

Issue 433

TB 43-PS-433

PS

December  
1988

# THE PREVENTIVE MAINTENANCE MONTHLY

CRATCHET! I WANT  
THE 1988 PS INDEX,  
TONIGHT!

DEC  
24

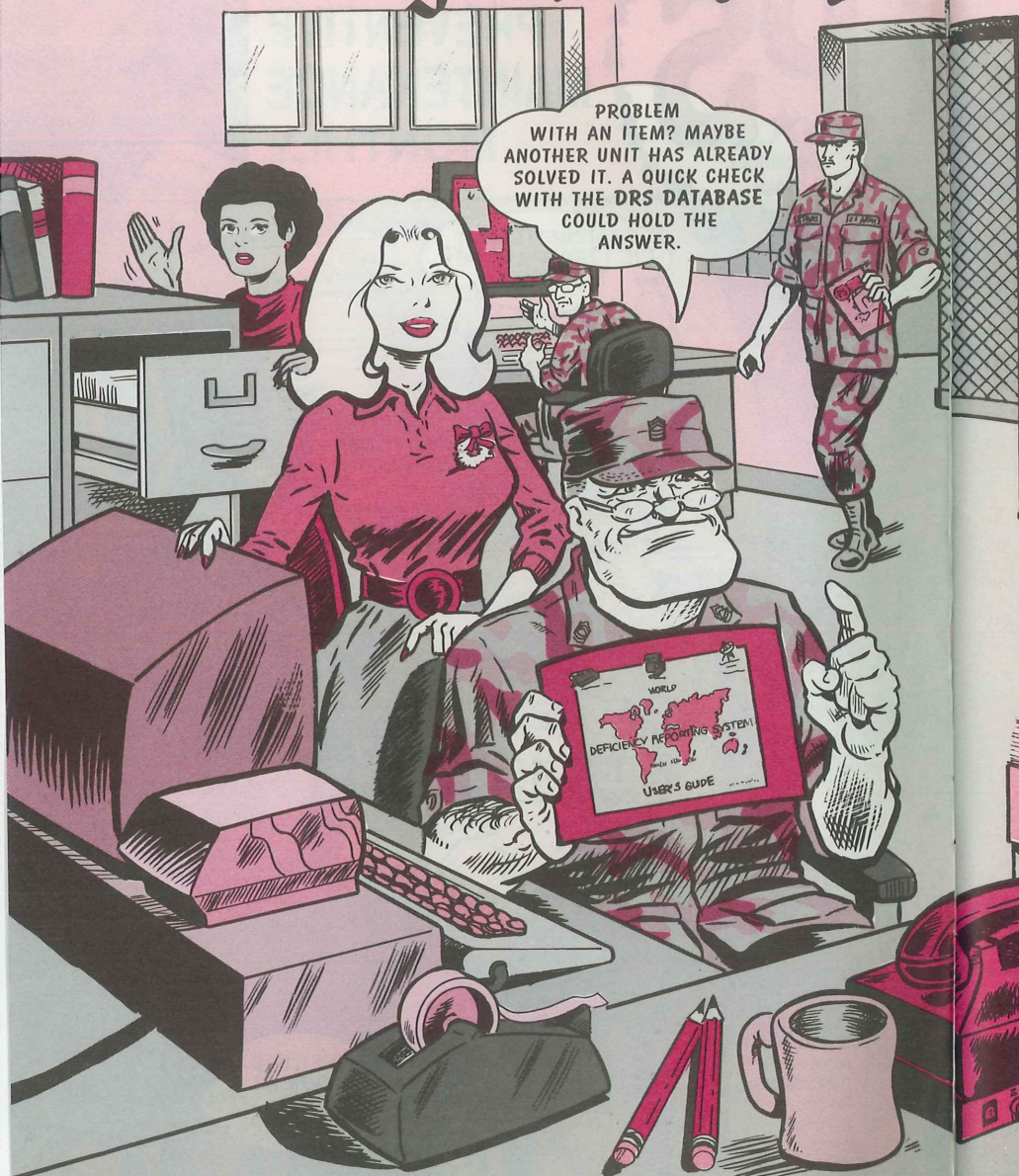
PS INDEX

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Public Release;  
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Unlimited

PSST, BOB,  
LOOK AT  
PAGE 26... IT'S  
FINISHED!



# Feedback on



# QDR'S

Have you ever wondered if you are the only unit with problems with an item? Or would you like to know if a problem has been reported or an improvement suggested on a Quality Deficiency Report, SF 368?

Now you can find out. If you have a computer with a modem, you can access the Materiel Readiness Support Activity's Deficiency Reporting System (DRS) database.

If you don't have a computer with a modem, ask your local Logistic Assistance Representative to query the DRS. You can also submit a query by electronic mail message.

DRS contains over 5 years worth of SF 368's. You can find a summary of the problem, and the headshed's response.

To get more information, write to:

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

# PS

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

TB 43-PS-433. 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 433 DECEMBER 1988

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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

By Order of the Secretary of the Army:

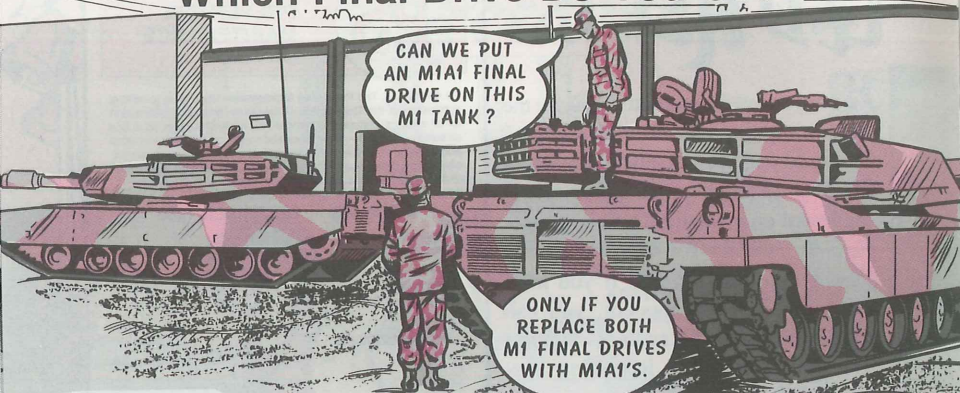
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The Adjutant General

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# Which Final Drive Do You Use?



CAN WE PUT AN M1A1 FINAL DRIVE ON THIS M1 TANK?

ONLY IF YOU REPLACE BOTH M1 FINAL DRIVES WITH M1A1'S.

Sometimes an M1A1 final drive can be substituted for an M1 final drive, and sometimes it can't.

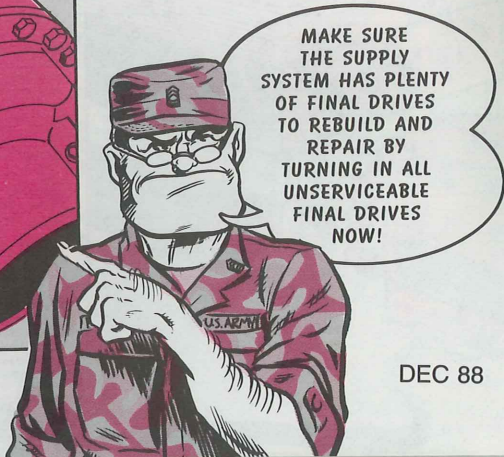
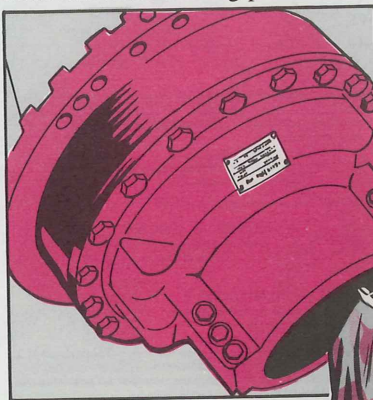
Even though the AMDF microfiche says M1A1 final drive NSN 2520-01-167-4282 is a substitute for M1 final drive NSN 2520-01-119-4096, you've got to know when the swap will work.

You can't use one M1A1 final drive and one M1 final drive on the same tank. The gear ratios are different, and using them together would damage equipment and cause steering problems.

You can substitute two M1A1 final drives on an M1 tank.

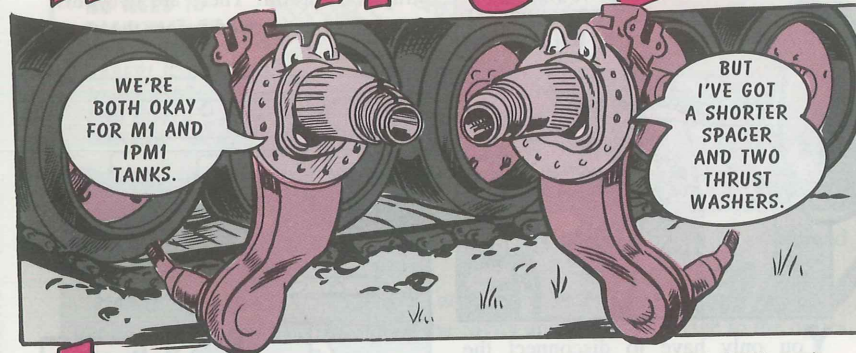
You cannot substitute two M1 final drives on an M1A1 tank. Performance would suffer because of the greater tank weight.

So when you need an M1 final drive, use advice code 2B in requisition columns 65 and 66. That tells the supply system that you can't use the substitute M1A1 final drive.



MAKE SURE THE SUPPLY SYSTEM HAS PLENTY OF FINAL DRIVES TO REBUILD AND REPAIR BY TURNING IN ALL UNSERVICEABLE FINAL DRIVES NOW!

# Hub and Arm Comes 2 Ways



WE'RE BOTH OKAY FOR M1 AND IPM1 TANKS.

BUT I'VE GOT A SHORTER SPACER AND TWO THRUST WASHERS.

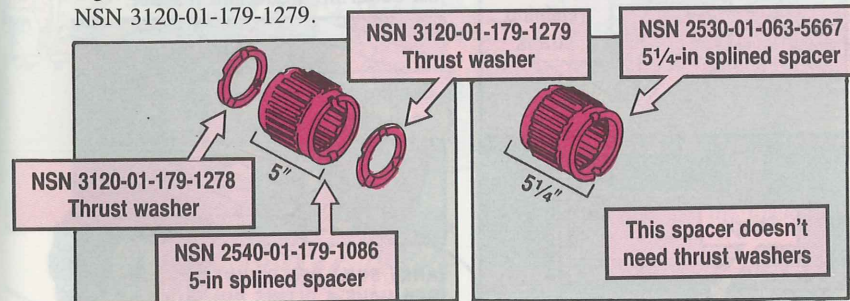
The hub and arm assemblies for positions 1, 2 and 7 on M1 and IPM1 tanks come in two configurations. Both are OK for either tank, but you've got to keep the pieces lined up right.

That's where your TM's let you down. TM 9-2350-255-24P-1 shows the parts for only one configuration. TM 9-2350-255-20-1-3-5 gives only the installation/removal instructions for one configuration.

Here's how to keep the right splined spacers and thrust washer bearings together:

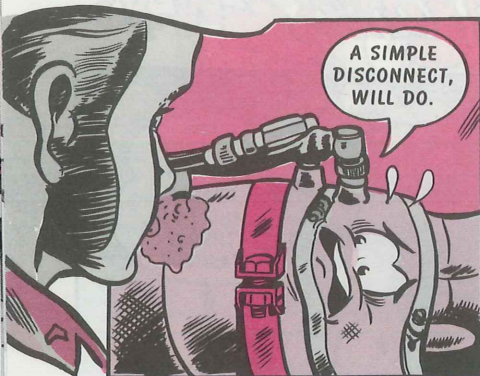
▣ Splined spacer, NSN 2540-01-179-1086, is 5 inches long and must be used with two thrust washer bearings, NSN 3120-01-179-1278 and NSN 3120-01-179-1279.

▣ Splined spacer, NSN 2530-01-063-5667, is 5¼ inches long. It does not need and will not work with thrust washer bearings.



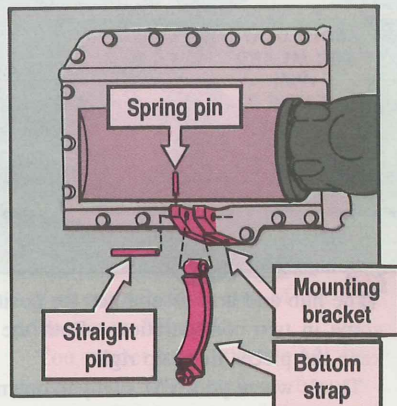
The key is that both versions will work as long as they are assembled right.

# Generator Removal Brings Strap Flap



You only have to disconnect the generator retaining straps when you pull the generator from your tank. There's no need to remove the straps unless they've been damaged.

If you do need to remove the bottom strap, be careful. There are two pins that must be removed before the strap comes loose.

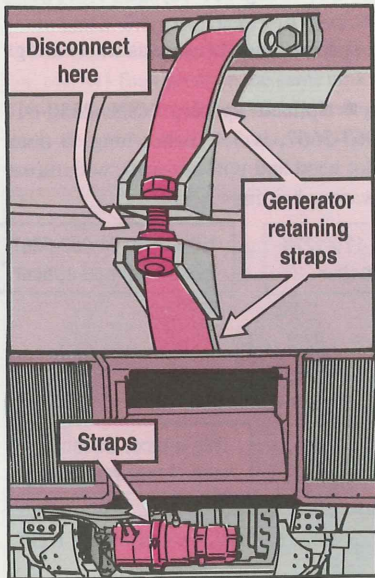


Using the 3/32-in drive pin punch from your special tool kit, drive out the spring pin that holds the straight pin in place.

Then use the 1/16-in punch to drive out the straight pin. Beating on the straight pin before removing the spring pin will just batter up the mount bracket.



TANKS BUILT AFTER JUNE 1986 HAVE A CLEVIS PIN AND LOCK PIN HOLDING THE STRAP IN PLACE.



# Use Access Cover for GPS Shipment

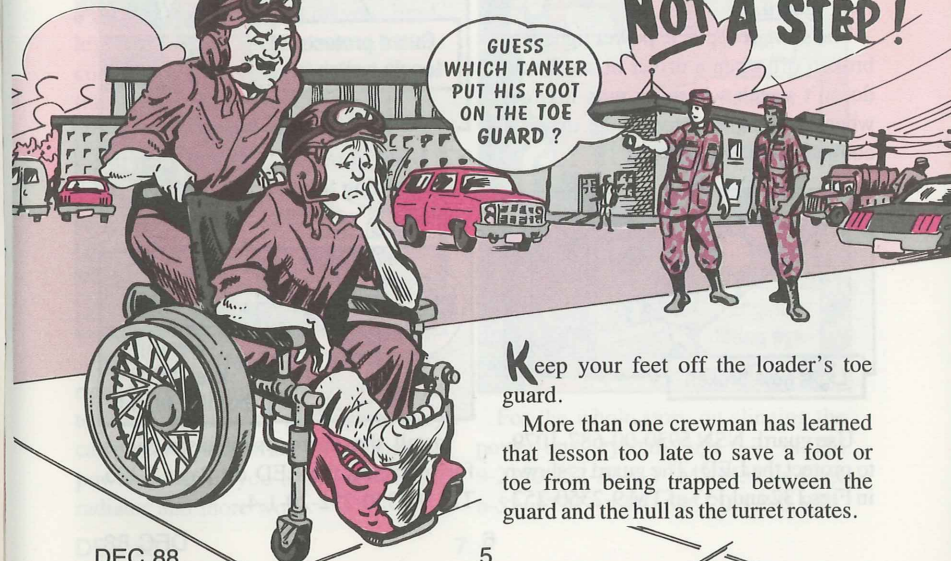


Close off the base of the M1 tank gunner's primary sight with a gasket and access cover before shipment.

Gasket, NSN 5330-01-217-3875, and cover, NSN 5340-01-217-3942, will keep moisture, dust and dirt out of the cavity and prevent damage to the optics and electronic circuits.

Never stuff rags—either clean or dirty—into the cavity. The head mirror, windows and other components get oil and lint on them, increasing repair time and costs at the depot.

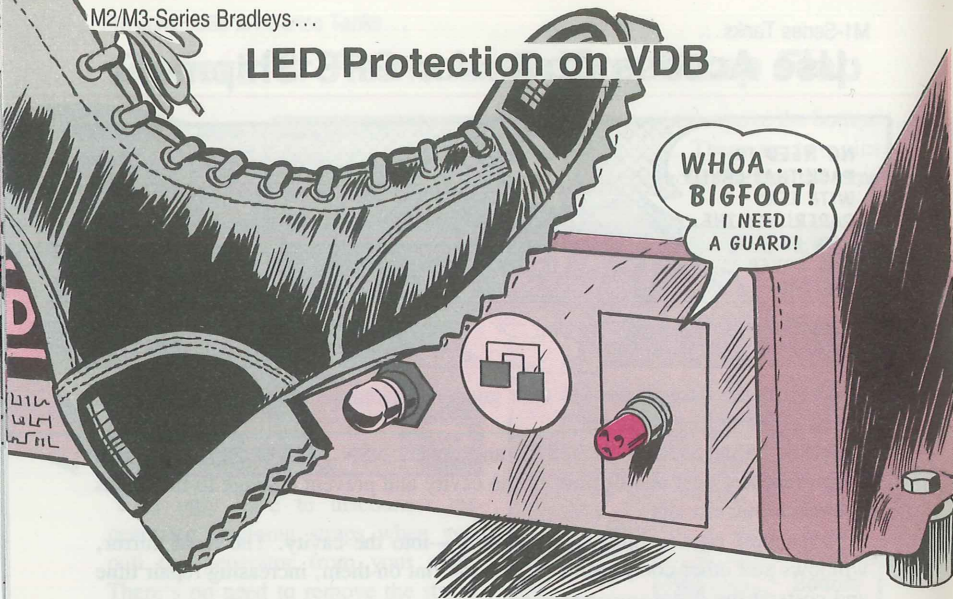
# LOADER'S TOE GUARD NOT A STEP!



Keep your feet off the loader's toe guard.

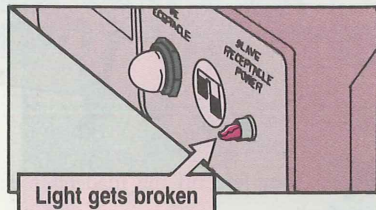
More than one crewman has learned that lesson too late to save a foot or toe from being trapped between the guard and the hull as the turret rotates.

## LED Protection on VDB



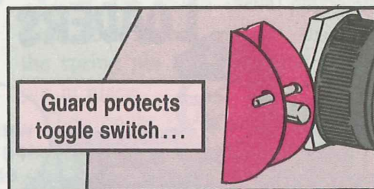
Stop damage to the light-emitting diode (LED) on your Bradley's vehicle distribution box (VDB) with a "big-foot" guard.

The slave receptacle power light gets broken off when a driver or mechanic doesn't watch where he puts his feet when entering or leaving the driver's compartment.

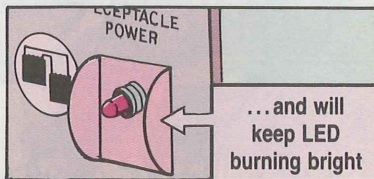


Use guard, NSN 5930-00-687-1079, to protect the LED. The guard is shown in Figs 132 and 133 of TM 9-2350-252-

24P-1 as protection for toggle switch

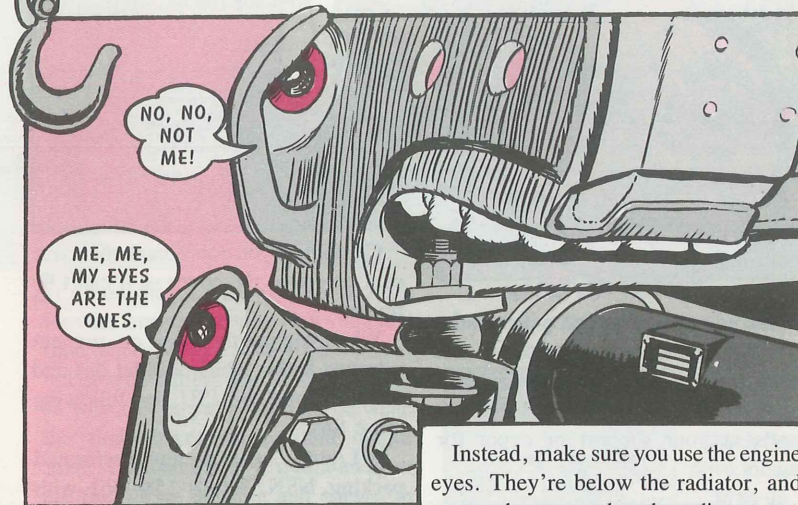


S2. Using it on the LED will keep the LED burning bright when the slave receptacle is powered.



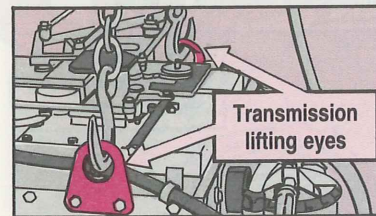
Install the guard using instructions for replacing the LED on Page 7-135 TM 9-2350-252-20-1-4.

## Not all the "Eyes" have it

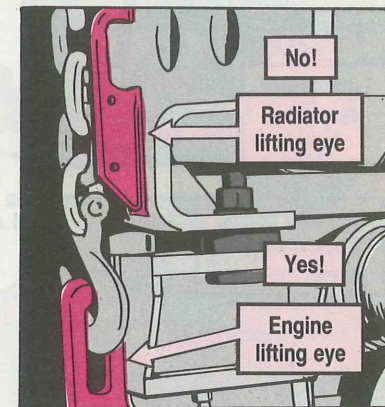


Instead, make sure you use the engine eyes. They're below the radiator, and are much stronger than the radiator eyes.

Raising the power unit on your Bradley or MLRS is much easier and less costly if you use only the engine and transmission lifting eyes.



Although the radiator lifting eyes are right there as temptation when you go to hook the sling to the engine, they can't stand the strain of lifting the power unit. All you'll get is a busted radiator and more work.

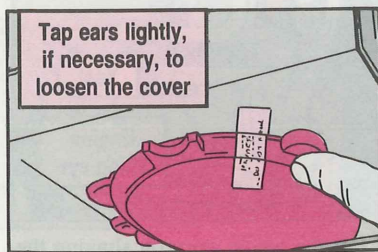


For the whole story on slinging the power unit, eyeball Page 6-71 of TM 9-2350-252-20-1-3 (M2/M3) or Page 6-51 of TM 9-1450-646-20-3 (MLRS).

## Careful with ISU Lampholder Cover



How you take off—and put on—the ISU lampholder assembly cover can make the difference between an ISU that's free of dirt and moisture and one that's at your support or depot for repairs.

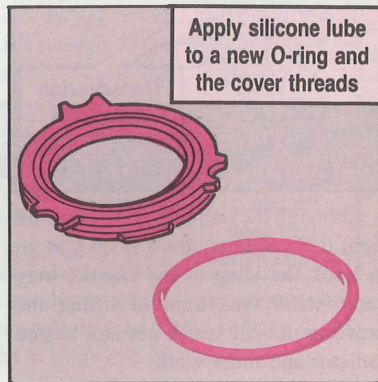


If you run across a cover that doesn't want to come loose when you press up and turn it, tap the cover ears gently.

Careful, so you don't break the cover ears or gouge the cover so it can't be reused.

When you put the cover on, prevent nitrogen leaks, which will let dirt and moisture into the ISU, by following these tips:

- ▣ Lightly coat a new preformed packing, NSN 5330-01-158-0361, with silicone lubricant, NSN 8030-01-190-8562. Never reuse an old packing.
- ▣ Install the packing on the cover.
- ▣ Apply a thin coat of lubricant on the cover threads. Press the cover in and turn it until it's in place.



## Wire Wrap-up



It's more than just a good idea to check for wire wrapped around your vehicle's final drive—it can save a final drive.

The wire cutters don't always work, so wire can be pulled in tight between the final drive housing and output shaft. Trapped there, it wears away at the final drive housing and chews up the output seal.

When the seal goes bad, you've got

big trouble. You can help lessen the chances that this will happen by looking for wire every time you stop the vehicle.

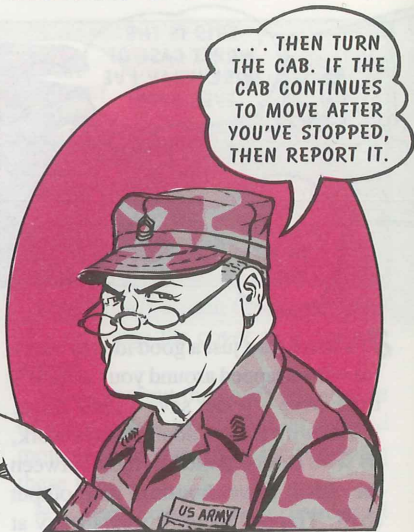
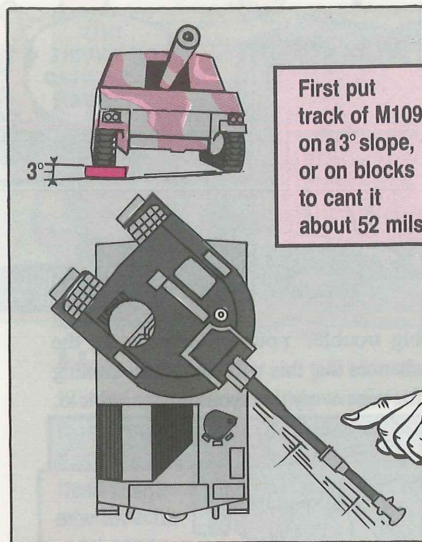


## \$AVE BUGS! Buy PROBE PARTS!



Buying the individual components of STE-M1/FVS test set probe assembly, NSN 6625-01-102-6878, is cheaper than buying the assembly. The components cost \$231.86, which is about \$74 less than the entire assembly. The components are shown as Items 53 through 64 of Fig 4 in TM 9-4910-751-14P.

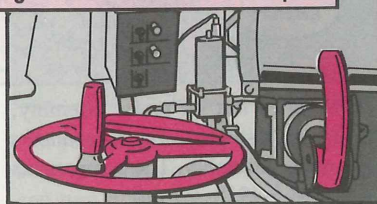
## Cab "Creep" Needs a Fix



Although cab "creep" is included in the troubleshooting section of TM 9-2350-311-20-2 (Item 2 on Page 4-21), there's no mention made of it in any PMCS for the M109's.

To check your howitzer for cab drift, park it on a three-degree slope or put enough blocks under one track to cant it about 52 mils.

Traverse toward the low side in power, then switch to manual traverse before the gun tube reaches the lowest point

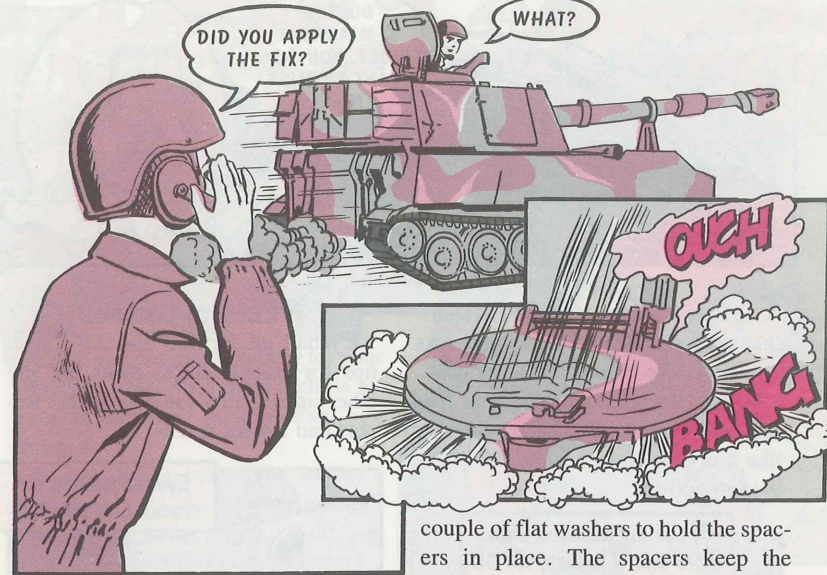


Eyeball your fire control instruments for 5 minutes or so. If the cab drifts any at all, report it. Your unit maintenance will get support on it right away.



Do not fire your howitzer from a canted position if your cab drifts. Unless you doublecheck before each round is fired, you may hit something other than your target.

## Commander's Hatch Latch Catch



couple of washers to hold the spacers in place. The spacers keep the spring from losing its shape which allows the latch to move too freely.

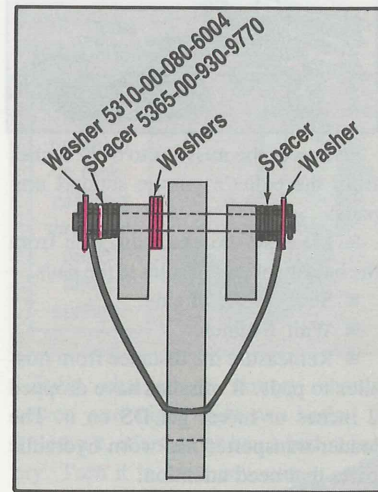
Aligning the hatch latch on the commander's cupola can give you a big headache.

Better you should use your head to apply one of the quick fixes available to make sure the latch holds the hatch open—and off your noggin.

Here's what you can do:

- Using flat washers, NSN 5310-00-080-6004, shim the space between the brackets that mount the latch and pin so there's only about a 1/8-in gap. More space than that lets the latch move too freely and can keep the hatch from locking right.

- Add sleeve spacers, NSN 5365-00-930-9770, under the spring on both sides of the brackets. You may need a



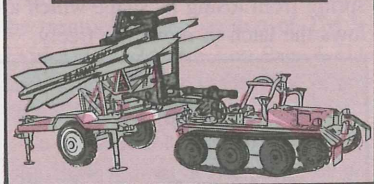
## A Load of Help



The PMCS chart in your -20 TM short-changes you. Add the following checks to your loader's semiannual services.

- ▣ With the help of the operator, load and transport three dummy missiles like it says in Paras 2-8 and 2-9 in TM 9-1450-500-10.

If dummy missiles drop more than 2 inches, tell DS

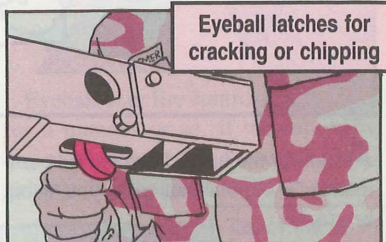


- ▣ Lower the missiles to 6–12 inches from the pallet's missile support arm pads.

- ▣ Measure the exact distance from the bottom of the missiles to the pads.
- ▣ Shut off the engine.
- ▣ Wait 1 minute.
- ▣ Remeasure the distance from missiles to pads. If missiles have dropped 2 inches or more, get DS on it. The loader-transporter has worn hydraulic parts that need attention.

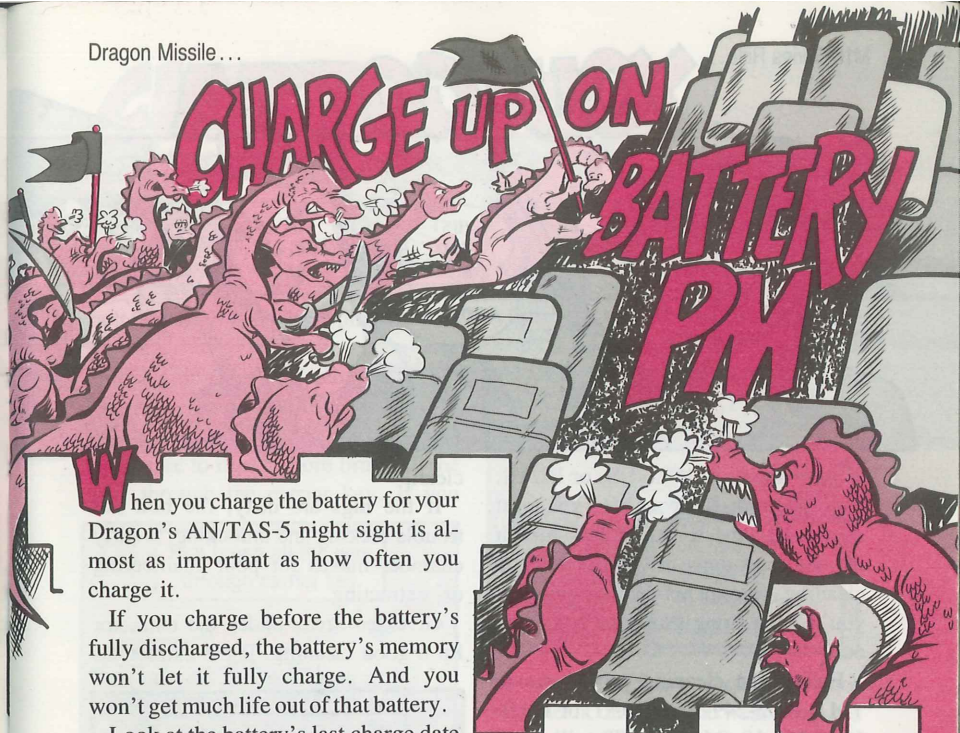
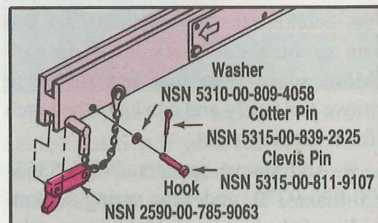
### A Look at Latches

Eyeball all forward and AFT latch tips for cracks, chips, dents, or any other signs a latch's in poor shape. Report bad latches to DS.



### Now Your Job

Replacing the hoisting beam component hooks, clevis pins, cotter pins, and washers before the annual proof-load test is now a unit level job. Here are the parts you'll need.



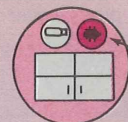
When you charge the battery for your Dragon's AN/TAS-5 night sight is almost as important as how often you charge it.

If you charge before the battery's fully discharged, the battery's memory won't let it fully charge. And you won't get much life out of that battery.

Look at the battery's last charge date when you check it out. Unless it's been 90 days or more, don't charge the battery. A battery completely loses its charge only after it's been sitting at least that long.

In the field, always wait until the night sight's battery monitor light blinks on before you charge a battery. That means the battery's fully discharged.

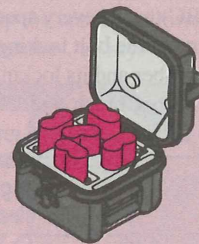
Don't charge until light comes on



Battery Monitor

Keep batteries cool. The lower their temperature, the longer they hold a charge. Store them in a cool place.

Keep batteries in their carrying case and out of direct sunlight



Fully charged, a battery should power your night sight two hours. If it doesn't, it's shot or has a bad memory. Turn it in for a new one.



# YOU GOTTA



# CLEAN IT



**T**here are no IFS, ANDS, or BUTS. Everytime you fire your M16 you must clean and lube it before you turn it in—no exceptions. If you slack off on cleaning, you can bet your car payment you'll have firing problems next time out.

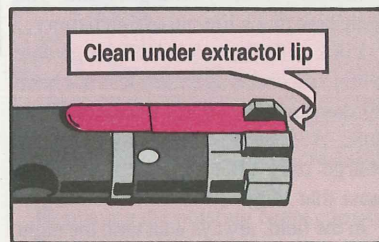
Follow the cleaning procedures in TM 9-1005-249-10 (M16A1) or TM 9-1005-319-10 (M16A2). They'll clean up most problems. But you can buy your M16 some more insurance by paying extra attention to these trouble spots.

Use an old bore brush and CLP (or RBC) to get every speck of carbon and dirt off the bolt locking lugs. Clean the chamber and its locking lugs with your chamber brush and CLP. You'll have to use lots of elbow grease to get them

clean.

If the lugs are dirty, the bolt has trouble locking and unlocking. A dirty chamber makes for poor chambering or extracting.

Give the areas under the extractor lip a good cleaning. If the extractor's



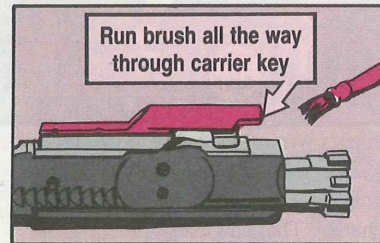
dirty, your rifle jams.

Clean inside the bolt by running a pipe cleaner in and out of the cam pin hole until all carbon's gone. Clean the



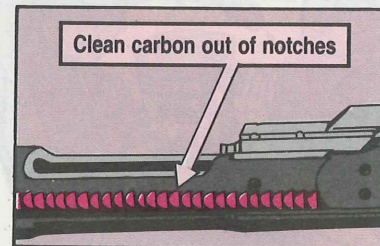
bolt face around the firing pin hole with a patch. Never run a pipe cleaner in and out of the firing pin hole. That plugs it up. A dirty bolt causes sluggish firing... or none at all.

Be sure to run the bore brush all the way through the carrier key. If you

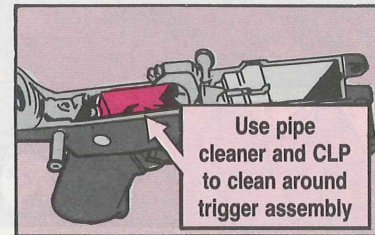


don't get out all the carbon, you get short recoil. If the key is loose or burred, tell your armorer. A bad carrier key causes your rifle to stop firing.

Brush out all the carbon in the notches along the bolt carrier, too. If they're caked, the forward assist has trouble moving the bolt carrier.



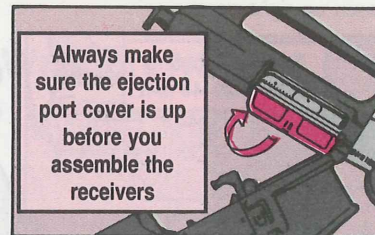
Carefully clean around the trigger assembly with a pipe cleaner or swab and CLP. Never use anything stronger. You'll bend the hammer and trigger



springs. If the firing mechanism's not kept clean, dirt and sand wear down the trigger and hammer and cause double-fires.

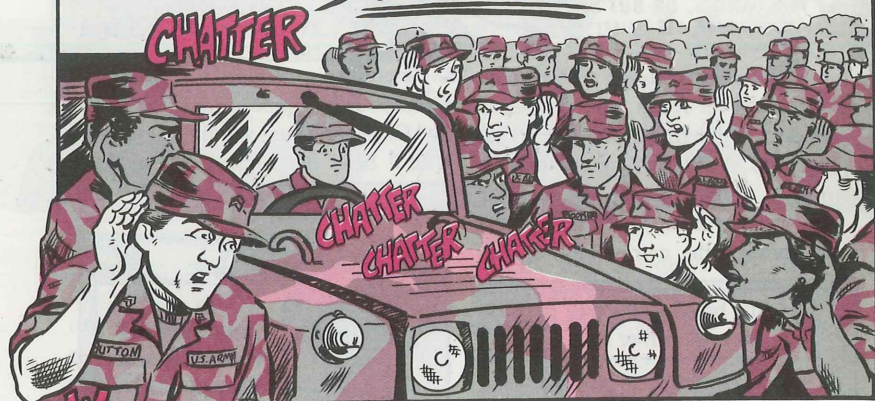
Use a bore brush or pipe cleaner to clean or ream. Never use the firing pin. That blunts its point and ruins it.

Before you snap the upper and lower receivers back together, always check



that the ejection port cover is closed. If the cover's pointing down, you ruin it or even damage the receiver.

# WHEN THE STARTER CHATTERS, LISTEN!

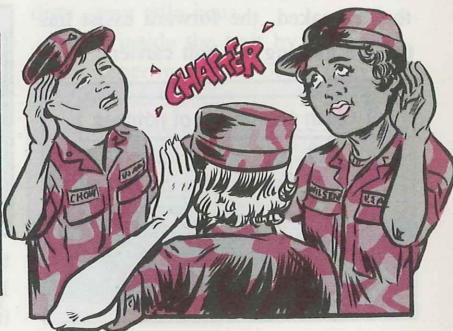
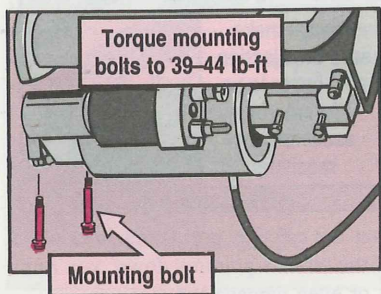


When your starter starts chattering, something's wrong! Probably loose starter bolts.

Loose bolts let the starter move as the starter gear engages with the flywheel ring gear. Gears get misaligned and gears chatter. That can cause bits of gears to be ground off.

Save your HMMWV's starter, lots of down time and Uncle's money. Get your mechanic on loose bolts, pronto.

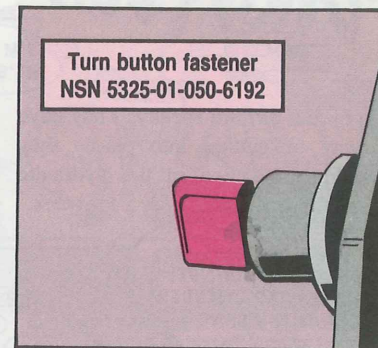
Mechanics, instead of tightening loose bolts, put in new ones. Use NSN 5305-01-153-0227 and add sealing compound, NSN 8030-00-148-8833, to the bolt threads. Torque new bolts to 39-44 lb-ft. That will make sure they won't loosen up right away.



## Cargo Cover Turn Buttons

Turn buttons on the rails that hold down the cargo covers on CUCV M1008 and M1008A1 are not in Fig 166 of TM 9-2320-289-20P. Here's what you need.

ITEM	NSN	QTY
Turn button fastener	5325-01-050-6192	1
Self locking nut	5310-01-152-0598	1



## Nix HMMWV Windshield Painting

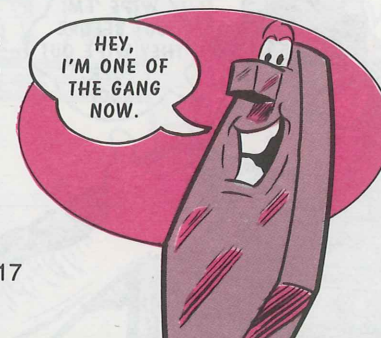
HERE'S ONE ETCH YOU CAN'T SCRATCH OFF.



Painting the name of a driver on the inside of a ballistic windshield is a sure way to leave a lasting impression. Paint etches into the plastic windshield and makes the operator's name permanent. So, if you put the driver's name on your HMMWV, stencil it above the windshield or use a nameplate like suggested in TACOM Msg AMSTA-MTA 191300Z Apr 88.

## New Torque Wrench NSN

If you have HMMWV's, add torque wrench, NSN 5120-00-554-7292, to your No. 1 and No. 2 Common shop sets. You need this torque wrench to properly torque ball joints. Use Appendix A of CTA 50-970 as your authority to order.



# DIRTY FLUID = BAD BRAKES!

Grit and dirt are sneaky. They have a way of getting into places they shouldn't be, like in the hydraulic brake fluid on your 2 1/2- or 5-ton truck.

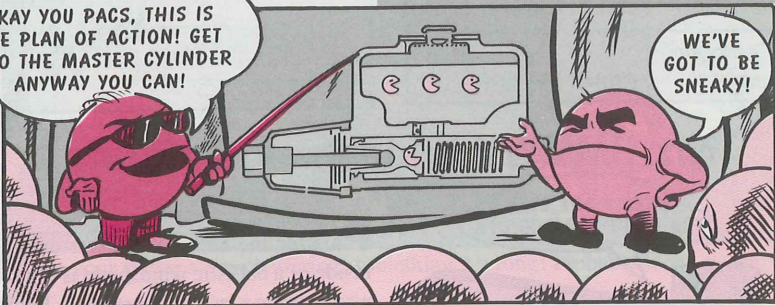
I'M GRIT, HE'S DIRT.

WE'RE SNEAKY.



OKAY YOU PACS, THIS IS THE PLAN OF ACTION! GET INTO THE MASTER CYLINDER ANYWAY YOU CAN!

WE'VE GOT TO BE SNEAKY!



Most of the time they sneak in when you check or add fluid. It's easy for them to do on these trucks because the filler cap is underneath the trap door in the floorboard. The floorboard gets dirty and some of that dirt often winds up in the brake fluid. A few little specks look harmless, but inside a brake system they eat up seals and grind up master cylinders.

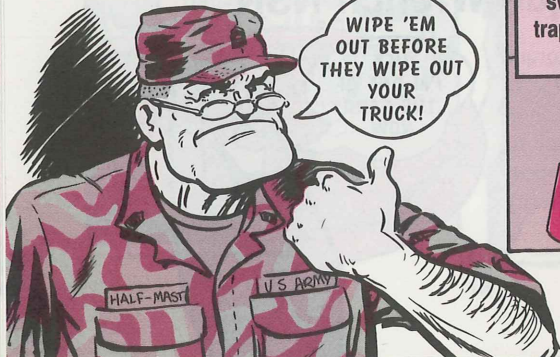
You've got to stop 'em before they start and wipe 'em out from where they hide. A few minutes of prevention saves several dollars and many man-hours of cure.

Prevention starts with a clean trap door. Sweep the floorboard clean before you open the door. Then take a

Good housekeeping counts: sweep dirt away from the trap door and off the beams around the filler cap.

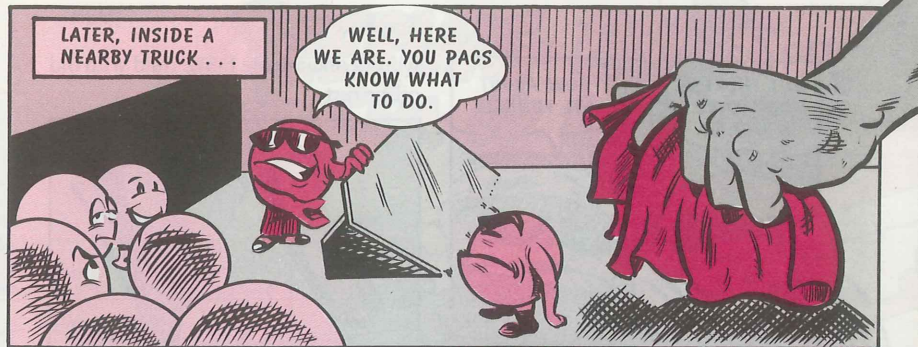


WIPE 'EM OUT BEFORE THEY WIPE OUT YOUR TRUCK!



LATER, INSIDE A NEARBY TRUCK . . .

WELL, HERE WE ARE. YOU PACS KNOW WHAT TO DO.



rag and wipe off the beams around the filler cap. These beams collect dirt and some of that dirt gets knocked off when you reach down to remove the filler cap.

It's also a good idea to wipe off the filler cap and the top of the fluid reservoir before you take off the cap.

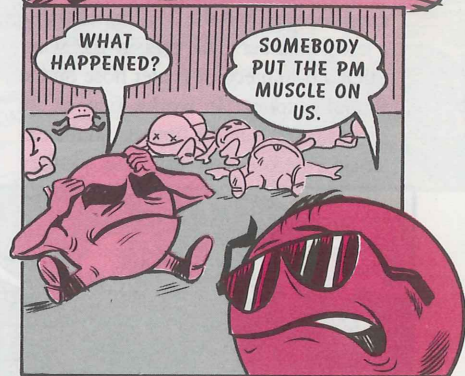
On 2 1/2-tons, you have to remove the vent line to get to the filler cap. That gives dirt another chance to sneak into the brake lines.

Clean the area around the vent valve before you unhook the line. Then wipe off both sides of the connection before you hook it back up.

# POW!

WHAT HAPPENED?

SOMEBODY PUT THE PM MUSCLE ON US.



HOW ABOUT THE VENT VALVE?

On 2 1/2-tonners, clean around the vent valve before you remove the vent line.

BUT LOOK AT THIS, THESE MUGS KNOW ALL THE ANGLES.





Use the funnel in the No. 1 Common shop set to add fluid. It works fine on the 5-tonners, but the 2½-tonners have a crossmember that gets in the way. Stick a 6-in piece of heater hose on the funnel's spout. It works fine as an extension. Clean the funnel and the extension before you use 'em so they

won't contaminate brake fluid with old oil or dirt.



Careful where you lay the filler cap while you're adding fluid. Always wipe it off before you screw it back on. You don't want anything but clean brake fluid going into the brake system.



HEMTT...

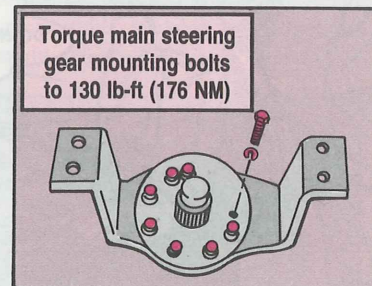
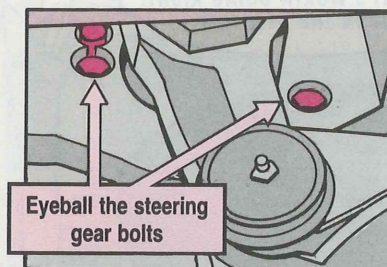
# STEERING BOLTS-- TORQUE 'EM OR LOSE 'EM!



Steering gear bolts work loose on your HEMTT and can fall out. That leaves you up that famous creek without any means of propulsion.

You drivers need to eyeball those

Mechanics, you need to hop on those loose bolts. Back off each bolt and then torque it 130 lb-ft (176 NM).



bolts before you move out. If you see any loose hardware or shiny or rusty spots around the bolt heads or nuts, report it. After all, it's your can in the canoe.

And when you get that big rig in for the semiannual service, grab your torque wrench and do 'er again. It only takes a few minutes and it'll keep the driver away from that creek where there's no way to go but wrong.

NEW

FLAPS FOR OLD

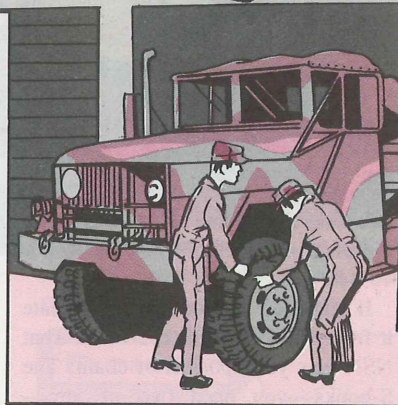


Every new or retreaded tube-type tire that goes on a split ring wheel deserves a new flap. An old flap will fit in a new tire or retread, but it can cause trouble.

Flaps mold permanently to fit the rim they're on. They keep the rim from pinching or rubbing the tube. When you pull out the flap and put it in a different tire, it may not protect the tube. That can ruin the tube, cause blowouts and get people hurt.

Always use a new flap any time you mount a new or retreaded tube-type tire. Only new tires come with flaps. Retreaded tires do not. So, if you get a retread, ask your support for a new flap.

Just any old flap won't do. Make sure to check the right size for your vehicle's tire in the TM. Here are the NSN's you need according to tire size:

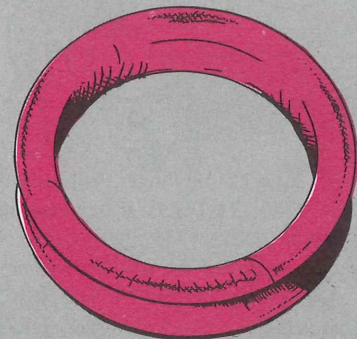


You may get caught in a pinch and have to reuse an old flap. So, save a couple of good old flaps for each tire size your shop services.

Before you reuse a flap, look it over carefully. Make sure it is the right size for the tire and that it doesn't have any cracks, folds, tears, or sharp edges that might damage the tire

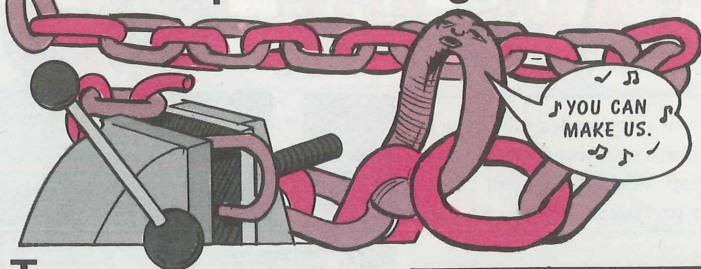
IF THE JOB IS WORTH DOING, IT'S WORTH DOING RIGHT! PUT IN THE NEW FLAP.

SIZE	NSN 2640-00-
6.00-9	535-7509
6.50-10	472-8645
7.00-10	861-3484
7.50-15	895-5767
7.50-16	696-0466
7.50-18	797-0510
8.25-20	699-9473
9.00-16	208-7541
9.00-20	147-5160
11.00-20	158-5617
16.00-24	806-0488



M929 5-Ton Truck...

## Dump Truck Tailgate Chains



Tailgate chains are not in TM 9-2320-272-20P. They come as part of tailgate, pin and chain assembly, NSN 4010-00-409-4007.

If you need just the chain, fabricate it from NSN 4010-00-165-6063. That NSN gets you 100 feet of chain. The S-hooks—you need two of 'em—come with NSN 4030-00-948-7315.



Make tailgate chain from NSN 4010-00-165-6063

Semitrailers...

## BETTER LOAD BINDER



MODEL	CHAIN SIZE	NSN 3990-01-232-
R-30	1/4-, 5/16-, 3/8-in	0880
R-40	3/8-, 7/16-, 1/2-in	0881
R-35	1/4-, 5/16-, 3/8-in	1239

You can no longer get load binder, NSN 3990-00-274-6746, listed in TM 9-2330-211-14&P. It has been replaced by a safer latch-type binder, NSN 3990-01-213-1746, that fits the 3/8- to 1/2-in chains.

Other sizes of the new binders are available.

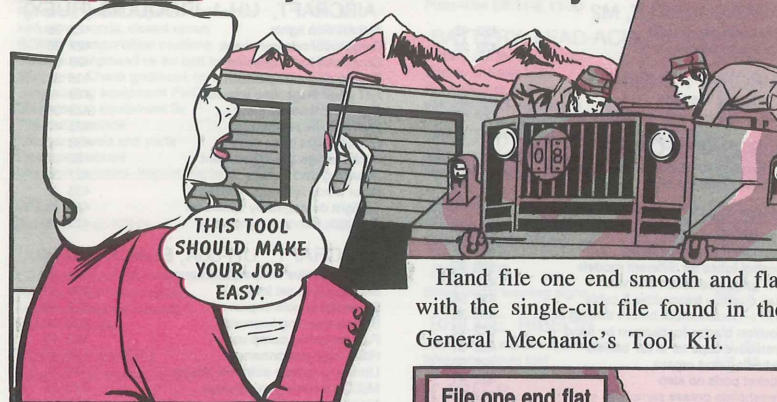
NSN 3990-01-213-1746 and NSN 3990-01-232-1239 have a compression unit that acts like a shock absorber. This helps save the binder when you strap down rigid loads with a steel chain, for example.

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## Tool Makes Voltage Adjustments Easy



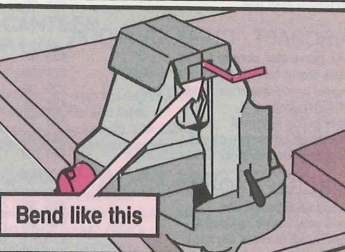
Hand file one end smooth and flat with the single-cut file found in the General Mechanic's Tool Kit.

File one end flat

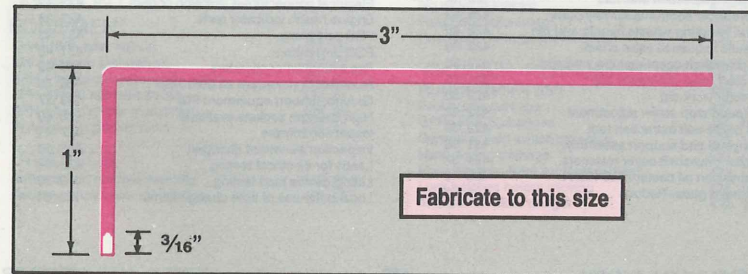


Little things often cause big aggravations—like the voltage adjustment screw on the Leece-Neville alternator, NSN 2920-00-909-2483. Getting a regular screwdriver to the screw through the maze of hoses on most trucks is a real pain.

SP4 David Lee Null, Ft Hood, TX, has a Tool Improvement Program Suggestion (TIPS) to make the job a snap with a special tool you can fabricate in your shop. All it takes is a 4-in piece of 3/32-in welding rod, NSN 3439-00-246-0565.



Bend like this



Fabricate to this size

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**NEED AN ANSWER TO A SUPPLY OR MAINTENANCE PROBLEM ?**

Just Write or Call:  
MSG Half-Mast  
PS, The Preventive Maintenance Monthly  
Lexington, KY 40511-5101  
AUTOVON: 745-3503 or 3355 Comm. (606) 293-3503

AH-1 Series...

# Got that sluggish feeling

THIS CALLS FOR UNUSUAL ACTIONS!



Unusual conditions call for unusual actions . . .

. . . like giving the M197 20mm gun on your Cobra more care when you're operating in extreme temperatures, dust or sand, moist or salty air and rain or snow.

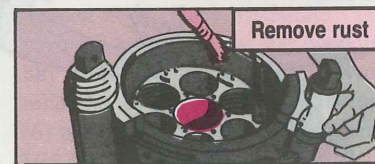
You've got to clean the weapon more often if you're in a desert or semi-desert area. Blowing sand gets into places like gears, breech bolts and bores, where it does a lot of damage.

Follow these tips to clean the 20-MM gun:

Never use abrasives, files, scrapers, wire brushes or sharp tools that might scrape the finish off.

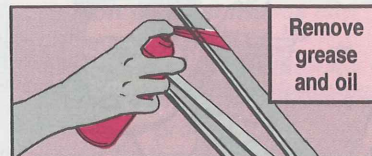


Use a non-metallic, bristle brush saturated with rifle bore cleaner (RBC), NSN 6850-00-224-6663, to clean and remove rust from parts.



Remove rust

To remove grease and oil, use dry-cleaning solvent P-D-680, NSN 6850-00-281-1985. Then wipe the part dry.



Remove grease and oil

▣ Scrub the bore and chamber of each gun barrel with a cleaning rod and a phosphor bronze bristle bore brush saturated with rifle bore cleaner. Wipe the bore and chamber dry with a clean cloth.

▣ Lube cleaned parts right away to prevent rusting.

▣ Wear gloves to handle clean, polished parts.



Wear gloves

▣ Cover and wrap cleaned parts to protect them from dirt until you reinstall them.



## Testing... Testing... Testing...

I COULDN'T TEST THE ACTUATOR. WE DON'T HAVE A TEST STAND.

WE DON'T NEED A TEST STAND... LET ME SHOW YOU!

Dear Windy,

There's a 100-hour inspection on older type hydraulic servo actuators on our OH-58's. It's required to ensure the locking spring mechanism on each hydraulic servo return port operates right.

The NOTE on Page 7-8 of TM 55-1520-228-23 says the check can only be made using a hydraulic test stand.

Wrong.

If a test stand is not available or convenient, you can perform the test using the bird's own hydraulic pump.

**CW4 David Currier**  
Ft Rucker, AL

Dear Mr. Currier,

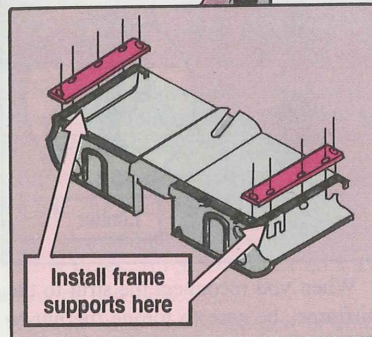
You're right, indeed!

You can make the hydraulic sequence valve check using external test stand pressure or internal aircraft pressure.

A correction to the TM is in the works.

*Windy*

## Seat Frame Supports Prevent Damage



Dear Windy,

When crew seat panels are removed from the OH-58 for cabin maintenance, mechanics step on the seat frames and damage them.

But we stopped the damage by making a brace to fit over the frames to protect them from heavy-footed mechanics inside the cabin.

Use 2 plies of 1/2-in thick phenolic sheet, NSN 9330-00-880-4870, cut to the same length as the seat frame and approximately 2 1/4 inches wide. Drill holes in the phenolic to match the holes in the seat frame. Attach the phenolic with the hardware used to mount the seat panels.

You can install the braces in minutes and save Uncle big bucks in support replacement costs.

**Moses L. Daniels**  
**Steven L. Ohler**  
Hunter AAF, GA

*(Editor's note: Sounds like a winner!)*

## UH-1 Rotor Blades Inspections

Good news, Huey mechanics! You don't need to remove the main and tail rotor blades to perform the periodic inspections required by Change 60 (May 88) to TM 55-1520-210-23-1. Reduce downtime without reducing safety or reliability by inspecting the main rotor blade like it says in Para 5-31.a. (1) thru (6) only and the tail rotor blade per Para 5-117.a. thru d. only. The word's in UH-1-MIM-88-05.

## Limiter Limits Chafing

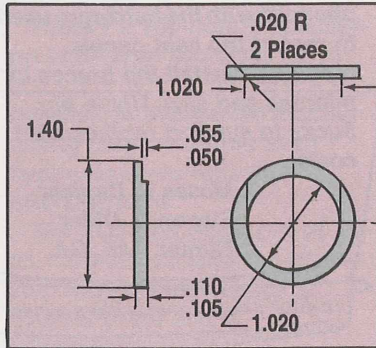
Next time your Black Hawk is down for maintenance, look for chafing on the airframe fitting on the canted hinge bulkhead fitting assembly.

It's the fitting that attaches the tail landing gear strut to the airframe.

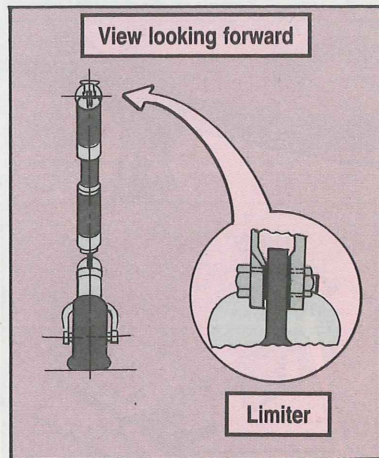
The headshed has approved a nylon washer, or limiter, to reduce chafing of the airframe fitting. You make it from 1/8-in nylon, NSN 9330-01-029-9334.

Before that, though, blend out the chafing damage. The maximum allowable depth of the damaged area after blending is 0.045 inch.

Machine the limiter to these dimensions:



Install the limiter over the flanged bushing, like so:



When you reconnect the strut to the airframe, be sure to torque the nut to 285-315 lb-in like it says in Step 1 of Task 39 in TM 55-1520-237-23-5.

## Inspection Penetrant Change

Inspection penetrant P-149, part of inspection kit NSN 6850-00-782-2740, has been dropped from the Qualified Products List and is no longer approved for use. Turn it in to your unit supply and replace it with inspection penetrant, NSN 6850-01-267-4345. It's not on the AMDF, so order on a DD Form 1348-6 using RIC S9G.



When one of three relays in a CH-47D's fuel quantity switch box failed, the Chinook unit took pains to carefully fill out a Quality Deficiency Report, SF 368, and send it to AVSCOM.

But when the headshed contacted the unit to get the failed relay for teardown analysis, the unit couldn't find it.

End of investigation!

Many times, AVSCOM must do a tear-down analysis to identify why a component or part fails.

So hold on to any failed part or component that's classified as a Category I QDR for at least 30 days. This gives the headshed time to act.

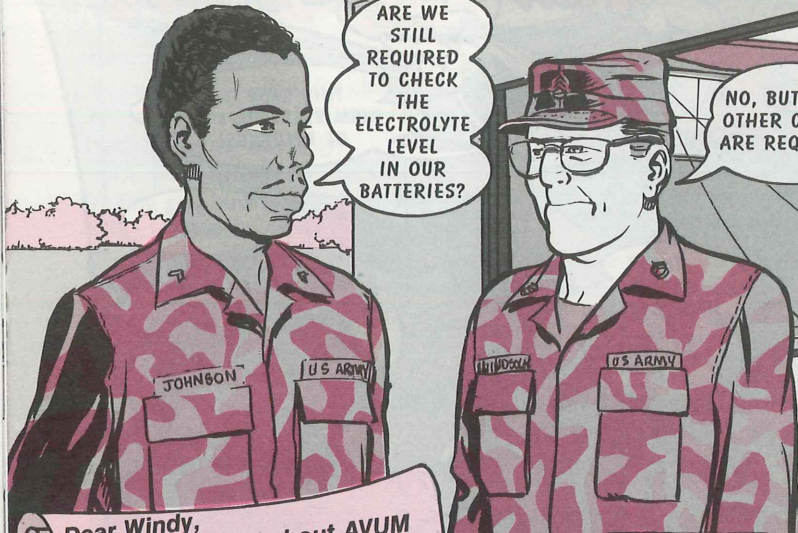
Hold Category II QDR's at least 55 days or until you receive instructions from AVSCOM.

Para 2-13c of DA Pam 738-751 explains the differences between Category I and II.

AVSCOM will contact you and let you know what to do with your QDR exhibit. If you don't receive instructions or an answer to your QDR within 30 days for CAT I or 55 days for CAT II, action should be taken to dispose of the defective item through normal supply channels.

If you have any questions about these reports, call AVSCOM's Customer Feedback Center, AMSAV-QF, AUTOVON 693-3733 or Commercial 314-263-3733.

# TEST FOR ELECTRICAL LEAKAGE



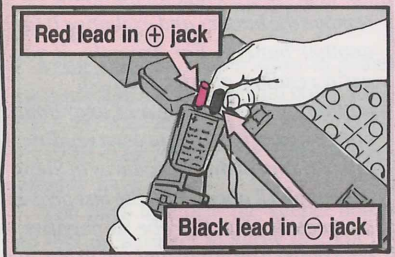
ARE WE STILL REQUIRED TO CHECK THE ELECTROLYTE LEVEL IN OUR BATTERIES?

NO, BUT MOST OTHER CHECKS ARE REQUIRED.

Dear Windy,  
We're confused about AVUM requirements on our aircraft nickel-cadmium batteries. Especially confusing is the required interval between inspections, the electrolyte level check and the electrical leakage test.  
Is the interval between unit PMCS in Table 4-1 of the TM weekly or 30 days?  
Is the electrolyte level check still required?  
Is the electrical leakage test still required?  
CW3 C.F.R.

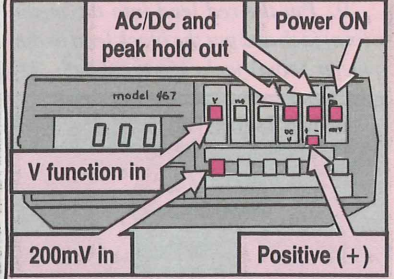
Dear Mr. C.F.R.,  
The commo headshed changed the AVUM preventive maintenance checks and services from weekly to 30 days or every 25 flight hours by CERCOM Msg DRSEL-ME-SPF 241830Z Oct 80. They deleted the electrolyte level check in Table 4-1 of the TM at the same time.  
The electrical leakage test is still required, but the test procedures have changed because the AN/PSM-45 multimeter has replaced the TS-352B/U multimeter.  
The new procedures will be spelled out in the revised TM. Until it's published, though, here's how to test for leakage with the AN/PSM-45:

1. Disconnect the battery from the aircraft wiring at the battery connector.
2. Set your multimeter for 0-10 amps.
3. Install the (V) terminal of shunt to (V-Ω) jack on meter. Install (COM) terminal of shunt to (COM) jack on meter.



4. Install red lead on shunt to (+) jack on shunt and the black lead to (-) jack.

5. Set the meter switches:
  - Power switch IN
  - (V) function switch IN
  - (200mv) range switch IN



- AC/DC switch OUT
- Peak hold switch OUT
- Switch under peak hold switch to +

6. Touch the red test probe of meter to (+) battery terminal. Place the black probe of the meter to a paint-free surface of the metal battery case. If

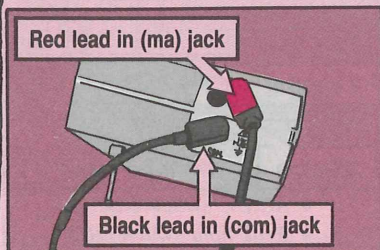
the case is not metal, put the probe on any of the 4 screws holding the battery connector on to the case.



7. Read the indication on the meter and move the decimal point one place to the left to get a reading in amps. NOTE: If reading is more than 1 amp, go to Step 13. If reading is less than 1 amp, go to Step 8.

8. Remove both leads from shunt and remove shunt from meter.

9. Put the red lead into the meter (ma) jack and put the black lead in the meter (com) jack.

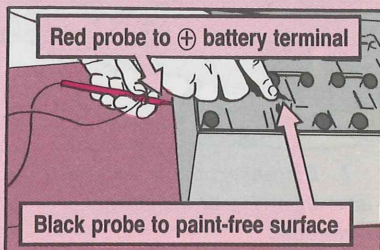


10. Re-set meter switches:

- Power switch IN
- MA function switch IN (for milliamps)
- AC/DC switch OUT

- Peak Hold switch OUT
- Switch under Peak Hold to (+)
- 200ma range switch IN

11. Touch the red test probe of meter to the positive (+) battery terminal. Hold the black probe to a paint-free surface of metal battery case. If case is non-metal, place black probe on either of the 4 screws holding the battery connector on the case.



12. Record the meter indication and do NOT move the decimal point to the left. Read the meter directly as it is in milliamps.

13. If the reading is greater than the amp-hour rating of the battery, remove the battery and exchange it for another battery. For example, if you get a reading greater than 13 milliamps when testing a 13 amp-hour battery, turn it in. If you get a reading of zero, repeat the procedures in Steps 2 through 12 above with the test probes connected—black probe to negative (-) battery terminal and red probe to paint-free surface of metal case or screw on non-metal case.

Windy

## Short Sighted Move

Dear Editor,  
Sloppy handling of nickel-cadmium batteries results in shorting of the terminals of the ELCON connector.

So we started saving the plastic caps from oil sample tubes, NSN 4710-00-933-4415. We put the caps on the ELCON connector terminals before we turn a battery in for service and when it is returned for installation. We haven't had an accidental shorting since then.

David A. Stutesman  
Louisville, KY

(Editor's note: Sounds like you put a cap on the problem.)

Slingloading...

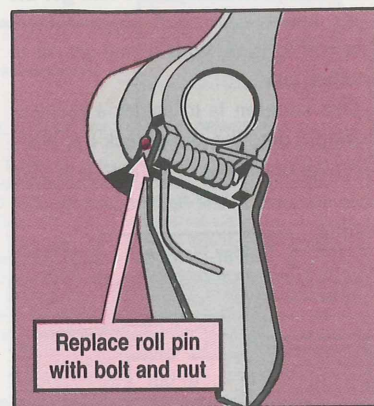
## Be a Keeper Seeker

You can lose a load without a keeper on the grabhook of your 10,000- and 25,000-lb sling sets.

Make sure the keeper stays in place by replacing the roll pin with bolt, NSN 5306-00-771-7621, and nut, NSN 5310-01-024-7080 (some keepers may already have bolts).

You have to redrill the keeper holes to 1<sup>3</sup>/<sub>4</sub>-in diameter to allow the bolt to go through the keeper.

The keeper is spring-loaded and must have free movement, so make sure you don't overtighten the nut.



## Make Your Own Leads

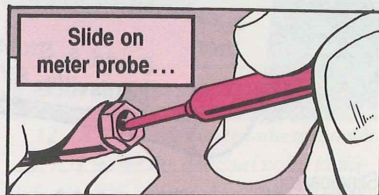
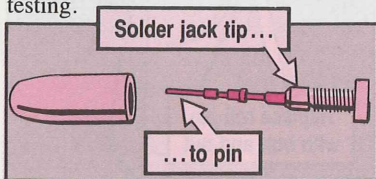


Testing cannon plugs with a multimeter can leave you mad at the world.

That's because your multimeter's test lead probes are too big to go into many cannon plug receptacles.

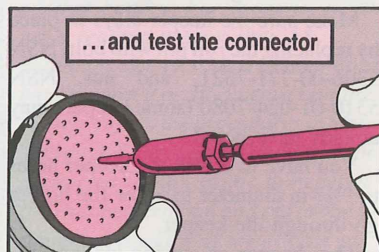
But some heavy-handed repairmen try to force the fit and damage the plugs. Others jury-rig the multimeter's test leads with safety wire and get the same result—damaged plugs. Others just say to heck with it and go on to another task.

One solution is to solder a replacement pin onto the end of jack tip, NSN 5935-00-909-7894. Use different size pins to match the connector you're testing.



You can get an assortment of leads in test lead set, NSN 6625-01-121-0510.

To test for continuity, just insert your homemade adapter into the connector



pin holes. Then put the multimeter probe into the adapter.

## Aircraft Fire Extinguishers

The only part of your bird's fire extinguisher that you can replace is the cylinder, NSN 4210-00-708-0031. If any other part is broken or missing, you have to replace the whole extinguisher, NSN 4210-00-555-8837.



## UH-1 Landing Light Bulb



Replace a burned-out landing light bulb in your UH-1 with a 450-watt bulb, NSN 6240-00-557-3065, unless your bird has been modified for night vision goggles. Then use NSN 6240-00-690-1094 to get a 150-watt replacement bulb. Never use any other bulbs in the UH-1 landing light.

## OH-58 OIL COOLER HOSES

The transmission oil cooler hoses for your Kiowa are numbered wrong in Fig 64 of TM 55-1520-228-23P. Get the longer hose with NSN 4720-00-165-9677 and the shorter hose with NSN 4720-00-134-4364. Make a note until the TM is updated.

### 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:  
AUTOVON 693-2066  
(24 HOURS)

**UH-60-88-09**, SOF, Technical, UH-60/EH-60 inspection of ARA manufactured crew seats for loose clevis screws, 022000Z Aug 88.  
**F/W-88-03**, SOF, Technical, U-8F and BE65 series, revision to F/W-88-02, inspections of tracks and components, 092200Z Aug 88.  
**AH-64-88-11**, SOF, Maint Mandatory, AH-64, inspection brake hose clamp, 112200Z Aug 88.  
**UH-1-88-06**, SOF, Maint Mandatory, UH-1H/V and EH-1H/X series, inspection of the adapter assembly

(damper mounting), 151600Z Aug 88.  
**OH-6-88-06**, SOF, Technical, OH-58A and OH-6A, immediate inspection of T-63-A-700 engine serial numbers, 252030Z Aug 88.  
**OH-58-88-04**, SOF, Technical, OH-58A and OH-6A, immediate inspection of T-63-A-700 engine serial numbers, 252030Z Aug 88.  
**AH-64-88-12**, SOF, Operational, AH-64, canopy severance system, 302000Z Aug 88.

**UH-60-88-MIM-08**, Advance notice of manual change to add a warning concerning the torquing of electrical connector, 092100Z Aug 88.  
**AH-64-88-MIM-12**, AH-64, Advance notice of manual change of tail rotor resilient mount repair procedure, 242000Z Aug 88.  
**GEN-88-MIM-03**, All aircraft, notice of upcoming TM change concerning the use of alcohols for cleaning hydraulic components, 291900Z Aug 88.

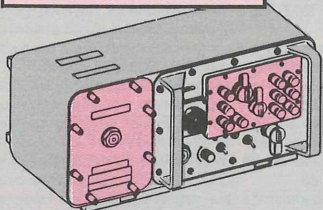


# WAYS TO

THERE ARE A COUPLE OF WAYS TO REMOTE POWER FROM YOUR VEHICLE TO YOUR GUN DIRECTIONAL UNIT (GDU)!

You can make the power hookup with WD-1 wire for your GDU, like it says on Pages 3-7 and 3-8 of TM 11-7440-283-12-2. Or your unit repairman can make a better, safer power cable for you.

GDU (Gun Direction Unit)



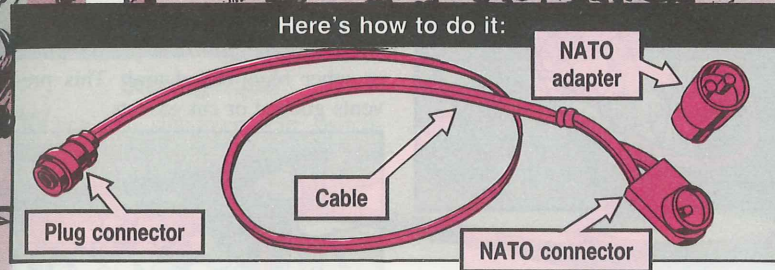
Here's what's needed:

ITEM	NSN
Plug connector (NATO)	5935-00-567-0128
Adapter (NATO)	5935-00-322-8959
Cable (250-ft)	6145-00-643-3482
Plug connector	5935-00-921-3399

MY REPAIRMAN HOOKED ME UP WITH A BETTER CABLE!

# POWER GDU

Here's how to do it:



Cut 50 feet from the new cable.

Connect the black and red wires of the new cable to pin B (+) of the GDU cable connector.

Before closing the plug connector, add some wire straps for strain relief on the end of the new cable and apply RTV compound for a good weather seal.

Then, connect the green and white wires to pin A (-).

On the other end of the 50-ft cable connect the black and red wires to the positive (+) terminal and the green and white wires to the negative (-) terminal.

Now you can hook up directly to a vehicle that has a NATO slave receptacle.

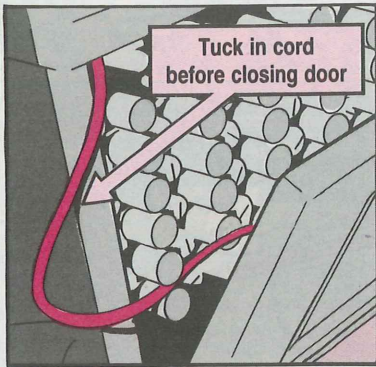
You'll need the adapter to get power through the US slave receptacle on older vehicles, such as the Gama Goat.

And remember—always disconnect the hookup at the power source first. This will block a shock or a sparking short circuit.

I'VE GOT A LONG DISTANCE CABLE.

**G**ood PM keeps this oldie but goodie tough.

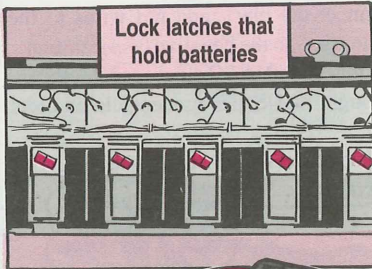
The latch cord on the rear access door of the TA-207/P jack field section gets torn or mangled when you shut the door. Solve this problem by tucking in the cord before you close the door.



**Battery Power**

**F**or peak power, change all the batteries when you put in fresh ones.

When you store the switchboard, take out the ten BA-200 batteries and the BA-3030's, including the two in the keyshelf section and in the TA-207.



**KEEP IT**

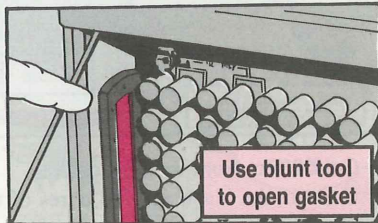


WHAT KEEPS YOU GOING, OLD TIMER?

**Easy on Gaskets**

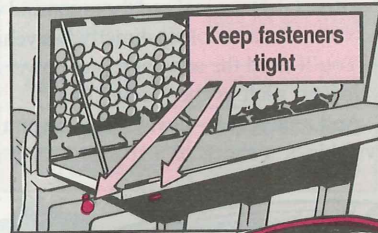
**E**ye the gaskets in the sides of the TA-207. If a gasket is cracked or chipped, get it replaced.

To open the gaskets to insert WD-1 wire, use one arm of a pair of pliers or other blunt-ended tool. This prevents gouged or cut gaskets.



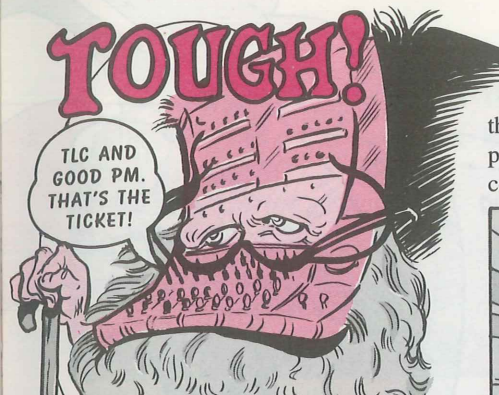
**Tighten Fasteners**

**T**ighten camloc fasteners that hold the rear door of the keyshelf and jack field section in place.



**TOUGH!**

TLC AND GOOD PM. THAT'S THE TICKET!

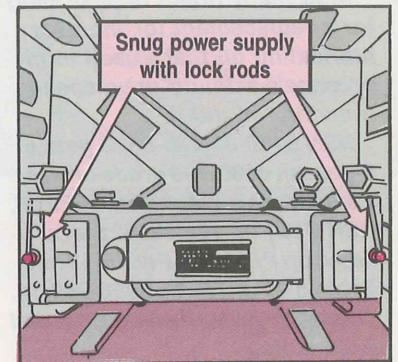


A loose door lets dust and dirt or moisture into the binding posts. Dust and dirt and moisture will knock out the telephone.

**Storing Time**

**W**hen you shutdown your switchboard for packing it away, make sure

the lock rods that hold the PP-990 power supply are snug in the outer cover assembly.



Loose lock rods let the power pack bang against the switchboard during transit. This bends or breaks the switchboard's plugs.

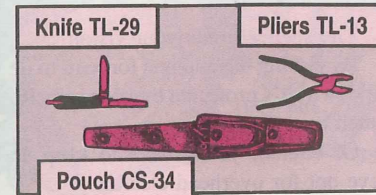
TE-33 Tool Kit...

**Order by the Piece**

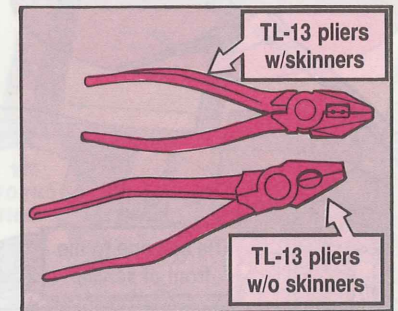
**Y**ou must order each item to make up a kit.

The items are:

- TL-29 Knife NSN 5110-00-240-5943
- CS-34 Pouch 5140-00-498-8898
- TL-13 Pliers 5120-00-239-8254 w/o skimmers



NSN 5120-00-247-2063 is for the TL-13 with skimmers, which have been re-issued in supply.



## Lube Oil NSN Changed

Dear Editor:

After many hours of searching for a replacement for the gear lubricating oil that's used in my antenna's azimuth drive speed reducer, I found it.

NSN 9150-01-035-5393 gets a 5-gal can of 80W90 grade oil. It's a substitute for Mobil SHC 629 oil, NSN 9150-01-165-8916, that's listed on Page 5-5, Para 5-13 and Table 5-1, of TM 11-5985-358-14. The latter NSN is being dropped from supply.

Just wanted to share this with you and others needing the lube oil.

SP4 Douglas Berthon  
APO New York



(Editor's note: Thanks! Consider the lube oil shared. Make a note in your TM until the info is added.)

FAAR Antenna...

## Forward Tiedown Better

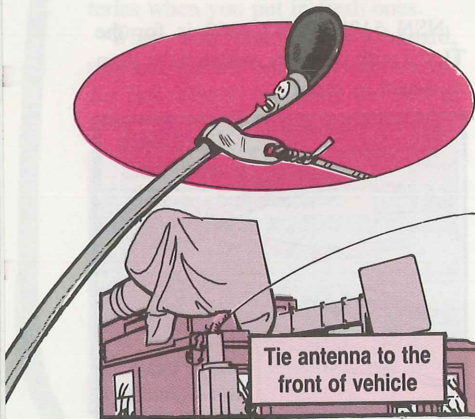
Always tie down your AS-1729 antenna toward the front of your vehicle when it's on a FAAR shelter.

If the antenna is tied down toward the rear, it'll get damaged or broken while you're backing up your vehicle.

The shelter limits your vision.

By pulling the antenna forward to tie it down, it's protected by your vehicle, such as a Gama Goat.

Of course, you'll have to keep an eye out for overhead clearance.



Rocks picked up by a HMMWV rear tire can slam missile-like into your antenna's coaxial cable in the wheel well. This knocks the insulation off the cable and exposes the wires to mud and moisture.

For extra protection, wrap the cable five or six times with insulation tape, NSN 5970-00-240-0620, or cover the cable with spiral wrap tubing, NSN 9330-00-980-1419.

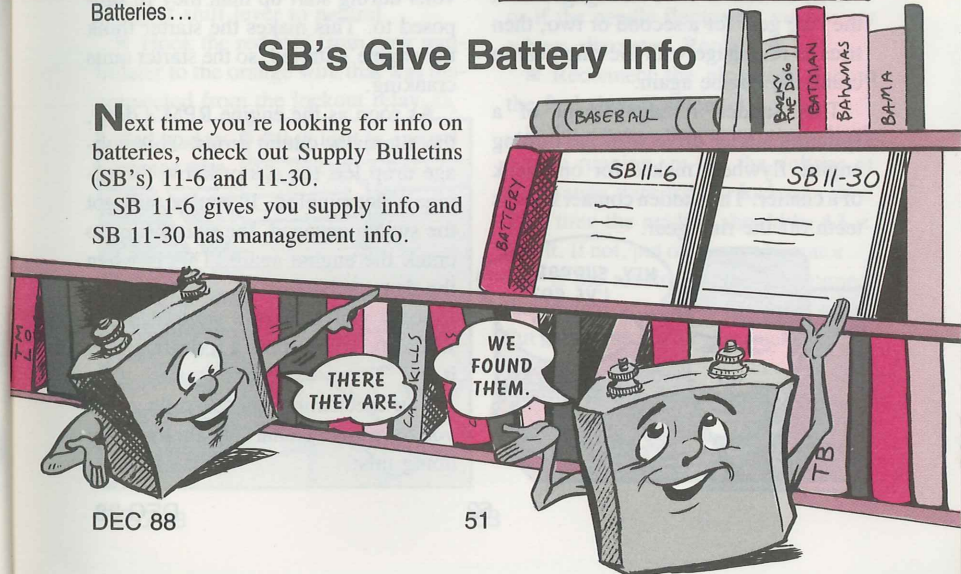


Batteries...

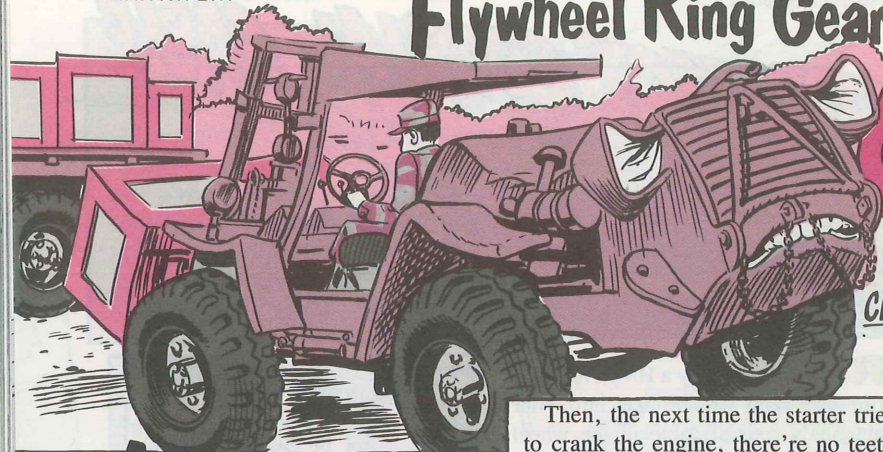
## SB's Give Battery Info

Next time you're looking for info on batteries, check out Supply Bulletins (SB's) 11-6 and 11-30.

SB 11-6 gives you supply info and SB 11-30 has management info.



# Flywheel Ring Gear



A ring gear on the flywheel takes a grinding and keeps on cranking... until the starter knocks its teeth out.

And that happens to some M4K rough terrain fork lifts. The teeth on the starter drive mesh with the teeth on the flywheel ring gear and start to turn the flywheel. Before the engine starts, the starter drive disengages from the ring gear for a second or two, then tries to re-engage with the ring gear to crank the engine again.

This sudden re-engagement of a spinning starter drive with the turning engine flywheel makes for one heck of a chatter. The sudden contact knocks teeth off the ring gear.



Then, the next time the starter tries to crank the engine, there're no teeth on the ring gear for the starter drive teeth to mesh with... a no-start situation, and a big repair job for DS.

So what causes the starter to engage and disengage before the engine starts? Simple. A bum alternator.

That's right. There are some bum alternators out there that put out more volts during start up than they're supposed to. This makes the starter think the engine's started, so the starter quits cranking.

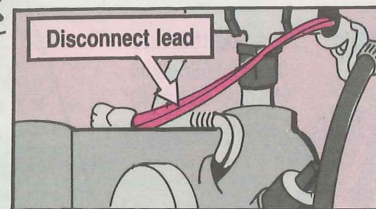
As soon as the engine RPM's drop, the alternator output drops. This voltage drop lets the starter know the engine's not running. If you've still got the switch engaged, the starter tries to crank the engine again. This is when the damage is done.

So if you hear any starter chatter when you try to crank a forklift, report it.

You mechanics can tell right off if you have an overcharging alternator by doing this:

# Going Going Gone!

## GT-R-R-IND



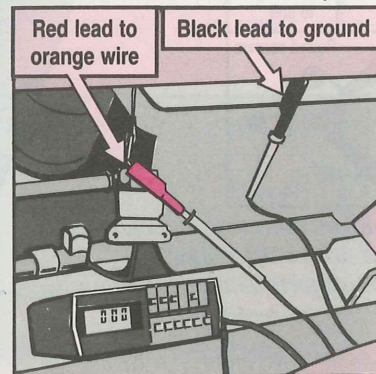
- ☐ Disconnect the electrical lead on the fuel shutoff solenoid.

- ☐ Remove the instrument noise baffle mat.

- ☐ Disconnect the lockout relay wire. That's the orange wire under the instrument panel and behind the steering column.

- ☐ Set the parking brake and move the gear shift lever to neutral.

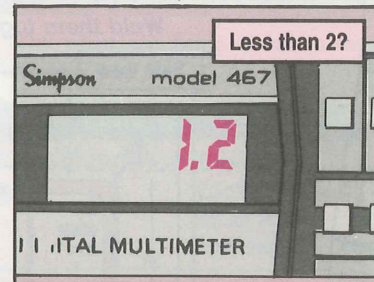
- ☐ Hook the red lead from your multimeter to the orange wire that was disconnected from the lockout relay.



- ☐ Connect the black lead from the multimeter to ground.

- ☐ Set the multimeter to read 24 volts DC or higher.

- ☐ Crank the engine. If the reading is 2 volts or less, the alternator's OK.



If the reading is higher than 2 volts, or if the needle fluctuates, you've got a bum alternator. Replace it.

- ☐ Reconnect the electrical lead to the fuel shutoff solenoid.

- ☐ Try starting the engine again. With engine running, re-test the voltage of the orange wire for the lockout relay. This time the reading should be  $13 \pm 1$  volt. If not, put on a new alternator.

- ☐ If the reading is good, reconnect the orange wire to the lockout relay. Put the noise baffle mat back on.



# PICKET 'N' POST DRIVER

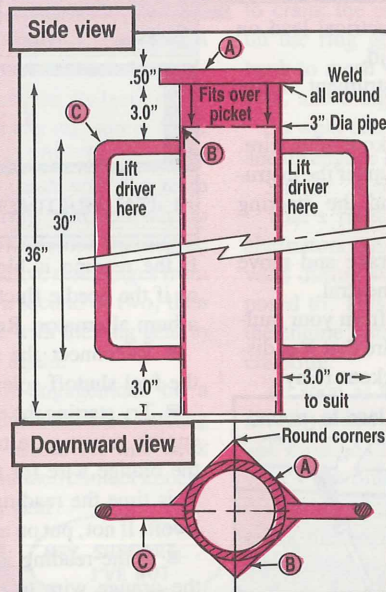
Dear Editor,  
It's easy to miss when you're driving an engineer picket with a sledge hammer. And it only takes a few whacks of the hammer handle hitting the picket for the handle to be ruined.

Instead, make a driver that slides over the picket. You'll need:

LENGTH	ITEM	NSN
4 in	1/2-in thick, 3 1/2-in wide bar	9510-00-189-1619
6 ft	1/2-in bar	9510-00-596-2280
3 ft	3-in diameter pipe	4710-00-961-9440*

\*Not on the AMDF. Order on a DD Form 1348-6 from RIC S9C.  
It costs \$2.97 per foot.

Weld them together like so:



To use the driver, slide it over the picket, raise the driver and drop it. Gravity and the weight of the driver drives the picket.

Incentive Awards Branch, Stuttgart Military Community

(Editor's note: Thanks for the suggestion. You can also order one for about \$43.00 with NSN 5660-01-248-2466.)



## Socket Adapter Added



MY 1/2 INCHER JUST DOESN'T HAVE THE TORQUE.

BUT OUR SOCKET WON'T FIT A 3/4 INCH DRIVE.

I CAN DO THE JOB!

The adapter is being added to the following sets:

Some bolts—like the rear axle saddle bearing bolts on 2 1/2-ton trucks—need more torque than the 1/2-in square drive torque wrench can read. But there's no 3/4-in square drive socket to fit the bolts.

But thanks to a Tool Improvement Program Suggestion (TIPS) by Loyd D. Linker, a socket wrench adapter is being added to several shop sets.

The adapter, NSN 5120-00-227-8088, lets you use 1/2-in square drive sockets with the 3/4-in square drive torque wrench.

SUPPLY CATALOG	SET
SC 4910-95-CL-A31	Automotive Maintenance and Repair Shop Equipment
SC 4910-95-CL-A72	No. 2 Common shop equipment
SC 4910-95-CL-A74	No. 1 Common shop equipment
SC 4910-95-CL-A57	Mechanical Emergency Repair Shop set
SC 4910-95-CL-A52	Shelter-mounted Mechanical Maintenance Shop Equipment



Get adapter  
NSN 5120-00-227-8088



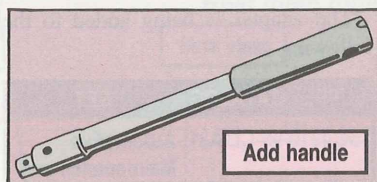
## Save Your Wrenches

SHE JUST SAVED  
US \$46.38 FOR EACH  
MECHANICS TOOL SET.



Buying a \$4.53 socket wrench handle can save you \$46.38!

That's because all you need to complete socket wrench set, NSN 5120-00-081-2307, is handle, NSN 5120-00-221-7958.



Add handle

The set shows up as a new addition to the General Mechanic's Automotive Tool kit in SC 5180-90-N26 (Oct 86).

All the components of the set—except the handle and the box—were already in the tool kit.

The box is not required, like it says in Para 7a of the SC, so just get the handle and you have a complete set.

This comes as the result of a Tool Improvement Suggestion by Nancy Mumm at Ft Leonard Wood, MO.

MUST U-Packs...

## Fuel Control Assembly NSN

The NSN listed for the fuel control assembly in TM 5-6115-434-20P for the Medical Unit, Selfcontained, Transportable (MUST) U-Pack is wrong. Use NSN 2910-01-148-8944 to get the main fuel control assembly. Make a note until the TM's are updated.

## Magnifier Lamp NSN

Get the 22-watt fluorescent lamp for your magnifier, NSN 6650-00-477-9613, with NSN 6240-00-556-8655.

## New Bit for AMDF Bytes Info

Here're new phone numbers to call the USAMC Catalog Data Activity for info about the Remote Terminal AMDF Inquiry System (RTAIS).

Commercial—(717) 770-6643/7136

AUTOVON—977-6443/7136

Food Container...

## Keep A Lid on Repairs



If those gourmet meals you tote to the field are going to uphold your reputation, your insulated food container has to perform its stuff.

Repair parts aren't listed in any TM, so use these NSN's to keep your container, NSN 7330-00-238-2411, sealing tight.



Outer cover gasket  
NSN 5330-00-032-2722



Inserts NSN  
7330-00-243-3253  
Insert cover  
NSN 7330-00-243-3254  
Insert cover gasket  
NSN 5330-00-032-2721

You can get new decals for the container with these NSN's:

DECAL	NSN 7690-01-
Insulated Food	
Container with Inserts	224-6411
Instructions for Use	220-3274
Nomenclature of Parts	223-2521



## MOGAS Substitute

Dear MSG Half-Mast,  
MOGAS doesn't work well  
in our gasoline lanterns. Is  
there an NSN for Coleman-  
type lantern fuel or similar  
white gas?

CW2 P.A.M.

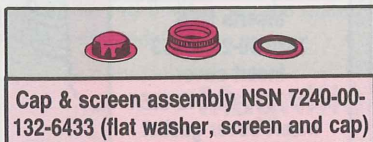
Dear Mr. P.A.M.,  
There is a non-leaded white  
gas in the system that's better  
than MOGAS for pressurized  
gasoline-fired lanterns, stoves  
and heaters. NSN 9130-00-  
221-0679 gets a 55-gal drum.

*Half-Mast*

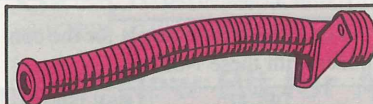
## Gas Can Parts



These NSN's get repair parts for your  
5-gal military gas can, NSN 7240-00-  
222-3088:



Cap & screen assembly NSN 7240-00-  
132-6433 (flat washer, screen and cap)



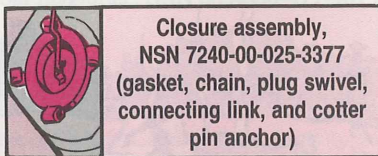
Spout assembly, NSN 7240-00-177-  
6154. (Cap & screen, 1/8-in thick  
rubber gasket, rubber bushing and  
flexible nozzle)



Rubber gasket  
NSN 5310-00-228-6638



For cold weather  
use gasket NSN  
5330-01-271-7621



Closure assembly,  
NSN 7240-00-025-3377  
(gasket, chain, plug swivel,  
connecting link, and cotter  
pin anchor)

Chapter 2 of TM 10-7200-200-13 has  
the Maintenance Checks and Services.

## ACCESSORIES, REPAIR PARTS



Here are accessories and repair parts  
for your Kevlar helmet that you won't  
find in TM 10-8400-201-23. Add them  
to your copy of the TM until it's up-  
dated.

### Chemical protective cover NSN 8415-01-111-9028

#### Camouflage Covers

Woodland	X-Sm/Sm	NSN 8415-01-092-7514
	Med/Lg	NSN 8415-01-092-7515
Snow White	X-Sm/Sm	NSN 8415-01-144-1860
	Med/Lg	NSN 8415-01-144-1861
Daytime desert pattern	X-Sm/Sm	NSN 8415-01-103-1349
	Med/Lg	NSN 8415-01-103-1350
Camouflage Band		NSN 8415-01-110-9981
Parachutists: Get the foam impact pad with NSN 8470-01-092-8494, the retention strap with NSN 8470-01-092-7524.		

## DODAAC Address Change, Please

When your unit's name or address changes, you need to update your name or address in the Department of Defense Activity Address Code (DODAAC) file. The DODAAC is a six-digit address code given to a unit for the receipt, requisition, shipment and billing of supplies. You can find instructions on how to make additions, changes and deletions in Chapter 9 of AR 725-50 (Apr 88).

# 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 5-6115-464-12-HR** Sep 15 KW generators, MEP-004A, MEP-003A and MEP 113A

**TM 9-1240-278-24P** Jul M45/M45A1 boresight, M45/M45A1

**TM 9-1265-202-10** Jul Multiple integrated laser engagement system (MILES) for M901 improved TOW vehicle

**TM 9-1425-1525-24P** Sep HAWK missile

**TM 9-1430-602-24P** Sep AN/MSQ-116 Patriot missile

**TM 9-1450-396-24P** Sep Pershing missile

**TM 9-2320-355-10** Sep Operator's manual, guided missile transporter

**TM 9-2350-255-20-2-3** Jul M1/IPM1 tank

**TM 9-2350-255-24-2** Jul M1/IPM1 tank turret schematics

**TM 9-6920-387-24P** Sep Pershing missile

**TM 11-1520-238-23P** Dec RPSTL for AH-64A avionics

**TM 11-5805-304-14** Aug SB-86/P telephone switchboard

**TM 11-5820-348-24P** Dec RC-292 antenna equipment

## Maintenance & Safety-Of-Use Messages

**AMCCOM SOU-MSG-88-04**—Advisory, Change of misfire procedures for MK 155 mine clearance launcher and MK 22 rocket motor, AMSMC-DSM 282000Z Sep 88.

**CECOM SOU-MSG-88-07-22**—Advisory, Operational, Inspect batteries and battery box on AN/PRC-104, AN/PRC-104A and AN/GRC-213 radio sets, AMSEL-SF-SEP 261800Z Jul 88.

**MICOM SOU-MSG-88-05**—Operational, Conduct brake verification procedure on MLRS, AMSMI-LC-AM 061830Z Sep 88.

**MICOM SOU-MSG-88-04**—Operational, Inspect hoist cable on MLRS, AMSMI-LC-AM 070910Z Sep 88.

**MICOM SOU-MSG-88-06**—Patriot antenna mast group, AMSMI-LC-AM 211030Z Sep 88.

**TACOM Maintenance Advisory MSG—M880-Series**, 1 1/4-ton truck tires, AMSTA-MTA 091300Z Sep 88.

**TACOM Maintenance Advisory MSG**—Repair parts for M151A2 with rollover protection system (ROPS), AMSTA-MTA 211200Z Sep 88.

**TACOM SOU-MSG-88-38**—One time inspection M2/M3, M2A1/M3A1 Bradley fighting vehicles, engine access door brace, AMSTA-M 092215Z Sep 88.

**TACOM SOU-MSG-88-39**—One time inspection on the fixed fire extinguisher system of the M113 FOV, AMSTA-M 161800Z Sep 88.

**TACOM SOU-MSG-88-40**—Advisory, Operational, Bypass starting on JD410 loader/backhoe tractor, NSN 2420-00-567-0135, LIN W91074, AMSTA-M 191300Z Sep 88.

**TACOM SOU-MSG-88-41**—Advisory, Technical/Maintenance, Perform proof-load test on XM501E3 Hawk loader/transporter, NSN 1450-00-066-8873, LIN L76762, AMSTA-M 201200Z Sep 88.

**TACOM SOU-MSG-88-34**—Advisory, Technical/Maintenance, Inspect M1/M1A1 tank electronic fuel management system (EFMS), NSN's 2910-01-075-4926 and 2910-01-266-1113, AMSTA-M 231900Z Sep 88.

**TACOM SOU-MSG-88-29**—Advisory, Operational, Check M936/A1 series, 5 ton wrecker boom extension cylinder flow regulator, AMSTA-M 232000Z Sep 88.

**TROSCOM SOU-MES-21-88**—Advisory, Diving equipment set, closed circuit scuba (LAR V), NSN 4220-01-235-4004, LIN D49086, Secumar Tsk 2/42 life jacket, NSN 4220-01-263-1988, LIN D49086, P/

N 4050044, CAGE 66051, defective compressed gas cylinder valves, AMSTR-MES 081400Z Sep 88.

**TROSCOM Maintenance Advisory MSG-88-32**—Repair classification for the entrenching tool carrier, NSN 8465-00-001-6474, LIN D11812, AMSTR-MES 191345Z Sep 88.

**TROSCOM Maintenance Advisory MSG-88-31**—100-KW DED generator set, MEP 007A/B, NSN's 6115-00-133-9101 and 6115-01-036-6374, LIN J38712, wire chaffing and abrasion, AMSTR-MES 212100Z Sep 88.

**TROSCOM Maintenance Advisory MSG-88-34**—Minor alteration for the breakaway operation on the parachute, cargo, NSN 1670-00-872-6109, LIN N67206, AMSTR-MES 221310Z Sep 88.

**TROSCOM Maintenance Advisory MSG-88-33**—Clarification of Maintenance Advisory Msg 88-24, 3-KW GED generator set, NSN 6115-00-017-8237, MEP-016A, LIN J45699, AMSTR-MES 222200Z Sep 88.

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

## HMMWV Ball Joint Bolt

Oops! Forget the info in PS 429, Page 8, about turning the bolts around. TACOM Msg AMSTA-MTA 191400Z May 88 said to turn the ball joint bolts around. But now, TACOM Msg AMSTA-MTA 221300Z Jul 88 says don't turn the bolts around because that damages the dust boot.

## M992 AFES PMCS Changed

The M992 ammo carrier is now fully mission capable (FMC) even if the crew compartment automatic fire extinguisher system (AFES) does not work in the automatic mode. The crew manual fire extinguisher system must be working, though.

Here's what will put your manual system down:

(1) Two or more extinguisher bottles low or empty.

(2) Cylinder gage on two or more extinguisher bottles does not register right.

This PMCS change does not affect the requirement that the engine compartment AFES work right in automatic mode.

## Defective Bolt

A bad bolt has turned up during depot maintenance on the de-icer generator of an OV-1. If your unit has any of the defective bolts, PN K22319-1, NSN 5305-00-951-6911, get rid of them pronto! Do not use them for anything on any of your aircraft. OV-1-88-MIM-01 has the details.

## Loose Helmet Visor Fix

If the visor on your Cobra's helmet sight system (HSS) visor assembly won't lock into place, you're probably missing the square hole washer that keeps the visor lock key from rotating when you turn the visor lock button. Order washer, NSN 5310-01-115-9717. It's item 19 in Fig B-2 of TM 9-1270-212-14&P.

## M872A3 Handle Kits Only

Handles for the M872A3 semitrailer's twistlocks come only in kits. The kits contain the handle, plus two roll pins for installing it. Order the front twistlock handle kit with NSN 5340-01-213-1308, and the rear kit with NSN 5340-01-213-1309.

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?

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# GOT ANY Recovery Tips?

If you've got ideas on how to improve the Army's recovery operations (either on the equipment, procedures or doctrine), the Battlefield Recovery Office wants to hear from you.



**Commander  
US Army Ordnance Center  
and School  
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