

Issue 469

# PS

December  
1991

TB 43-PS-469

## THE PREVENTIVE MAINTENANCE MONTHLY

ANOTHER  
YEAR, ANOTHER  
PS INDEX  
READY TO  
GO!

1991  
ANNUAL  
INDEX

SEE PAGE  
27...

Approved For Public Release.  
Distribution is Unlimited

# Repair Parts Turnaround



When you turn in an end item, your stock of repair parts for that item should also be turned in. But how do you identify all the parts that are unique to an end item?

The USAMC Materiel Readiness Support Activity (MRSA) can provide a list of repair parts that are unique to your displaced end item. They can also cross-reference a repair part to an end item(s).

Here's what you need to give them on your request:

- NSN of the end item you're turning in.
- NSN of the replacing end item, if any.
- NSNs of all the end items you maintain.

Be sure to include your unit identification code (UIC).

You'll receive a Reverse SLAC listing that's divided into three sections.

Section I gives you a list of all the end item NSNs used in your listing.

Section II shows all the unique repair part NSNs used on the end item you're turning in. These items are the ones you need to turn in with the end item.

Section III identifies all the repair parts used on the end item being turned in, and also used on at least one of the end items remaining with your unit. Keep these parts on your unit's PLL.

To get this listing, write:

**USAMC**  
**Materiel Readiness Support Activity**  
**ATTN: AMXMD-SE**  
**Lexington, KY 40511-5101**

Or call:  
**DSN 745-3551/4137**  
**COMMERCIAL (606) 293-3551/4137**

Or datafax your request on:  
**DSN 745-3812**  
**COMMERCIAL (606) 293-3812**



THE  
**PREVENTIVE  
 MAINTENANCE  
 MONTHLY**

TB 43-PS-469, 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 469 DECEMBER 1991**

**FIREPOWER**

Fire Control		M1-Series Tanks	12, 13
Instruments	2-6	MK 19 Mod 3	
M109-Series SP		MG	14-15, 16
Howitzers, M992		Kinetic Energy Rope	16
Arms Carriers	7	M2A2/M3A2 Bradleys	17
M901A1 ITV	8-9, 10, 11	Armo Handling	18
TOW 2 Missile	10	Practice Fuzes	19

**GROUND MOBILITY**

Tire Safety	20-21	Tire Preservative	24
HMMWVs	22, 26	Tire Lube NSNs	24
M915-Series Trucks	23	M1009 CUCVs	25
Vehicle Maintenance		Tactical Vehicles	25
Ladder	23	Marker Lights	26

**AIR MOBILITY**

Cobra Swashplate	35	Aviation Messages	39
Apache	36, 39	Shipping	
UH-1 Huey	37	Repairables	40-41
T53 Engine	38	Hydraulic Fluid	
Kiowa	39	Dispenser	48

**COMMUNICATIONS**

Cold-Weather Batteries	42-43	AN/GRC-160	
AN/TSQ-71B Cables	44	AN/VRC-64 and MT-1029	45

**TROOP SUPPORT**

New Pubs, SOUs	26	M1 Canteen	53
Annual Index	27-34	M13 Decon	54-55
SEE/HMMH	46-47, 48	M157 Smoke	
4K/6K Forklifts	49	Generator	56
MW24 Scoop		M12A1 Decon	57
Loaders	50, 51	MKT-75 Field	
Kitchen		Kitchen	58-59
Management Help	51	Liquid Dispenser Parts	59
M17-Series Masks	52-53		

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:

*Milton H. Hamilton*

**MILTON H. HAMILTON**  
 Administrative Assistant to the Secretary of the Army  
 00036

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 Ctr, 2800 Eastern Blvd, Baltimore, MD 21220-2896.

# Don't Leave 'Em in a Fog



Fire control instruments that are all fogged up or full of fungus are as useless as an eight-track tape is to a CD player.

Purging and charging every 90 days is the standard, but under tough conditions you're going to need to do it much more often.

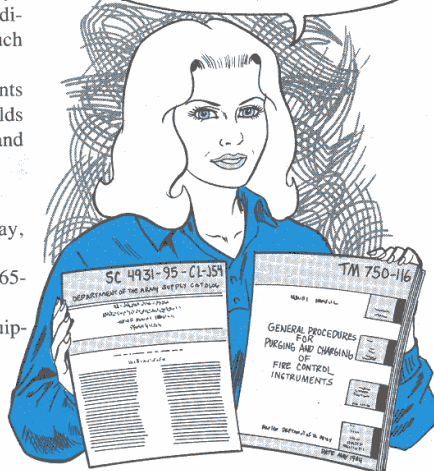
If you don't keep your instruments free of moist air, the moisture builds up and ruins a lot of expensive—and vital—equipment.

## What You Need

To purge and charge the right way, you need the right stuff:

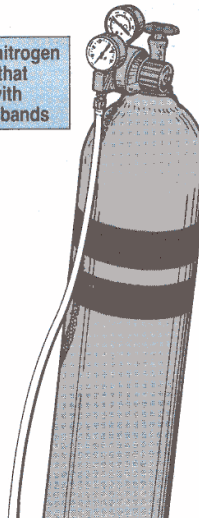
- ✓ Purging kit, NSN 4931-00-065-1110, does the job.
- ✓ Check out your vehicle or equipment TMs, too. Some have info on purging and charging gear and how to use it.

SC 4931-95-CL-J54  
LISTS EQUIPMENT NEEDED TO  
PURGE AND CHARGE. TM 750-116  
AND YOUR INSTRUMENT TMs TELL YOU  
HOW TO PURGE AND CHARGE MOST  
FIRE CONTROL INSTRUMENTS.



- ✓ Before accepting a cylinder for purging, make sure it has a CGA 580-series valve. It has right-hand internal threads.

Use only nitrogen cylinders that are gray with two black bands

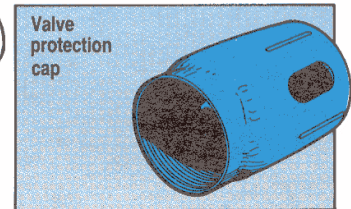


Never drop the cylinder. It could explode. You also need plenty of ventilation when purging and charging. Too much nitrogen can kill you.

## Set Up the Gear

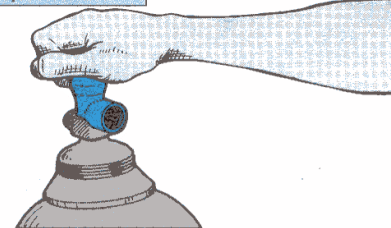
Line up your purging and charging gear and check it out before you begin work.

- ✓ Take the valve protection cap off the cylinder and quickly open and close



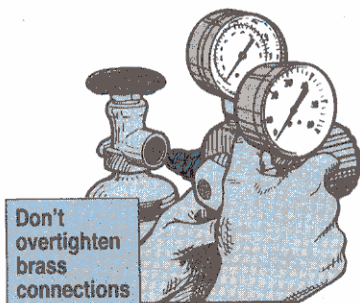
the valve. That gets rid of dust or water in the valve seat.

## Open bottle valve



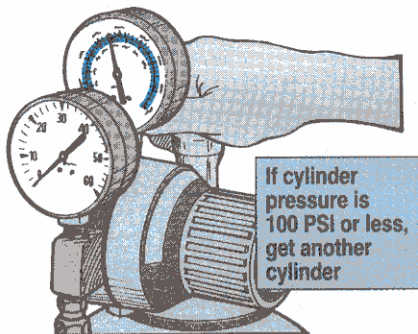
If nothing happens, either the cylinder's empty or the valve stem is stuck closed. If you smell something, you've got the wrong cylinder, because nitrogen has no odor. Either way, get a new cylinder.

✓ Mount the regulator on the cylinder and the hose on the regulator. You'll need  $\frac{1}{16}$ - and  $1\frac{1}{8}$ -in wrenches, but don't overtighten. The brass threads can't take it. Both gauges on the regulator should read zero.



Don't overtighten brass connections

✓ Close the regulator valve by turning it counterclockwise. Open the cylinder valve slowly until the high-pressure gauge needle stops moving

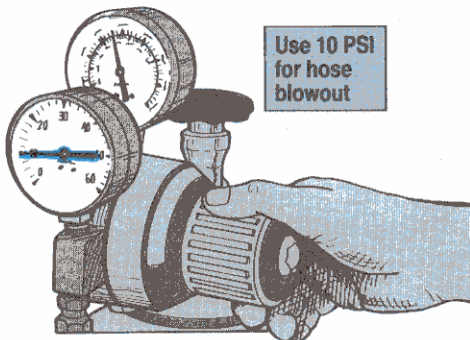


If cylinder pressure is 100 PSI or less, get another cylinder

and the valve is wide open. Where the needle stops tells you the PSI of the gas inside the cylinder.

If the pressure is 100 PSI or less, get another cylinder from supply. You can't do a good job at low pressure. Never drain the cylinder below 100 PSI either. The pressure helps keep dirt and water out of the cylinder.

✓ If you've got good pressure, slowly open the regulator valve until the low pressure gauge reads 10 PSI.

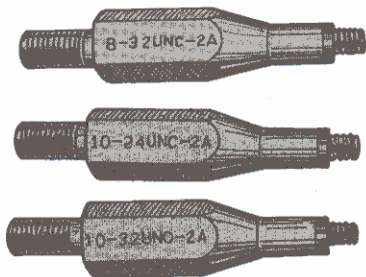


Use 10 PSI for hose blowout

That blows water, dust, spiders, etc., out of the hose, so they don't get pushed into your instrument. Turn off the valve.

### Are You Really Ready?

Need an adapter? Got port caps or screws? Read on before you mess something up.



Look up the particular instrument you're purging in TM 750-116 or the instrument TM. It'll tell you what adapter to use (if any) and show where the entrance and exhaust ports are.

Entrance ports are usually circled in gray paint and exhaust ports in yellow paint.

Take off the port caps (or unscrew the screws) before you start. If you don't open the exhaust port, pressure could build up and blow things apart inside the instrument.

Do not lose the port caps or screws. You'll need them after charging. If the entrance valve has a screw instead of a cap, you'll need one of the adapters in the purging kit. Use either 8-32 UNC-2A, 10-24 UNC-2A or 10-32 UNC-2A.

### The Purge Urge

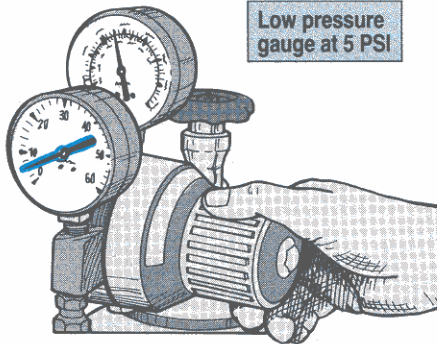
TM 750-116 or the vehicle or instrument TM has the purging formula (that's how much pressure for how long a time) for the instrument you're working on. Open the regulator valve until the right pressure—nearly always five PSI—shows on the low pressure gauge.

Once the instrument has purged for the required time, shut off the regulator valve. Then replace the exhaust port cap or screw.

IF THE EXHAUST PORT DOESN'T HAVE GASKETS OR SEALS, PUT A LITTLE SEALING COMPOUND, NSN 8030-00-275-8110 ON THE SCREW AND REINSTALL IT.



Low pressure gauge at 5 PSI



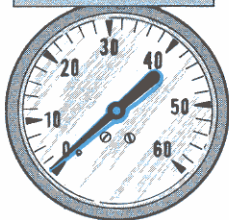
You can't have nitrogen leaks, so if you need gaskets and screws, order sets from TM 750-116. If you need replacement caps, check out the TM.

### Charge It, Please

If you don't build up pressure inside the instrument after purging, you've wasted your time. Dust, mist, water, etc., will get inside just as sure as there's sand in the desert.

Charging is done with the same stuff you used for purging—nitrogen. Set the regulator valve to the prescribed pressure—nearly always one PSI—

**Don't overcharge!  
You can blow seals**



and charge for the required time. It may only be 20 seconds. (Check TM 750-116 for the exact time.) Just don't overcharge. When the time's up, shut off the gas flow and replace the port cap or screw.

### That's Not All

You're not finished until you shut off the nitrogen. Completely close the valve on the cylinder. Open the valve on the low-pressure side of the regulator just a little to bleed off pressure and then close it.

If you don't bleed off the pressure, the rubber diaphragm in the regulator stays under strain. That could cause a leak and then you'll need a new regulator.

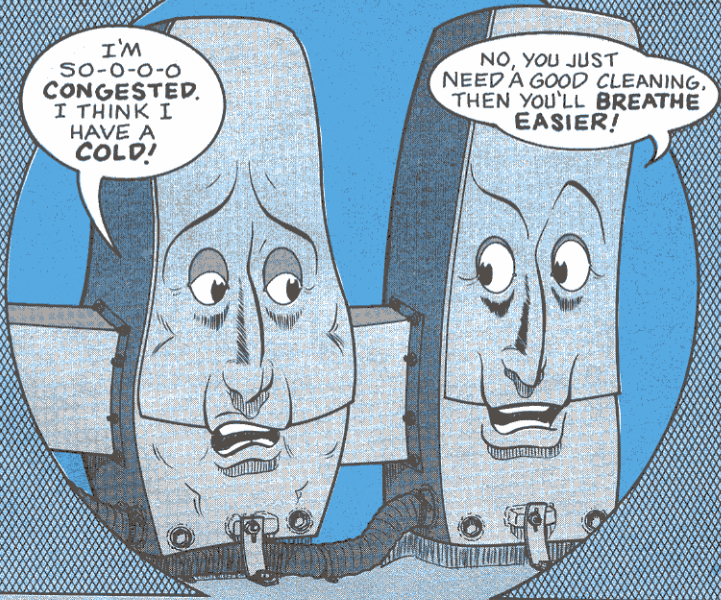
For your own safety, read up on compressed gases in AR 700-68, Storage and Handling of Compressed Gases and Gas Cylinders. Working with a high-pressure nitrogen cylinder and its accessories can be dangerous unless you know what you're doing.

Make sure the cylinder is correctly marked and has the right safety devices—dust plug and/or valve protection cap.

As a reminder, radioactive fire control instruments are purged and charged the same way as others. Just don't purge them if the radioactive vials are broken. In that case, turn them in the way it tells you in the weapon or instrument TM.



# Airbox Blowout Needed



It's a good bet, crewmen, that the air cleaner boxes on your M109 or M992 need a little cleanout. If your vehicle was in the desert, you'll probably need a big cleanout.

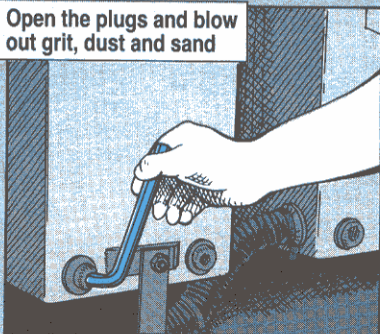
That's because dust and grit collect in the boxes even under normal conditions. Air induction system exhaust fans can't remove all dust and grit. Under desert conditions, sand builds up, too.

Next time you pull a service, open the two plugs at the base of each airbox. Blow out grit, dust and sand with low-pressure air. If the dirt and sand have hardened—which is what'll happen if water has mixed with them—

you may have to break up the mudcake with a knife or screwdriver.

'Course you'd never use a high pressure water hose inside any combat vehicle, would you?

**Open the plugs and blow out grit, dust and sand**



# T Maintenance Bits and Pieces

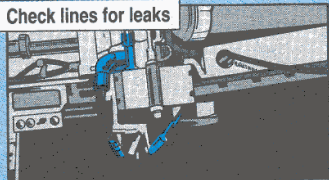
The hydraulic system and other components on the M901A1 Improved TOW Vehicle (ITV) need a watchful eye from time to time. Here are a few reminders for the crew and turret mechanic that will keep the M901A1 working.

## Leaking Lines

Hydraulic line connections work loose. Check lines for leaks, especially those hanging lines in the gunner's compartment.

Eyeball the lines before, during and after operations. If you spot leaks, get them fixed.

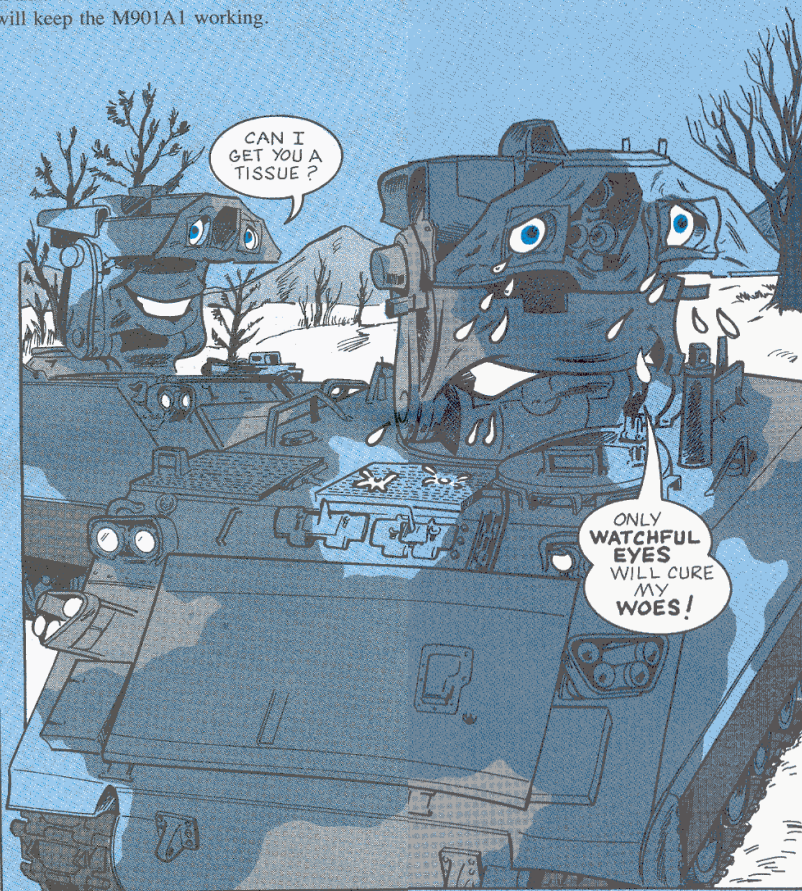
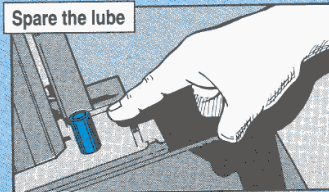
### Check lines for leaks



## Erection Arm Locks

With the best of hydraulics, an under- or over-lubed erection arm lock can bind. Use your pinky to put a light coat of grease on the arm locks. Too much grease picks up dirt and makes the locks bind. Too little—or no—grease will cause binding, too. Just give the locks a light coat like it says on Card 49 of LO 9-2350-259-12.

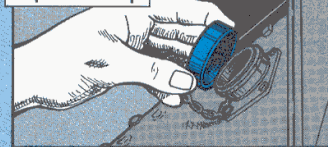
### Spare the lube



## Odds 'n' Ends

Remember to replace the handcrank cap when you use the erection arm handcrank to work the launcher. If you forget the cap, water and moisture will seep into the arm and foul up bearings, among other things.

### Replace the cap



## Gun Mount

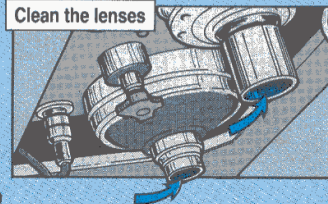
Keep the machine gun in the stowed position and remove the AN/PVS-4 night vision scope/mount during travel and turret operation. That saves mount and gun damage, as well as allowing turret operation.

## Lens Cleaning

Clean optics the way Pages 3-40 and 3-41 of TM 9-2350-259-10 tell you.

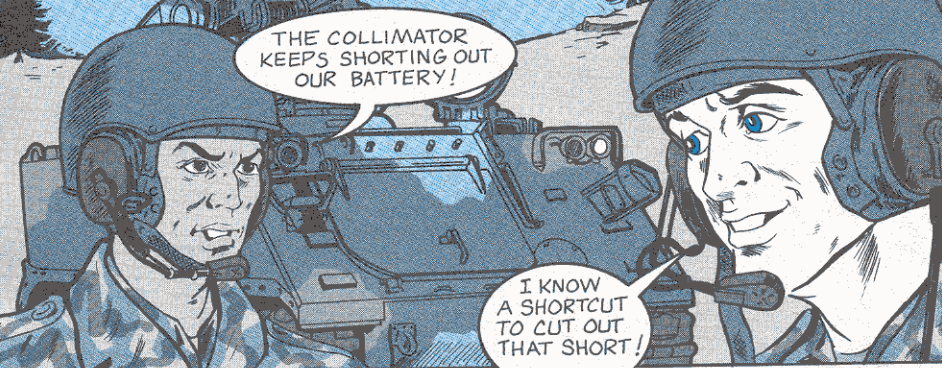
Take another look at lenses that are covered by the lens adapter. Sand gets through the adapter. It'll help to tape the ITA end, but tape at the day sight end is not practical.

### Clean the lenses





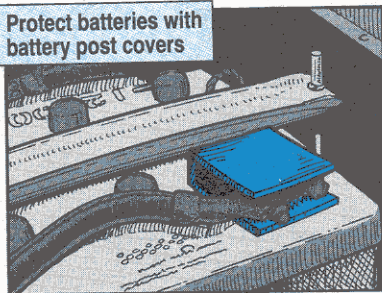
# Cover, Battery Cover Threat



The usual place to strap in the M901's collimator is on top of the battery in the crew compartment. But then when you're going down the road the collimator bounces up and down on the battery cover. The metal cover hits the battery posts and shorts out the battery.

Cut short shorted-out batteries with battery post covers, NSN 5940-00-738-6272. Remove the battery terminal clamps. Put covers on each post. Reinstall the terminal clamps. Flip the covers over each post.

Protect batteries with battery post covers

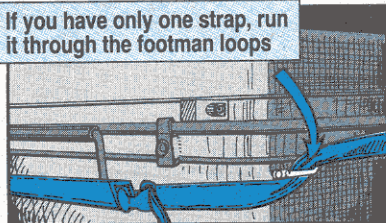


Even with the covers, you don't want the collimator bouncing on the battery cover. That could eventually damage the collimator.

The best way to hold the collimator tight is to use two locking straps, NSN 5340-00-479-2947. Strap the collimator case high and low.

If you have only one strap, put it through the upper brackets on the turret wall. Run the strap through the case's footman loops. Tighten the strap as tight as possible so the collimator is lifted off the battery cover. And order a new strap.

If you have only one strap, run it through the footman loops



# Reverse Cable Snagging

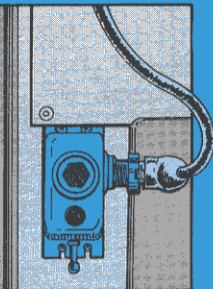
Dear Editor,

The W8 cable that goes to the smoke grenade launcher sticks out and gets torn off by the driver's foot when he crawls in and out of the turret.

We've saved a lot of W8s by reversing the grenade launcher switch so the cable connects on the right side of the switch, not the left. That makes it less likely to become a step. Unit maintenance can do the job.

SPC Freddie Correamanrique  
Ft Carson, CO

Reverse switch  
so cable  
connects at right



(Editor's note: You've pulled a good reverse on that problem. Thanks.)

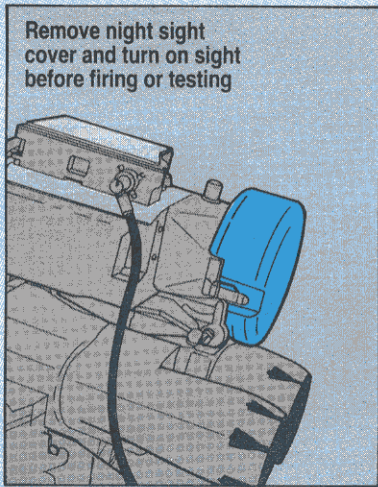
TOW 2 Missile...

## Good Vision Takes Both Sights

**D**ay or night you need both the optical and night sights for testing and firing TOWs. If the night sight's left off, accuracy can be lost.

As you fire and keep the target in either sight's crosshairs, both the op and night sight are picking up signals from the missile. These signals go to the MGS, which chooses which signals to use, depending on the presence of smoke, fog, or other defenses. The MGS uses the info to correct the flight of the missile. That's why you must remove the night sight cover and turn on the night sight before you fire or do the self-test. Otherwise, you rob the MGS of info it needs.

Remove night sight  
cover and turn on sight  
before firing or testing




# Hands Off EMFS Connector

**E**lectromechanical fuel system (EMFS) connectors and wiring harnesses are not handholds for use in pulling or replacing the M1 tank power pack.

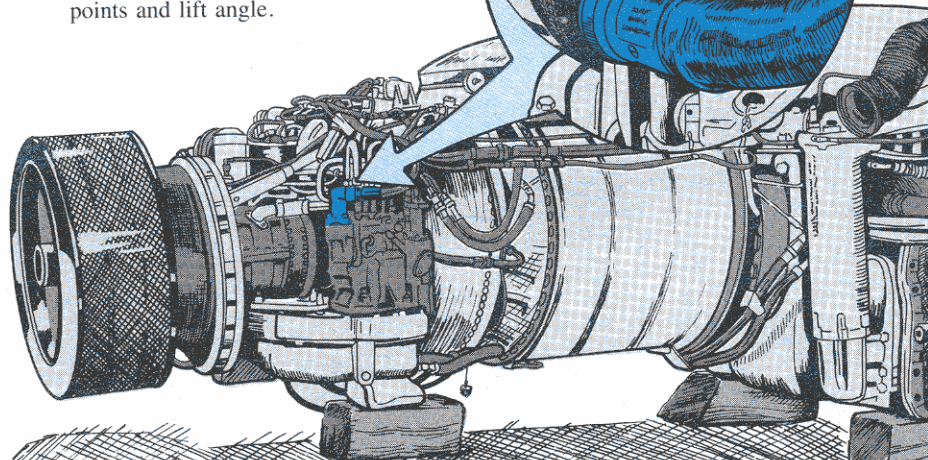
No surprise, then, that more J33 electrical connectors and 3W105 wiring harnesses get broken or damaged during pack maintenance than for any other reason.

Pulling or pushing on the connector/harness assembly breaks pins inside the connection. That means shorts in the EMFS—your driver will tell you he has low engine power or erratic RPM levels.

So resist the urge to push or pull on what looks like a strong handhold. If the pack won't go in or come out without extra pushing or pulling, something's not right. Check your sling, lift points and lift angle.



DON'T USE FORCE ON THE EMFS CONNECTOR. IT NEVER PAYS!



# Don't Toss Filter Retainer

**E**yeball the bottom of your M1's primary fuel filter element before you toss it, so you don't also throw away the retainer.

The retainer can stick to the bottom of the element. If a new element is installed without the retainer in place, fuel is not filtered before it enters the fuel system components.

As if that's not bad enough, the retainer is not in your tank's parts TM. To get it, your unit must buy a complete fuel filter housing assembly, NSN 2910-00-467-2580, at \$77.

So save yourself a whole bunch of trouble by retaining the retainer at service time.



## Anti-fire Safety Info Available

**T**wo fire prevention checks and safety procedures booklets have been distributed by the Project Manager for M1-series tanks.

One booklet is for crews and the other is for unit maintenance personnel. Both include all you'll need to keep your M1 as fire-proof and safe to operate as it can be, when used with -10 and -20 manuals.

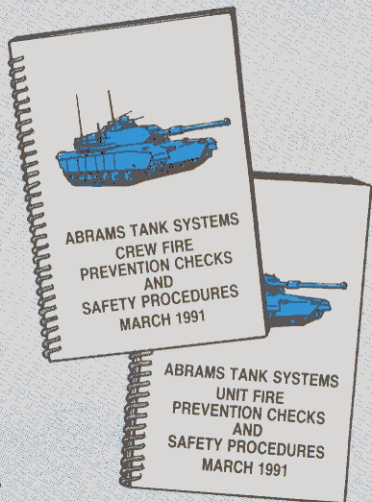
For additional booklets, write:

**Office of the Project Manager**

**Abrams Tank System**

**ATTN: SFAE-ASM-AB-SI**

**Warren, MI 48397-5000**



# PM Plus

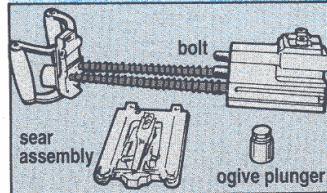
**THE BEST ADVICE FOR TAKING CARE OF YOUR NEW MK 19 IS TO READ AND FOLLOW THE PMCS AND PM IN TM 9-1010-230-10. THAT WILL GO A LONG WAY TOWARD KEEPING YOUR MK 19 FIRING.**



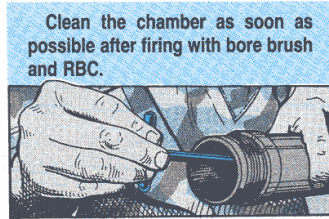
## Cleaning

Drycleaning solvent works great for cleaning the MK 19, especially for getting rid of stubborn carbon. Solvent's authorized and you should use it... but do not dunk the bolt, ogive plunger or sear assembly in solvent. They all have sealed assemblies and solvent will dilute the grease in the assemblies. Then they're ruined.

If you need to clean these parts with solvent, use a brush or rag dipped in solvent.



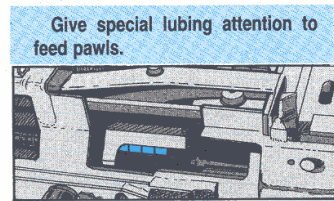
Clean, clean, clean the chamber. Carbon builds up worst there and eventually causes pitting. Soak your bore-brush in RBC and run it through the muzzle into the chamber. Resoak the brush and run it through again... and again... until the chamber's clean.



## Lubrication

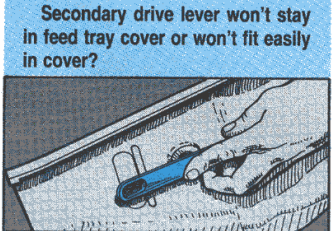
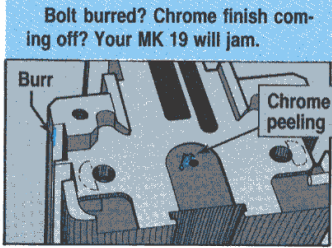
The TM says Semi-fluid Weapons Lubricant (LSAT) is what you use to lube your MK 19. But AMCCOM now says GMD and LSA are fine, too. The word's in AMCCOM Maintenance Advisory 90-37.

When you lube, pay special attention to feed pawls, the receiver and cocking lever rails, the pivot posts on the primary drive lever, and all of the bolt. If any of these areas are forgotten, you will have firing problems.

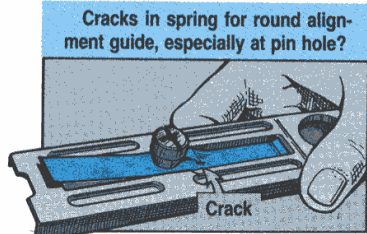


## PMCS Plus

Besides the normal PMCS in TM 9-1010-230-10, add these checks for extra reliability.

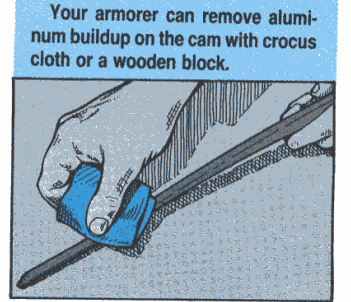


Something may be wrong with the cover retaining ring. The MK 19 will have feeding problems and the bolt will jam during charging and firing.



The spring is weak and will cause erratic firing and poor feeding.

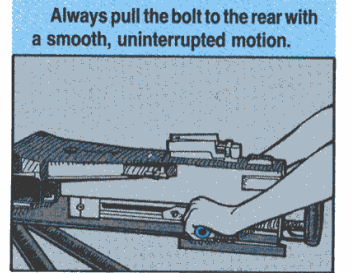
Vertical cam assembly scratched or pitted? You'll get erratic firing and the bolt will jam during charging or firing.



Aluminum buildup can cause a run-away gun. Be extremely careful handling the cam. One tumble to a concrete floor puts the cam out of action.

Report problems to your armorer.

## Firing



If you pull the cocking lever back in jerks, the ammo links get out of position and cause jamming.

# Saving Safety Pin

Dear Editor,

We've run into problems with the safety lever pin on the receiver sear assembly coming out. Then the safety lever comes off.

We've found the pin stays in better if you put a drop of semi-fluid weapons lubricant (LSAT)—or other approved lubricant—down the pin's hole before you install the pin. The LSAT's tacky surface helps the pin stick.

SGT William Breidt  
SSG Leslie Pearson  
USMC  
Aberdeen Proving Ground, MD

(Editor's note: A sticky solution to a slick problem. Thanks.)

Safety lever pin

Put LSAT here



YOU'RE MY HERO, LSAT!

Combat Vehicle Recovery...

## Kinetic Energy Rope Available

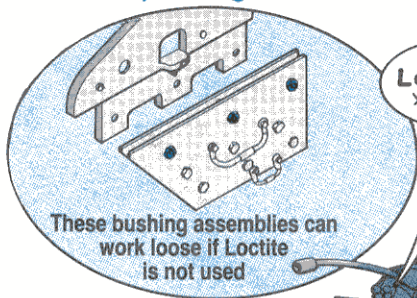
Vehicle recovery for fully armored vehicles under 34 tons is easier using the Allied Kinetic Energy Recovery Rope (AKERR).

The AKERR kit, NSN 4020-01-211-8382, contains the rope, specific shackles for AKERR use and a canvas bag for storage.

TM 9-4020-200-10 has use and care information for AKERR. It also lists vehicles authorized to use the AKERR. Pay strict attention to the warnings and cautions in the TM. All recovery operations are dangerous and using AKERR does not change that.

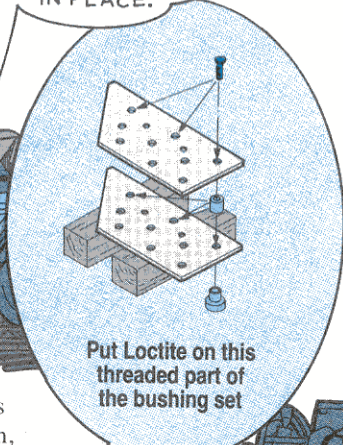
The AKERR kit is authorized by CTA 50-970.

# Keep Your Skirts On



These bushing assemblies can work loose if Loctite is not used

A LITTLE **LOCTITE** WILL KEEP YOUR ARMOR SKIRTS IN PLACE.

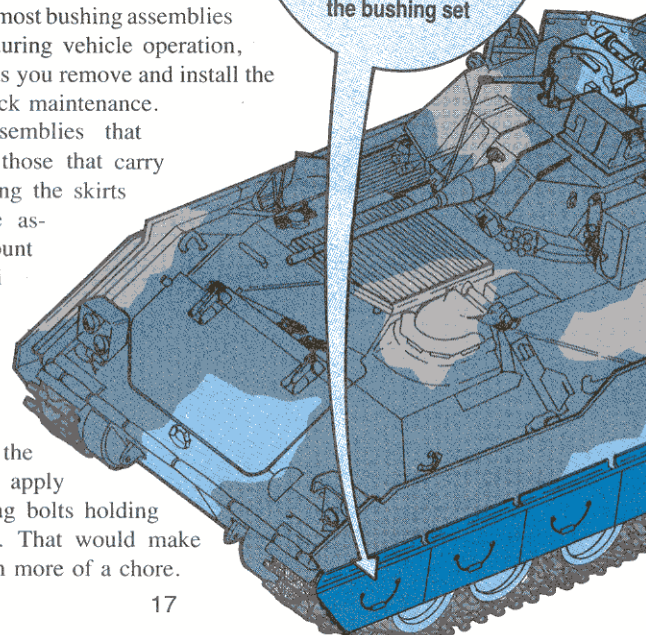


Put Loctite on this threaded part of the bushing set

**L**octite, NSN 8030-00-935-7100, will keep the skirts' topmost bushing assemblies from vibrating loose during vehicle operation, or from coming loose as you remove and install the armor skirts during track maintenance.

Bushing assemblies that need the Loctite are those that carry the mount bolts holding the skirts on the hull. Once the assemblies loosen, the mount bolts can't be tightened enough to keep the bolts tight. Eventually, the skirts fall off.

Apply the Loctite to the bushing assembly half that has the male threads. Do not apply Loctite to the mounting bolts holding the skirts on the hull. That would make track maintenance even more of a chore.



# Three to Beam Up, Scotty

SCOTTY HANDLING PALLETIZED AMMO IS A WHOLE LOT EASIER WITH THE ONE NEW SLING AND TWO NEW HOISTING BEAMS AVAILABLE.

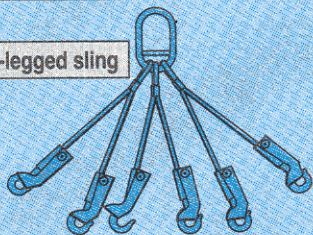
All three slings can be used with the new lifting equipment in service in the Army: M977 HEMTT, 7.5-ton rough terrain crane and 65-ton rough terrain container crane. Here's what's available:

- **Six-legged sling:** Handles one, two or three pallets of 155MM and one or two pallets of 8-in projectiles. Used with the HEMTT crane and 7.5-ton RT crane. NSN: 3940-01-241-7400.

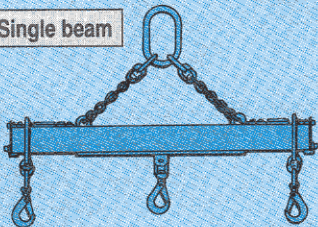
- **Single hoisting beam:** Handles six pallets of 155MM and four pallets of 8-in projectiles. Use requires two six-legged slings. Used with the 7.5-ton RT crane or larger lifting device. NSN: 3940-01-247-3681.

- **Double hoisting beam:** Handles 12 pallets of 155MM and eight pallets of 8-in projectiles in a single lift. Use requires four six-legged slings. Used with the 65-ton RT container crane. Can also be used as a single beam sling with the same capacity as the single beam. NSN: 3940-01-247-3682.

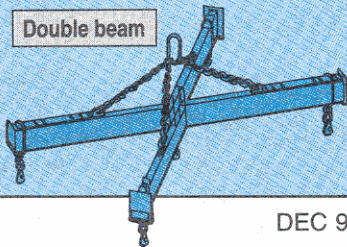
Six-legged sling



Single beam



Double beam





# Ordering Practice Fuzes

The best way to learn to set fuzes is with an inert fuse: No risk, little expense. Order 105MM, 155MM, 8-in howitzer or 4.2-in inert fuses like this.

Fill out a DD Form 1348-6 with these special notes:

In the Document Identifier block, write "AOE".

In the Routing Identifier block, write "B14".

In the Manufacturer's Code and Part Number block under FSCM, write "1390" in columns 8-11.

In columns 12-15, write "N285" for M577-series fuzes, "N286" for M582-series, "N335" for M557-series, "N340" for M739-series, or "N464" for M732-series.

In the Remarks block, write "Fuze, Model Number, Inert" (example: "Fuze, M577A1, Inert").

**SEND THE REQUEST THROUGH NORMAL SUPPLY CHANNELS.**

DOCUMENT IDENTIFIER		ROUTING IDENTIFIER		MANUFACTURER'S CODE AND PART NUMBER																																									
FSCM		PART NUMBER																																											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43			
AOE B14							1390							N285																															
REMARKS		SUPPLEMENTARY ADDRESS		FUND CODE		DISTRIBUTION CODE		PROJECT CODE		PRIORITY		REQUIRED DELIVERY DATE		ADVICE CODE		BLANK		REJECT CODE (FOR USE BY SUPPLY SOURCE ONLY)																											
44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66	
IDENTIFICATION DATA																																													
1. MANUFACTURER'S CODE & PART NO. (When they exceed Cont Columns 8 thru 23)										2. MANUFACTURER'S NAME																																			
3. MANUFACTURER'S CATALOG IDENTIFICATION AND DATE										4. TECHNICAL ORDER NUMBER																																			
5. TECHNICAL MANUAL NUMBER										6. NAME OF ITEM REQUESTED																																			
7. DESCRIPTION OF ITEM REQUESTED															7a. COLOR					7b. SIZE																									
8. END ITEM APPLICATION AND SOURCE OF SUPPLY																																													
8a. MAKE					8b. MODEL NUMBER					8c. SERIES					8d. SERIAL NUMBER																														
9. REQUISITIONER (Clear Text Name and Address)										10. REMARKS																																			
										FUZE, M577A1, INERT																																			

**DD FORM 1348-6**  
1 APR 77

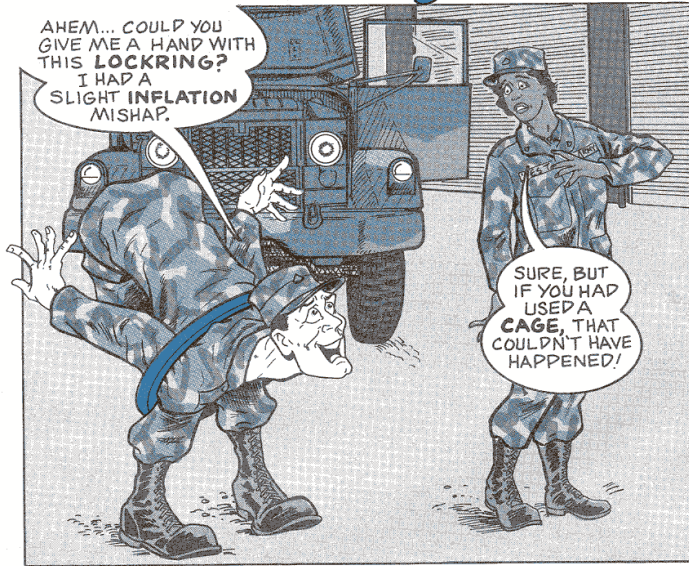
NON-NSN REQUISITION (MANUAL)



Questions? Call AMCCOM at DSN 793-5057/5933, Commercial 309-782-5057/5933, or write them at:

**AMCCOM**  
**ATTN: AMSMC-DSD-GH**  
**Rock Island, IL 61299-6000**

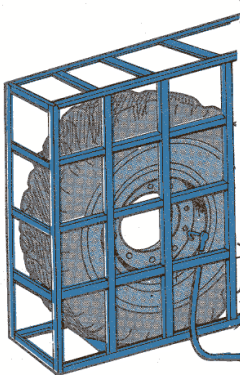
# Cage a Killer During Inflation



**D**ead. That's how you can end up if you get careless while inflating a tire with a multi-piece rim.

The air rams tons of pressure against the rim lockring as the tire inflates. If the lockring blows off, it travels with tremendous force... and over a sometimes surprising distance. If it misses you, it can take out a bystander or anything in its way.

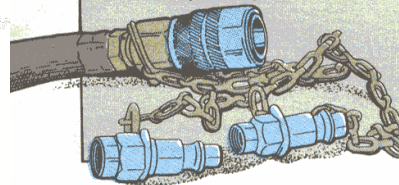
That's why the first rule of safety is always inflate a demounted tire inside a safety cage.



If you don't have a cage, have your DS shop build one out of  $2 \times 2 \times \frac{1}{4}$ -in angle iron, NSN 9520-00-277-4913. Have them build it large enough to handle the biggest tire you service. Use the instructions in Para 2-3 of TM 9-2610-200-14.

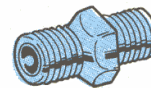
The second rule of safety is never stand near or in front of a tire while it inflates, even if it's in a cage. Always stand to the side and at least 10 feet away. To do that, you need a tire pressure gage, NSN 4910-00-441-8685. It is supposed to come with a quick disconnect coupling and two coupler adapters, but some gages only have the

Gage comes with a quick-disconnect and two coupler adapters



coupler that fits large valve stems. For smaller stems, you need adapter NSN 2640-00-758-6274. Appendix A of CTA 50-970 is your authority to order the gage and adapter.

You also need a straight pipe-to-tube adapter, NSN 4730-00-391-3771, to

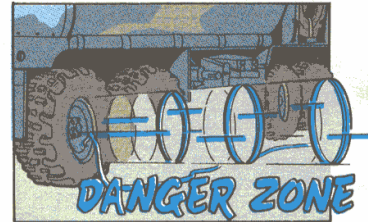


connect the air hose to the gage. It's in the brass fitting kit in the No. 1 Common shop set.

## Low Tire Inflation

Always stand clear when you air up a low tire that's still on a truck or trailer.

The lower pressure lets the lock ring shift or slip out of the groove inside the rim. The ring takes off like a rocket when you add air.



Be careful—even with tires on single-piece rims. Any tire can explode like a hand grenade.

HMMM... MAYBE I SHOULD'VE USED A CAGE.



# Shelter Modification?

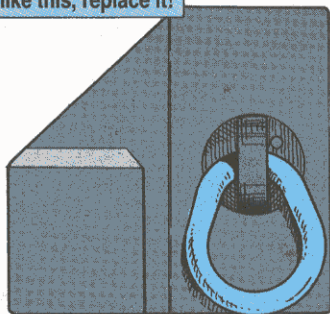
MY SHELTER IS SECURE WITH THE RIGHT TIEDOWN!



If you are trying to mount an S-250 shelter that has swivel ring tiedowns on an M1037 shelter carrier, STOP!

The M1037 comes with brackets to fit the clevis-style tiedown brackets.

If tiedown looks like this, replace it!



Some soldiers have cut the swivel rings off the shelters to try to adapt the bracket. The shelter still can't be secured, and removing the rings ruins the tiedowns.

The answer is to change the tiedowns. You can get a kit to do that by writing to:

**Commander**  
**US Army Tank-Automotive Command**  
**ATTN: AMSTA-CDT-L**  
**Warren, MI 48397-5000**

The kit includes:

Qty	Description	NSN
1	Quart sealing compound	8030-00-685-0915
12	Bolt	5306-00-291-5047
16	Screw	5305-00-081-6728
20	Screw	5305-00-050-9222
2	Towing bracket assembly	SM-C-349315 GR 1
2	Towing bracket assembly	SM-C-349315 GR 2

# M915 Broken Leaf Spring

Dear Half-Mast,  
One of our M915-series trucks has a broken leaf spring. Nothing in the PMCS says the truck is NMC. What's the word on broken leaf springs?

SSG B.L.G.

HERE'S THE WORD.

Dear Sergeant B.L.G.,  
An M915-series or M915A1 truck is NMC when a main leaf spring is broken or when 2 or more other leaves are broken. Of course, make sure your drivers report when only one leaf is broken—other than the main leaf—so your mechanic can fix it.

*Half-Mast*

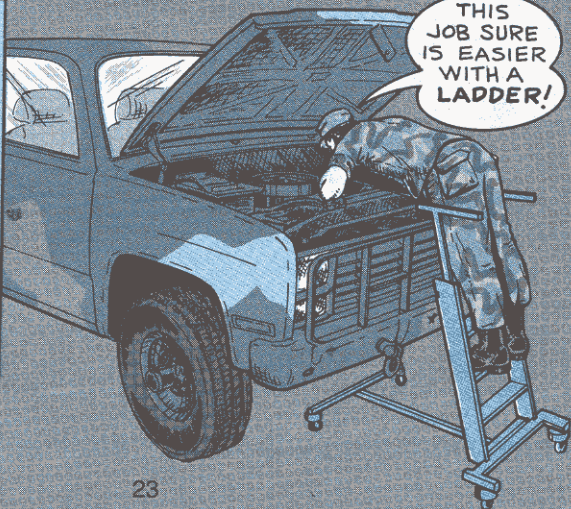
Look for broken leaf springs



## Less Strain, More Gain

**T**here's a lot of climbing, reaching and straining when working on a truck's engine. Now there's an easy reach ladder to make the job easier and safer.

Get a vehicle maintenance ladder with, NSN 4910-01-299-5743. It's authorized under CTA 50-909.



Tires...

# Preservative to the Rescue

**A**rmor-All is not for tires. It causes dry rotting and other bad things.

LOOK AT ME! I USED RUBBER PRESERVATIVE INSTEAD!

I'M SO-O-O DRY AND CRACKED.

THAT'S RIGHT! I REDUCE OZONE CRACKING, EXTEND TIRE LIFE, SLOW DOWN WEATHER CHAFFING AND I'LL MAKE YOUR TIRE LOOK LIKE NEW!

RUBBER PRESERVATIVE

THIS WILL KEEP YOU IN GOOD SHAPE.

GET A GALLON CAN OF THE PRESERVATIVE WITH NSN 8030-01-282-5626.

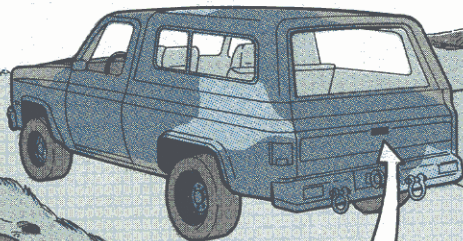
## Tire Lube NSNs

**N**ever use oil or grease to mount a tire. Petroleum deteriorates rubber. Instead, use a premixed tire lube. Here's what's available:

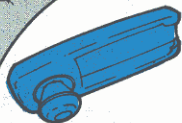
NSN 2640-	Qty
00-256-5526	1 qt
00-256-5527	1 gal
00-256-5529	5 gal

M1009 CUCVs...

# Get a Handle on It



Handle assembly, NSN 2540-01-158-4602



Crank not available separately



Base, NSN 2540-01-218-6833



Keyed lock, NSN 2540-01-211-4621



HERE ARE THE PARTS YOU CAN GET TO REPLACE THE TAILGATE WINDOW MECHANISM ON YOUR CUCV.

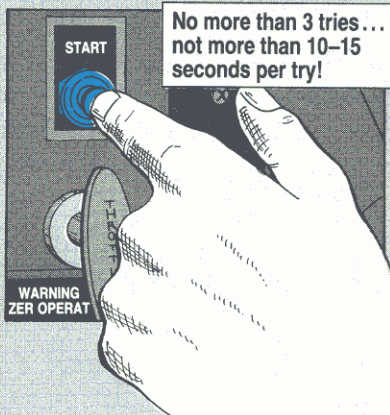
Tactical Vehicles...

## Stamp Out Starter Burn-Outs

All it takes is one finger stuck on the switch too long to burn out a good starter motor.

When you try to start your truck engine, never keep the starter engaged for more than 10-15 seconds. Stop. Give the starter one minute to cool off before trying again.

If your truck's engine won't start in three tries, call it quits. Call in your mechanic to find out what's wrong.





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 9-2350-252-24P-2** Sep M2/M3 Bradley

**TM 10-4610-238-12&P** May Barnstead Nanopure II water system

**TM 10-6630-242-14&P** May Vibrating sphere viscometer, model 706

**TM 10-6640-235-13&P** May Jewett refrigerator, model UC5B

**TM 11-5810-835-40P** Jul Test head adapter KG-94/94A/194/194A

**TM 11-5841-293-12** Aug 90 Doppler navigation set, AN/ASN-137

**TM 11-5895-1174-23** Aug Control, communication system C-6533/ARC

**TM 11-7440-331-23P** Aug Electronic shop, semi-trailer mounted AN/USM-624

**TB 1-1520-228-20-62** Jun One time and recurring inspection of particle separator on OH-58A/C helicopters

**TB 1-1520-237-20-127** Jul One time inspection and replacement of main landing gear, brake assembly piston insulator

**TB 1-1520-238-20-22** May Inspection of pilot night vision sensor electronic units (PEU) and target acquisition designation sight (TADS) power supplies for discrepant electromagnetic relays on all AH-64A aircraft

## Maintenance Advisories & Safety-Of-Use Messages

**AMCCOM SOU Msg 91-18**—Advisory, Safety restrictions for 40MM MK19 Mod 3, AMSMC-DSM-MG 131718Z Sep 91.

**AMCCOM Maintenance Advisory Msg 91-34**—Changes to MWO 9-2350-200-30-3, AMSMC-MA 111500Z Sep 91.

**CECOM SOU Msg 91-09-02**—Advisory, Cracked frame on M116 ¼-ton trailer frame carrying AN/ TRC-170(V)3 radio terminal sets OE-354 quick reaction antenna, AMSEL-SF-SEP 271800Z Sep 91.

**TACOM SOU Msg 91-20**—Limited one-time inspection, M1 tank engine compartment fire extinguisher lines and fuel hose clamps, AMSTA-M 091500Z Sep 91.

**TROSCOM SOU Msg 17-91**—One-time inspection, Limited, Inspect trunnion brackets on 600 GPH ROWPU, AMSTR-M 132315Z Sep 91.

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

## HMMWV Bushing NSN

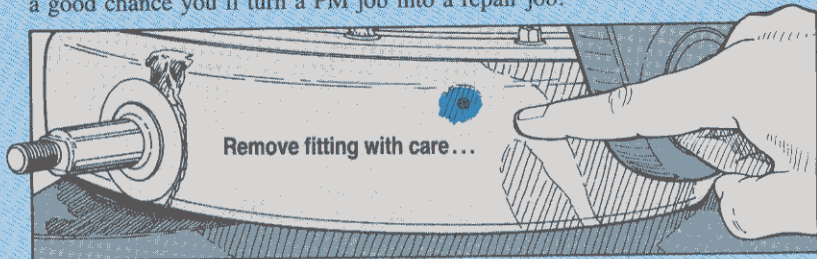
Use NSN 5365-01-213-5739 to order the rubber bushing for the HMMWV's deep water fording exhaust pipe. The NSN is wrong in TM 9-2320-280-20P.

## SDU-5/E Power Change

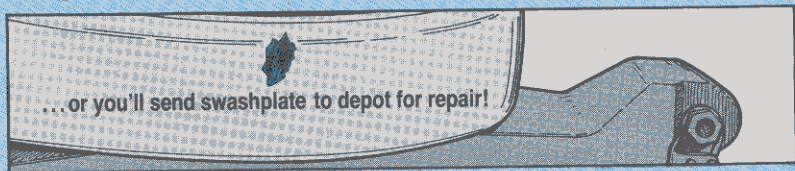
There are so many different uses for the SDU-5/E distress marker lights that supply folks are having a hard time keeping up with the demand for BA-1574/U batteries to power them. Now there's an alternative to powering the lights. Use cable, NSN 5995-01-335-3369, to hook up the marker lights to your truck's electrical supply—or any other DC power supply that puts out 6 to 30 volts.

# Removing the Fitting

If you follow these instructions from Pg 1-86.4 in TM 55-1520-236-23-1. "Using pliers, remove lubrication fitting from one side of swashplate," there's a good chance you'll turn a PM job into a repair job.



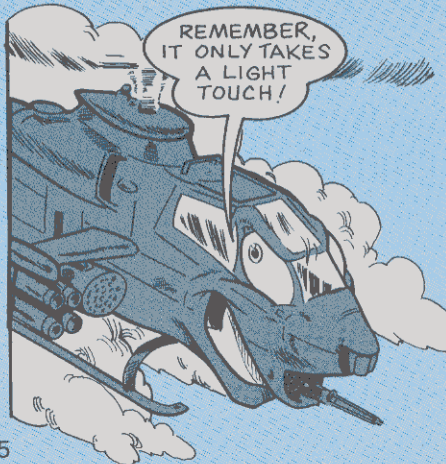
Ordinary pliers will round off the fitting making it impossible to grip and remove. That means taking off the entire swashplate and shipping it to depot for repair.



To remove the fitting without damage, use locking pliers, NSN 5120-00-277-4243, from your No.1 Common tool set, to slowly work it out.



When you replace the old fitting with a new one, follow these instructions to the letter, "Lightly tap a new fitting into place." Underline "lightly." If you tap hard, you'll seat the fitting too far in and make it impossible to remove the next time you do the bearing sleeve alignment check.

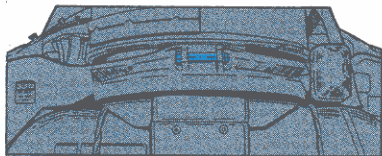




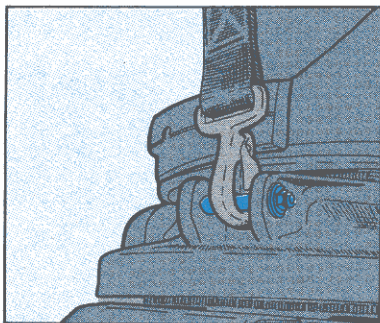
# Slingsing TADS



**O**n the Target Acquisition Designation Sight (TADS), the bolt in the middle mounting position for the universal sling assembly looked like this:



When the sling was attached, the hook fit like this:

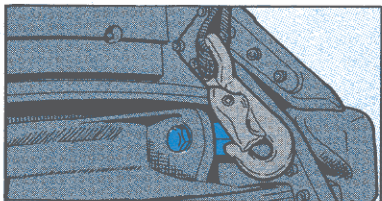


Now Apache TADS have wire strike protection and the original middle attachment bolt for the sling assembly

has been replaced with 2 bolts, a nut and a sleeve, and it looks like this:



The sling won't fit:



When you need to sling the TADS, remove the wire strike and use the old bolt, NSN 5306-00-582-6411, washer, NSN 5310-01-136-1770 and nut, NSN 5310-00-807-1465.

Don't lift the TADS with only the side sling positions hooked. It takes all three hooks for a steady and safe lift.

Don't lift the TADS with a substitute bolt. A substitute may snap.

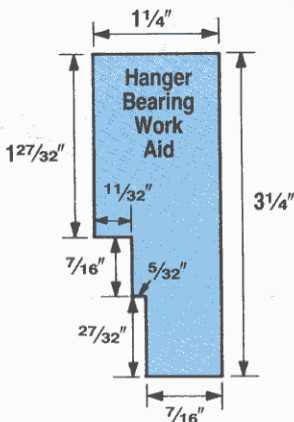
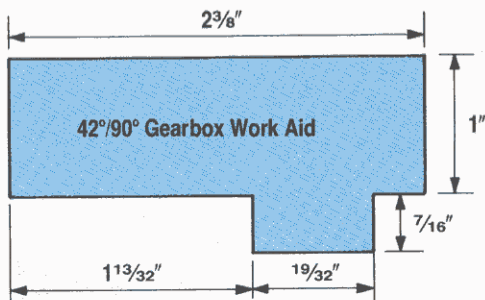
# Lubing Aids

Smoothing grease evenly in the fittings of drive shaft couplings is hard to do. So is removing excess grease. Your finger is not flat enough or shaped right to do the job.

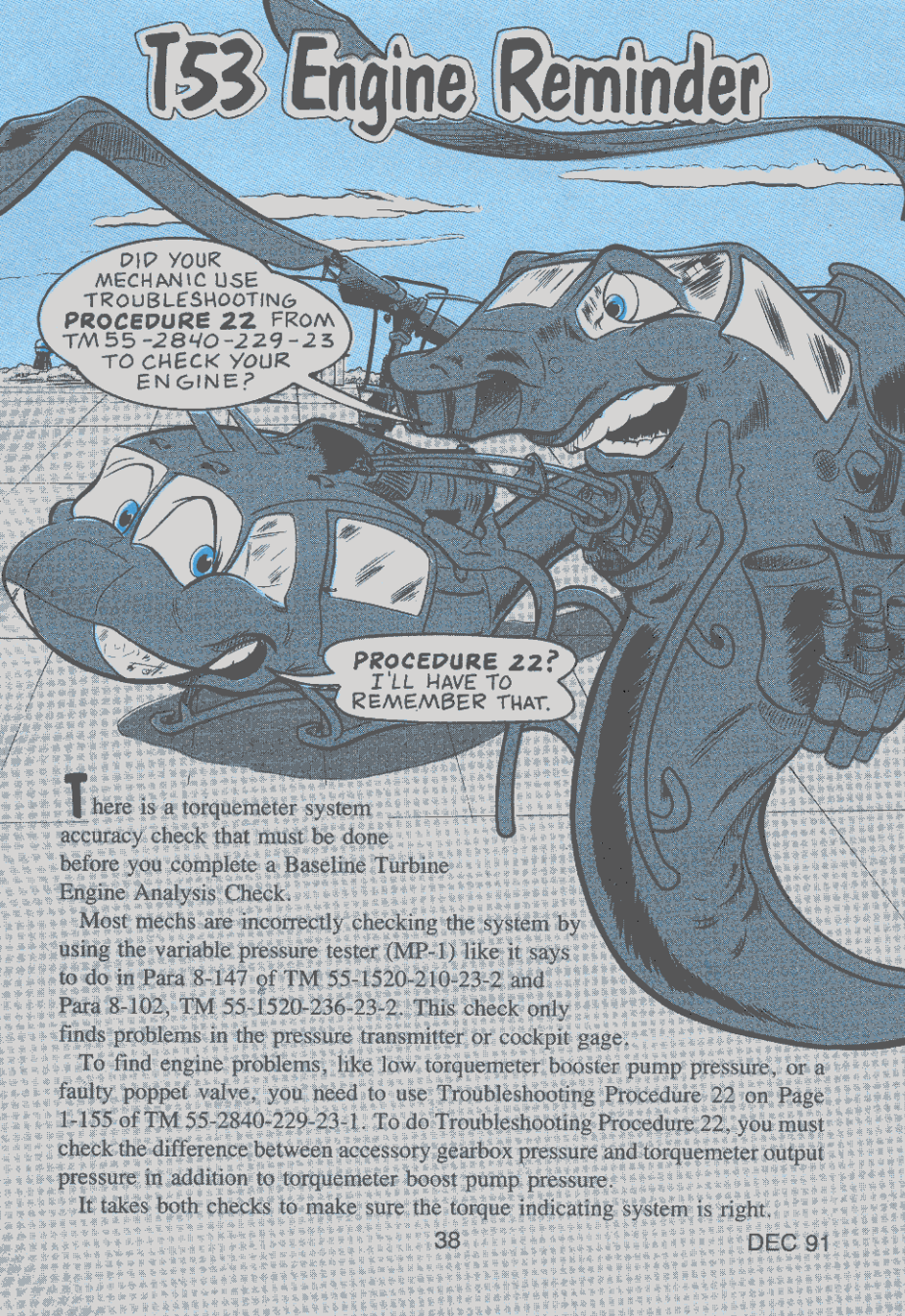
TRY THESE TWO TOOLS. ONE WILL HELP SMOOTH THE JOB WITH THE HANGAR BEARING COUPLINGS;

THE OTHER WITH GEARBOX QUILL COUPLINGS.

MAKE 'EM FROM A PIECE OF 1/8-IN ACRYLIC, NSN 9330-00-993-1610.



# T53 Engine Reminder



DID YOUR MECHANIC USE TROUBLESHOOTING PROCEDURE 22 FROM TM 55-2840-229-23 TO CHECK YOUR ENGINE?

PROCEDURE 22?  
I'LL HAVE TO REMEMBER THAT.

**T**here is a torquemeter system accuracy check that must be done before you complete a Baseline Turbine Engine Analysis Check.

Most mechs are incorrectly checking the system by using the variable pressure tester (MP-1) like it says to do in Para 8-147 of TM 55-1520-210-23-2 and Para 8-102, TM 55-1520-236-23-2. This check only finds problems in the pressure transmitter or cockpit gage.

To find engine problems, like low torquemeter booster pump pressure, or a faulty poppet valve, you need to use Troubleshooting Procedure 22 on Page 1-155 of TM 55-2840-229-23-1. To do Troubleshooting Procedure 22, you must check the difference between accessory gearbox pressure and torquemeter output pressure in addition to torquemeter boost pump pressure.

It takes both checks to make sure the torque indicating system is right.

# Apache Troubleshooting TMs

**A** 10-volume series of new, AH-64A troubleshooting manuals is here. The new manuals, TM 1-1520-238-T-4 through -8, supersede the 55-series troubleshooting manuals. T-1 through T-3, covering FD/LS, failure symptoms, and multiplex read codes, and T-9 and T-10, covering theory of operation and wiring, are already out. T-4 through T-8 covering the heart of the troubleshooting procedures will be out soon.

Kiowa...

## Flag the Pitot

If you've been a Kiowa mech for a while, no doubt your thigh has been stabbed by the nose-mounted pitot tube.

There's also no doubt you've gotten revenge on the tube by smacking it with an AGPU, maintenance platform or tool box.

You can't move the tube, but you can make it more visible. Hang a red "Remove Before Flight" warning streamer when maintenance is being done and the pitot cover can't be used.

This could save you from a bruised thigh and a costly pitot tube replacement.

### Aviation Messages

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

**AH-64-91-ASAM-13**, Informational, Track time accumulated on generators, 012230Z Aug 91.

**OH-58-91-ASAM-13**, Maint Mand, Inspection of engine oil flow on T63-A-700 engines, 071900Z Aug 91.

**OH-6-91-ASAM-03**, Maint Mand, Inspection of engine oil flow on T63-A-700 engines, 071900Z Aug 91.

**CH-47-91-ASAM-07**, Informational, Maint info on T55-L-712 engines, 091600Z Aug 91.

**AH-64-91-ASAM-14**, Maint Mand, Reduction of torque on main rotor head drive plate nuts, 092200Z Aug 91.

**GEN-91-ASAM-07**, Informational, Rescission of SOF message, GEN-87-01, concerning night

vision goggles, 151900Z Aug 91.

**AH-64-91-ASAM-15**, Maint Mand/Operational, Remote control circuit breaker miswire inspection/repair and circuit breaker usage restrictions, 152100Z Aug 91.

**OH-58-91-ASAM-14**, Maint Mand, Inspection of MS nuts for possible cracking caused by hydrogen embrittlement and seam, 152330Z Aug 91.

**AH-1-91-ASAM-14**, Informational, Tail rotor counterweights, addendum to add one additional contract containing unserviceable parts to AH-1-91-ASAM-11, 192000Z Aug 91.

**UH-1-91-ASAM-15**, Informational, Loose FM antenna coupler screws, 211710Z Aug 91.

**OH-6-91-ASAM-04**, Informational,

Life extension of main transmission, 221900Z Aug 91.

**AH-1-91-ASAM-15**, Maint Mand, Change in inspection methods/procedures for tail rotor flexible couplings, 261900Z Aug 91.

**UH-1-91-ASAM-16**, Maint Mand, Change in inspection methods/procedures for tail rotor flexible couplings, 261900Z Aug 91.

**CH-47-91-ASAM-08**, Maint Mand, Inspection of forward and aft transmission support structure, 281800Z Aug 91.

**AH-64-91-ASAM-16**, Maint Mand, Inspection of main rotor pitch housings, 282100Z Aug 91.

**AH-64-91-ASAM-17**, Operational, JP-4 hot refueling procedure/alternate fuel, 302330Z Aug 91.

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

# Treat Them Like You Own Them

You wouldn't park your car on the street with the hood up and the window open for two months just because you have a flat tire. And you wouldn't drive it to the garage with that flat and justify doing it by saying, "I had to take it to the shop anyway." You just wouldn't do it.

But some of you are treating aircraft parts that way. You're sending parts that need minor repairs to the depot rusted and corroded, making big repair jobs. Parts that haven't been preserved, packed or shipped right. Because they have a "flat tire," some of you're leaving them on the street with the hood up and the windows open. Then you're driving them that way to the garage. And you're saying, "Well, it's going to depot for repair anyway."



DOCTOR, PLEASE, DON'T TELL ME...

YES, NURSE, ANOTHER PART D.O.A., AND IT COULD HAVE BEEN PREVENTED!

UNPRESERVED, OPENINGS UNCOVERED, TRAPPED WATER, POOR SEALING CONTAINERS, WHEN WILL THIS SHIPPING MADNESS CEASE?

GOOD MECHANICS KEEP THESE POINTS IN MIND WHEN SHIPPING REPAIRABLES TO DEPOT.



- LUBRICATE AND PRESERVE ALL STEEL PARTS BEFORE PACKING. STEEL PARTS PACKED WITHOUT LUBRICANTS OR PRESERVATIVE WILL RUST.

- DRAIN THE WATER FROM ALL PARTS BEFORE PACKING. COVER THE OPENINGS WHILE WAITING FOR PACKING AND DURING SHIPPING. PARTS WITH CAVITIES OR SUMPS WILL COLLECT AND HOLD

WATER CAUSING CONTAMINATION AND DETERIORATION.

- MAKE SURE YOUR SHIPPING CONTAINERS ARE IN GOOD SHAPE. PARTS PACKED IN POOR SEALING CONTAINERS WILL BE CONTAMINATED AND DETERIORATE THEMSELVES.

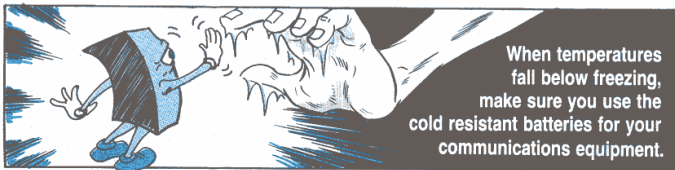
- KEEP GLASS, RUBBER AND PLASTIC ITEMS COVERED. THEY DETERIORATE IN DIRECT SUNLIGHT.

One more thing. Directions with a page missing, incorrect information or a page covered in grease can't be read. The forms you send with your shipped item are the directions to get that part repaired quickly and right. But you're sending forms that are deteriorated, mutilated, mismatched, illegible and incomplete.

The best thing to do when shipping repairables is to imagine you're shipping your car and to think of the forms you're sending along as the directions to the mechanic that's going to work on that car.

# Give Batteries a Helping Hand

The icy fingers of Old Man Winter can cut your communications short unless you keep your batteries up-to-snuff.



When temperatures fall below freezing, make sure you use the cold resistant batteries for your communications equipment.

How can you know if your gear takes a cold-weather substitute battery? Check out your equipment's TM and SB 11-6.

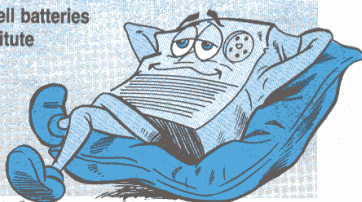
Primary battery using equipment	Battery type number (for tropical and temperate zones)	Battery type number (for Arctic zone)
618 RT-671/PRC-47	RECEIVER-TRANSMITTER, RADIO	5820-00-082-1599
619 RT-794/PRC-74	RECEIVER-TRANSMITTER, RADIO	5820-00-999-3015
620 RT-841/PRC-77	RECEIVER-TRANSMITTER, RADIO	5820-00-930-3725
621 RT-991-XE2/GSQ	RCVR-XMTR (BUOY, RADIO, SHORT)	5895-00-240-9525
622 RT-1173/GSC		

SB 11-6	
BA-4386/PRC-25	1
BA-5598	
BA-1548/U	
BA-5590/U	

The SB lists all equipment that uses dry cell batteries and has a special column that gives substitute batteries for cold-weather operation.

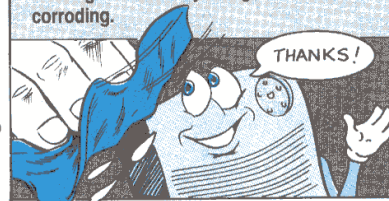
Even cold-weather batteries need your helping hand to keep their pep until they're needed. Store them at temperatures between 35-70°F. When they get warmer, they start to lose their power.



Keep batteries warm as long as you can. If you warm up batteries in a heated place, watch for sweating.



Wipe away any moisture you find or it'll turn to ice in the cold. Then it'll turn to moisture again inside your gear—and start corroding.

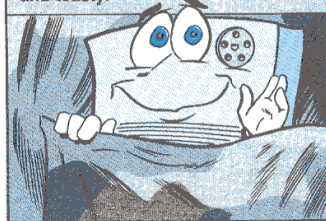


Take along as many spares as you think you'll need. Keep the rest stored.

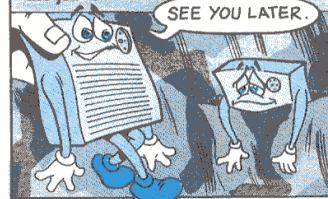


Once you take the batteries outside, protect them from the cold until they're in your equipment. You can keep them warm by putting them inside a commo shelter or vehicle.

But putting them in an inside pocket next to your body is the best place to keep your spare batteries warm and toasty.



When you switch batteries in your gear, put the replaced ones in your inside pocket to warm them up. They should get back enough punch to do the job later.



Never put batteries in equipment that's not going to be used for a while. They could corrode and stop communications cold.

# Cable Cover

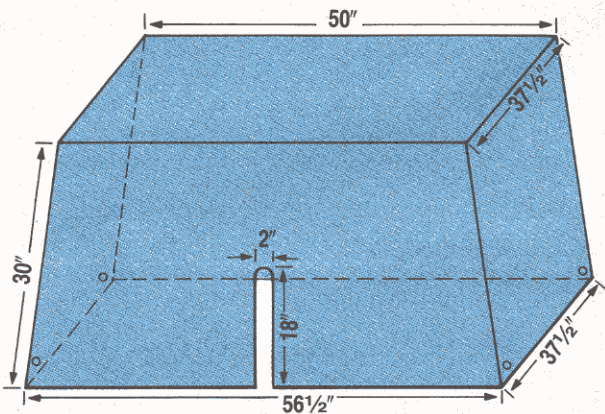
**W**eather kills the AN/TSQ-71B Landing Control Central cables.

These cables are stored outside on a 5-reel pallet. Over a period of time, the cable insulation cracks and crumbles. This means that you have to replace the cable on the reels.

Thanks to a SMART suggestion by SSG Kirby Hoke of the 28th ATC Plt, Harrisburg, PA, you can make a cover to keep your cables safe and dry.



NSN 5995-01-233-2765 gets you the Cable Pallet Assembly



Use water resistant canvas,  
NSN 8305-00-170-5423 or NSN 8305-00-248-9575

A slot on the cable hook-up side of the cover allows the cable assemblies to be undercover even while they're hooked up to the equipment.

Keep the cover in place by putting reinforced eyelets in the front and back sections of the cover. That way the cover can be tied to the pallet while it's in transit.

# Lock in Radio

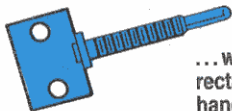


HERE'S AN EASY WAY TO SECURE YOUR AN/GRC-160 OR AN/VRC-64 RADIO COMPONENTS IN THEIR MT-1029 MOUNT!

**1.** Remove the RT-841/VRC receiver-transmitter from the AM-2060/VRC amplifier.

**2.** Look at the amplifier clamp. If it has an oblong, oval-shaped handle, switch it with the clamp with a rectangular, square cut handle. Get it with NSN 5305-00-451-2924. It's the same

Switch oval-shaped clamp...



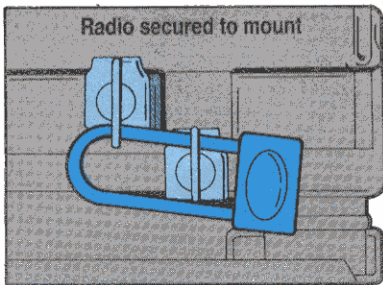
...with rectangular handle clamp

as the one on the left side of the MT-1029 mount. The rectangular clamp is easier to drill.

**3.** Drill the existing holes of the right MT-1029 mount clamp and the right amplifier clamp to  $\frac{5}{16}$ -in diameter.

**4.** Slide in the receiver-transmitter and tighten the clamps. Make sure the clamp handles are vertical.

**5.** Secure the receiver-transmitter to the mount by putting a long-shackle lock, NSN 5340-00-682-1645, in the bottom hole of the amplifier clamp handle and the top hole of the mount clamp handle.





# Be-Your-Own-Inspector

As the operator of either the SEE or HMMH, your job is to make sure your vehicle can do its job... every day.

Start your inspection by taking a slow walk around your vehicle before you start the day's run.

Look for wet spots... dangling wires... broken or missing parts... things that grab your eye.

If you find anything you can't fix yourself, jot it down on your DA Form 2404. Get it checked before you go.

**Hydraulic Lines:** Hose cracked or worn through the outer cover? Quick-disconnect couplings leaking?

**Windshield and Windows:** Cracked? Chipped? Scarred? Broken? Leaking?

TAKE A SPECIAL LOOK AT THESE:

**Windshield Wipers:** Bent? Blade worn or missing?

**Exhaust:** Leaking? Rusted thru? Clamps loose?

**Rollover Protection Structure (ROPS) and Falling Object Protection Structure (FOPS):** Cracked welds? Loose or missing bolts? Cracks in supports?

**Mirrors:** Loose? Cracked? Damaged? Fogged?

**Steps:** Broken? Loose? Missing? Ripped? Bolts loose or missing?

**Lights:** Broken? Burned out? Lens broken? Dirty?

**Suspension:** Broken springs? Loose bolts? Axles bent or out of alignment?

**Mud Flaps:** Torn? Missing? Bolts gone?

**Wheels:** Lug nuts loose or missing?

**Frame, Subframe & Platforms:** Cracked? Broken welds? Bolts or rivets loose or missing?

**Tires (including spare):** Low? Flat? Bulges? Cuts? Cracks? Worn unevenly? Valve caps missing? Nails or glass in tread? Bald?

SEEs...

# Too Much Tire Pressure

**F**orget the word on tire pressure called out in the -10 TM for the SEE. It's not right.

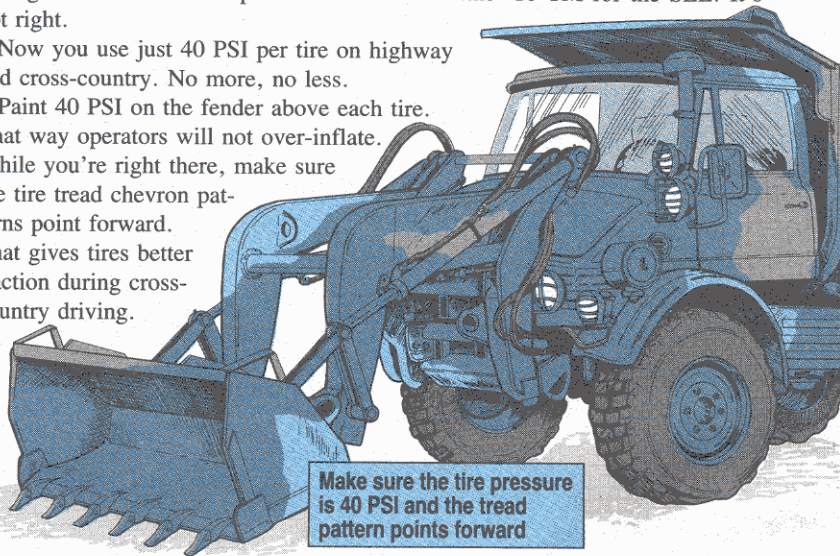
Now you use just 40 PSI per tire on highway and cross-country. No more, no less.

Paint 40 PSI on the fender above each tire.

That way operators will not over-inflate.

While you're right there, make sure the tire tread chevron patterns point forward.

That gives tires better traction during cross-country driving.



Hydraulic Fluid Dispenser ...

## The Lore of the Ring

**P**ull the ring attached to the pressure relief valve on your hydraulic fluid dispenser, NSN 4910-00-245-1832, only after all the pressure in the tank has been released.

Pulling the ring to release pressure inside the dispenser could cause hydraulic fluid to squirt out through the four holes in the valve and maybe into your face and eyes.

So relieve tank pressure with the tank and bladder bleed valves. When all pressure inside the tank has been released, check the automatic safety valve by grasping the ring and lifting the stem off its seat.



4K/6K Forklifts...

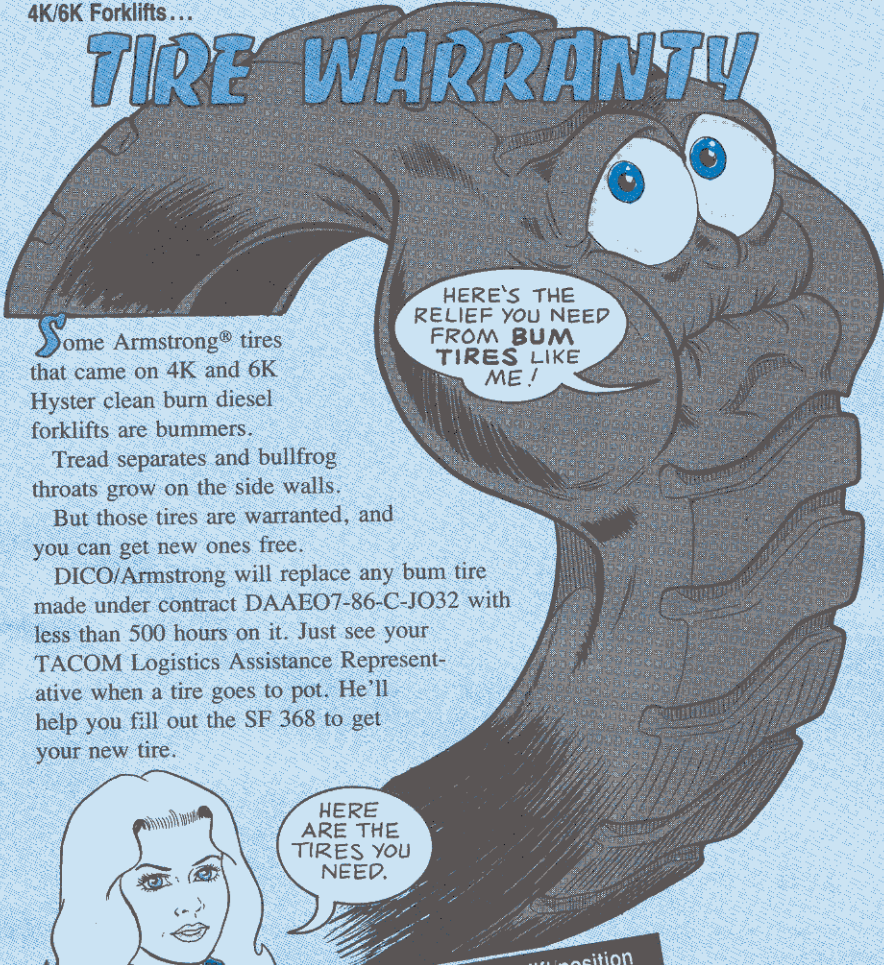
# TIRE WARRANTY

Some Armstrong® tires that came on 4K and 6K Hyster clean burn diesel forklifts are bummers.

Tread separates and bullfrog throats grow on the side walls.

But those tires are warranted, and you can get new ones free.

DICO/Armstrong will replace any bum tire made under contract DAAE07-86-C-JO32 with less than 500 hours on it. Just see your TACOM Logistics Assistance Representative when a tire goes to pot. He'll help you fill out the SF 368 to get your new tire.



HERE'S THE RELIEF YOU NEED FROM **BUM TIRES** LIKE ME!



HERE ARE THE TIRES YOU NEED.

NSN 2610-	Forklift position
00-726-7647	4K/steering
00-726-7648	6K/steering
01-262-6038	4K/6K/driving

# Head off Cable Freeze Up



HEY, MY  
LOADER WON'T  
SHUT OFF!

CONNIE,  
WHAT'S HE  
GOING  
TO DO?

A LITTLE  
ANTIFREEZE  
WILL HELP.

HERE'S  
HOW TO  
DO IT:

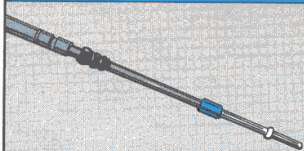
**W**ater freezes inside throttle, engine stop or other control cables on the MW24 scoop loader.

Water gets past the seal over the outer sheath. Even a good seal won't keep out all the water.

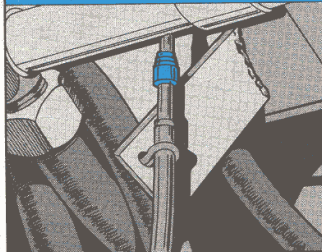
You mechs can take the freeze-up out of a frozen cable with antifreeze. Besides stopping freeze-up, the antifreeze makes the cable slide easier.

Use hydraulic filler and bleeder, NSN 4910-00-273-3658, to pump antifreeze thru the cable. It's authorized by Appendix A of CTA 50-970. DON'T use your brake fluid filler and bleeder for this! You'll ruin it for silicone brake fluid.

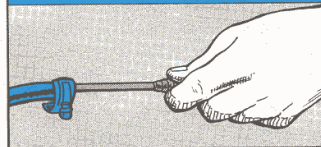
1. Remove seal from one end.



2. Slip the seal off the sheath at the other end and slide it down the cable a bit.



3. Slide the filler hose over the sheath and clamp it with a hose clamp.



4. Fill the filler and bleeder with antifreeze and pump up the pressure. Open the valve until you get clean antifreeze out the other end of the cable, then close the valve. Catch the excess antifreeze and dispose of it per your SOP.

5. Put the seals back on both ends of the cable. Put back any fittings and reconnect the cable.

## Maintenance Management Help

HERE'S WHERE TO WRITE WHEN YOU HAVE A QUESTION ABOUT OR SUGGESTED IMPROVEMENT TO DA PAM 738-750, FUNCTIONAL USER'S MANUAL FOR THE ARMY MAINTENANCE MANAGEMENT SYSTEM (TAMMS).



**USAMC**

Matériel Readiness Support Activity  
ATTN: AMXMD-RS  
Lexington, KY 40511-5101

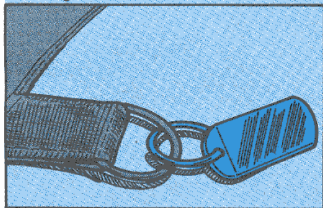
Or from 0700 to 1600 EST call:  
DSN 745-4100  
COMMERCIAL (606) 293-4100

# Don't Forget Carrier

If the M17 mask doesn't get to the field—or doesn't get there in good condition—it can't do its job. And it's not going to get there without the carrier. That's why you NBC NCOs need to show the carrier the same respect you show the mask. Such as:

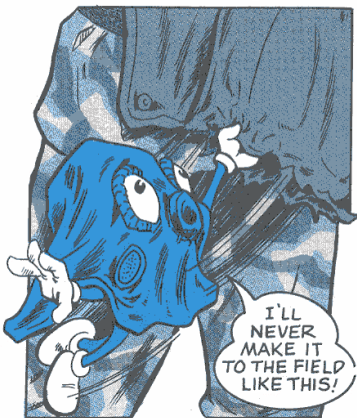
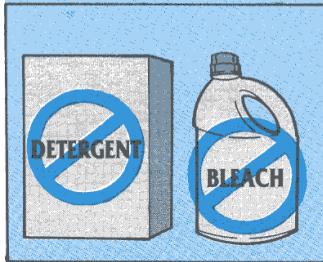
Never stencil ID numbers on the carrier. That ruins the protective coating and makes the carrier stiff.

Get tags, NSN 8465-00-242-4804, for ID and attach them to the carrier's D-ring.



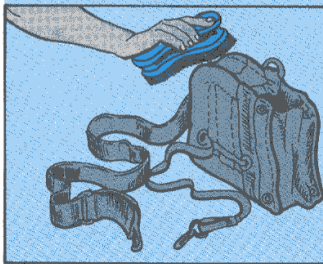
Make these points to your unit:

Never use hot water, bleach, or detergent on the carrier or dunk it in water or stick it in the washing machine.



They ruin the protective coating that seals out moisture. A washing machine also rips off the carrier's snaps. Moisture causes the carrier to mildew and rot.

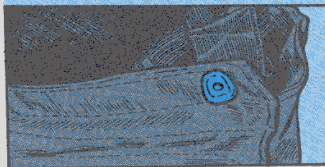
To clean the carrier, dip the scrub brush that comes with the M17 in cool water.



Scrub the carrier inside and out until all dirt's gone.

## Repair

Never replace bum snaps with Velcro fasteners.



There's not enough space on the carrier for enough Velcro to keep the flap sealed. In the field, the flap will flop open and the mask will fall out or dirt and moisture will get in the carrier.

If the carrier, NSN 4240-00-933-2533, is damaged, order a new one. You're not authorized to repair it.

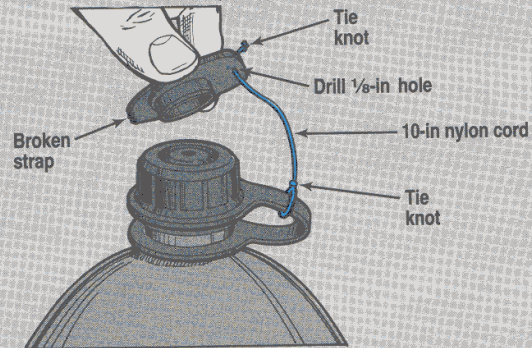
## M1 Canteen...

### Strap That Cap Cover

The plastic strap holding the cover to your M1 canteen cap breaks easily. Then you lose the cover and spring a leak.

Don't be all wet. Make a strap with a 10-in nylon cord, NSN 4020-00-262-2019. Here's how:

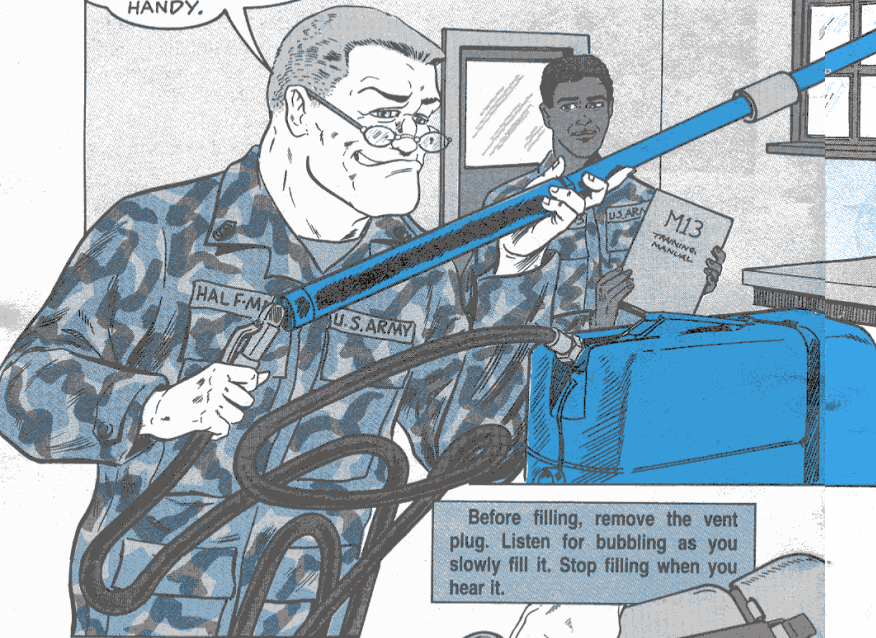
- ✓ Cut off the broken plastic strap.
- ✓ Drill a 1/8-in diameter hole 1/4 inch from edge of cover.
- ✓ Run one end of the cord through the hole and knot it.
- ✓ Tie the other end around the cap strap.



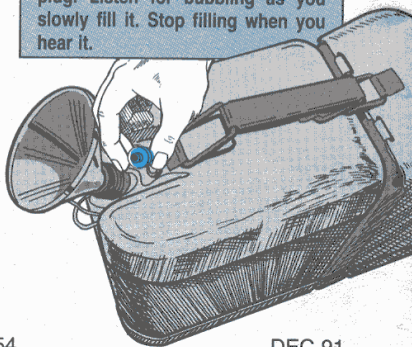
Melt the ends of both knots with a match or lighter, then mash it flat with the end of a flat tip screwdriver or your knife blade. That keeps the cord from unraveling.

# What You Need to Know

HERE'S A FEW THINGS YOU NBC NCOs WON'T FIND IN THE M13 TM THAT COULD COME IN HANDY.



Before filling, remove the vent plug. Listen for bubbling as you slowly fill it. Stop filling when you hear it.



**T**raining is the thing if your unit's going to learn how to use the M13. That's why you need to order the new plastic M13 trainers, NSN 4230-01-298-1044. The trainer doesn't come with the M13. It has to be ordered. It's part of the M13's AAL.

The trainers split if they're overfilled or dropped.

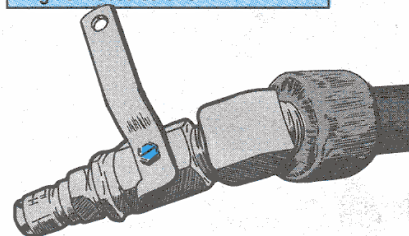
Urge operators to carry the trainer carefully. Filled, it weighs 54 pounds. That means most of the time it requires two hands. For lifts on and off vehicles, make that four hands. One drop and it's finished.

When you're through with the real M13 container, turn it in—but keep everything else. Every other M13 component is reusable.

Once the brush bristles are worn to one inch, the brush is shot. Order a new one, but keep the old one for training. Training wears out brushes fast.

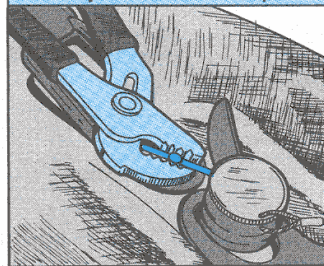


Before you let M13s out of the NBC room, eyeball the screws on the hose shutoff switches. If the screw works out, the shut-off switch falls off. Tighten loose screws.



Prior to storage, coat the vent plug threads with antiseize compound, NSN 6850-00-880-7616, to prevent the vent plug from rusting shut.

If the plug ever does rust solid, the best way to unstick it is with pliers.



The wand won't give you enough leverage. Lay the pliers flat along the plug's prongs. Twist until the plug breaks loose. If the prongs get bent, bend them back in place.

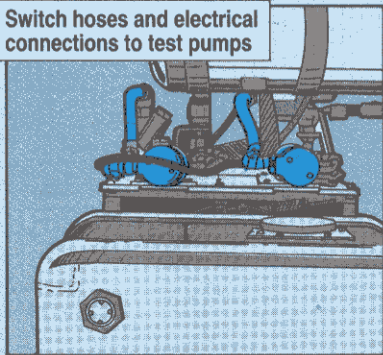
# Smoking Help for Repairmen



## Fog Oil Pump Check

If you're not getting smoke and you think the fog oil pump's shot, there may be a quick way to check without hooking up the fog oil test gage. If the hoses are long enough—some of the newer ones aren't—switch the hoses and electrical connections from the suspect pump to the other generator's pump. If you get smoke, you know the pump's bad.

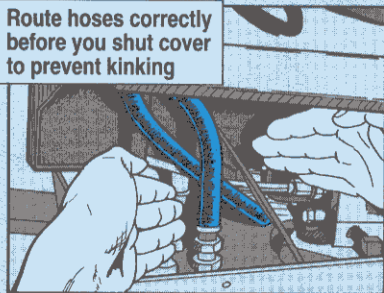
Switch hoses and electrical connections to test pumps



## Cover Assembly Hoses

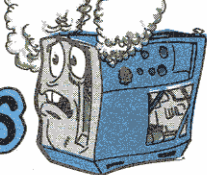
When you replace the cover assemblies, make sure you route the fog oil and fuel hoses correctly so they don't kink up when the cover's shut. Other-

Route hoses correctly before you shut cover to prevent kinking



wise, the generator's not going to get fog oil. It's easier if you close the cover at the bottom first, instead of pushing the cover straight on.

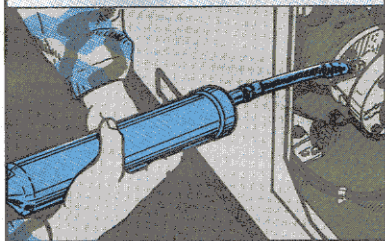
# Lube, or Down the Tubes



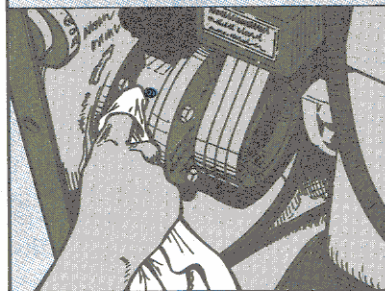
**W**hen it comes to lubing, the M12A1 is often forgotten. It sits for weeks without use. Then it's taken to the field without grease for its gears. The result—the valves and the pump freeze.

Lubing is your job, crews. Before you go on a mission, check your repairman's DD Form 314s to see when your M12 was last lubed. If it's been longer than three months, lube it with GAA like it says in LO 3-4230-209-10. And plug into these points:

Use the flexible grease gun adapter in your BII for those hard-to-get-to fittings.



Clean fittings before you pump in grease to keep dirt out.



One pump of the grease gun is enough. Too much grease pops seals. Wipe off any excess grease that will attract more dirt and sand.

The hose reel has four fittings. You can't reach all four with the grease gun . . . unless you unreel the hose before you start pumping. Unreel, then pump.

Unreel hose to get at all fittings



Every eight hours of operation, check the M12A1's engine oil. Add 15W-40 oil to keep level at the FULL mark. When you're through lubing, make sure it's noted on the DD Form 314 so you'll know when your M12A1 will need grease relief again.

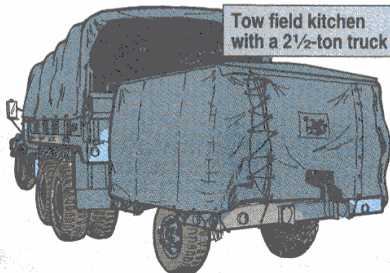
Check engine oil every 12 hours





Here are some tips on the MKT-75 trailer-mounted field kitchen.

- Always tow the MKT-75 with a 2½-ton truck. Bigger trucks bang out the corners of the trailer when you turn.



- Crank the leveling jack all the way up before moving out. If you don't, the foot will rub against the tire when you store the jack for traveling.

Be sure to eyeball the quick release lock pins. See that they're seated and that the lanyards are all there and not broken.

- Before you start packing the trailer to move out, close and lock the roof air vents. Once the trailer's packed, you can't get to the vents to close them.



# Kitchen Knowledge



## Handrail Hazard

Constant pulling and tugging on the ladder handrails causes them to slip out of their mountings.

When that happens, you'll need some wire or six cable lanyards, and six hitch pins to fix the handrails.

Here's how:

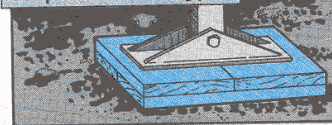
- Set up the ladders and handrails.
- Use an 1/64 drill bit to drill a hole through each upper mounting and handrail, 1½ inches from the bottom of the mounting.
- Stick a hitch pin, NSN 5315-01-020-6038, through the hole. The NSN's not on the AMDF, so order on a DD Form 1348-6 using RIC S9L. State in the Remarks block, "NSN is not on the AMDF."
- Use wire or cable lanyard to hold the pin in place.

## Keep Trailer Level

If you park your MKT-75 on soft or uneven ground, your kitchen will be unlevel and out of whack. Head off problems by placing 12-in square pads under the leveling jacks.

The pads can be made out of either a ½-in thick steel plate or two layers of 2×6×12-in boards nailed together.

### Use pad under leveling jack



## Parts for Liquid Dispenser

Here are some hard to find replacement parts for the 5-gallon liquid dispenser, NSN 7320-01-093-7371, in your MKT-75 Mobile Field Kitchen:

Vent cap, snap-on, NSN 7320-01-213-6160



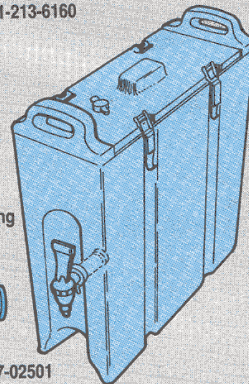
Seat cup for faucets, PN 87-02509



Faucet assembly, C nut, wing nut, NSN 7320-01-245-9048



Spout assembly, 2 O-rings, hex nut, PN 87-02501



Latch assembly, 4 latches, 16 screws PN 87-04016



Complete lid, (specify color: red, brown, blue, orange), PN 87-02550



Lid gasket, NSN 5330-01-223-9159



Order part numbered items on a DD 1348-6 using CAGE 21669, the part number and RIC S9G.



### Metric Tools Needed

Mechanics who work on CUCVs, HMMWVs, and M.A.N.s need metric tools. Metric tools are now listed in the SCs for the No. 1 and No. 2 Common shop sets. Your commander can OK ordering the tools.

### Different CAMs Work the Same

There are two different Chemical Agent Monitors (CAM) in the system: one made in the U.S., NSN 6665-01-199-4153, and one made in Canada, NSN 6665-21-904-3229. Both work the same and should be maintained the same. Write the Canadian NSN on the front of TM 3-6665-327-13&P to prevent confusion.

### NVG Laser Protection Device

Now there's a light interference filter (LIF) for your night vision goggles. It protects the image intensifier from laser damage.

Order the kits with these NSNs:

AN/PVS-7A 6650-01-321-2905  
AN/PVS-7B 6650-01-328-5134

### M934/M935 Ratchet Wrench Socket

A broken socket is no reason to scrap the van-expanding ratchet wrench, NSN 5120-00-650-7830, listed in the Bill for these expandable vans. Instead, get just the socket wrench with NSN 5120-00-261-2813. It's a 3/4-in sq dr, 1-in deep well socket.

### New Flyer's Helmet

SPH-4B is fielded, but changes to TM 10-8415-206-12&P on its care and maintenance are not. Until TM changes hit the field, follow the info for the SPH-4.

### M916/920 Strainer NSN

You can order a new strainer for your truck's winch reservoir filler cap on DD Form 1348-6 using CAGE 23619 and part number S4 from S9C. It's the nylon screen that goes under item 6 in Fig 266 of TM 9-2320-273-24P.

### M915 Filter NSN

Use NSN 4330-00-274-4712 to order the M915-series tractor's filter element for the coolant filter on the M915-series tractor. The number in the -24P TM is wrong.

### M113A3 Trans Elbow Tightened

Installation torque for the transmission coolant line elbow on M113A3 carriers needs to be increased from 50-60 lb-ft to 159-175 lb-ft. The elbow, item 51 in Fig 75 of TM 9-2350-277-24P, may leak at the lower torque.

### BOMAG Air Filter

Finding the correct PN for the air filter element for the K-300 compactor will leave you gasping for air. That's because the ordering info in TM 5-3895-349-14&P is wrong. You can order the element on a DD Form 1348-6 using CAGE 09605 PN 05730109 from RIC S9C.

### CUCV Gets New U-Joint

The U-joint parts kit for all CUCV models except M1009 has a new number. Use NSN 2520-00-508-1566 to get Item 5 in Fig 66; Item 6 in Fig 67 and Item 3 in Fig 70 of TM 9-2320-289-20P. The M1009 still uses NSN 2520-01-024-0279.

### CUCV Shackle NSN

The CUCV tiedown shackle, shown as Item 6 of Fig 108 in TM 9-2320-289-20P, is NSN 4030-00-740-9523. The number shown, NSN 4030-00-542-3183, is wrong.

### GPFU TB for M113 FOV

Installation, service and maintenance information for M8A3 and M14 gas particulate filter units used in M113A2-series and M113A3 carriers is found in TB 9-2350-200-24. If your vehicles have GPFPUs, make sure your unit has this TB on hand.

### 5 CFM Compressor

The NSN for the 5 CFM air compressor dial pressure gage listed as Item 9 in Fig 12 of TM 5-4310-378-24P has been deleted. You can now get the pressure gage with NSN 6685-00-718-6887.

### Circuit Tester Lamp

A circuit tester with a burned-out lamp won't help you trace wiring problems.

But don't give up on a burn tester, NSN 6625-01-260-2387, found in the General Mechanics tool kit. Instead, order a new lamp, NSN 6240-00-266-9940.

This 28-volt lamp can also be used in circuit tester, NSN 6625-01-052-2721, which is a 2-18 volt tester. Then you can use the tester on 28-volt systems.

### HMMWV Ambulance PMCS Change

Latest word from the headshed is that the HMMWV ambulance (M996 and M997) is NMC when a seatbelt, attendant seat or rail is broken or missing. Make a note until the PMCS is updated.

### NSN for WD40 Lube

Looking for an all-purpose corrosion preventive and lubricant? Use NSN 8030-00-838-7789 to get a 16-oz aerosol can of WD40.

### HMMWV Record Folder NSN

The NSN is wrong for the equipment record folder shown as Item 6 on Page B-4 of the -10 TM. Keep the record straight by ordering with NSN 7510-00-889-3494.

### HMMWV Machine Key NSN

NSN 5120-00-198-5390 gets the tool—a machine key—to remove the differential drain plug. Make a note until the key is added to your TM.

### 10HP Mil Std Engines

Order replacement spark plug cable for the 10HP Mil Std engines made by Slick Aircraft with these NSNs: No. 1 cylinder spark plug cable with NSN 2920-01-266-0812 and No. 2 cylinder spark plug cable with NSN 2990-01-286-1908.

### HMMWV Brush Guard Kit

You can now order a brush guard kit for your Humvee with NSN 2590-01-328-2904. It has everything you need to assemble and install the guard.

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

Would You Stake Your Life <sup>night now</sup> on the Condition of Your Equipment?

# Split Lockrings KILL!

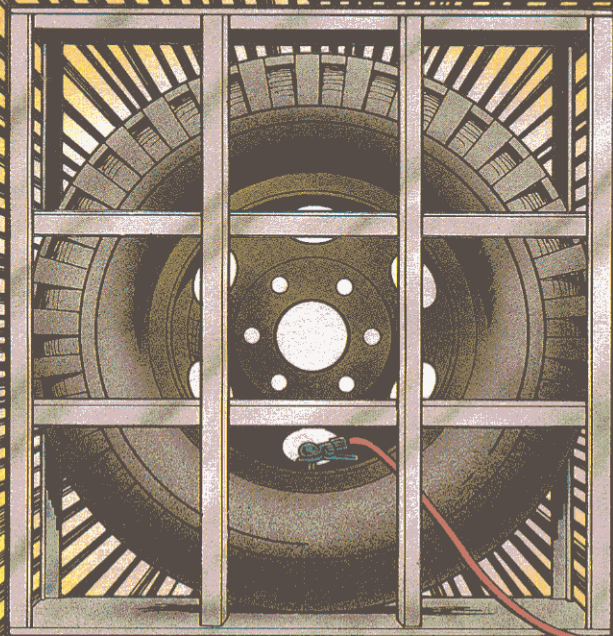
TM 9-2610-200-14

**WARNING**

**PREVENT PERSONAL INJURY**

Place tire and wheel in safety cage before inflating. The operator should be at least 10 feet from the safety cage.

C  
A  
G  
E



T  
H  
E

# KILLER!

See Pages 20-21 of this Issue