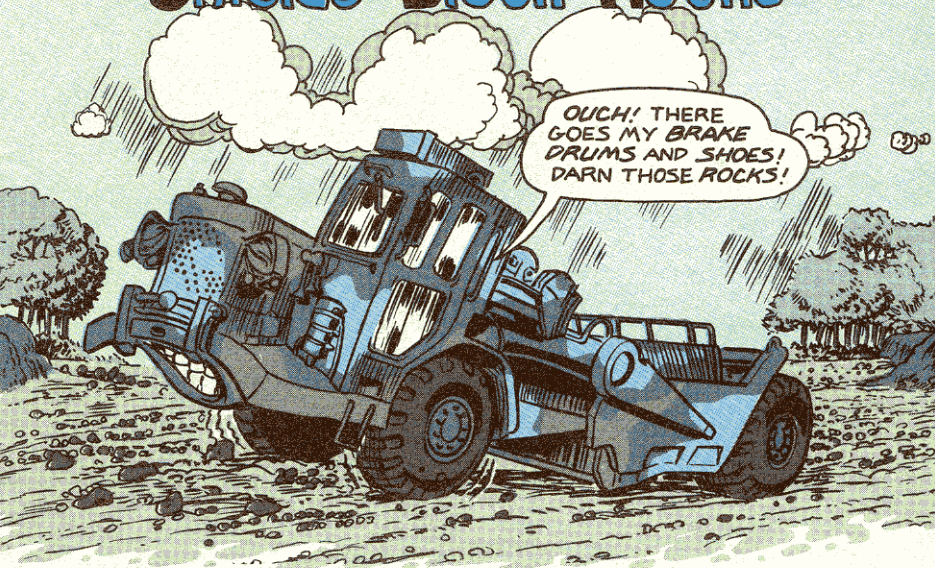
YOUR ORDERING AUTHORITY IS APPENDIX A OF CTA-50-970.

New model number

New NSN



Shields Block Rocks



These big 621B scrapers are made to work in dust and dirt, but coarse sand and rocks do a job on the brakes.

Small stones and rocks work between the brake drums and shoes. When brakes are applied, the drum linings get damaged.

You mechanics can help out by adding a shield to each wheel.

Here's what you need for each axle:

Item	Qty	NSN	PN	CAGE
Brake shield, lower	2 ea	2530-01-063-2979	3D7944	11083
Brake shield, upper	2 ea	2530-01-063-2980	3D7945	11083
Bolt	12 ea	5306-01-110-1130	5K9107	11083
Washer	12 ea	5310-01-061-8633	9L9132	11083

Never use brake shields when working in fine sand. Sand gets trapped behind the shields and wears out the brake shoes and drums.

You must take off the shields to do the 250 hour brake inspection called for on Page 3-387 of TM 5-3805-248-14&P-3. Be sure to put 'em back on when you're done.

Small Emplacement Excavator...

Inclinometer Kit Parts

HEY... WE'RE ON A
STEEP SLOPE!

MY INCLINOMETER'S
NOT WORKING...
DO YOU KNOW THE
NSN NUMBERS?

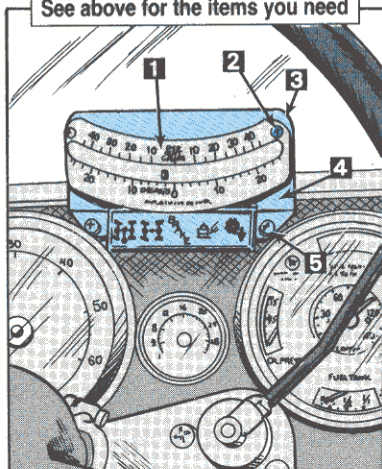
NOW'S A FINE TIME TO ASK!

The inclinometer for the SEE is not called out in the parts manual. If you need to replace a part, here's what's available:

Item	Part number / NSN	Qty needed
1 Inclinometer	419 542 70 27	1
2 Screw (attaches inclinometer)	23-1-608-062	2
3 Nut, self-locking (attaches inclinometer)	23-09336-004	2
4 Mounting plate	5340-01-298-0260	1
5 Screw, self-tapping (attaches plate)	5305-01-299-6589	2

Order on a DD Form 1348-6 from RIC S9C using CAGE 64678 and the part number.

See above for the items you need



Adjustment

If the inclinometer's not at 0 when your SEE is parked level with the backhoe and loader in the travel position, adjust it like so:

- ▲ Loosen the screws and nuts holding the inclinometer to the mounting plate.
- ▲ Adjust the inclinometer until it reads 0.
- ▲ Tighten the nuts being careful not to move the inclinometer. Overtightening the nuts can crack the inclinometer's case.
- ▲ Recheck that it reads 0 when you're done.

Tool Storage Moved

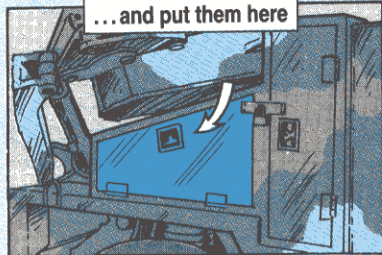
REMEMBER TO TAKE THE TOOLS OUT OF THE SMALL TOOL BOX AND PUT THEM IN THE CHAIN SAW TOOL CHEST.



Take tools out of here ...



... and put them here



The tools stowed in the small tool box behind the cab of the small emplacement excavator (SEE) are hard to get to when the backhoe is in the transport position.

Move those tools to the tool chest used for the chain saw and hydraulic tool accessories. You can get to the tools easily. That tool chest protects the tools better, too. Use the straps in the tool box to keep the jack in place.

130G Graders ...

Prevent Spilled Fuel

Drainage water and the crud from the bottom of the 130G grader's fuel tank sediment valve is a messy job.

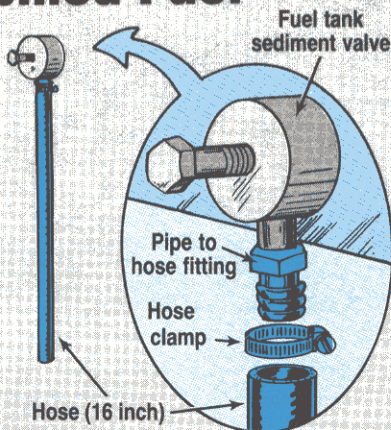
You mechs can rid yourselves of that mess by adding an extension to the valve. **Here's how:**

1. Cut a 16-in piece of 1/4-in rubber hose, NSN 4720-01-267-9343,* and slide it onto pipe fitting, NSN 4730-00-782-5582.

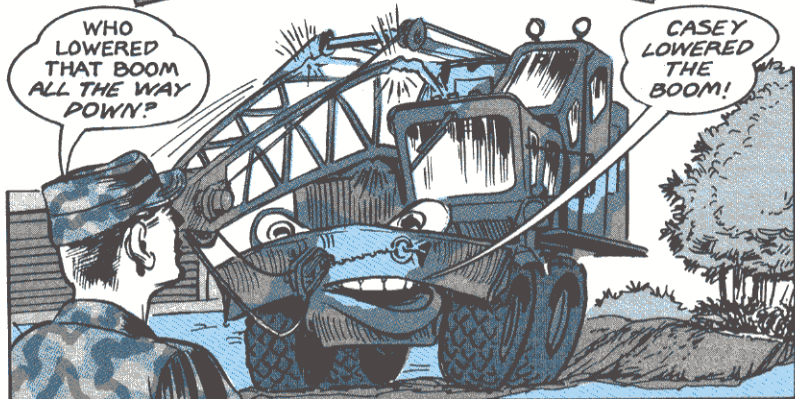
2. Screw the pipe fitting into the grader's drain valve.

3. Use a hose clamp, NSN 4730-00-908-3195, to tighten down the hose.

*Not on the AMDF. Order on DD Form 1348-6 from S9C. It's 13¢ a foot.



BOOM UP TO MOVE



When you're driving your crane with a lattice boom to the next job site, don't set the boom in the cradle. If you do, you may get there with a bent boom!

To get ready for travel, lower the boom gently into the cradle. Center the boom between the upright posts and about 8 inches above the cradle.

bouncing. That makes for a smoother ride and easier handling.

It's OK to rest the boom on the cradle during breaks, but remember to raise it before moving out.



Raise boom, center between uprights.



Resting on cradle OK during break

If there's a CAUTION plate on your crane, mask it before your crane is painted.



Don't paint the sign

WARNING - SUPPORT BOOM BY CABLE WHEN TRAVELING
COVER THE PLATE WHEN PAINTING EQUIPMENT

Tie the end of the boom down by fastening its hook to the front tiedowns. Take the slack out of the hook block hoist cable to cut down on

ASBESTOS-FREE BRAKE REPAIR



NSN 7910-01-068-5662

WILL GET YOU
A HEPA VACUUM
CLEANER AND
MAKE WORK ON
YOUR BRAKE
SHOES SAFER!

Dust from asbestos brake shoes is hazardous to your health. It causes shortness of breath, lung disease, asbestiosis and cancer.

But how do you change a vehicle's brake shoes without filling the air with asbestos brake dust particles?

You use a High Efficiency Particulate Air (HEPA) filter vacuum cleaner.

GLOVES in GLOVES



Dear Half-Mast,

For maintenance work like painting or using a HEPA vacuum cleaner to work on brakes, you must wear long rubber gloves. Are there any glove liners available that would make it easier to work in the gloves?

SGT R.S.A.

Dear Sergeant R.S.A.,

Yes, use the chemical protective glove liners. You can get a liner for extra-small and small gloves with NSN 8415-00-268-8354 and a liner for all other size gloves with NSN 8415-00-268-8353.

Half-Mast



-A Book for All Seasons

Mechanics, inspectors and maintenance supervisors all benefit from PS. But a few rarely see a copy.

That's because some folks scarf up copies of PS each month for their private use. Or because enough copies are not ordered.

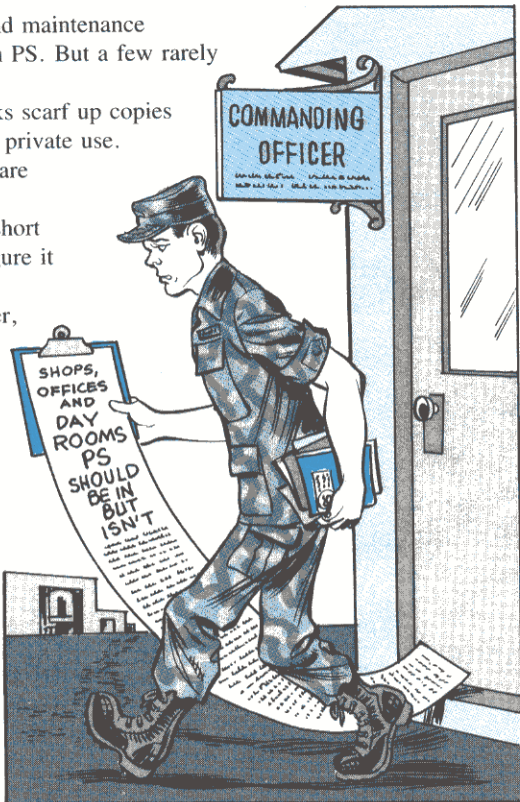
If your outfit comes up short on copies every month, figure it this way:

One copy for each officer, warrant officer and civilian supervisor, plus one copy for each five enlisted persons and civilians responsible for maintaining your unit's equipment, plus one for each PLL clerk.

If you're not getting enough copies, get your pubs clerk to order more on DA Form 12-99-R using 12-34-C in the Form Number section and 312 in the Block Number section. See DA Pam 25-33 for instructions on how to fill out the form.

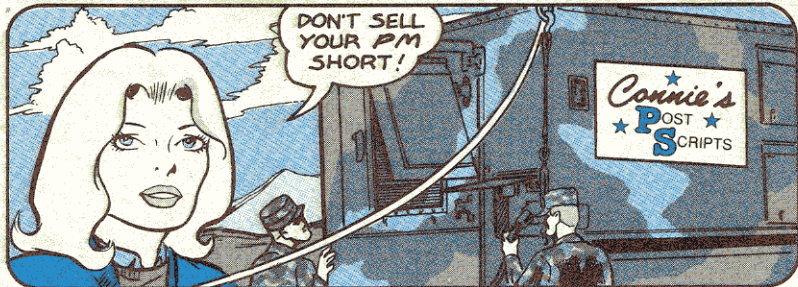
MW24C Ether Bottle

Use NSN 2910-01-297-6515 to get the ether bottle for the MW24C scoop loader. The NSN is missing from Item 16, Fig 25 of TM 5-3805-262-24P.



Bridge Erection Boat

Get the rivets to install the deck plates on the bridge erection boat with NSN 5320-01-277-4423. The NSN's not on the AMDF, so order the rivets on a DD Form 1348-6 from S9I. In the Remarks block, put: "NSN is not on the AMDF."



Boo Bad BDO's

Some Battle Dress Overgarments (BDO) were fielded with bad barrier bags. BDO's made by Amertex Enterprises, Ltd (contract No. DLA100-85-C-0402) or Windfield Mfg Co (contract No. L4DLA100-86-C-0810) are suspect. Look at the BDO bag seal to see if it is broken. If broken, use the BDO only for training. If not, BDO's are still good. Store them in their shipping containers.

Units to Replace Cupola Pads

Cushioning pad, NSN 5340-00-807-2861, for the commander's cupola on M109-series howitzers, can now be replaced at the unit level. After removing old pad pieces and cleaning with P-D-680 drycleaning solvent, apply adhesive, NSN 8040-00-221-3811, to both the cupola mounting surface and the pad. Let stand for 15 minutes, then press into place and let stand until dry.

M911 Bil Update

The NSN shown for Item 5 on Page B-4 in TM 9-2320-270-10 is wrong. To get the tire pressure gage for the M911 C-HET, use NSN 4910-01-003-9599.

M151 Spark Plug Substitutes

Spark plug, NSN 2920-01-151-7782, used on the 1/4-ton trucks is out of stock. For now, use spark plug, NSN 2910-00-294-3892 or NSN 2910-00-064-7811.

New M16A2 Rifle Sling Adapter

A side sling adapter is now available that fits both the M16A1 and M16A2 rifles equipped with the M203 grenade launcher. The side sling adapter is more durable and doesn't rub the finish off the M16's front sight. Get your support to install locking swivel bar, NSN 5340-01-264-6530, and swivel mount, NSN 1010-01-264-6517.

GSA Catalog NSN's

The GSA Supply Catalog is chock full of office and industrial products, as well as tools and furniture. It comes as a printed or microfiche pub:

Printed NSN 7610-01-283-3779

Microfiche NSN 7670-01-283-3783

Your ordering authority is Appendix A of CTA 50-970.

NVG Guidance Available

There's no pub that gives the wheeled vehicle operator guidance on driving while wearing night vision goggles (NVG's). The Transportation School has developed a package of material that gives guidance on specific driving techniques while wearing NVG's. To get this package, write:

US Army Transportation School

ATTN: ATSP-TDX

Ft Eustis, VA 23604

Or call:

AUTOVON-927-6251

COMMERCIAL-(804) 878-6251

The Only Right Way



PIN: 064836-000