

Issue 466

PS

September
1991

TB 43-PS-466

THE PREVENTIVE MAINTENANCE MONTHLY



PREPARING
THIS TOOL KIT
CHECKLIST HAS
BEEN A REAL
CHALLENGE!

RUBBER
CEMENT

YOU'RE
RIGHT, BUT
IT'LL BE GREAT FOR
ALL SMALL ARMS
REPAIRMEN!

**SMALL ARMS
REPAIRMAN'S
TOOL KIT
CHECKLIST**
See Page 27

Radar...

Wide Open Spaces...

...THAT'S WHAT YOUR RADAR NEEDS!

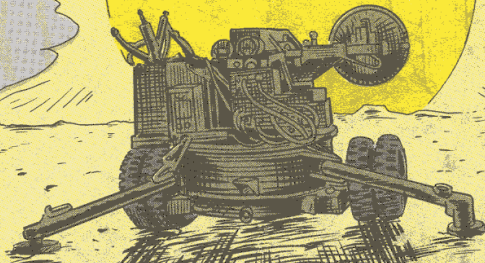
Buildings . . . trucks and tanks . . . large objects of any kind . . . can spell disaster for your radar.

When you radiate too close to large objects, the radar waves come crashing back with more power than the radar can handle.

Result: Major components like the RF detector, mixer crystals, and microwave components are KO'ed. Keep your radar healthy by first consulting your -10 or -12 TM to see how far away objects must be to safely radiate. Each radar has a different safety zone.

Then go to a wide open space to radiate where you can be sure buildings, trucks and tanks won't get in the way.

OUT HERE, RADAR HAS ROOM TO SAFELY RADIATE!



SEP 91

PS

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-466, 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.

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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

FAX: DSN 745-3855
or Comm 606-293-3855

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

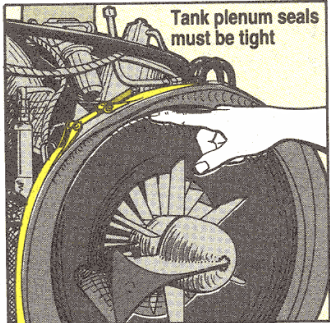
PATRICIA P. HICKERSON
Brigadier General, United States Army
The Adjutant General

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A Dozen Lessons Learned

Survival of your vehicle in a dusty, dry area depends on you operators and mechanics. Here's the latest list of what others have had to learn the hard way.

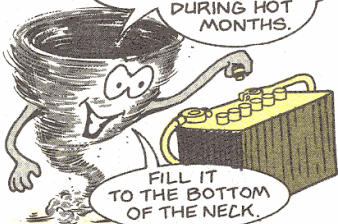
1 M1 Tank V-pack seals and plenum seals must be right and tight before starting the engine in the desert.



2 Air cleaners—all air cleaner elements—NEED to be cleaned daily... sometimes more.



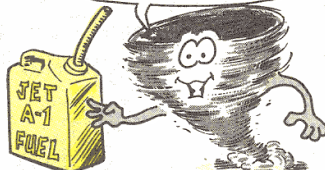
3 CHECK BATTERY ELECTROLYTE LEVEL 3 TIMES DAILY DURING HOT MONTHS.



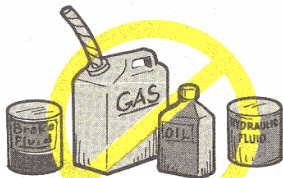
4 Adjust the voltage output to 26 volts during summer months.

5 Before using JET A-1 fuel for the first time in your vehicle, purge the fuel tank.

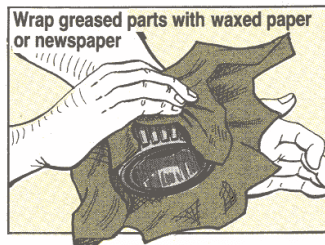
6 CHANGE FUEL FILTERS AT LEAST 3 TIMES DURING THE FIRST 7-10 DAYS OF JET A-1 FUEL USE.



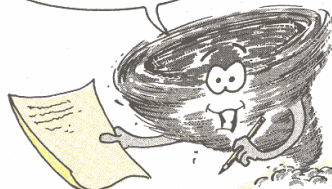
7 Never add oil, brake fluid, gasoline or cherry juice to JET A-1 fuel. That mucks things up.



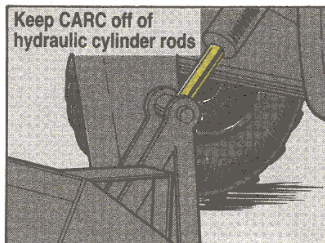
8 To keep the fine sand and dust off parts while you're making repairs, wrap greased parts with waxed paper or newspaper.



9 KEEP MPL ON ALL EQUIPMENT UP TO SNUFF!



10 Be careful when touching up with CARC. Paint on hydraulic cylinder rods ruins seals.



11 USE AN ANTIFREEZE SOLUTION OF 60/40 OR 50/50. THIS MIX HELPS KEEP ENGINES COOL.



12 KEEP ALL YOUR TMs WITH YOU IN THE FIELD. YOU'LL NEED 'EM.



THE DESERT MAY FORGIVE YOU FOR A FEW THINGS. LACK OF MAINTENANCE IS NOT ONE OF THEM.



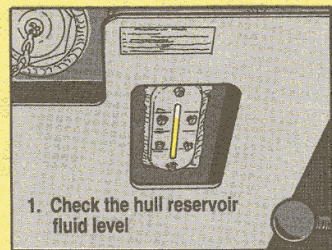
Keep Hydraulic Connections Tight

I'M
RUNNIN' RIGHT
'CAUSE MY
HYDRAULIC CONNECTIONS
ARE TIGHT!

Loose connections on your M1's hydraulic system can cause the main hydraulic pump to fail.

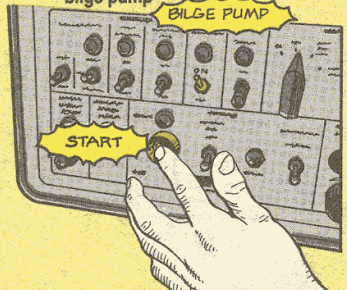
Air can get into the system at the inlet (suction) hose, quick-disconnects and fittings between the reservoir and main pump if the connections are not right and tight.

Here's how to check for inlet line air leaks:

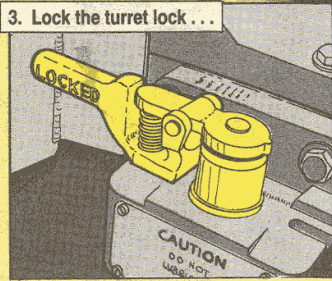


1. Check the hull reservoir fluid level

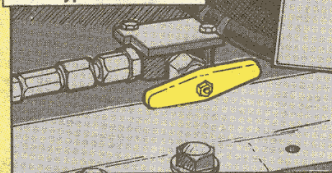
2. Start the engine and turn on the bilge pump



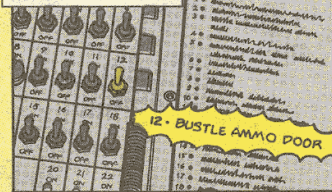
3. Lock the turret lock ...



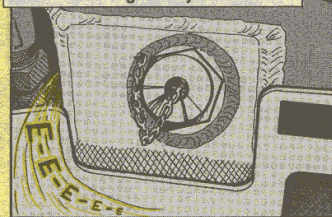
... and open the ammo door bypass valve



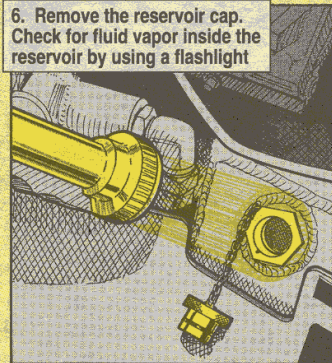
4. Make sure circuit breaker No. 12 is ON



5. If there's air in the system, you'll hear a loud, screeching or grinding noise near the reservoir. The noise will come and go every so often



6. Remove the reservoir cap. Check for fluid vapor inside the reservoir by using a flashlight



7. Turn off the bilge pump and shut down the engine

If you heard the noise or found vapor in the reservoir, tighten all connections in the hydraulic pump inlet line between the reservoir and the pump. Then repeat the steps above. No noise or vapor means you've closed the air leak.

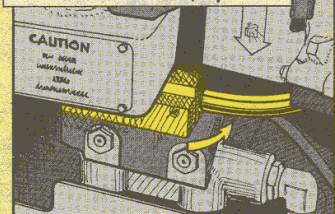
More noise or vapor requires some parts replacement.

Here're the parts you need:

- ✓ Packing, NSN 5330-00-165-1978, between the pump and the quick-disconnect.
- ✓ Elbow, NSN 4730-01-118-8434.
- ✓ Elbow, NSN 4730-00-727-9805, and packing, NSN 5330-00-165-1978, at the reservoir.
- ✓ Quick-disconnect assembly, NSN 4730-01-193-6781.
- ✓ Inlet hose assembly, NSN 4720-01-129-6081.

While you are eyeballing the system, look at metallic tube assembly, NSN 4710-01-080-5680. This tube assembly may fail under high pressure loads.

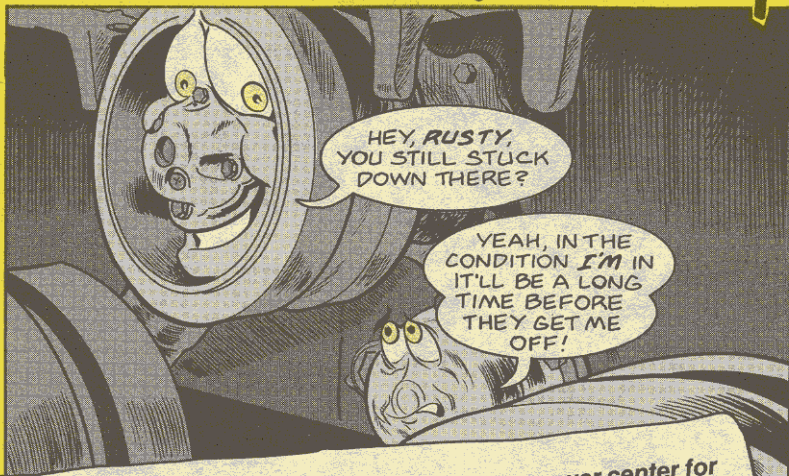
If the tube assembly has markings "86768 2-284-1-1" on it, replace it



After replacing each part, repeat the steps above to see if that solves the problem.

Instructions on how to replace all the parts can be found on Page 20-1 of TM 9-2350-255-20-1-5 (for M1/IPM1) and TM 9-2350-264-20-1-5 (for M1A1).

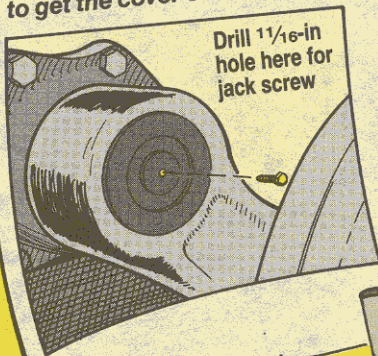
Get Access with Drill and Tap



Dear Editor,

Often the torsion bar access cover on Bradley suspension arms rusts so badly it's frozen in place. When you need to remove it, it won't budge.

I've found the easiest way to get the cover off is to drill



Drill $1\frac{1}{16}$ -in hole here for jack screw

a hole in the cover center for a jack screw. Use a drill bit at least $1\frac{1}{16}$ inch in diameter so the jack screw won't mess up the torsion bar threads.

I use a $\frac{3}{4}$ -16 UNF tap from the No. 1 Supplemental tool set and a $\frac{3}{4}$ -in cap screw, such as NSN 5305-00-082-6821. That screw is used to mount the sprocket carrier to the Bradley final drive.

The screw pushes against the torsion bar and pulls the access cover right off.

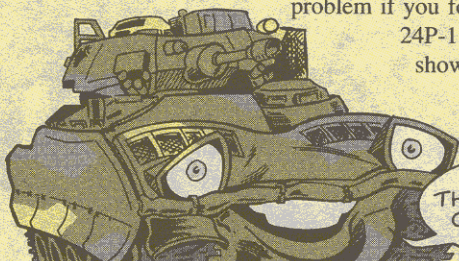
SSG Mark D. Arnold
Ft Knox, KY

(Editor's note: A very "accessible" suggestion. You'll need a new cover, NSN 5340-01-102-7183.)

Pad Patter

Getting the right track pad with the right shoe on your Bradley may be a problem if you follow your -24P TMs. TM 9-2350-252-24P-1 has the right pad kit PN and NSN, but shows the "Bigfoot" pad in Figs 68 and 69.

TM 9-2350-284-24P-1 for the M2A2/M3A2 vehicles only has a PN for the pad kit.



M2/M3 and -A1 Bradleys

Use track pad kit, NSN 2530-01-204-4421

on shoe. NSN 2530-01-102-4728

The M2A2/M3A2 Bradleys

Use track pad kit, NSN 2530-01-300-1681 (Bigfoot)

on shoe. NSN 2530-01-288-2719

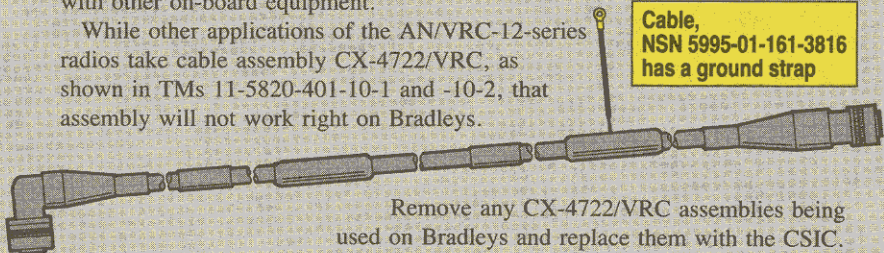
No Swap for Antenna Cable

Do not replace the antenna lead for the AN/VRC-12-series radios installed in your Bradley with anything but NSN 5995-01-161-3816.

This communications system interface cable (CSIC) is special to the Bradleys. It has a ground strap near one end that prevents electromagnetic interference with other on-board equipment.

While other applications of the AN/VRC-12-series radios take cable assembly CX-4722/VRC, as shown in TMs 11-5820-401-10-1 and -10-2, that assembly will not work right on Bradleys.

Cable, NSN 5995-01-161-3816 has a ground strap



Remove any CX-4722/VRC assemblies being used on Bradleys and replace them with the CSIC.

Starter Removal Made Easy



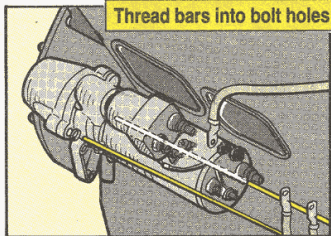
Dear Editor,

I've ended years of frustration with removing and installing starters on M113s by using a couple of steel bars. They eliminate having to pull the powerpack or playing games with ropes and wood blocks.

You need two 16-in pieces of 5/8-in steel bar, NSN 5975-00-642-8937. This bar comes threaded on both ends so all you have to do is cut to fit.

After you remove all the necessary wiring, the engine oil sending unit and the two starter bolts that are easiest to reach, thread the bars into the bolt holes. Remove the

third bolt and slide the starter down the bars to where you can remove it.



Reverse the process with a new starter. Slide it onto the bars and up next to the flywheel. Start a bolt and tighten it until the starter seats. (This also perfectly

aligns the gasket!) Remove the bars and install the other bolts and wires.

Put a little Teflon tape on the oil sending unit threads to prevent leaks. Reinstall the unit and you're ready to go.

One person can do this in 30 minutes. Two can do it even faster, since you won't have to move from vehicle front to engine compartment and back. Works like a charm.

SGT James Beasley
ALARNG, Ft Rucker

(Editor's note: Any time you can do a job without pulling a pack you've saved time and money. You're a big saver, Sergeant.)

SEP 91

Yes, We Answer Questions

GOT A QUESTION ON MAINTENANCE OR SUPPLY THAT HAS YOU DRINKING FAR TOO MUCH COFFEE?

WRITE TO ME AT THIS ADDRESS:

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

Keep Prop Shaft Bolts Tight

Of all the mechanical things you crews and mechs on M113-series carriers must keep an eye on, none are more important than the U-joint and propeller shaft bolts.

Loose or missing bolts lead to equipment damage and personal injury, which is why you need to make sure the bolts are in place and tight.

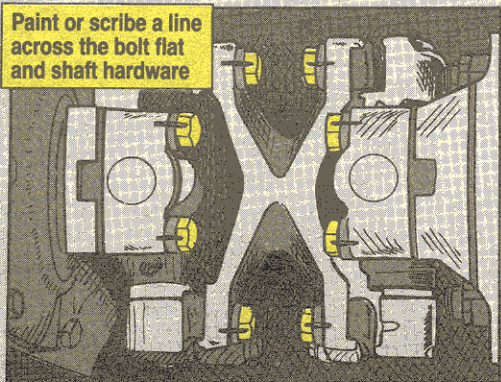
Making sure the bolts are in place is easy enough. But how do you make sure all of them are tight during your before-operation PMCS?

That's where you mechanics come in. When you pull the semiannual PMCS, you torque all these bolts. Take just a little more time to make alignment marks on the bolt heads and U-joint yoke or prop shaft. Mark them with paint or with a scribe or awl.



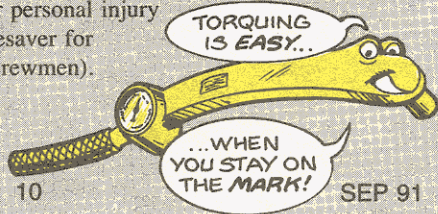
Torque bolts, loosen, then retorque to specs

Paint or scribe a line across the bolt flat and shaft hardware

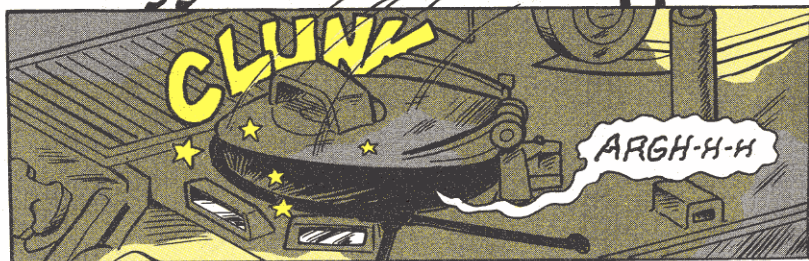


Once the marks are made, crewmen can look at them during PMCS and spot any loose ones, too.

This cooperation means less chance for equipment damage (great for you mechs) or for personal injury (a lifesaver for you crewmen).



Noggin Knocker Stopper



A knock on the noggin from a hatch cover rotating in its yoke gets your attention real quick.

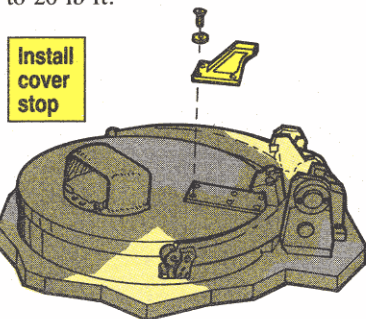
You drivers can get your mechanic to help prevent this by installing a hatch cover stop consisting of:

Item	Qty	NSN
Hatch cover stop	1	2540-01-328-0163
Bolt	4	5306-00-079-7205

Here's how to install it:

☆ Remove the four bolts and washers from the cover's access plate. Toss the old bolts.

☆ Put the stop over the holes, then mount the old washers and new bolts into the access cover. Torque the bolts to 20 lb-ft.



M102, M198 Towed Howitzers...

Borescope Interval Changed

The borescoping interval on these towed howitzers has been increased from 90 to 180 days.

Until TM 9-1015-234-10 and TM 9-1015-211-10 are corrected, make a note that Item 1 of the howitzer PMCS on Page 2-12 is changed. Para 3-3 of TM 9-1000-202-14, Evaluation of Cannon Tubes, has the new info.

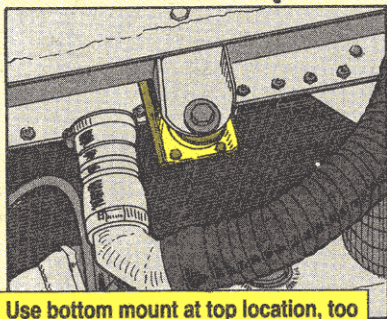
The before-firing check requires the section chief to verify that borescoping has been done on the weapon within the past 180 days. If more than 180 days have passed, the weapon is not fully mission capable until borescoping is done.

Radiator Mount Moves Up

The top radiator mount, NSN 5340-00-530-6808, is no longer in the system.

Just use the bottom radiator mount, NSN 5340-00-065-9640, at the top location. That's how it will be from now on.

There's no problem with using the bottom mount. It has a three-bolt base instead of the top's four-bolt base, but it's strong enough for the job.



Use bottom mount at top location, too

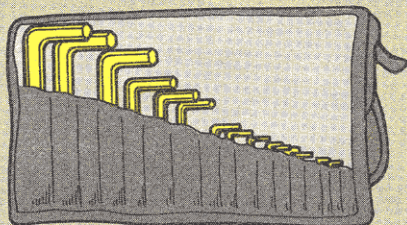
M578 Recovery Vehicle...

Key Set Error Fixed

Key set, socket head, NSN 5120-00-935-4641, which is part of the BII for the M578 recovery vehicle, has 20 keys in it.

TM 9-2350-238-10 only shows 15 of those keys.

HERE ARE THE OTHER FIVE, BY NSN AND SIZE:

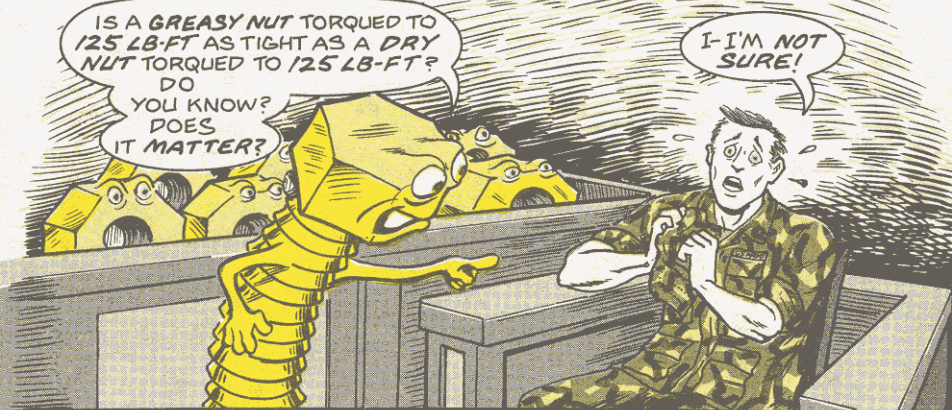


Size	NSN 5120-00-
0.028 × 1 ⁵ / ₁₆ -in	555-2639
7/64 × 2 ⁷ / ₃₂ -in	889-2162
9/64 × 2 ¹⁵ / ₃₂ -in	889-2163
7/16 × 4 ²⁷ / ₃₂ -in	240-5277
3/4 × 7 ¹ / ₃₂ -in	222-1489



Dry vs Wet...

It Matters How You Torque





Yes, it matters if you want to keep whatever that nut's holding together from coming apart.

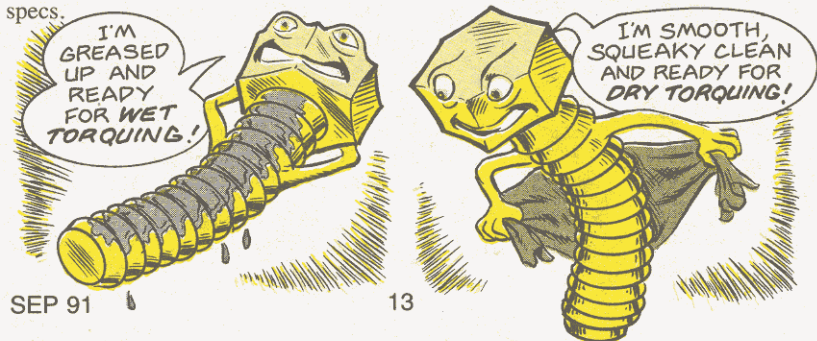
About 90 percent of applied torque goes to overcome friction; only 10 percent is used for tightening. Anything used to lube fasteners reduces friction, so the same amount of torque creates more tightening force—probably too much.

If wet torque is called for, be sure you use a wet torque value, not a dry one. On the other hand, using a wet torque value on a dry fastener will not get the right amount of clamping force.

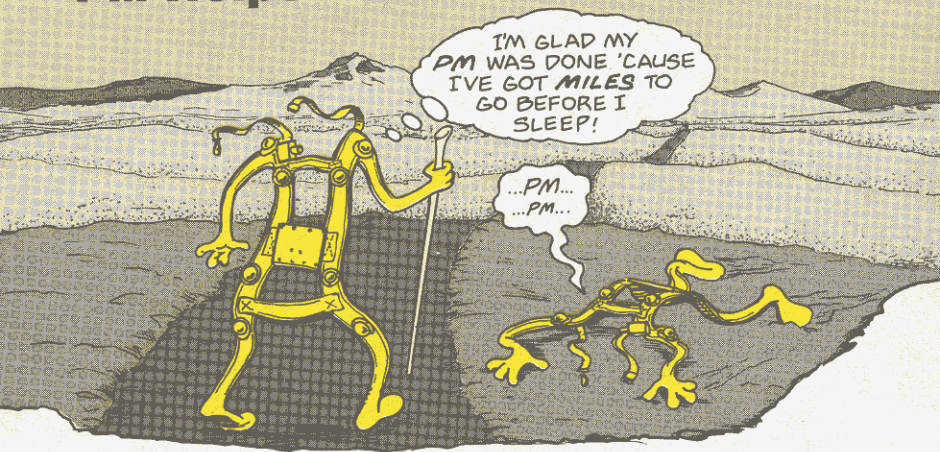
Keep this in mind when applying each kind of torque:

 When wet torque is specified, all fastener threads must be clean and free from nicks, burrs and paint. Some or all threads must be coated in oil or grease. Follow TM instructions.

 In all other situations, use dry torque. That requires all fastener threads to be clean and free from nicks, burrs, paint, grease and oil before torquing to TM specs.

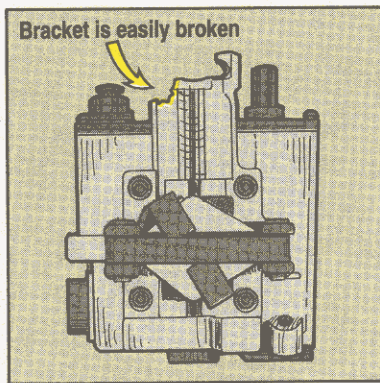


PM Helps *MILES* Go Extra Mile

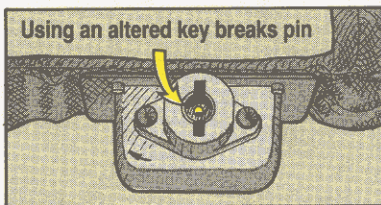


A little PM and good sense can help your Multiple Integrated Laser Engagement System (MILES) equipment go the extra mile. For instance:

- ★ Handle all MILES items gently. One good knock can break the mounting bracket. The bracket can't be fixed locally and the miles will be gone a long time.



- ★ Never use a yellow key that's been filed. An altered yellow key turns too far and breaks the pin in the key receptacle. The MILES can't be reset.



- ★ Remove the batteries from all equipment when you're not training. If the batteries are left in, they corrode and cause damage. The equipment will also keep running, which runs down the batteries and causes electronic components to overheat.

- ★ Never stack MILES carrying cases more than three high. The weight cracks the cases, which lets in moisture and dirt.

Watch for Shine & Spring



TRIGGER BAR SPRINGS AND SHINY SPOTS ARE TWO THINGS TO WATCH FOR WHILE CLEANING YOUR M9!

Be careful around the trigger bar spring when you clean the magazine well. The cleaning brush can dislodge the trigger bar spring. The spring falls out and is lost. No spring, no shoot.

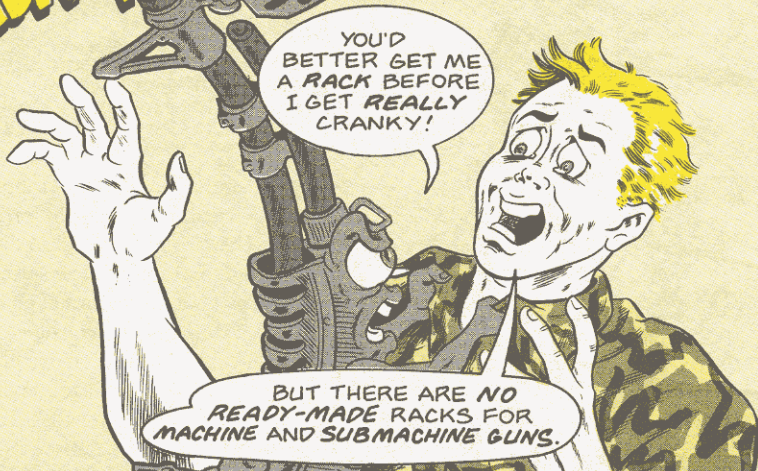
Dull is good. You don't want your M9 to shine. That could point you out to the enemy.

So keep wire brushes away from the outside of your pistol. They take off the finish. Use CLP and a cloth to clean the outside. For tough grime, use a toothbrush. Touch up shiny spots with a solid film lubricant, NSN 9150-01-260-2534.



Wipe off the pistol after you're through firing. Moisture from your hand will corrode the M9's finish.

How to Get Rack Plans



YOU ARMORERS CAN GET PLANS TO MAKE RACKS FOR MACHINE AND SUBMACHINE GUNS BY WRITING:

AMCCOM
ATTN: AMSMC-MAW-SS
Rock Island, IL 61299-6000

Plans include NSNs for material. One set of plans is for the M60 machine gun. The other plans can be adapted to fit the other machine and submachine guns. Specify which plans you need. There are no ready-made racks for machine guns in the supply system.

SO ALL I HAVE TO DO IS SPECIFY THE PLANS I NEED?

THAT'S RIGHT! WHAT ARE YOU WAITING FOR?

Cleaning the Chamber

CLEANING TIPS ARE TOPS WITH ME!

Dear Half-Mast,
We have trouble cleaning carbon out of the M1200 12-gauge shotgun's chamber. There is no chamber brush and cleaning patches don't do the job. Any suggestions?

SGT J.G.

Dear Sergeant J.G.,

Yes. To clean out the residue, soak the chamber with CLP or RBC, NSN 6850-00-224-6657. Wait 10 minutes or so. Once the

Use CLP and cleaning patches

residue's loose or has dissolved, use cleaning patches to mop it up.

Half-Mast

M2 Machine Gun...

Extend Life of Extension

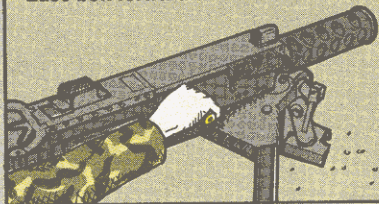
M2 barrel extensions are being busted by bolts slamming forward without the barrel installed. That ruins the rear threads of the barrel extension.

Armors, stress to your unit that they must ease the bolt forward—not dry fire—when the barrel's off if they want to see their M2s keep firing.

If the barrel extension threads are only chipped, the M2's still usable. Have support file or stone the chipped areas smooth so gunners won't have trouble screwing in the barrel.

The word's in AMCCOM Maintenance Advisory Message 91-07. See your local AMCCOM Logistics Assistance Representative for a copy.

Ease bolt forward when barrel's not installed



MK19 New Lubes



THE WORD'S
IN AMCCOM
MAINTENANCE
ADVISORY
MSG
90-37.

MK19
MACHINE GUNS CAN
NOW BE LUBED WITH
GMD AND LSA AS
WELL AS LSAT.

GMD comes in three sizes:	
Size	NSN 9150-00-
14-oz	935-4018
6½-lb	223-4004
35-lb	965-2003
LSA comes in three sizes:	
2-oz	935-6597
1-qt	687-4241
1-gal	753-4686

Better MK19 Mount Pin

A NEW QUICK RELEASE PIN,
NSN 5340-01-292-9631, REPLACES
THE RETAINER PIN, NSN 5340-01-151-6260,
USED TO LOCK THE MK19 TO THE
MK64 MOUNT.

YOU WILL
NOT NEED TO
SAFETY-WIRE
THE NEW PIN
IN THE
MOUNT.

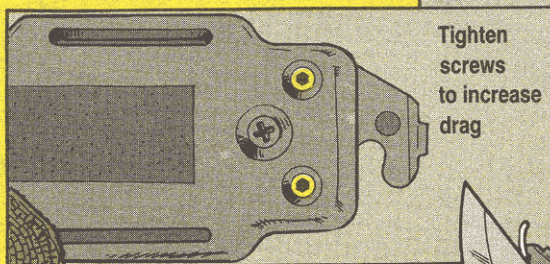
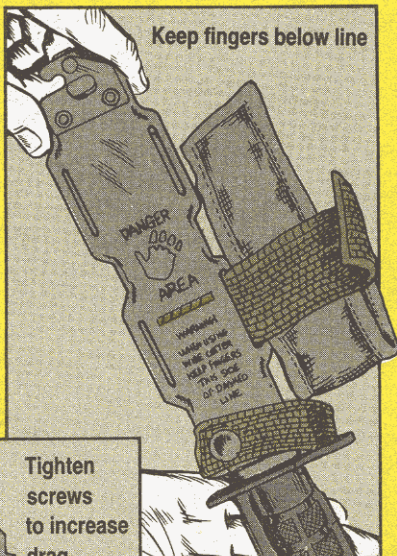
No Stud, No Cut

If the stop stud at the closed end of the M9's scabbard is missing or loose, do not use the bayonet as a wire cutter.

Without the stud, the bayonet is without a cutting stop. When you slice through the wire, the momentum of the blade can easily slice down and into your fingers holding the scabbard.

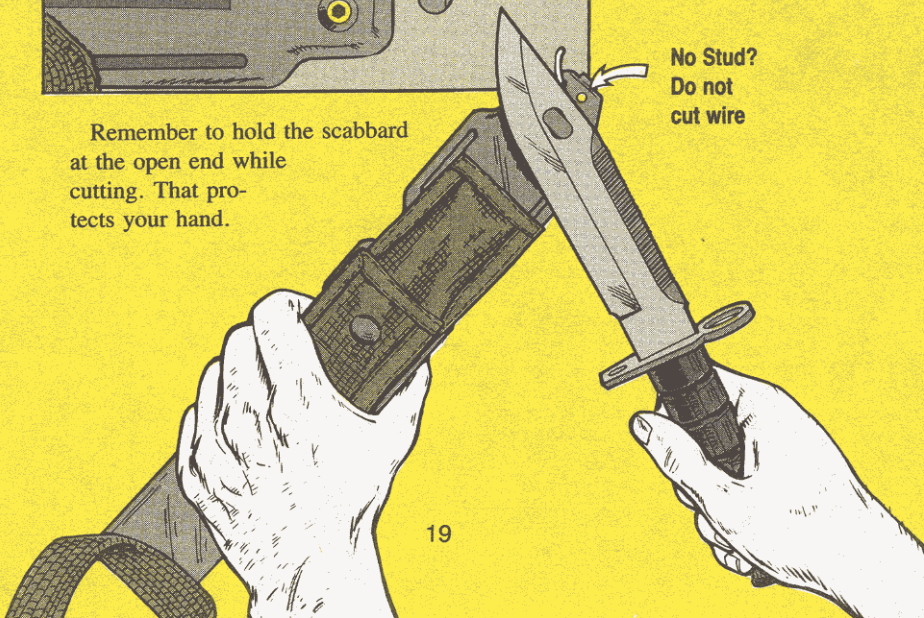
Support can replace the cutter assembly, NSN 1005-01-275-5397.

If you need more drag on the blade for cutting, your armorer can tighten the hex head screws on the back of the cutter assembly.



Remember to hold the scabbard at the open end while cutting. That protects your hand.

No Stud?
Do not
cut wire



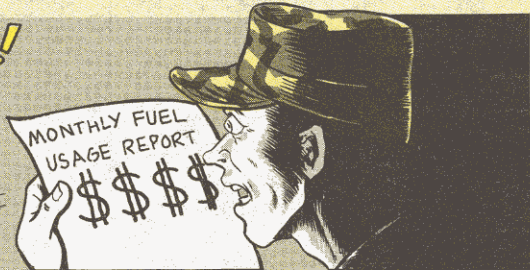
Fuel Drain No Pain

THE HMMWV'S PMCS SAYS TO DRAIN OFF ONE PINT OF FUEL TO GET RID OF ANY FUEL SEDIMENT.

FORGET IT!

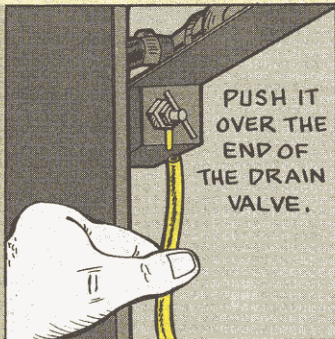
THAT WASTES
FUEL !

INSTEAD, DRAIN
OFF ONLY
ENOUGH FUEL
TO RUN CLEAR.



MONTHLY FUEL
USAGE REPORT
\$\$\$\$\$

TO MAKE DRAINING EASIER, ADD
AN 8-IN PIECE OF
1/4-IN PLASTIC TUBING,
NSN 4720-00-833-0867



DRAIN THE FUEL INTO A GLASS OR
CLEAR JAR. THAT WAY YOU
CAN TELL WHEN THE
FUEL RUNS CLEAR.

DUMP THE
DRAINED FUEL
IN A WASTE
FUEL DRUM.

DON'T POUR IT
IN THE SAND OR
A HANDY DRAIN.



Sticky Throttle Fix



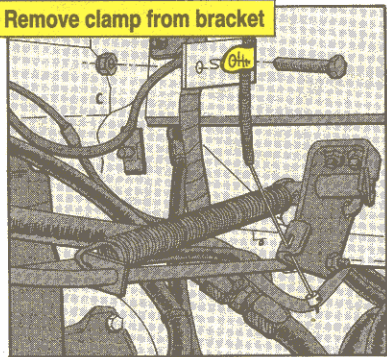
A
THROTTLE
THAT STICKS
OPEN CAN
RUIN A
DRIVER'S
WHOLE
DAY.

When the driver pushes the accelerator pedal all the way down, the end of the hand throttle cable sometimes hangs up on the accelerator link stud. The engine won't idle down.

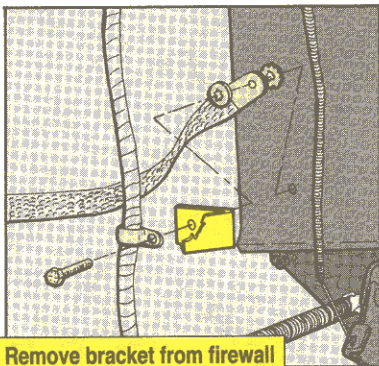
The engine has to be stopped with the emergency engine stop control. But you mechanics can fix the truck so the linkage doesn't stick. Here's how:

Remove the screw, nut and clamp that secures the end of the throttle cable to the bracket. Discard the screw and nut.

Remove clamp from bracket



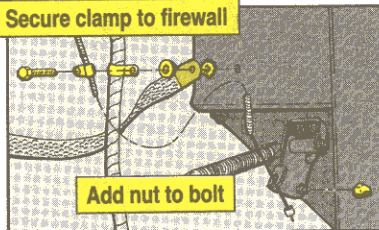
Remove the screw that fastens the bracket to the firewall. Discard the bracket. The screw also holds a wiring harness clamp and a ground strap lug.



Remove bracket from firewall

Use the screw that held the bracket to fasten the throttle clamp, the wiring harness clamp and the ground strap lug to the firewall.

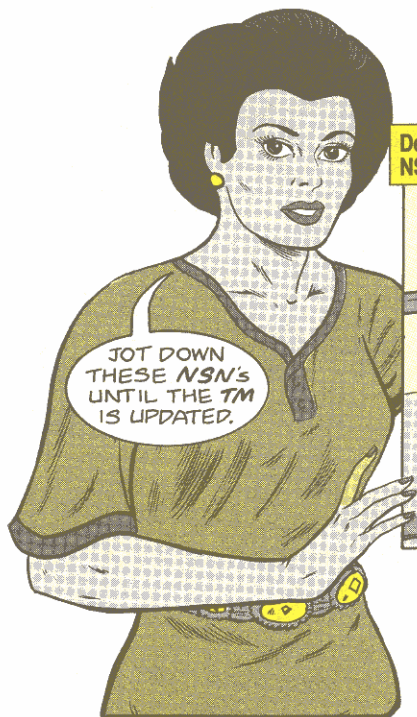
Secure clamp to firewall



Add nut to bolt

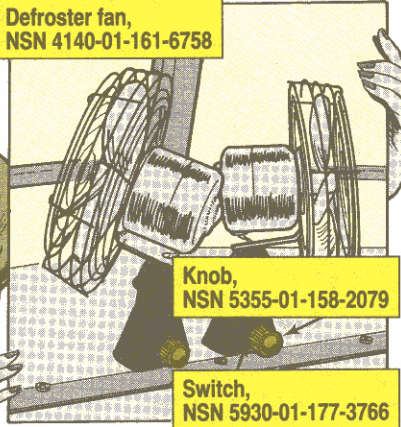
Finish the job with a cap nut, NSN 5310-01-057-5518. Screw it on the throttle link stud of the accelerator bell crank. This nut will help prevent the end of the throttle from catching on the stud.

Defroster Fans



JOT DOWN
THESE *NSN's*
UNTIL THE *TM*
IS UPDATED.

The defroster fans for M915-series trucks were left out of TM 9-2320-273-24P.



Defroster fan,
NSN 4140-01-161-6758

A close-up photograph of a defroster fan assembly. The fan has a metal cage and a cylindrical motor housing. A hand is visible on the right side, holding the assembly.

Knob,
NSN 5355-01-158-2079

A close-up photograph of a small, dark-colored knob with a yellow top, used for adjusting the fan.

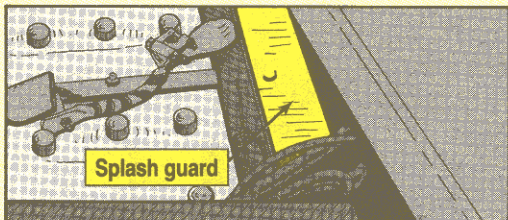
Switch,
NSN 5930-01-177-3766

A close-up photograph of a small, rectangular switch component with a yellow top.

If you need the nut bracket, knob or switch assembly, order kit, NSN 2540-01-104-8949.

Splash Guard NSN

Get the splash guard that goes on the back of the 2½-ton truck's battery box with NSN 2590-00-411-8321. It's to be added when the parts manuals are revised.



Stock Up on Tire Chains



TIRE CHAINS?
YOU WANT TO ORDER
TIRE CHAINS NOW?
WHAT FOR?

JUST BEING
PREPARED!



Winter's coming, so now's the time to order tire chains if you need them in your area.

Tire chains are listed in some operator's manuals, but not in others. Your command decides if you need 'em.

Here're some common sizes—and the cross chains and swivel hooks you'll need to repair 'em. Where dual chains are not listed for your size tires, use singles on the outside tires. Repair parts are the same for same-size single and dual chains.

Tire	Chain Assembly (Pair) NSN 2540-	Cross-Chains NSN 2540-	Swivel Hooks NSN 2540-
7.00 x 16	00-177-7235	00-933-6960	00-937-0405
7.50 x 16	00-528-7360	00-933-6960	00-937-0405
8.25 x 20	00-933-9025	00-933-6959	00-937-0404
9.00 x 16	00-933-9026	00-933-6916	00-937-0404
9.00 x 20	00-933-9024	00-933-6916	00-937-0404
9.50R x 16.50	00-057-0204	00-933-6916	00-937-0404
10.00 x 15	01-185-8306	00-933-6916	00-937-0404
10.00 x 20	00-933-9034 00-933-9020 (dual)	00-933-6916 00-933-6916	00-937-0404 00-937-0404
11.00 x 18	00-933-6933	00-933-6915	00-937-0404
11.00 x 20	00-933-9022	00-933-6915	00-937-0404
11.00 x 24	00-933-6935	00-933-6915	00-937-0404
12.00 x 20	00-933-6922	00-933-6915	00-937-0404
14.00 x 20	00-933-9033	00-933-6992	00-937-0404
14.00 x 24	00-933-9023	00-933-6992	00-937-0404
16.00 x 20	00-933-6937	00-933-6914	00-937-0403
18.00 x 22.5	01-024-4440	00-933-6913	00-937-0403
18.00 x 33	01-079-3143	01-104-9022	—

The Federal Supply Group 2500 Identification List microfiche has other tire chains not listed here. Your authority to order is Appendix A of CTA 50-970.

Plug in to Right Wire



Wire Size	Blue	Brown	Green	Orange
8	00-023-6765	01-231-5966	01-230-1859	none
10	01-229-4127	01-229-4128	none	none
12	00-485-5959	00-845-5956*	none	01-230-1862
14	01-230-2517	none	none	01-165-5633
16	00-471-3951	00-471-0429	00-468-1256	01-230-2519
18	01-169-2868	01-169-0754	01-165-1429	none
20	01-230-2522	00-989-5845 (1,000 ft roll)	00-989-5843 (1,000 ft roll)	none

*NSN not on AMDF. Order on DD Form 1348-6 using RIC S91.

Wire Size	Black	Red	White	Yellow
000	01-229-3617	none	none	none
00	01-229-3618	none	none	none
0	01-229-3619	none	none	none
2	01-229-3620	none	none	none
4	01-229-3621	01-229-3622	none	none
6	01-229-3623	none	none	none
8	01-228-6267	01-230-1858	01-229-8299	01-230-1857
10	00-468-1261	01-020-1095	00-468-1260	01-231-1393
12	00-845-9858	00-845-5961	none	none
14	00-310-2598	00-310-2590	none	none
16	00-471-0428	00-889-8551	00-468-1259	01-229-9666
18	00-958-3655	01-169-0755	01-165-1430	01-169-0756
20	01-230-2520	01-230-2521	00-652-1441	00-652-9307 (500 ft spool)



IF YOU NEED MORE OR DIFFERENT COLORS, YOU CAN TRACK 'EM DOWN UNDER FSC 6145 ON THE IDENTIFICATION LIST (IL).

PUBS

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 1-4920-447-13&P Apr Shop set, electrical instrument, airmobile PN 4920-99-CL-A80 (NSN 4920-00-165-1453)
TM 1-4920-449-13&P May Shop set, power train, airmobile PN 4920-99-CL-A83 (NSN 4920-00-001-4132)
TM 1-4920-451-13&P May Shop set, rotor, airmobile PN 4920-99-CL-A84 (NSN 4920-00-405-9270)
TM 5-2350-262-24P Apr M9 armored combat earthmover (ACE)
TM 5-3895-219-24P Dec 90 Trailer mounted concrete mixer
TM 5-4120-377-24P Apr Models F18T4-2S and 3788 air conditioner
TM 5-6115-593-24P May 500-KW DED generator set

TM 9-1005-203-12&P May M3 recoil amplifier for M2 machine gun
TM 9-1025-211-20&P May M198 howitzer
TM 9-1090-208-23P Jul M139 helicopter armament subsystem, M230 30-MM automatic gun; M140 inventory-deployment rocket management subsystem
TM 9-1270-221-23P May M142 fire control subsystem
TM 9-1430-601-24P-1 Mar AN/MPQ-53 radar set, Patriot
TM 9-2320-280-20-1 Jan 90 HMMWV
TM 9-2350-261-10-HR Mar M577A2, M30, M106A2, M125A2, M1059
TM 9-2805-258-14 Nov 90 10 HP Mil-Std engine
TM 9-4933-224-13-HR Dec 90 M137 electronics systems test set
TM 9-5855-1450-24 Jan AN/TAS-4C and AN/TAS-4D night vision sights
TM 10-1670-276-23&P Sep 90 Parachute, cargo
TM 10-1670-277-23&P Oct 90 Parachute, cargo
TM 10-1670-281-23&P Oct 90 G-12D/E parachutes, cargo
TM 10-3930-243-20P Apr 10,000-lb RT forklift
TM 10-4330-234-13&P May Model GFS-30-V-600 filter/separator
TM 10-4610-229-10 Apr Model PD 81146 reverse osmosis water purification unit

TM 10-4610-229-24P Mar Model PD 81146 reverse osmosis water purification unit
TM 10-6635-210-13&P Sep 90 Model 215 jet fuel thermal oxidation tester
TM 11-5865-229-20P Apr AN/ALQ-162(V)2 countermeasures set
TM 11-5985-391-12 Jan Radio antenna kit (SORAK) OE-452/PRC antenna group
TM 11-6625-3241-12 Mar OS-291/G oscilloscope
TM 11-6625-3250-12 Jan AN/USM-489A spectrum analyzer
TM 11-1520-238-23-1 Jul Model AH-64A helicopter avionics
TM 11-5985-357-13 Feb OE-254/GRC antenna group
TM 55-1510-222-MTF Mar Maintenance test flight manual for Army Model RC-12K
TM 55-1520-240-PM Oct 90 CH-47D helicopter, phased maintenance checklist
TM 55-1905-219-10-HR May Landing craft utility (LCU), 1667 Class
TM 55-2840-248-23P Mar 91 AVUM/AVIM RPSTL for engine assembly, 1700-GE-700
TB 1-1500-200-30-2 Mar Extended time between overhaul (TBO) hours for redeployment of aircraft for combat desert theater of operations
TB 55-1520-227-20-29 Apr Inspection and removal of transmission shaft, CH-47C

Maintenance Advisories & Safety-Of-Use Messages

AMCCOM SOU MSG 91-13—Advisory, Warns personnel to turn off all power supplies before performing maintenance to heater wire or bus bar on Armor Moving Target Carrier, AMSMC-MA 291530Z Apr 91.

AMCCOM SOU MSG-91-15—Advisory, Changes backblast area for M136 Launcher and Cartridge, 84MM, AMSMC-MA 081645Z May 91.

AMCCOM Maintenance Advisory 91-25—New computer control panel instruction plate for M900 Cartridge, 105MM, APFSDS-T, AMSMC-MA 241830Z Jun 91.

AMCCOM Maintenance Advisory 91-27—Gives information about the wrong self-locking nut, NSN 5310-01-123-1421, being used on M1, 1PM1 and M1A1 Abrams tanks, AMSMC-MA 081700Z Jul 91.

CECOM SOU MSG-91-06-05—Maintenance, Mandatory, Identifies a potential safety hazard with power supply, NSN 5841-01-048-5922, used with AN/APR-39(V)1 radar signal detecting set, AMSEL-SF-SEC 131600Z Jun 91.

CECOM SOU MSG-91-07-01—Safety hazard with using the wrong power cable on AN/TSC-85 and AN/TSC-93 satellite simulators, AMSEL-SF-SEP 051800Z Jul 91.

TACOM SOU MSG-91-08—Advisory, Operational, Binding problem with safety belts in M998, M1025 and M1037 HMMWVs, AMSTA-MTA 301530Z Apr 91.

TACOM SOU MSG-91-09—Limited One-time inspection, Gives modifications for M9 Armored Combat Earthmover powerpack, AMSTA-M 132000Z Jun 91.


TACOM SOU MSG-91-12—Advisory, Operational, Gives procedures for M1, 1PM1 and M1A1 Abrams tanks master power shut-off after using engine compartment fire extinguisher second shot, AMSTA-M 011330Z Jul 91.

TROSCOM SOU MSG-11-91-1—Limited One-time inspection, Inspect AN/PSS-11 mine detector set for correct modules, AMSTR-MEPP 291500Z May 91.

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

SMART Message

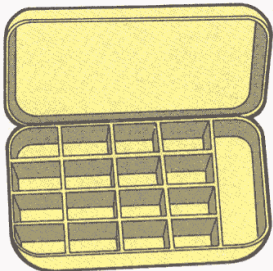
SMART MSG #91—Gives HQDA's policy on MACOM and locally authorized modification of equipment.



HERE'S A HARD
COPY CHECKLIST. THIS
WILL BE A HANDY ADDITION
TO THE SMALL ARMS
REPAIRMAN'S TOOL KIT,
NSN 5180-00-357-7770

SMALL ARMS REPAIRMAN'S TOOL KIT CHECKLIST

NOW IT
WILL BE
EASIER TO
INVENTORY
THE TOOL
KIT!



Box, Small Parts NSN 8115-00-663-0212
17 compartments (2)



Brush, File Cleaner NSN 7920-00-224-7987



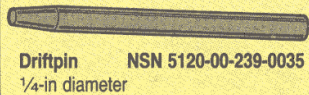
Caps, Vise Jaw NSN 5120-00-246-4746
for 2 1/2-in jaw (1 pair)



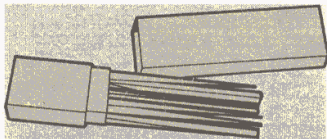
Chisel, Cold, Hand NSN 5110-00-242-3457
3/8-in cut



Driftpin NSN 5120-00-239-0036
1/2-in diameter



Driftpin NSN 5120-00-239-0035
1/4-in diameter



File Set, Hand NSN 5110-00-204-2685
Swiss pattern, needle type
Consisting of:

File, Hand	NSN 5110-00-
▷ barette	242-0127
◇ crossing	242-0146
□ equalling	156-0062
▮ flat	156-0063
▷ half-round	239-3269
□ joint	239-3281
▽ knife	156-0065
∣ marking	245-4165
○ round	245-4177
◇ slitting	239-7614
□ square	239-7602
▷ three-square	239-7590



File, Hand NSN 5110-00-234-6532
flat, double cut 6-in long



File, Hand NSN 5110-00-241-9149
half-round, double cut, 6-in long

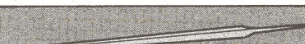


OVERALL I THINK OUR TIME WAS WISELY SPENT.

I'M SURE THE EFFORT WILL BE APPRECIATED!



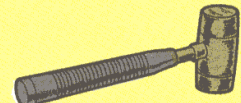
File, Hand NSN 5110-00-234-6550
round, 1 5/64-in diameter 6-in long



File, Hand NSN 5110-00-234-6528
slim taper, 6-in long



Hammer, Hand NSN 5120-00-061-8541
machinist's 8-oz ball peen



Hammer NSN 5120-01-072-7987
Hand
8-oz hard plastic head



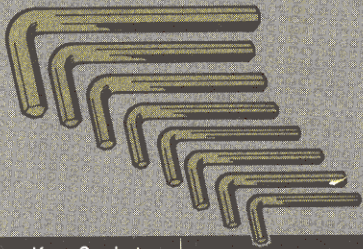
Hammer, Hand NSN 5120-00-242-3908
4-oz soft brass head



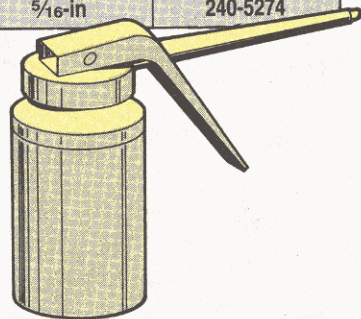
Handle, File NSN 5110-00-595-8325
adjustable jaws



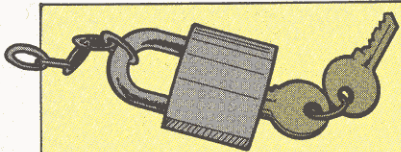
Handle, Socket Wrench NSN 5120-00-786-3782
reversible ratchet, palm grip,
3/8-in square drive



Key, Socket Head Screw	NSN 5120-00-
1/16-in	198-5398
5/64-in	224-2504
3/32-in	242-7410
7/64-in	889-2162
1/8-in	240-5292
5/32-in	198-5392
3/16-in	240-5300
5/16-in	240-5274



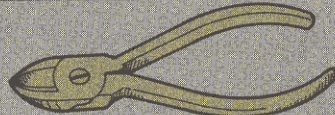
Oiler, Hand NSN 4930-00-985-2604
6-0Z



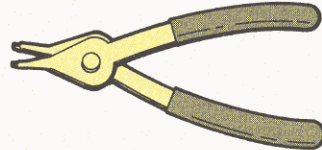
Padlock NSN 5340-00-682-1508
with 2 keys, 9-in chain



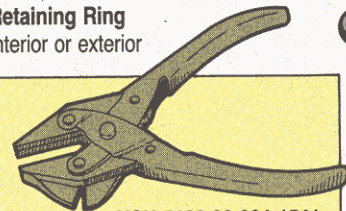
Pliers NSN 5120-00-247-5177
long round nose, with cutter, 6-in long



Pliers, Diagonal Cutting NSN 5110-00-239-8253
6-in long



Pliers, Retaining Ring NSN 5120-00-088-9393
interior or exterior



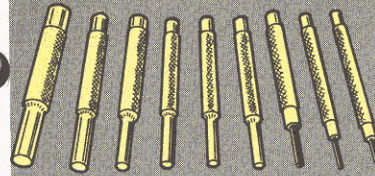
Pliers NSN 5120-00-224-1541
parallel action jaws, with cutter, 6 1/2-in



Punch, Center, Solid 1 NSN 5120-00-293-3509
5/32-in, 4-in long



Punch, Center Solid NSN 5120-00-293-3510
5/64-in, 3 1/4-in long



Punch Set, NSN 5120-00-883-3003
Drive Pin
9 punches, with case
Consisting of:

Punch, Drive Pin	NSN 5120-00-
1/16-in diameter	240-6082
3/32-in diameter	242-3435
1/8-in diameter	242-5966
5/32-in diameter	240-6104
3/16-in diameter	293-0791
7/32-in diameter	293-0792
1/4-in diameter	240-6083
5/16-in diameter	293-0793
3/8-in diameter	273-0001



Punch, Drive Pin NSN 5120-00-240-6092
starting, tapered, 1/16-in diameter tip,
4-in long



Punch, Drive Pin NSN 5120-00-242-3433
starting, tapered, 1/8-in diameter tip,
4 1/2-in long



Punch, Drive Pin NSN 5120-00-840-7289
0.055-in diameter, 4 5/8-in long



Punch, Drive Pin NSN 5120-00-840-7288
0.070-in diameter, 5 1/8-in long



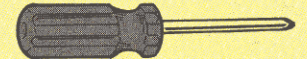
Punch, Drive Pin 1 NSN 5120-00-752-9030
1/16-in diameter, 6-in long



Punch, Drive Pin NSN 5120-00-223-1014
1/8-in diameter, 8-in long



Punch, Drive Pin NSN 5120-00-752-9031
5/32-in diameter, 8-in long



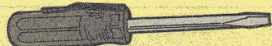
Screwdriver, NSN 5120-00-764-8080
Cross Tip
No. 1, 3-in long blade
3/8-in sq drive in handle



Screwdriver, NSN 5120-00-764-8097
Cross Tip
No. 2, 4 1/2-in blade
3/8-in sq drive in handle



Screwdriver, NSN 5120-00-237-6985
Flat Tip
3/8-in wide, 8-in long blade



Screwdriver, NSN 5120-00-236-2140
Flat Tip
 1/8-in wide, 2-in long blade
 with pocket clip



Screwdriver, NSN 5120-00-832-6223
Flat Tip
 1/4-in wide, 1 1/2-in long blade



Screwdriver, NSN 5120-00-010-7913
Flat Tip
 0.141-in wide, 5-in long blade,
 3/8-in sq drive in handle



Screwdriver, NSN 5120-00-764-8058
Flat Tip
 1/4-in wide, 4 in long blade
 3/8-in sq drive in handle



Screwdriver, NSN 5120-00-042-6837
Flat Tip
 3/16-in wide, 5-in long blade
 3/8-in sq drive in handle



Screwdriver, NSN 5120-00-180-0728
Jewelers
 0.070-in wide tip



Stone, NSN 5355-00-224-6595
Sharpening
 fine, half-round, 4 x 3/8 x 3/16-in



Stone, NSN 5345-00-584-4607
Sharpening
 extra fine, square 6 x 1/2 x 1/2-in



Stone, NSN 5345-00-243-6086
Sharpening
 hard grit, tapered, 4 x 1 3/4 x 1/2-in
 thick
 edge x 1/8-in thin edge



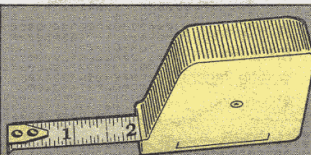
Stone, NSN 5345-00-198-8060
Sharpening
 hard grit, round, 5/16-in diameter,
 3 1/2-in long



Stone, NSN 5345-00-243-6087
Sharpening
 hard, 3 x 1/4 x 1/4-in



Stone, NSN 5345-00-584-4483
Sharpening
 hard, 3 1/2 x 1/2 x 1/2-in



Tape, NSN 5210-00-287-3335
Measuring
 1/2-in wide, 72 inches long



YOUR KIT COMES
 WITH THIS TOOL BOX TO
 STOW YOUR TOOLS.



Wire NSN 5120-00-542-4171
Twister, Plier
 with cutter, 12-in long

Toolbox, NSN 5140-00-319-5079
Portable
 7 drawers, 20 x 8 1/2 x 13-in



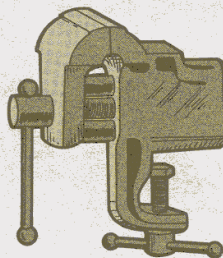
Tweezers, NSN 5120-00-252-7720
Craftsmans
 4 1/2-in long



Wrench, NSN 5120-00-449-8083
Adjustable
 0 to 1.135-in opening, 10-in long



Wrench, NSN 5120-00-077-2219
Box and Open
 NSN has been cancelled and replaced by
Wrench, NSN 5120-01-054-7140
Box and Open
 23-MM



Vise, Bench, NSN 5120-00-243-1372
Clamp Base
 stationary base with anvil back, 2 1/2-in
 jaw width, 2 1/4-in opening



Wrench, NSN 5120-00-293-1828
Open End
 3/4-in (used for
 M2 MG retracting slide handle)

**SMALL ARMS
REPAIRMAN'S
TOOL KIT
CHECKLIST**

I HAVE
A FEELING WE'VE
FORGOTTEN
SOMETHING,
BONNIE.

WHAT
ABOUT THE
TIPS
PROGRAM?

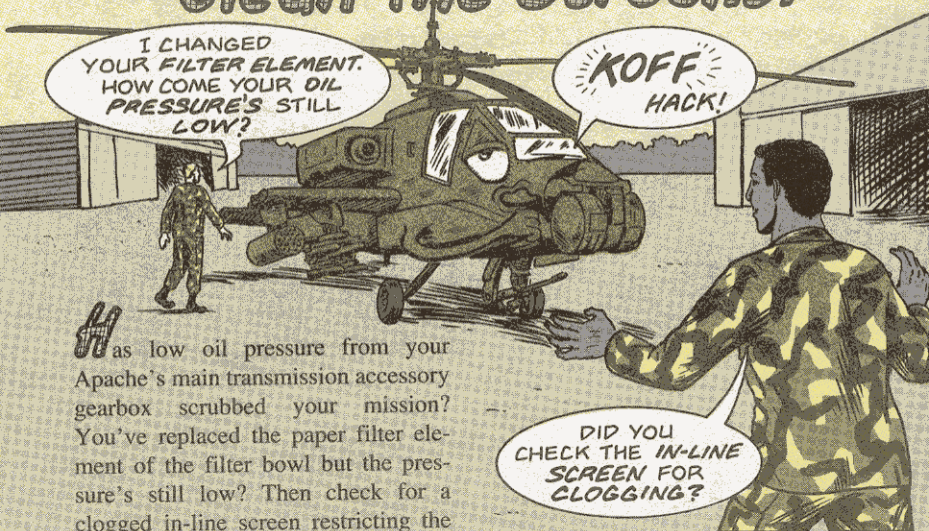
THANKS,
BONNIE!

IF YOU
HAVE AN IDEA FOR
A BETTER TOOL, OR KNOW
OF A TOOL THAT'S NEVER USED,
THE ARMY WANTS TO
HEAR FROM YOU!

GRAB
A COPY OF
THE TIPS FORM
IN PS 465 AND
SEND YOUR
SUGGESTION
TO:

Commander
US Army Force Integration Support Agency
ATTN: MOFI-TED-E Bldg 2588
Fort Belvoir, VA 22060-5587

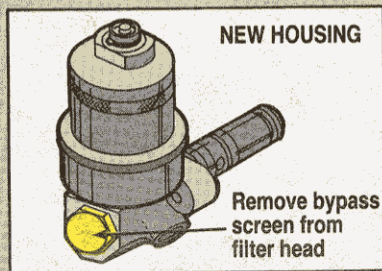
Clean the Screens!



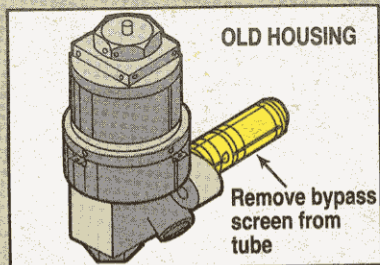
As low oil pressure from your Apache's main transmission accessory gearbox scrubbed your mission? You've replaced the paper filter element of the filter bowl but the pressure's still low? Then check for a clogged in-line screen restricting the oil flow.

The screen's in one of two places, depending on the filter body your Apache is using.

If it has the new filter body, NSN 1650-01-310-2256, Item 37 of Fig 287 of TM 55-1520-238-23P-2 (Sep 90), you need to remove the bypass screen from the filter head. Clean it like it says in Para 6-3-75.A.3 of TM 55-1520-238-23-4 (Jun 88).



If you have the old filter body, NSN 1650-01-233-8445, the screen's in the transducer tube. The tube is Item 5 on



Page 6-141 of TM 55-1520-238-23-4, but the screen is not shown. Remove the screen from the filter assembly by removing the internal snap ring from the tube. Check the screen like it says in Para 6-3-3 of the TM. Flush the screen using trichloroethane until clean. Dry using compressed air.

CORROSION Eats Antennas

CORROSION smiles and rubs its stomach when it spots an antenna, because it knows a good meal when it sees one. CORROSION knows that most antennas face the brunt of all Mother Nature offers. It knows that others are hidden in places like cowlings and doors where crud collects and where they're out of sight and out of mind.

OH BOY! ANTENNAS! MY FAVORITE FOOD!

CORROSION knows that antennas mounted on the fuselage go through the skin of your bird, offering it spots to start, both inside and out.

CORROSION will feast on your antennas, causing shorts, open circuits, loss of di-electric, faded signals and electromagnetic interference.

CORROSION will deafen you! Crews, here's how to stop corrosion before it turns the noise from your radio to the icy silence of the tomb.

1. Know the location of all your bird's antennas from their tip to their tail.

2. Check antennas often, paying extra attention to metal to metal mating points and areas where the antenna enters your bird's skin.

Check where antenna enters bird's skin

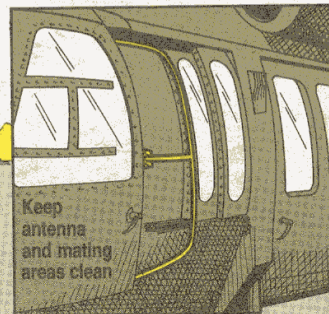
3. Know what you're looking for. Depending upon the metals involved, corrosion can be a grayish-white, blue, blue-green, or green powder. It could be a red, brown, or black stain. Or it may show up as common rust.

WE'RE ALL TOUGH CUSTOMERS!

4. Keep antennas and mating areas clean. Remove dirt, oil and grease with cleaning cloth, NSN 7920-00-044-9281, and drycleaning solvent, NSN 6850-00-274-5421.

5. After cleaning and allowing to dry, apply a thin film of water displacing corrosion preventive compound, NSN 8030-00-546-8637, to antenna connectors, mating areas and mounting hardware.

6. When you find corrosion, get your mechanic on the job pronto.



BEAT IT, YOU CORROSION CREEP!

Aviation Messages

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

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

UH-60-91-ASAM-09, Info, H60, changes to inspect procedures for main rotor elastomeric bearings, TB 1-1520-237-20-126, 022030Z May 91.

AH-1-91-ASAM-09, Info, Re-establishment of 4000 hours fatigue lives of K747 blades parts shown in MWO 55-1520-244-50-11, 022130Z May 91.

AH-1-91-ASAM-10, Maint Mand, UH-1/AH-1/OV101. Records inspect T53 engine fuel controls for the undersized pins, TB 1-2840-2209-23-3 TB 1-2840-233-20-2, 081800Z May 91.

AH-64-91-ASAM-08, Maint Mand, AH-64A, Inspect tail rotor forward and aft bearing assemblies for proper nut torque, 202100Z May 91.

AH-64-91-ASAM-09, Maint Mand/Oper, AH-64A, Prevent uncommanded helifire launches, TB 1-1520-238-20-23, 282100Z May 91.

UH-1/AH-1/OV-1, Records inspect

T53 engine fuel controls for the undersized pins, TB 1-2840-2209-23-3 TB 1-2840-233-20-2, 081800Z May 91.

UH-1-91-ASAM-10, Info, UH-1H/V, Elevator assemblies with misaligned attachment holes, 091530Z May 91.

AH-64-91-ASAM-08, Maint Mand, AH-64A, Inspect tail rotor forward and aft bearing assemblies for proper nut torque, 202100Z May 91.

AH-64-91-ASAM-09, Maint Mand/Oper, AH-64A, Prevent uncommanded helifire launches, TB 1-1520-238-20-23, 282100Z May 91.

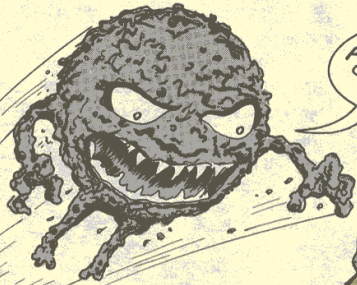
UH-58-91-ASAM-11, Maint Mand,

OV-1D/RV-1D, Inspect installed main recovery parachutes, P/N 11-1-1861, NSN 1670-00-200-4429, for MK-J5D Ejection seats, TB 1-1520-213-30-06, 302230Z May 91.

UH-1-91-ASAM-12, Info, UH-1H/V, Revision to UH-1-91-ASAM-10, Elevator assemblies with misaligned attachment holes, 311900Z May 91.

CH-47-91-02, SOF Tech, CH-47D, MH-47D, MH-47E, Update to CH-47-91-01 to identify serviceable combiner transmissions and engine transmissions TB 55-1520-240-20-55 will be revised, 151500Z May 91.

...and Corrosion Kills Electronics



HA! HA!
ANOTHER VICTIM
OF THE DREADED
CORROSION
CREW!

Corrosion destroys electronic equipment, even in the most ideal environments. Yes... even in the desert.

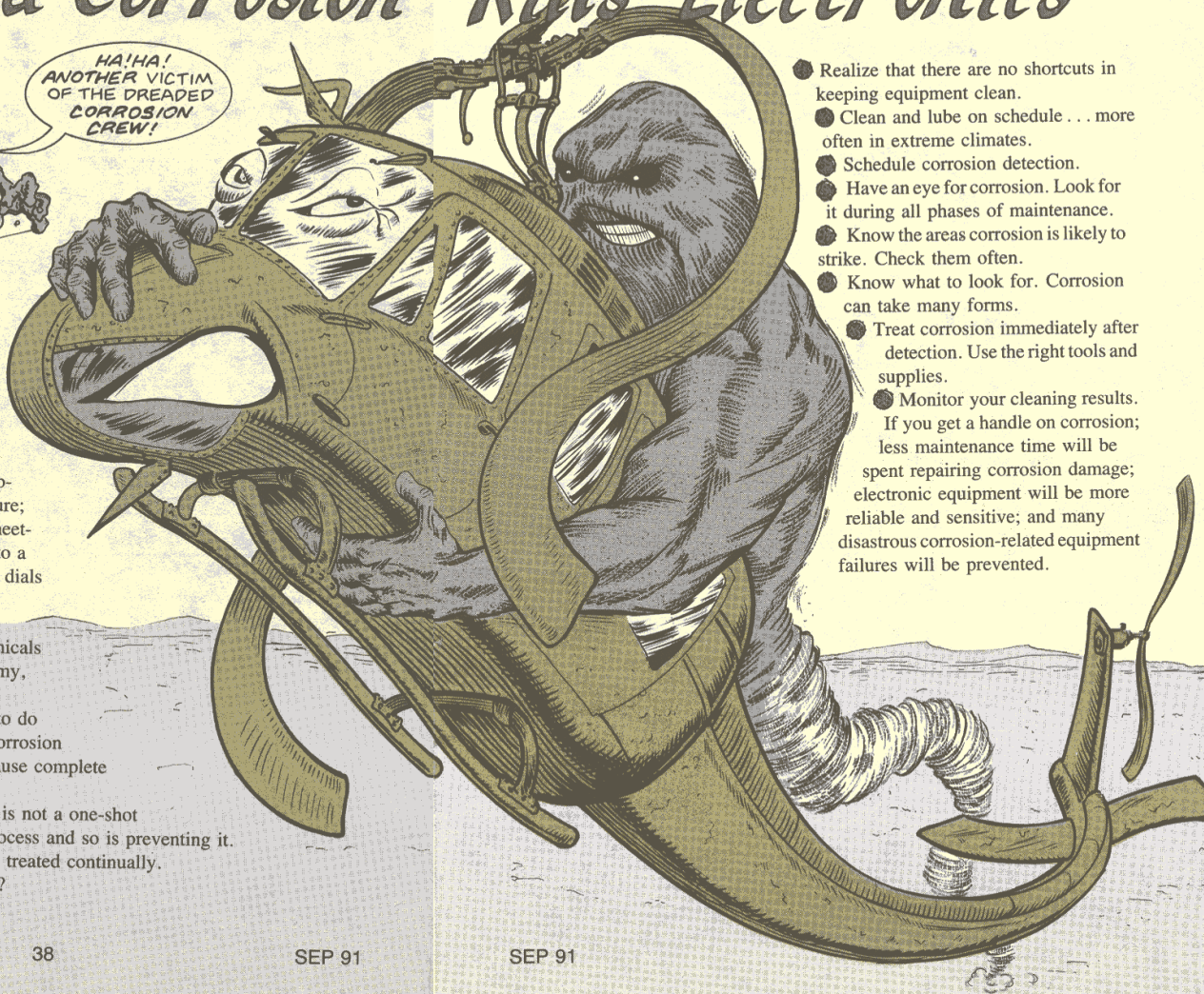
Sand penetrates electronic equipment. It absorbs and holds moisture; it stops electrical contacts from meeting; it grinds rotating machinery to a fatal halt; and it makes indicating dials tell lies.

But sand is not the only villain. Heat, varying humidity, and chemicals in the air also give aid to the enemy, corrosion.

It doesn't take much corrosion to do the job. Just a small amount... corrosion that might go unnoticed... can cause complete equipment failure.

Unfortunately, curing corrosion is not a one-shot deal. Corrosion is a continuing process and so is preventing it. Corrosion must be recognized and treated continually.

How do you fight it continually?



- Realize that there are no shortcuts in keeping equipment clean.
- Clean and lube on schedule... more often in extreme climates.
- Schedule corrosion detection.
- Have an eye for corrosion. Look for it during all phases of maintenance.
- Know the areas corrosion is likely to strike. Check them often.
- Know what to look for. Corrosion can take many forms.
- Treat corrosion immediately after detection. Use the right tools and supplies.
- Monitor your cleaning results.

If you get a handle on corrosion; less maintenance time will be spent repairing corrosion damage; electronic equipment will be more reliable and sensitive; and many disastrous corrosion-related equipment failures will be prevented.

PM STOPS BATTERY ASSAULT



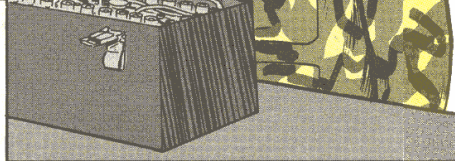
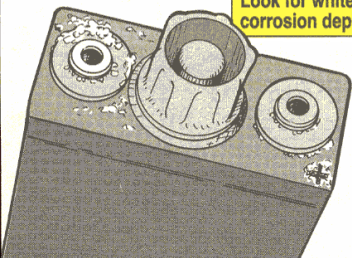
Here's how you can make sure your bird's not grounded or damaged due to battery failure.

Inspect, clean and test your bird's nickel-cadmium battery every 30 days or 25 flight hours, whichever comes first.

But play it safe—always wear rubber gloves, an apron and a face shield while working with batteries.

Look for white corrosion deposits on filler caps and between battery cells. They'll set up an electrical leakage path when they get wet, so don't miss any.

Look for white corrosion deposits



If you find white deposits, loosen them with a nylon brush—not a wire brush—and remove the residue with a clean cloth.

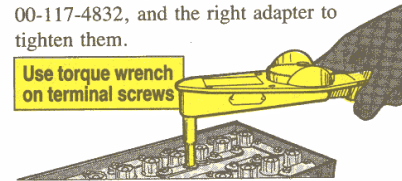


Use nylon brush to loosen corrosion

Never use solvents, acids or any chemical cleaner to clean a nickel-cadmium battery. Those things can damage the cells, gaskets and liner.

Next, check terminal screws to make sure they're tight. If you find loose screws, use torque wrench, NSN 5120-00-117-4832, and the right adapter to tighten them.

Use torque wrench on terminal screws



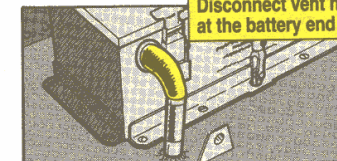
Place the socket, screwdriver adapter or hex-head adapter on the torque wrench. Tighten 8-32 terminal screws 20-25 lb-in and 10-32 screws 35-50 lb-in.

Be extremely careful when you tighten terminal screws. If the wrench slips, you could cause a short circuit and injure yourself or damage the equipment.

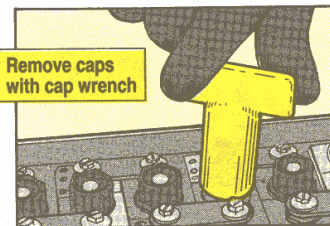
Next, check the battery vent lines. They have to be clear to ventilate the battery compartment during flight.

Disconnect the vent hoses at the battery end and use low-pressure air—no more than 5 PSI—to make sure they're clear.

Disconnect vent hose at the battery end



Remove caps with cap wrench



If you find or suspect electrolyte leakage for any reason other than loose filler caps, remove the battery and have AVIM check it out. You may have one or more cracked cells.

Never add anything, including water or electrolyte, to the battery cells.

A Hose for Antenna Woes

LET'S CHECK WITH SERGEANT SPARKS!

HEY, THIS REAR ANTENNA'S GETTING PRETTY BEAT UP! WHAT CAN WE DO ABOUT IT?

A lot of antennas are getting rubbed raw when an M2 or M3-series Bradley vehicle travels cross-country with both the commander and gunner hatches open.

THE ANTENNA MOVES FROM SIDE-TO-SIDE AND RUBS AGAINST THE HATCHES.

A PIECE OF HOSE WILL END THESE WOES. THE HOSE PROTECTS THE ANTENNA FROM THE SHARP EDGES OF THE HATCHES.

HERE'S HOW TO FIT THE HOSE ON THE ANTENNA:

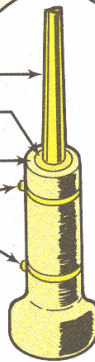
42

SPARKS

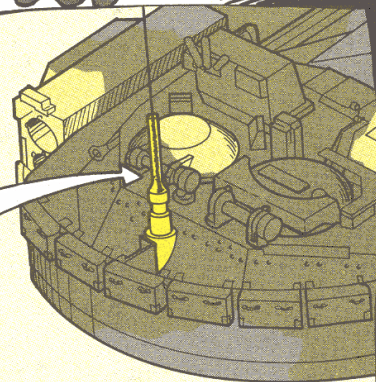
ARMY

- Slip a large 18-in long hose, NSN 4720-00-985-1293, over the lower whip section of the antenna. Push the hose down until the antenna's nut is completely covered.

Antenna
Small-size hose
14 inches long
Large-size hose
18 inches long
Ties



- Put a small 14-in long hose, NSN 4720-00-230-6526, on the antenna's lower whip section and push it until it's firmly seated in the large hose.



- Place two wire ties, NSN 5975-00-156-3253, around both hoses. Put the first tie 1 inch below the hoses' upper end and the second tie 16 inches below the first tie.

- Lock the ties in place with a plastic strap pistol grip, NSN 5120-00-937-5438. Set the pistol grip's tension selector button on the 8 range.

AFTER THE TIE IS LOCKED, BE SURE TO CUT OFF THE LEFTOVER TIE END.



Jumper Wire



Operating some Mobile Subscriber Equipment (MSE) can be a shocking experience. Seems the manufacturer forgot to put an internal jumper wire between neutral and ground on some of the 5- and 10-KW generators.

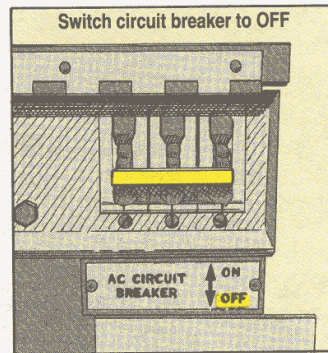
This wire protects you from being shocked—and your equipment from being damaged.

If your 5-KW MSE generator's serial number is below RZ00082 or your 10-KW MSE generator's serial number is below RZ00048, you need to check to make sure that the jumper wire was installed.

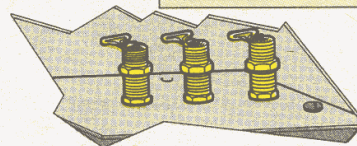
Jump



⚡ Switch the main circuit breaker to OFF. Stop the engine and make sure all power is removed.



Disconnect all cables from the load terminals



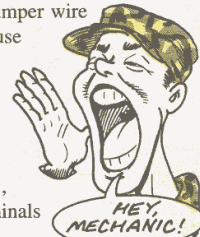
⚡ Turn the three-phase circuit breaker located directly above the generator convenience outlet ON.

⚡ Set the phase selector switch to 120 volts, single-phase position.

⚡ Use a multimeter to check for continuity across load terminal L1 (neutral) and LO (ground). Then measure for continuity from load terminal LO to the neutral socket of the generator convenience outlet.

⚡ If the reading—continuity—shows zero ohms, the jumper wire is installed. But no reading means it's not.

If the internal jumper wire is missing, don't use the generator. Get your mechanic to install an insulated No. 6 AWG wire, NSN 6145-00-652-9058, between load terminals L1 and LO.



The word's in CECOM SOU-MSG 90-12-04, AMSEL-SF-SEP 211800Z Dec 90.

IF YOU DON'T HAVE A COPY, SEE YOUR CECOM LAR, OR WRITE ME!

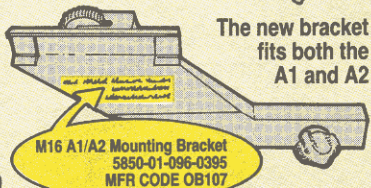
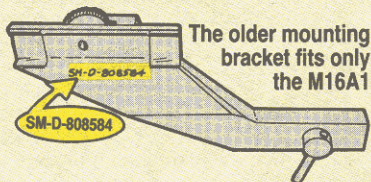
Get Right Mounting Bracket

BUT, SERIOUSLY, LADIES AND GENTS... WHAT'S THE DIFFERENCE BETWEEN AN OLD MOUNTING BRACKET AND A NEW ONE?

HARS
-N-
YUKS
COMEDY
CABARET

THE OLD BRACKET SHOWS A PART NUMBER!

There are two different AN/PAQ-4A infrared aiming light mounting brackets for the M16 rifle stocked under NSN 5850-01-096-0395.



You can tell which bracket you have at a glance. The old bracket shows part number SM-D-808584 and the new bracket gives the nomenclature, NSN and manufacturer's code.

Clean the Plugs and Panels

Dear Macon,
Is there a cleaning kit for the plugs and patching panels on the AN/TSC-76 Communications Patching Center?
SFC M.A.H.

Dear Sergeant M. A. H.,

There's no cleaning kit, but Change 5 of TM 11-5805-583-15 gives instructions for cleaning the plugs and patching panels.

However, the TM shows the wrong NSN for the plug polish. Get a pint of polish with NSN 7930-00-266-7137. Use NSN 7930-00-995-7572 for a quart.

Macon

Seeing Spots???

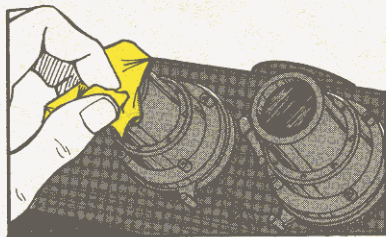


If you see black spots when you look through your AN/PVS-5 or -7 night vision goggles, maybe you need to clean them.

Most black spots are just small blemishes on the image intensifier tube. There's no need to send your goggles to the repair shop.

However, if a black spot bothers your eyes and you can't see past it all the time, check to make sure the outside lenses are clean.

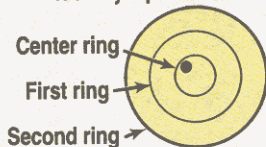
Clean the objective and eyepiece lenses with lens paper and distilled water.



If the trouble spot still bothers you, turn in the goggles for repair.

Be sure to identify on the maintenance request where the spot is located for your support folks. For example, the spot is in the left tube at 10 o'clock in the center ring.

Identify spot location



AN/PVS-7B Night Vision Goggles...

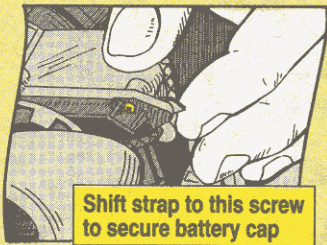
Vanishing Battery Cap

Dear Editor,

We lose lots of AN/PVS-7B battery caps because the place on the goggles frame to which the battery cap strap connects breaks off easily. With the strap hanging loose, the cap disappears next time it's removed.

There's a simple solution: Shift the strap to the screw in the lower left corner of the goggles frame. You can do it in seconds with a cross-tip screwdriver. We haven't lost a single cap since we started doing this.

Clarence Dates
Ft Benning, GA



Shift strap to this screw
to secure battery cap

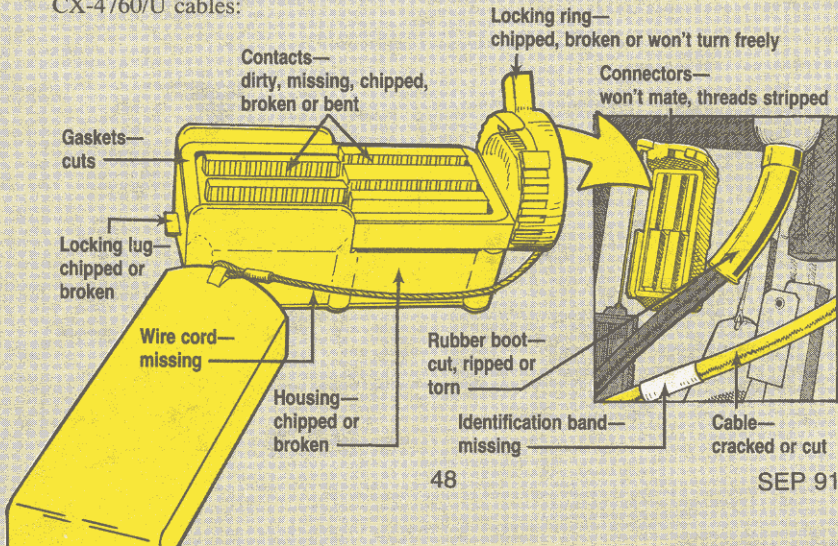
(Editor's note: I think you've solved the case of the vanishing battery cap. Our cap's off to you.)

26-Pair ...

PM Makes Cable Able

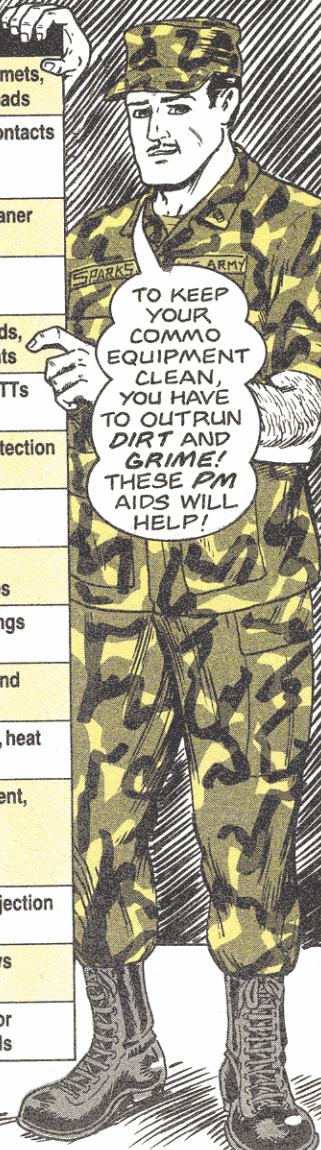
To keep your 26-pair cable healthy, give it regular doses of PM. Since there's no TM that gives a PMCS chart for this cable, make your own.

Here's a guide of what to look for when you check out your CX-4566/G or CX-4760/U cables:



Keep Equipment Clean

Item NSN	Quantity	Use
Silicone compound 6850-00-880-7616	8-oz tube	Lubing O-rings, grommets, gaskets, antenna threads
Cleaning/lubing compound 6850-00-003-5295	16-oz can	Cleaning switches, contacts
Trichlorotrifluoroethane 6850-00-984-5853	5-gal can	Contact and head cleaner
Cleaning compound 6850-00-597-9765	1-gal can	Grease, fungus, dirt remover (external)
Isopropyl alcohol 6810-00-753-4993	8-oz can	Cleaning circuit boards, electronic components
Freon type TE 6850-00-105-3084	16-oz can	Cleaning TACFIRE MTTs
Varnish 8010-00-515-2487	1 pint	Moisture, fungus protection
Lubricating grease 9150-00-257-5358	8-oz tube	Antenna contacts (non-insulating)
Corrosion preventive 8030-00-546-8637	16-oz can	Protects connector threads, plugs, cables
Denatured alcohol 6810-00-201-0906	1 pint	Cleaning plugs, springs (in humid areas)
Polishing cloth 7920-00-985-6849	13½ x 11-in sheet	Switchboard plugs and jacks
Silicone compound 6850-00-927-9461	5-oz tube	Heatsink compound, heat protection
Lens tissue 6640-00-597-6745 6640-00-240-5851 6640-00-285-4694	6 x 4-in (50 sheets) 100 sheets) 11 x 7-in sheet	Night vision equipment, optics
Lens cleaner 6850-00-392-9751	2-oz bottle	Night vision and projection equipment
Anti-static compound 6850-00-882-6690	3½-oz bottle	Plastic gage windows
Insulating compound 5970-00-181-0190	Kit	Protective coating for printed circuit boards



TO KEEP YOUR COMMO EQUIPMENT CLEAN, YOU HAVE TO OUTFIGHT DIRT AND GRIME! THESE PM AIDS WILL HELP!

PM Keeps Fox on the Trail

TO STAY ON THE TRAIL OF NUCLEAR AND CHEMICAL CONTAMINATION, YOUR FOX (FUCHS) NEEDS HELP.

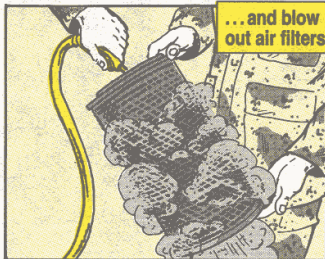
WITHOUT PM THE FOX IS STOPPED IN ITS TRACKS AND YOU'RE NOT ABLE TO WARN YOUR UNIT OF DANGER. KEEP THE FOX SNIFFING OUT TROUBLE LIKE THIS:

Clean engine air filters daily in the desert. Empty and then wipe out dust collectors and filter housings with a



Daily wipe out dust collectors...

clean, dry cloth. Blow out—from the inside out—the main filters with no more than 30 PSI air. Keep track of each cleaning of the safety filter. After

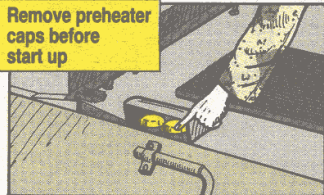


...and blow out air filters

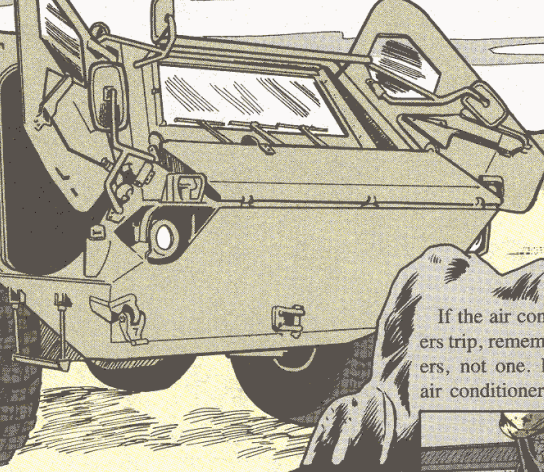
five times, replace both main and safety filters.

Before start up, remove the plastic caps from the engine preheater. Otherwise, the caps melt and the preheater can't work. Put the caps back on at the end of operations to seal out sand.

Remove preheater caps before start up

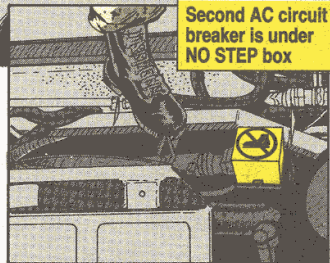


If you're going to be driving on soft sand, reduce air pressure in all the tires to 30 PSI. That gives better traction. If you're going to travel over rocky areas or hard-packed sand, increase tire



If the air conditioning circuit breakers trip, remember there are two breakers, not one. Besides the one on the air conditioner, there's one under the

Second AC circuit breaker is under NO STEP box

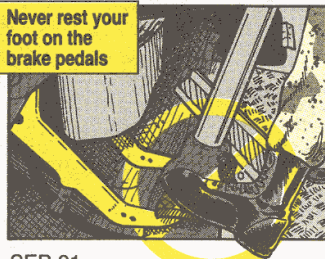


pressure in all tires to 62 PSI. For normal driving, use 41 PSI.

Stop slowly in sand that has a hard crust. The crust can damage tires during a hard or panic stop.

If the Fox is slow on acceleration when you press down on the pedal, suspect sticking brakes. Tapping the brakes sometimes frees them.

Never rest your foot on the brake pedals



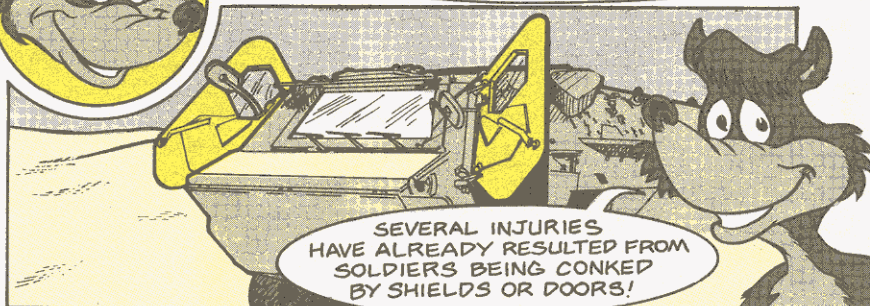
NO STEP box at the front of the engine. Both must be reset before the AC will work.

The AC breakers will be less likely to trip if you crew members don't stack things in front of the vents. That causes the AC to work too hard and shut down.

When using the AC, make sure the heater has been turned off... and vice versa. If both run together, the AC circuitry gets hot and burns up.

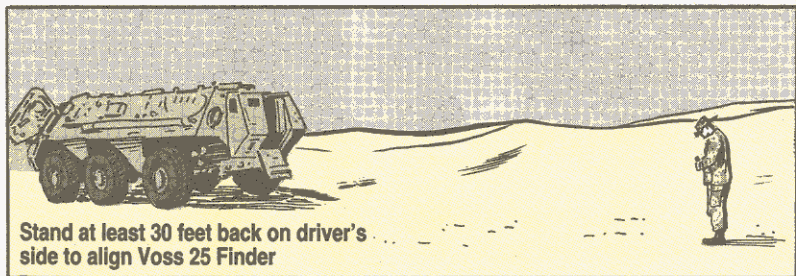


THE TRIM VANE ASSEMBLY AND THE DOORS OPEN QUICKLY. MAKE VERY SURE EVERYONE'S AT LEAST FIVE FEET AWAY FROM THE VEHICLE BEFORE YOU OPEN THE TRIM VANE OR DOORS!



SEVERAL INJURIES HAVE ALREADY RESULTED FROM SOLDIERS BEING CONKED BY SHIELDS OR DOORS!

To align the VOSS 25 Finder, take your compass at least 30 feet away from the rear of the Fox and stand on the driver's side. Otherwise, equipment in the Fox can throw off the compass reading by as much as 20 degrees.

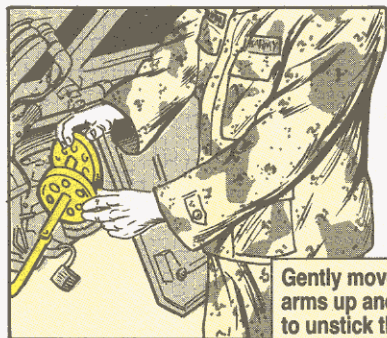


Stand at least 30 feet back on driver's side to align Voss 25 Finder

If the sampler arms stick in the down position, the only safe way to unstick them is to exit the Fox and gently move the arms up and down. If you try to force them loose inside the vehicle, you damage them.

Before backing, always check with the crew that the sampler arms are UP. If they're down, you will snap them off.

During shutdown, press the fuel shut off before you turn off the electrical system. Otherwise, current can burn out the alternator.



Gently move sampler arms up and down to unstick them

Sampling with Confidence

Dear Half-Mast,

How can you tell if a confidence sampler for a Chemical Agent Monitor (CAM) is still good? They have no expiration dates. If a sampler is weak, the CAM will fail the test.

SSG H.G.

Dear Sergeant H.G.,

If neither end of a sampler gives a reading, the sampler could be bad. Try a sampler from another CAM kit. No reading? The CAM's the problem. If you get a reading, the sampler's bad.

If you get no reading, try another sampler



The H (blister) end of the sampler has a wintergreen scent, by the way. If you smell wintergreen, the H end is still good. The G end has no smell.

If you smell wintergreen, it's still good



Samplers should last 10 years.

Half-Mast

HOW CAN I BE SURE IF THE CAM'S BAD OR IF THE SAMPLER'S WEAK?

TRY A SAMPLER FROM ANOTHER KIT.



There Is a Difference



There's a big difference in left and right wheel lug studs and nuts. And you can't swap them side for side on the 600-gal per hour reverse osmosis water purification unit.

The studs get switched when you take off all four brake drums at the same time. It's best to take the drums off one side at a time when you pack bearings or work on brakes. That way you won't get them mixed up.

If you get the studs and nuts on the wrong side, the nuts work loose and fall off. The wheel wallows out the stud holes—and may even fall off.

Stop this disaster from happening. Eyeball each brake drum before putting it on. Make sure the brake drums for the right side—curb side—have studs marked R. Left side—street side—drums need studs with L stamped on

Hubs with "L" stamped on stud go on left side...



the ends. You might have to chip away a small amount of paint to see these markings.

Hookup Help

Dear Half-Mast,

Our Distribution Illumination System, Electrical (DISE), uses cables with multi-pin connectors. How do we plug in equipment with standard three-prong equipment that may draw up to 20 amps?

CPT J. D. R.

Dear Captain J. D. R.,

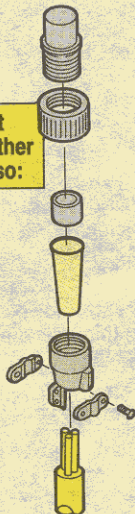
You can use the 20-amp duplex receptacle assembly, NSN 6150-01-251-9125. It's part of the M40 and M60 distribution subsystems and the M46 utility assembly. Or if the equipment will be used ONLY with the DISE, change the plug on the end of the wire.

For equipment with $\frac{3}{8}$ -in diameter cable, like heater, NSN 4520-01-254-8548, you'll need these parts:

Use
receptacle
assembly



Put it
together
like so:



Qty	Item	NSN
1	Connector, electrical plug	5935-01-025-2137
1	Cover, electrical connector	5935-01-189-3220
1	Bushing, rubber	5365-00-598-5416
1	Clamp, cable insulator	5935-01-193-5713*
3 inches	Sleeving insulation, heat shrink	5970-00-914-3118
1	Strap, tiedown, electrical	5975-00-727-5153

For other equipment with $\frac{1}{2}$ -in diameter power cables, use these items:

Qty	Item	NSN
1	Connector, electrical plug	5935-01-025-2137
1	Cover, electrical connector	5935-01-189-3220
1	Bushing, rubber	5365-00-936-7377
1	Clamp, cable insulator	5935-01-181-1672*
3 inches	Sleeving insulation, heat shrink	5970-00-914-3118
1	Strap, tiedown, electrical	5975-00-727-5153

*Not on AMDF. Order on a DD Form 1348-6 from RIC S9E.

Half-Mast

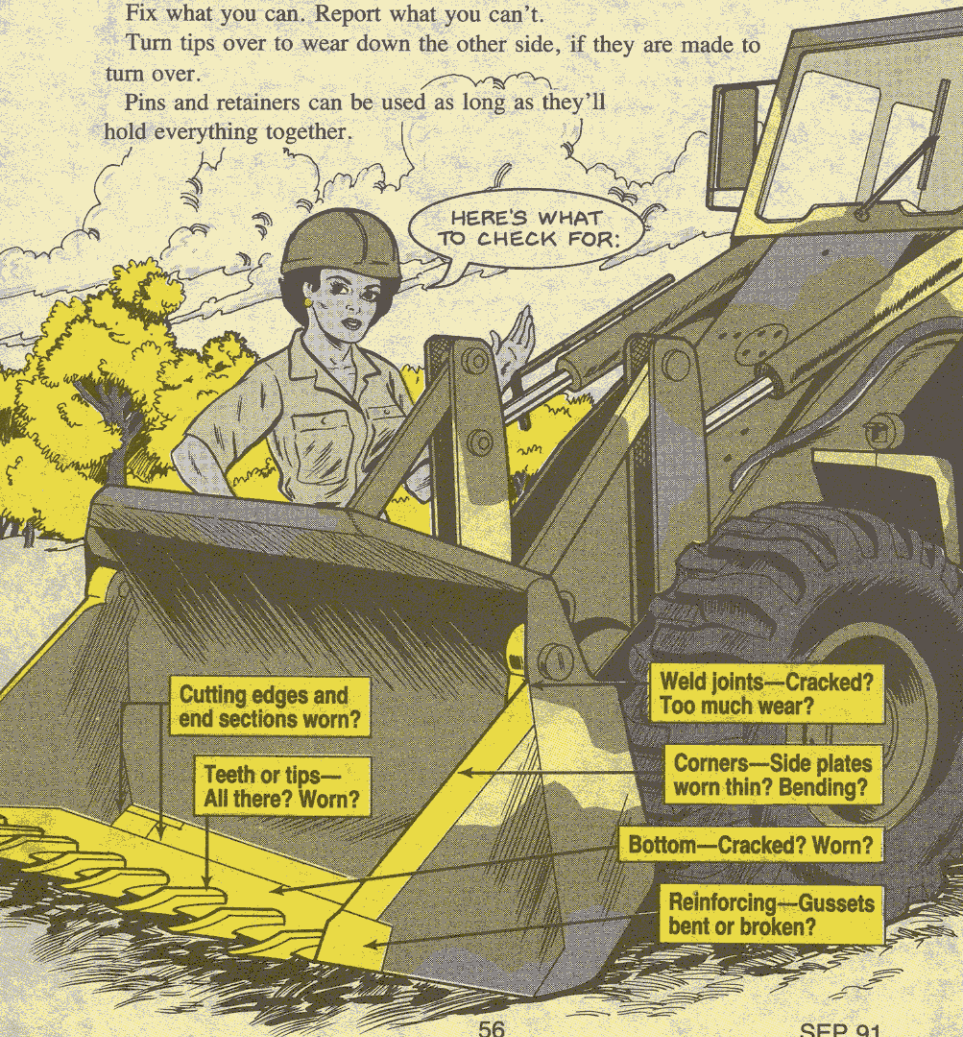
Be Your Own Bucket Inspector

Your scoop loader's bucket is tough, but it can't survive on its own—it needs your help. Eyeball the bucket regularly to prevent excessive wear and avoid costly failure.

Fix what you can. Report what you can't.

Turn tips over to wear down the other side, if they are made to turn over.

Pins and retainers can be used as long as they'll hold everything together.



HERE'S WHAT TO CHECK FOR:

Cutting edges and end sections worn?

Teeth or tips—All there? Worn?

Weld joints—Cracked? Too much wear?

Corners—Side plates worn thin? Bending?

Bottom—Cracked? Worn?

Reinforcing—Gussets bent or broken?

Take a Second Look



IT PAYS
TO DOUBLE-
CHECK
THE
CHARGING
CIRCUITS.

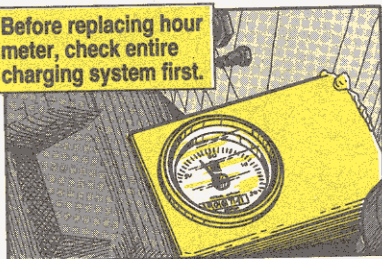
If an hour meter on either engine of your bridge boat stops working, it's usually because the charging system for that engine has stopped working.

Each engine has its own charging circuit to charge the batteries on that side of the boat. But if one charging circuit goes kaput, the good charging circuit for the other engine takes over and charges both sets of batteries.

Only problem is, the hour meter is connected in the bum charging circuit.

So, before you replace an hour meter that no longer works, check the charg-

Before replacing hour meter, check entire charging system first.



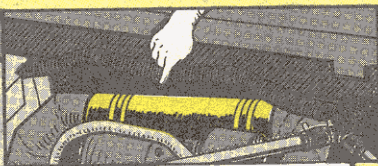
ing circuit, fuse, regulator, alternator and wiring. If the system's OK, replace the hour meter.

MK2 Twin-Jet Bridge Boats...

Exhaust Hose NSN's

Dear Half-Mast,
Our MK2 twin-jet bridge erection boat needs a new rubber exhaust hose. We used NSN 4720-01-279-1552, but didn't get the correct hose.

CW2 M.S.F.



Dear Mr. M. S. F.,

The NSN you used is for the hose on MK1 boats. For your MK2 boat, use hose, NSN 4720-01-262-5086. It's shown as Item 25A in Figure 30 of TM 5-1940-277-20P, but there is no NSN listed.

Half-Mast

From A to Z

When it comes to getting requests through the supply system, weeping, wailing and gnashing of teeth get you nowhere! The supply system's not set up to respond to emotional outbursts. The supply system can't—or won't—handle some items no matter how much you plead. These items, though, are not hard to recognize. You just check the Source, Maintenance and Recoverability (SMR) code in your parts manual. The 5-part SMR code is found in column 2 of the listing.

DID YOU CHECK THE SMR CODE ON THAT ITEM?

THAT'S A WASTE OF TIME!

YOU NEED TO HURRY AND GET THAT REQUEST IN THE SUPPLY SYSTEM!

Source Codes

The first two places of the SMR are the source code. The source code tells you how or if the item is stocked in the supply system. It sometimes tells you why a part doesn't have an NSN. Source codes starting with P mean the item comes from the regular supply system with normal handling.

65	16	PAOZZ	9905-00-893-3570	END MARKER	EA	3
65	17	MOOZZ		ASSEMBLY ELECTRICAL MAKE FROM WIRE	EA	1
65	18	PAOZZ	5940-00-705-6705	LUG	EA	2
65	19	PAOZZ	5970-00-705-6705	FOR BUSHING	EA	2
65	20	PAOZZ	9905-00-893-3570	END MARKER	EA	3

P...
Stocked,
Regular
Supply System

If the source code of your item starts with a K, forget about ordering the part separately. The only way these items are stocked is in the kit.

350	5	KFOZZ	53202	TUBE ASSEMBLY PART OF KIT P/N 8390117	EA	2
				UOC DAB DAD DAK DAX V12 V14 V16 V21		
350	6	KFOZZ		HARNES ASSEMBLY PART OF KIT P/N 8390117	EA	1
				UOC DAB DAD DAK DAX V12 V14 V16 V21		
350	7	KFOZZ		CABLE ASSEMBLY PART OF KIT P/N 8390117	EA	1
				UOC DAB DAD DAK DAX V12 V14 V16 V21		

K...
Stocked
in Kit

M source codes are on items that must be fabricated or manufactured. The second letter tells you who makes it. If the code is MO, you make it. If the code is MF, DS makes it.

65	10	PAOZZ	5310-00-579-5554	M355333 7E 04500 ** WASHER LOCK	EA	1
65	11	PAOZZ	5900-00-705-6705	FOR MACHINE	EA	1
65	12	PAOZZ	5935-01-000-1071	FOR SPECIAL TABLE	EA	1
65	13	MOOZZ		ASSEMBLY ELECTRICAL MAKE FROM WIRE	EA	1
65	14	PAOZZ	5940-00-705-6730	TERMINAL LUG	EA	2

M...
Not Stocked, Fabricate
or Manufacture

Source codes starting with A mean the item is not stocked, but is assembled from pieces. The second letter tells you who puts it together.

1	A...	Not Stocked, Assembled	RACK AND SEAT ASSEMBLY
---	------	------------------------	------------------------

Items with source codes starting with X are not stocked. The second letter gives you special info on how to get those parts.

209	8	PBOOO	5340-00-696-0264	7373321	19207	HINGE WINDSHIELD LEFT	EA	1
209	8	PBOOO	5340-00-696-0265			HINGE WINDSHIELD RIGHT	EA	1
209	9	PAOZZ	5310-00-731-1071			ASSEMBLY	EA	1
209	10	XAOZZ					EA	1
209	11	XAOZZ					EA	1
209	12	PAOZZ	5306-01-104-8389			DRIBBED	EA	1
209	13	PAOZZ	5340-01-104-9075	7529319	19207	HINGE BUTT	EA	1

X...
Not Stocked
Special Info
Needed

XA says to order the next higher assembly.

XB tells you to get your support to try the cannibalization point or salvage before ordering. If they have no luck getting the part at these places, they need to order using advice code 2A in card columns 65-66 of the supply request.

XD means the item's not stocked. But once the request reaches the item's managers, they will try to get you one.

Items coded XB or XD take a long time to get—if you get 'em at all! Since these items are not planned for stockage, most of them will not have NSNs. If you need these items, order them by CAGE and part number on DD Form 1348-6.

ISN'T THAT HEAVENLY?

Maintenance Codes

The maintenance code covers the third and fourth places of the SMR.

The first letter of the maintenance code tells you the level authorized to remove, replace and use the item. A code of C or O in the third place of the SMR means that the items are OK for your use.

The second letter of the code—fourth place of the SMR—tells you if the item's reparable and who does complete repair on it. That means the level authorized to do everything possible to that item. It does not mean lower maintenance levels do nothing to it. The Maintenance Allocation Chart (MAC) in your TM and the first part of the maintenance code tell you what you do with it.

The second letter—telling you who does total repair—shows up in the MR column of the AMDF.

		Maintenance Codes					
65	21	PAOZZ		19207	HOSE,PERFORMED	EA	1
65	22	PHOZZ	2590-01-218	19207	PLATE,REINFORCEMENT	EA	1
65	23	PAOZZ	5305-00-081-37	19206	SCREW,MACHINE	EA	4

Recoverability Codes

The last code in the SMR is the recoverability code. It tells you if the item is reparable and who gets rid of the item when it cannot be fixed. Z means the item's not reparable and the level that replaces it also disposes of it. O tells you it can be repaired and—when it's beyond repair—you dispose of it.

Recoverability codes of F, H, D and A apply to reparable items disposed of at other levels or by special instructions.

Check the front of your parts manual for a complete list of codes and their meanings.

		Recoverability Codes					
350	17	PAOZZ	2590-00-095-1464	19207	SPREADER,A-FRAME PART OF KIT P/N 8390117	EA	1
					UOC, DAB,DAD,DAH,DAX,V12,V14,V16,V21		
350	18	PAOZZ	5306-00-218	19207	ROD,THREADED END PART OF KIT P/N 8390117	EA	1
					UOC, DAB,DAD,DAH,DAX,V12,V14,V16,V21		
350		PFOZZ	2590-00-600-9035	19207	KIT, A-FRAME MOUNTING	EA	1
					UOC, DAB,DAD,DAH,DAX,V12,V14,V16,V21		

AFTER YOU LEARN TO BREAK THE SMR CODE, YOUR SUPPLY REQUESTS WILL FLOW SO EASILY THROUGH THE SYSTEM THAT YOU'LL THINK YOU'RE IN HEAVEN!

DRAT! FOILED AGAIN!



CONNIE, WHERE CAN I GET A LIST OF TOOLS FOR MY SMALL ARMS REPAIRMAN'S TOOL KIT?



HMMM... FUNNY YOU SHOULD ASK!

Huey Washer's a Guide

The washer in the tail rotor control quill, Item 21 of Fig 11-33 in TM 55-1520-210-23-2, is there to help you align the cotter pin, Item 20. If your Huey doesn't have the washer and the cotter pin aligned, don't worry about it. You don't need it. If you can align the pin without the washer, that's fine, too. The washer is a guide. If it's more of a hassle than a help, don't use it. Just make sure the cotter pin is aligned right.

Better NBC Markers

The crayon markers that come with the M274 NBC marking set don't do a good job. For better marking, substitute china markers, NSN 7510-00-240-1526. Store the china markers in the bottom of the stake case. The word's in AMCCOM Maintenance Advisory Message 91-23.

Cylinder Cart

Get a 2-wheel cart with NSN 3920-01-113-0140 to carry one nitrogen cylinder. Your authority to order is Appendix A of CTA 50-970.

Vehicle Ice Scraper

Don't waste precious fuel by letting your vehicle's engine run long enough to defrost the windshield. Instead, use an ice scraper, NSN 7920-00-045-2556. It's authorized under Appendix A of CTA 50-970.

M3 Heater Parts

Repair parts for the M3 ventilated face mask air heaters used in the M981 FISTV were left out of TM 9-2350-266-24P. Here is what's available:

Item	NSN
Lamp	6240-00-080-2012
Lens	6210-00-954-4205
Knob	5355-00-723-6829


CUCV Steering Rod Boot

Driving in rough terrain causes the CUCV's steering stabilizer shocks to work extra hard. Dirt and sand build up on the shock's rod. This grit grinds up the seal. Then it leaks. Keep the dirt and sand out with a steering stabilizer shock boot. Order on a DD Form 1348-6 with CAGE 81285 and PN SSD-68 from RIC S9C. You also need two tie straps, NSN 5975-00-074-2072, to hold the boot in place. Instructions come with the boot.

Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-series.

Would You Stake Your Life *right now* on the Condition of Your Equipment?

PM for Computer Commandos



HERE ARE
10 POINTS YOU
CAN COUNT ON FOR
GREAT PM!

1. **COMPUTER:** MOUNT ON LEVEL, SOLID SURFACE
2. **RESIDUE:** WIPE OFF DAILY
3. **ROLLERS:** WIPE WITH CLEAN CLOTH
4. **MAJOR ADJUSTMENTS:** LEAVE TO EXPERTS
5. **KEYS:** TAP THEM EASY-EASY
6. **FILTERS:** KEEP CLEAN
7. **CASE CLOSURES:** NEVER FORCE
8. **PRINTERS:** WIPE WITH CLEAN CLOTH
9. **KEYBOARD COVER:** LEAVE IN PLACE
10. **SWITCHES:** TURN OFF WHEN NOT IN USE