

Issue 428

PS

July
1988

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-428

See
**SMART
CARD** in
Center Section
of this Issue

... I JUST
DON'T FEEL
PEOPLE
UNDERSTAND
ME.

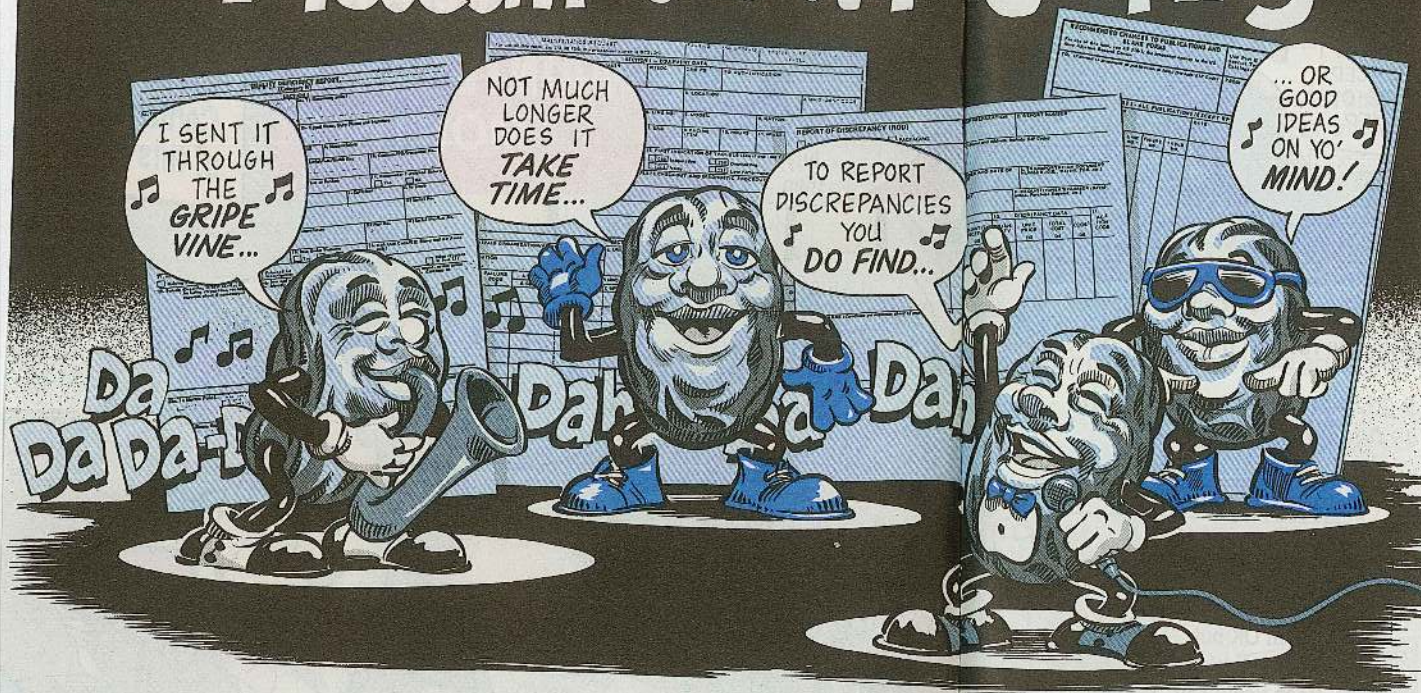
WE'LL SEE
ABOUT
SEPARATING
FACT AND
FICTION.

6000-01-160-5742 F-11-17400
COATING POLYURETHANE, CARC
SP 15-42120-14-151 1741-11
57-10-7-1 1741-15-1200 1741-11

Approved For
Public Release;
Distribution is
Unlimited

Chemical Agent Resistant Coating
(CARC) See Pages 58-59

TROSCOM One-Stop Gripping



The Troop Support Command (TROSCOM) now has one office to handle all your gripes and suggestions about TROSCOM equipment. The Customer Feedback Center will handle. . .

- Quality Deficiency Report (QDR), SF 368—problems with new items, such as poor workmanship or defective or broken parts.
- Equipment Improvement Report (EIR), SF 368—ideas for improving equipment or parts.
- Warranty Claim Action (WCA), DA Form 2407—problems with items covered by a manufacturer's warranty.
- Report of Discrepancy (ROD), SF 364—shipping problems.
- DA Form 2028 and 2028-1—suggested improvements to equipment technical manuals.

Send your forms to:

**Commander
TROSCOM
ATTN: AMSTR-QS (CFC)
4300 Goodfellow Blvd.
St Louis, MO 63120-1798**

Want up-to-the-minute, on-the-spot feedback? Call the Customer Feedback Center weekdays between 6:30 a.m. and 6 p.m. CST at AUTOVON 693-9468 or COMM (314) 263-9468.

JUL 88



**THE
PREVENTIVE
MAINTENANCE
MONTHLY**

TB 43-PS-428, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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

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

By Order of the Secretary of the Army:

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

Official:

R.L. DILWORTH
Brigadier General, United States Army
The Adjutant General

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GROUND MOBILITY

CUCV...

Seat Belt Holders

SINCE MY
SUPPORT BROKE
NO ONE EVEN
KNOWS I'M
DOWN HERE!

YEAH...
AND YOU CAN'T
BE REPLACED
'TIL YOU'RE OLD
AND FRAYED.

Dear Half-Mast,

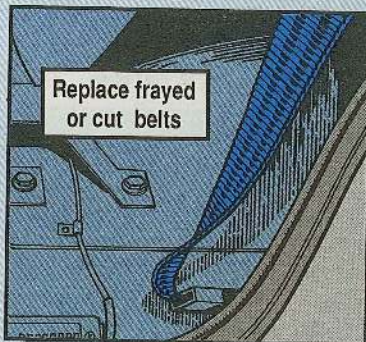
How do we get just the plastic supports for the front seat belts on M1009 CUCV's?

They're shown in Fig 141 of TM 9-2320-289-20P, but there's no NSN. When the support breaks, the buckle lays on the floor where it's hard to reach.

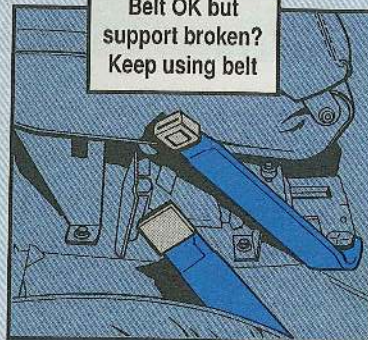
SGT W. T. S.

Dear Sergeant W. T. S.,

You can't get individual parts for the seat belts in any of the CUCV's. You have to replace the whole belt assembly.



Replace frayed
or cut belts



Belt OK but
support broken?
Keep using belt

Replace the complete belt assembly only if the belt is cut, frayed or otherwise damaged. Damage to the plastic support or other plastic covers is no reason to replace the belt assembly.

Half-Mast

CUCV's Alternator Belt...

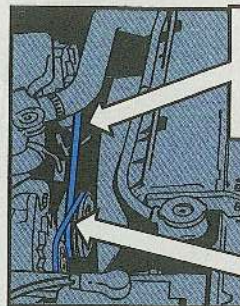
Left Out and Too Short

When you use the NSN in your -20P TM to order a left alternator belt for your CUCV, you'll get one that's too short.

The correct NSN for the left alternator belt was left out of Fig 28 in TM 9-2320-289-20P. Get the left belt with NSN 3030-01-258-5125.

Measure new belts for the right alternator, too. Some come too short. Begin at a point on the outside of the belt.

Measure all the way around and back to that point. If you get a belt that's not about 7/16-in wide and 48 1/2-in long, it's too short. Send in an SF 364, Report of Discrepancy. That'll help get all the bad ones out of the system.



Order LEFT
alternator belt
with NSN 3030-
01-258-5125

Order RIGHT
belt with
NSN 3030-
01-147-6410

Glow Plugs Are Different

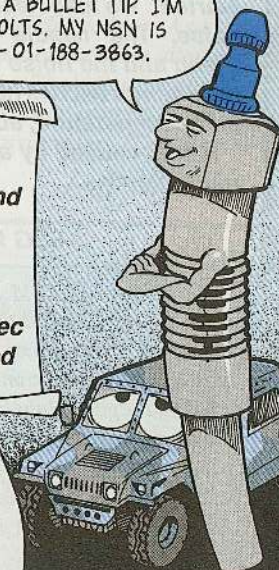
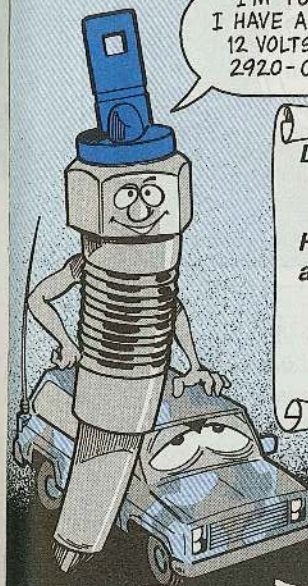
I'M FOR CUCV's!
I HAVE A FLAT TIP. I'M
12 VOLTS. MY NSN IS
2920-01-151-3627.

I'M FOR HMMWV's!
I HAVE A BULLET TIP. I'M
24 VOLTS. MY NSN IS
2920-01-188-3863.

Dear Connie,
Help me pass the word.
Glow plugs for the CUCV and
HMMWV are not interchangeable!

Colleen A. Maas
Automotive Equipment Spec
Tank-Automotive Command

THAT'S ALL
THERE IS
TO IT!



Warm Up to Good Starts

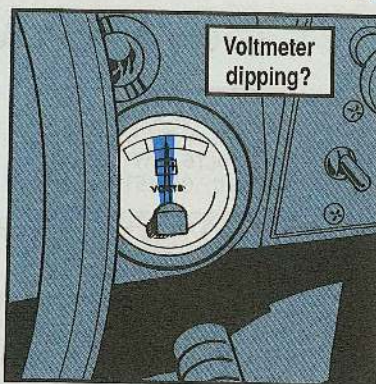


Dear Half-Mast,

I've noticed that on some HMMWV's, the voltmeter needle will dip into the yellow or red for short periods after the engine is started. We also hear a clicking noise. The needle moves to green and the noise stops after the engine reaches normal operating temperature, about 190°F.

Is this caused by a bum glow plug relay?

SSG M.M.M.



Dear Sergeant M.M.M.,

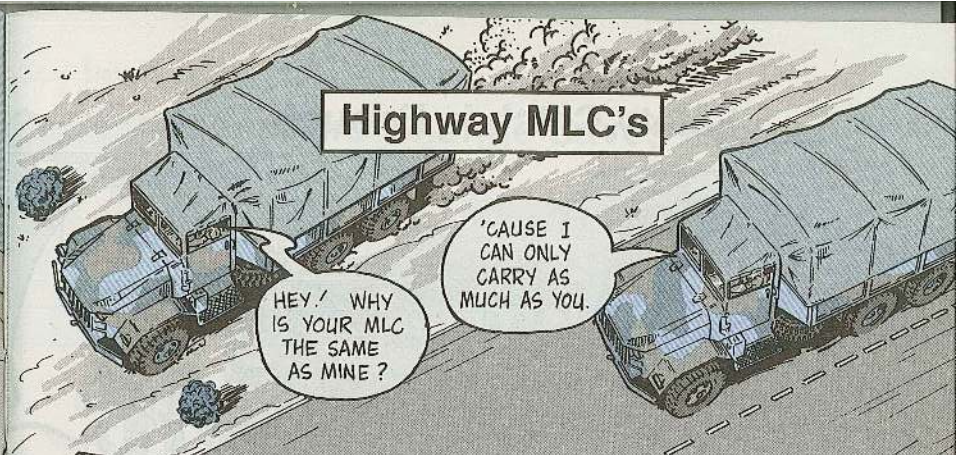
No the clicking and the voltmeter drop are caused by the glow plugs cycling on and off. It's normal for this to happen after the engine starts. It helps the engine run smoother until it warms up to operating temperature.

When the glow plugs cycle on, they pull a lot of current—up to 120 amps. That makes the voltmeter dip into the yellow or—in some cases—the red.

The clicking comes from the glow plug relay in the protective control box.

If the clicking and the voltage drops continue after the engine reaches operating temperature, get your mechanic to check it out.

Half-Mast



Highway MLC's

Dear Half-Mast,

There are no highway load classifications given for several tactical vehicles listed in Appendix C of FM 5-36. The FM does have a cross-country rating for the vehicles, but what do we use when we run them on the road?

CW4 J.B.K.

Dear CW4 J.B.K.,

Highway ratings are now the same as cross-country loaded ratings. A tactical truck is rated by it's cross-country capacity. In the past, a truck was allowed to carry up to twice the payload when running on highways. The highway rating was based on that higher gross vehicle weight. Since the Army banned overloads, there's no need for a separate highway loaded load classification. Use the cross-country rating.

Half-Mast

CUCV and HMMWV...

Transmission Pan Gasket

Seems CUCV and HMMWV transmission oil filter kits, NSN 2520-01-121-6350, come with a transmission oil pan gasket that won't fit either vehicle. When you get one like that, send in a Report of Discrepancy, SF 364. If you need just the pan gasket, get it with NSN 5330-01-148-7492.

HMMWV Fuel Filter NSN

Use NSN 4330-01-198-7590 to get the fuel filter element shown as Item 7 in Fig 15 of TM 9-2320-280-20P. Make a note until your -20 TM is updated.

Safety Catch is Enough

FINALLY,
I'M DONE!

YOU DIDN'T
NEED TO
DO THAT!

Dear Half-Mast,

Sometimes we have to haul troops in our dump trucks. Para 2-17b(2) of AR 385-55 says we need a positive locking device to haul troops.

Does the safety catch on the dump control lever meet the requirements?

SFC L.B.P.



The safety
catch is
a positive
lock

Dear SFC L.B.P.,

Yes, the safety catch on the dump control lever is a positive locking device. It meets the requirements of the AR.

Never take a shortcut and use a bolt or pin to lock the dump body to the frame. Bolts work, but if the driver forgets it's there and raises the bed, the bed and the hydraulic system get damaged.

Half-Mast

M939-Series 5-Ton...

Procedure Change Saves Eyelets

THE KEY TO CANVAS
INSTALLATION IS IN THE
POSITION OF THE
MOVEABLE CROSSBOW.



If you install the M939's cab canvas cover like it says in Para 2-19 of TM 9-2320-272-10, you could rip the eyelets out.

An update will change the TM, but until it's fielded, here's how to install the cab canvas:

- Follow the installation procedure in Para 2-19 on Pages 2-94 and 2-95 of the TM until you get to Step h.

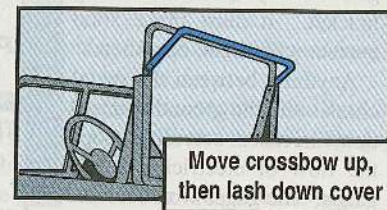
Once you've placed the cab top on the hood and slid the cab top's front edge into the windshield channel, place the movable crossbow upright—like so:

- Follow Steps i through l.

- Reverse Steps m and n. Before you do Step n, though, remember this: DO NOT pull too hard drawing the top tight.

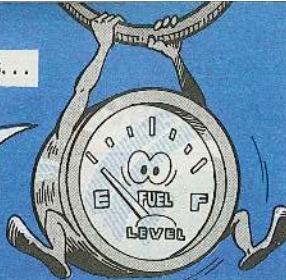
Continue to follow steps outlined in the TM.

JUL 88



Move crossbow up,
then lash down cover

I'M NOT
BAD, IF YOU
GROUND
ME!



Getting Back to Ground

A lot of gages are tossed out when there's nothing wrong with them. For instance, a fuel gage that won't work or one with a needle that flips between full and empty for no apparent reason is not necessarily a bum gage.

So, what's wrong?

Some mechanics never learned—or have forgotten—about one of the basic facts in DC (direct current) electrical systems:

The chassis of your equipment is the "second wire" in the electrical system.

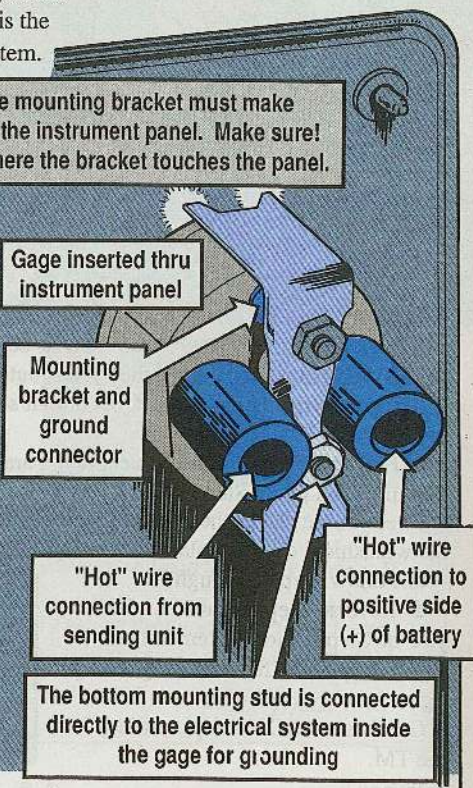
At least 1 of the 4 points on the mounting bracket must make contact with clean, bare metal of the instrument panel. Make sure! Scrape off paint, dirt or grease where the bracket touches the panel.

The battery's negative terminal is connected to the chassis—usually the engine or the frame—by a wire.

This means all of those electrical components with chassis ground are connected to the battery's negative terminal through the chassis.

The fuel gage, for example, is internally connected to the ground by the mounting bracket. It must make solid contact with clean, bare metal.

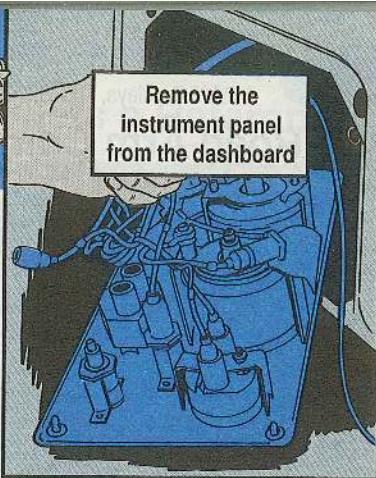
Anything between the metal chassis and the ground connection, like rust or corrosion, stops the flow of electricity to the gages. The gages won't work.



BEFORE
YOU
TRASH CAN
A GAGE,
DO THIS...



Remove the
instrument panel
from the dashboard



Remove the instrument panel from the dashboard.

Set your multimeter to the lowest ohms scale and adjust.

Measure resistance between the gage's mounting bracket and the panel. Touch one probe to the bracket and the other to the panel where they meet. An "0" reading means the bracket and the chassis have a good connection.

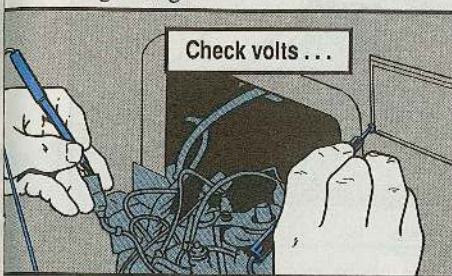
If you get any other reading, remove the bracket. Scrape off any paint, corrosion or dirt that's built up on the panel. Put the bracket back on and try the test again.

Multimeter still giving bum reading? Do this:

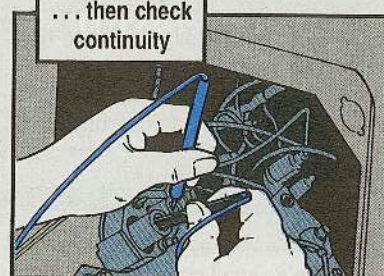
⚡ Touch one probe to the bracket and the other to the bracket's attaching stud. An "0" reading means you have a good connection. With any other reading, clean the stud, washer and bracket and try the test again. Still a no-go? Try this:

⚡ Turn the ignition switch ON.

⚡ Set your meter to voltage and set the meter voltage range selector switch to the right range.



Check volts...



... then check continuity

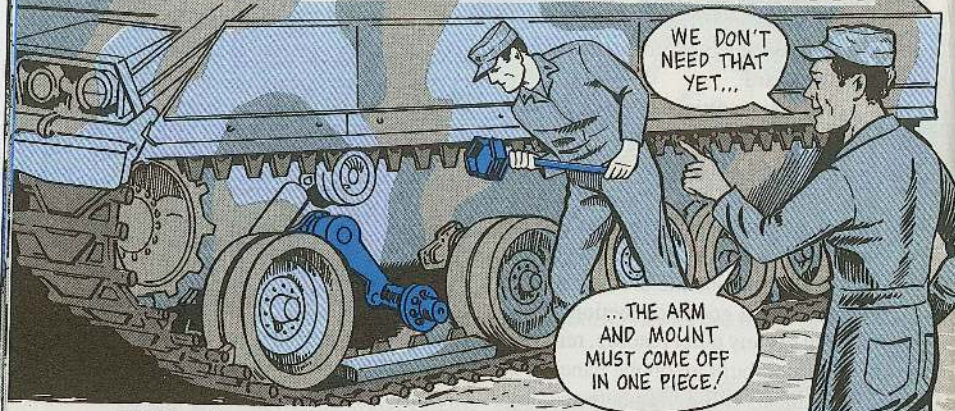
⚡ Pull the hot wire (+) off its terminal. Touch the meter's positive probe to the hot wire and ground the negative probe to metal. If the needle registers voltage, test the gage for resistance.

⚡ Move the meter's switch to ohms. Disconnect the sending unit wire from its terminal on the gage.

Do a continuity test by touching one probe to the positive terminal and the other probe to the sending unit terminal on the gage. If the needle moves to "0," the gage is OK. The problem's the sending unit circuit.

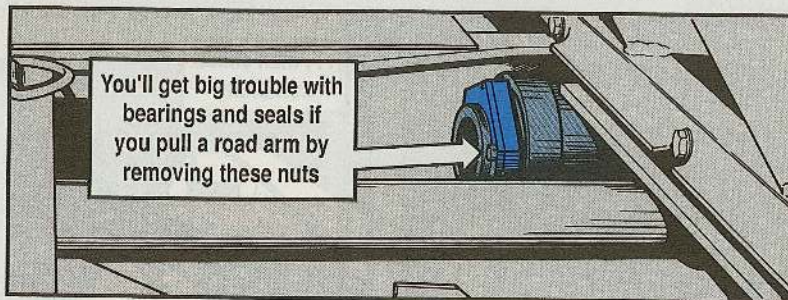
If the needle stays still or flickers, the gage's defective. Replace the gage.

Road Arm Comes Off as One Piece



Hold on there, pardners, and don't get ahead of yourselves when you remove road arms. It's a two-part job that has to be done right.

Resist the temptation to remove the big hex nut holding the arm shaft in the hull mount so you can remove the arm but leave the mount attached to the hull.



There's a good reason why the mount and the arm have to come off (and go back on) in one piece. The only way you can seat the bearings and seals and torque the nut is to turn the mount in one direction while you tighten in the other.

If you try to install the shaft and tighten the nut with the mount still on the hull, you won't get the pieces to fit together right and stay tight.

Follow the words on Pages 5-91 through 5-95 in TM 9-2350-252-20-1-2 and Pages 5-88 through 5-93 in TM 9-1450-646-20-2 to the letter. Torque the nut with the mount on the arm, using 70-75 lb-ft. Back off enough to install the two locking screws. Then install the mount assembly.

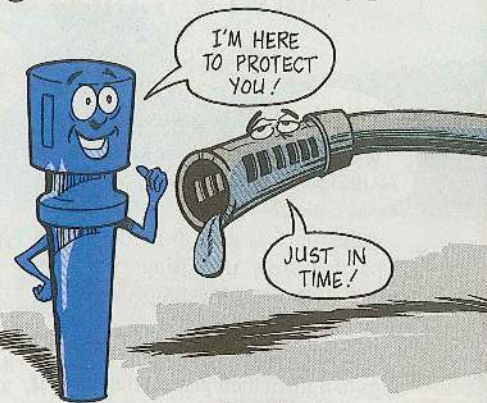
The right way is the only way to do the job. Take no shortcuts.

M242 Muzzle Plug Gets a Reference

Your Bradley's M242 automatic gun needs a muzzle brake plug to protect the barrel. It's not shown in your TM's. The plug is an item of BII for the M242, but it's not in the gun TM either.

Until changes to TM 9-2350-252-10-1 and -2 clear up the problem, order the plug with NSN 1005-01-256-9640. It will be included in Appendix B-3, Components of End Item, in the -10-1 and -2.

Remove the plug before operation as part of Item 3 in the -10-2 PMCS. Reinstall the plug as a step in the Install 25MM Gun Barrel and Lubricate 25MM Gun Barrel after-operation PMCS tasks in the -10-2.



Runaway Turret Troubles

Forget powered, stabilized turret operation with the gun gyro disconnected. Squeezing either the commander's or gunner's palm grip will cause the turret to turn at high speed. The turret will only stop when you release the palm grip. The turret will also run out of control if you perform test 2670 using the C7 version of STE-M1/FVS.

Until version C8 software is installed in your test set, don't perform test 2670. Even with C8, use caution that all connections are made right. For full details, see AMCCOM Safety of Use Msg AMSMC-MA 042230Z Dec 87.



Put Some Spring Back in the Clip

ALL I
NEEDED
WAS AN
ADJUSTMENT

IN MY
WEAKENED
CONDITION...

...I NEEDED
RESTRUCTURING!

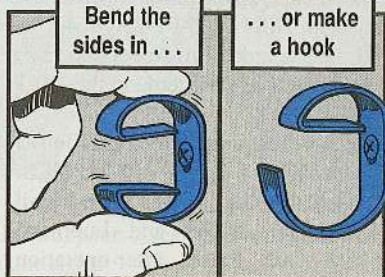
If the pinch is gone from the spring clips that stow the firing port vent hoses, do a little bending before you have them replaced.

Carefully bend in the sides of the clips to tighten their grip on the hose. If that doesn't work, try making a hook out of one of the clip tangs. Then you can trap the hose in the hook for stowage.

Still out of luck? Get new clips with NSN 5340-00-071-9740. Protect the hoses from damage by making sure they're stowed.

Bend the
sides in ...

... or make
a hook



M992 Ammo Carriers...

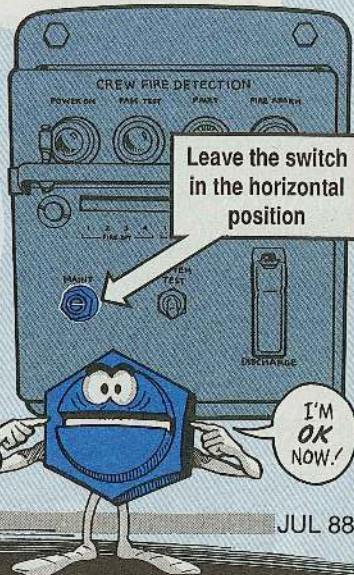
Hands Off the MAINT Switch

Crewmen, leave the Automatic Fire Extinguisher System (AFES) test and alarm panel maintenance switch alone.

The slot stays horizontal except when your unit mechanics pull maintenance on the system. If you turn the switch, you turn off the fire detection system. That's courting disaster.

AFES automatically shuts itself down three hours after the masterpower switch is cut off. That protects your vehicle against any fire that might start after you leave the vehicle.

Just remember this: The MAINT switch is not an ON-OFF switch for crew use. Leave it horizontal when you leave the vehicle.



Leave the switch
in the horizontal
position

I'M
OK
NOW!

M992 Ammo Carrier...

Take No Breaks With the Door



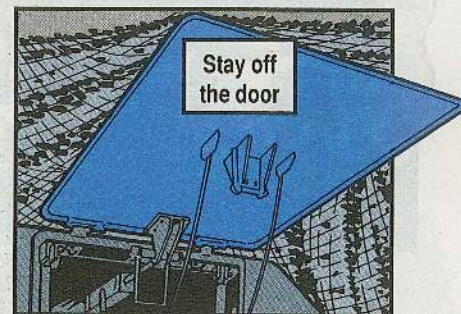
BE CAREFUL.
DON'T HIT THE
HOWITZER WITH
THE DOOR!

Three hundred pounds of metal make a convincing argument for being careful around the upper rear door of your M992.

That's what you could have crashing down on you or your buddies if you break the door bracket.

There are at least three ways to break the angle/mounting bracket below the rod end connector flange—and all of them are easily preventable. First of all, never open the upper rear door and then back into the howitzer you're going to resupply -- don't hit it!

Next, stay off the door when you're putting up the camouflage nets. The door is not part of the roof.



Stay off
the door



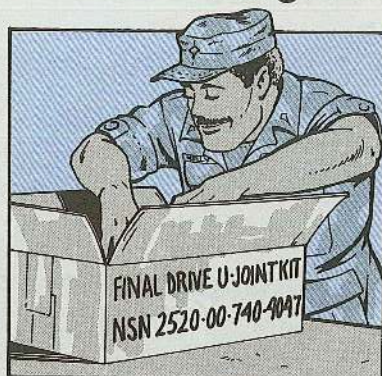
Check the
bracket for
damage

Finally, release the safety lock before you try to close the door.

Doing any of these things wrong will break the bracket and let the door slam on anything or anyone in the way.

To make sure you don't already have a door bracket that's cracked, eyeball it just below the rod end connector flange. If you find a crack or break, let your unit mech know soonest.

Purge Bum U-Joint Kits



HM-M-M-M
THERE ARE NO
LOCK WIRE
HOLES!



*I received final drive
U-joint bolts that
don't have lock wire
holes in them.*



IF THE BOLTS DON'T HAVE LOCK
WIRE **HOLES** LIKE THIS ONE,
HERE'S WHAT YOU DO...

1. Fill out a QDR
2. Mail it to:
US Army TACOM
Attn: AMSTA-QRT
Warren, MI 48397-5000
3. Hold bum kits for exhibit
4. Order replacement bolts
with NSN 5306-00-174-4216
5. Torque them to 90-100 lb-ft
and lock wire them



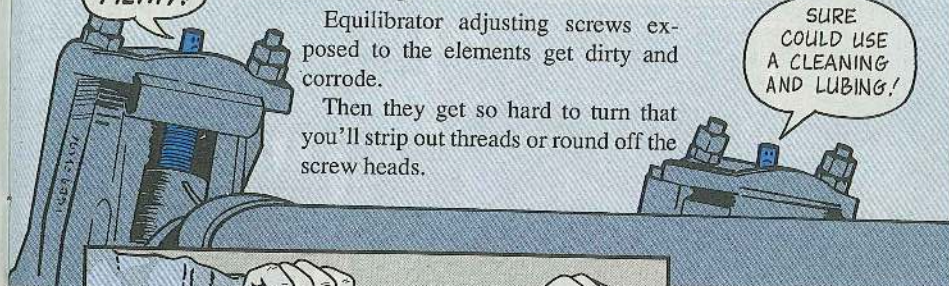
I FEEL
FILTHY!

Adjusting Screws Need TLC

Equilibrator adjusting screws exposed to the elements get dirty and corrode.

Then they get so hard to turn that you'll strip out threads or round off the screw heads.

SURE
COULD USE
A CLEANING
AND LUBING!

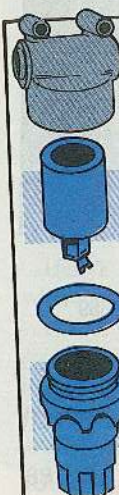


Weekly cleaning and lubing
keeps 'em easy to turn

You need to
keep 'em cleaned
and lubed—at
least weekly.
Use CLP as in
LO 9-2350-304-
12.

Fuel Filter Parts

You can now get parts for the in-line fuel filter, NSN 4330-00-028-6757, used with the electric fuel transfer on most vehicles.



FUEL FILTER COMPONENTS
AREN'T LISTED IN MOST PARTS
TM's, BUT HERE'RE THE PARTS
YOU CAN GET...

Paper element
NSN 2910-00-893-6402

Preformed packing
NSN 5330-00-265-1089

Sediment bowl
NSN 2910-00-031-9083



Put the Lock on Hatches

PLEASE
DON'T FEED
THE
HATCHES

GR-R-R-R!

M113 crewmen are still getting crowned, losing teeth and fingers because of falling hatches.

And it doesn't have to happen. Just sticking a pin through a bracket will lock that latch in place... and protect your body parts.

Play it safe. Lock open the hatches before moving out. If the locking brackets are missing, your mechanic can replace them with these kits:

- Commander's hatch (M113, M106, M125)—NSN 2540-01-050-2111
- Driver's hatch (M113, M106, M125, and M741)—NSN 2540-01-048-8669 (M577's only)—NSN 2540-01-048-8670
- Cargo hatch (all vehicles except M901)—NSN 2540-01-050-2110

Installation info is in Para 3-6g in TM43-0143. Don't have a copy? Contact your local TACOM Logistic Assistance Representative or write to PS.

Lock the
hatches
to be safe

Longer Bolt, Easier Hookup

To make strapping down the transmission oil filter element cover easier, try a longer bolt than the one shown as Item 1 of Fig 140 in TM 9-2350-261-20P.

NSN 5306-00-051-4077 is 1/8-inch longer than that bolt, and the extra three threads can really make a big difference.



What with the tight space and spring tension on the cover, any help is welcome.

Resist the urge to go to a 1 1/4-in bolt for even more threads. That runs the risk of punching a hole in the oil pan.

The Easy Way to Remember Clamps

Mechs, it's easy to forget to put all the clamps back on the transmission oil cooler hoses and wiring harness on M113-series vehicles.

Without the clamps, the hoses or harness get tangled in the differential U-joint or steering linkage. Hoses and cables get pulled apart, knocking out the transmission, or killing the vehicle's electricity.

Here's an easy way to remember where all the clamps go.

Before you remove the clamps, put a spot of bright colored paint on the housing where each clamp goes. Then when you put the clamps back on, all you have to do is match clamps with spots.



Time to Read and Heed

COOPERATION CARE

HOWZIT GOIN'?

GREAT, THANKS TO YOU!

It's a two-way street.

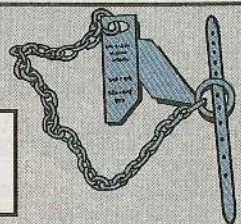
Your M2 machine gun will do its job for you if you do your job for it. With these PM tips, you and your M2 can get the job done together.

On-Time Timing

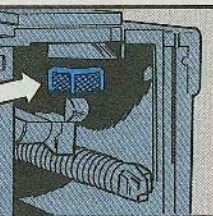
You must headspace and time your M2 every time before you fire to prevent ruptured cartridges and a damaged weapon.

But you'll have a hard time doing it right if your headspace and timing gages are bent, rusted or pitted. Gages must be smooth to be accurate. Never etch an ID on your gages. Tag the gages if you need an ID.

Do NOT mark gages!

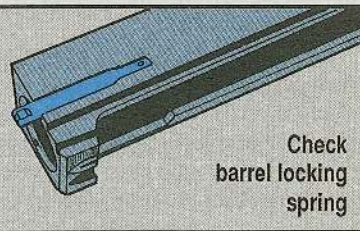


Make sure timing nut doesn't spin easily



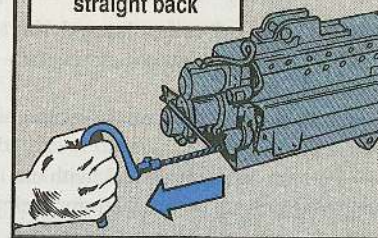
Also, feel the barrel locking spring for strength. If the spring's weak or broken, the barrel turns and your M2 loses its headspace.

Check barrel locking spring



If your M2 has a charging cable, always pull it straight back when you're headspacing, timing, or putting on the barrel. Pulling the cable up frays and ruins it. Eyeball the cable for fraying before you go to the field.

Pull charging cable straight back

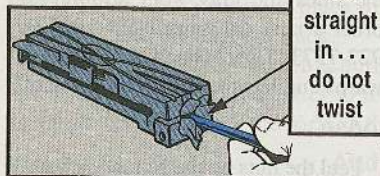


Bolt Bits

Do this to avoid stuck cleaning patches in the bolt's firing pin hole:

- Trim the patch to a 3/4-in square.
- Put CLP on the patch and work it straight in and out the firing pin hole with your cleaning rod. Don't twist the rod. That jams the patch.

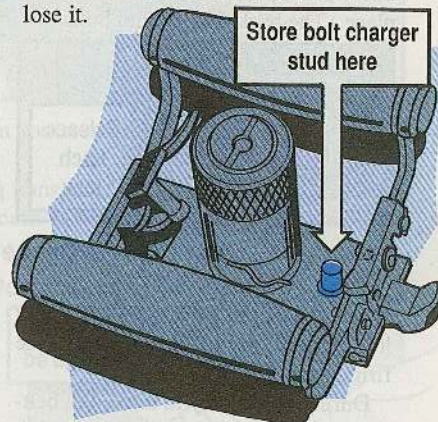
Push straight in... do not twist



- If you ever stick a patch, your armorer should send the bolt to DS. Trying to get the patch out without the right tools ruins an expensive bolt.

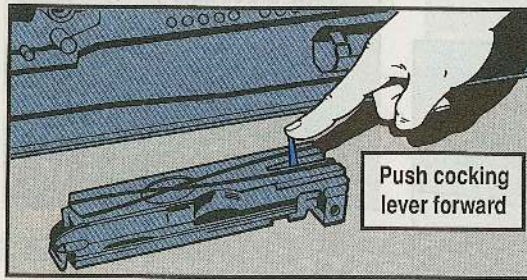
When you remove the bolt from the receiver, stick the bolt stud in the backplate hole. That way you won't lose it.

Store bolt charger stud here



Before you install the bolt, make absolutely sure the cocking lever is forward. If the lever's back, you're stuck with a gun that won't shoot and your armorer's stuck with a tough job getting the bolt out of the receiver.

Push cocking lever forward



Reverse Backplate Problems

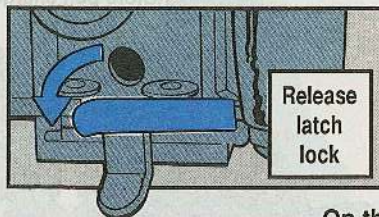
If the backplate comes loose during firing, firing stops. Keep the backplate tight like this:

— Slide the backplate on the receiver part-way.

— Pull out on the latch lock with one hand and pull up on the bottom latch with the other. Push the backplate into place and lock in the latch lock and latch.

— Pull up on the backplate. It should hold firm.

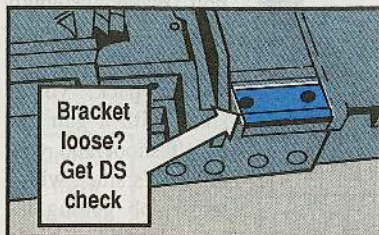
— Release the latch lock and pull the backplate up with only the latch in place. The backplate should hold.



On the Loose

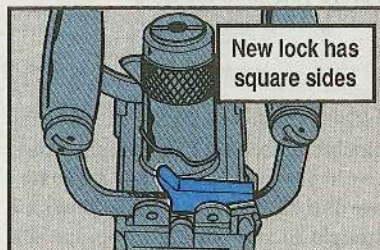
There's a whole lot of shakin' going on while your M2's firing. That shaking loosens nuts and rivets and they cause firing problems.

During PMCS, try to move the belt-holding pawl bracket up and down. If it moves, its rivets are too loose.

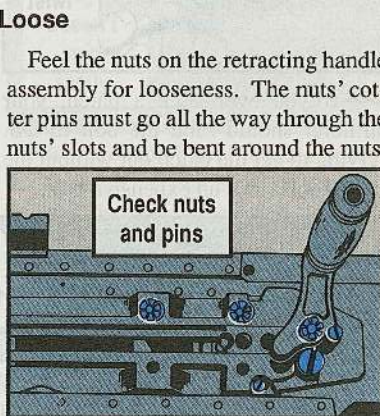


If the backplate fails to hold either time, reseal and lock the backplate and do the two checks again. If the backplate fails either check, your armorer needs to send it to DS.

Your M2's backplate should have a latch lock that's black and square-sided.



If it has an old latch that's rounded on the sides and gray, your armorer can order a new one with NSN 1005-00-927-7273. The old latch lock bends and warps and lets the backplate come off.



Tell your armorer about any loose nuts or screws.

Delicate Parts

It may not look like it, but your M2 has delicate parts—like feed pawl brackets, front and rear sights, and barrel threads—that are easily damaged by careless handling. Always:

— Lay it down with its retracting handle side up. Never set the machine gun on end, where it could fall over with a crash. Never drop it.

— Protect the feed pawl brackets when you mount your M2.



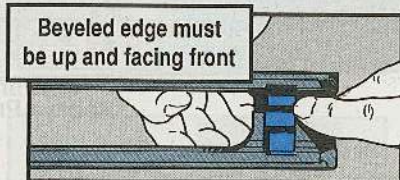
— Lock the M2's mount in place when you're not firing, so it can't swing loose and bang into the turret or truck.

— Block and cushion your M2 during transport.

— Carry and install the barrel so it doesn't bang in to anything like the barrel support that could nick the barrel's threads.

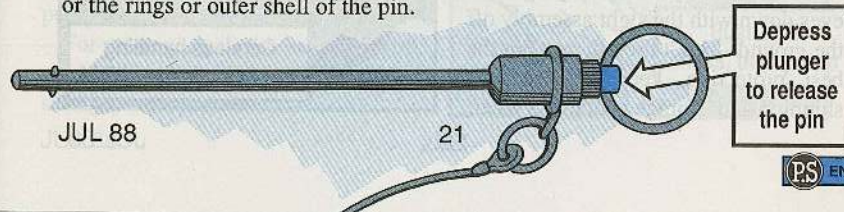
... And Don't Forget

Eyeball the breech lock carefully before you stick it in the barrel extension. The lock's beveled edge must be up and facing the gun's front. Otherwise, the barrel extension and barrel buffer won't fit together right.



M19 BFA

To remove the quick release pin of the M19 blank firing attachment, depress its plunger. If you pull on the pin without depressing the plunger, you ruin the plunger or the rings or outer shell of the pin.



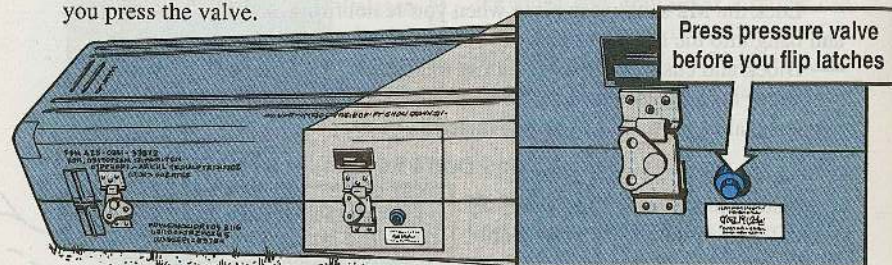
PM Puts Redeye in the PINK

GOOD PM KEEPS
YOUR REDEYE
SEEING CLEAR!



PM is not just eyewash for your Redeye. It's the difference between a missile with 20/20 accuracy and one that blindly misses its target. . . if it fires at all. Keep your Redeye in the pink with these tips.

Always press the pressure equalization valve before you open the Redeye's shipping and storage container. The pressure inside the container can be less than the pressure outside. That causes a vacuum that makes it hard to lift the lid . . . unless you press the valve.



Redeye Protection

Redeyes often suffer broken or missing parts during transport. Redeyes get tossed in the back of trucks or left lying loose where every bump in the road sends them flying.

Prevent that by always laying Redeyes down with the sight assembly off the ground—don't drop them. For the best protection, keep them in their shipping and storage containers when



you're not firing. The containers are especially designed to protect Redeyes. Never stand a launcher on its rear end. That can break the frangible disk, which lets moisture and dirt in. They damage the missile.



Soothing the Way

Help the sight frame stop last by giving it an occasional dab of petroleum jelly or GIA grease. Moving the sight digs into the stop and eventually the sight droops . . . or doesn't stay up at all. Grease cuts down on stop wear.

Keep your finger off the trigger until the instant you're ready to fire. Otherwise, you can accidentally squeeze the trigger while you're sighting a target. There goes one expensive missile.



Click's the Trick

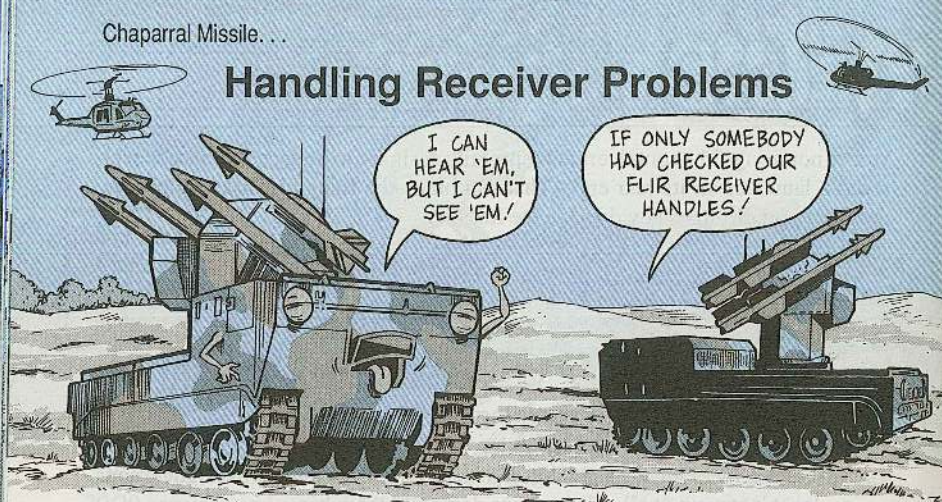
Listen for the click when you work the gas pump handle of the M49 tracking head trainer. If you pump without the click, you cause expensive damage to the handle.

To operate, push the handle down till you get one click. You're ready to pump.

For storage, pull the handle up till you get one click. The M49's ready for storage.



Handling Receiver Problems



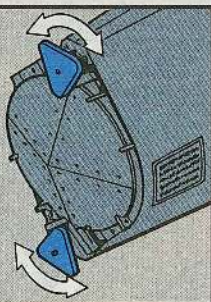
Forward-looking infrared (FLIR) receivers on the Chaparral are being blinded by loose actuator handle screws.

The screw vibrates loose and either the handle falls off or the screw snaps next time you pull the handle out. Then the doors can't be opened and the FLIR is useless.

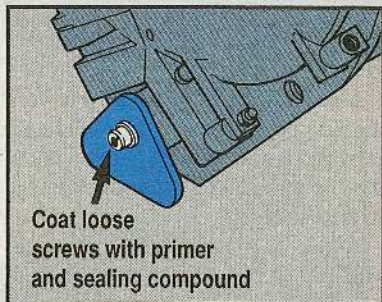
You crewmen need to keep a handle on the problem by feeling the two receiver handles for looseness during BEFORE PMCS. Gently move the handles side to side. If you feel any looseness, report it.

Also, make sure both handles on the receiver point to the center of the doors. If they don't, the handles damage the doors or the handle screws are sheared when the doors spring open. Repairman, make sure to point the handles in the right direction.

Move handles
side to side
to feel for
looseness



Coat loose
screws with primer
and sealing compound



You repairmen can cure loose receiver handle screws by coating them first with primer, NSN 8030-00-900-2373, then with sealing compound, NSN 8030-00-081-2333, before tightening them.

Clamping Down on Clamp Problems

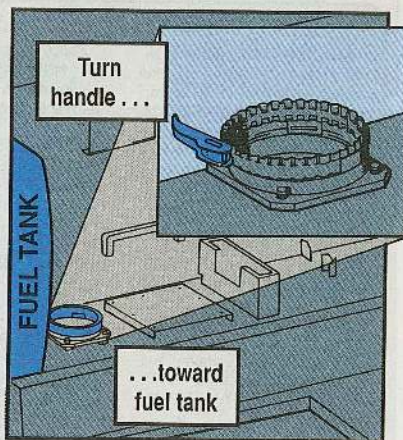


The clamp on the traversing unit's storage base can come loose from vibration, or people and equipment brushing against it. Without the clamp locked, the 40-lb TU can come crashing to the floor, crushing any toes in the way.

Erase that threat with a new clamp, NSN 5340-01-104-7700, that has a safety latch on the handle that keeps the TU clamped in place.

Until the new clamp comes, help the old clamp do its job by positioning it so the handle faces the fuel tank. That gets the handle out of the way of jarring bumps.

In the field, particularly when you're going over rough ground, check the clamp to make sure it's not working loose.



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-3-4240-317-20&P Feb 88 M87 filter unit
TM-3-4240-318-20&P Feb 88 M13, M15, and M16 collapsible protective entrance
TM-3-4240-322-20&P Feb 88 Gas particulate, 200 CFM, 208 V, 400 HZ, M56 filter unit
TM-5-2410-236-10 Jan 88 D5 tractor
TM-5-3805-254-20-1 Jan 88 F5070 dump truck
TM-5-3805-254-20-2 Jan 88 F5070 dump truck
TM-5-3895-363-13&P Dec 87 F1500 diesel pile driver
TM-5-6115-615-12 Jul 87 MEP-026B generator set
TM-5-6115-615-24P Dec 87 MEP-026B generator set
TM-9-1005-318-20P Feb 88 M167A2 gun
TM-9-2320-279-20P Mar 88 HEMTT

TM-9-2350-255-24P-1 Jan 88 M1 tank
TM-9-4931-593-14 Dec 87 Thermal sight TS-3681/VSG-2 test set
TM-9-4931-593-24P Dec 87 TS-3681/VSG-2 thermal sight test set
TM-9-4935-625-20P Mar 88 Roland missile
TM-9-4935-778-13&P-2 Oct 87 Thermal control unit power break-out box mast mounted sight
TM-9-4935-778-13&P-4 Oct 87 Turret holding fixture mast mounted sight
TM-9-5855-255-14 Oct 87 AN/TAM3-series night vision sight test set
TM-9-5855-255-14-HR Dec 87 AN/TAM3-series night vision sight test set
TM-9-5855-255-24P Nov 87 AN/TAM3-series night vision sight test set
TM-9-5855-1450-24P Feb 88 TOW 2 night vision sight
TM-9-5855-1882-24 Oct 87 AN/TAS-4D night vision sight
TM-10-3930-657-14&P Jan 88 MHE hyster fork lift
TM-11-4940-482-14 Dec 87 AN/MSM-108 shelter mounted elec-

tronic shop
TM-11-5411-211-10-HR Jan 88 S-640/G electronic equipment maintenance storage shelter
TM-11-5800-218-10-1 Jan 88 SB-675(J)/MSC communications patching panels and AN/TSQ-84 () communications technical control centers
TM-11-5800-218-10-4 Jan 88 Operator's manual system interconnectivity and troubleshooting AN/TRC-112 radio terminal set
TM-11-5805-582-14 Feb 88 AN/TTC-29 central office manual telephone
TM-11-5820-867-12 Dec 87 AN/GSQ-187 sensor monitoring set and OE-239/GSQ-187 antenna group
TM-11-5820-870-12 Dec 87 R-2016/GSQ radio frequency monitor
TM-11-5820-1017-14 Feb 88 AN/TRC-180(V)1 radio terminal set
TM-11-5820-1018-23P Dec 87 CV-3837/U converter unit
TM-11-5820-1025-10 Feb 88 AN/PRC-126 radio set
TM-11-5821-261-12 Oct 87 AN/ARC-116 radio set

Maintenance & Safety-Of-Use Messages

AMCCOM SOU-MSG—Advisory, Operational, M249 machine gun cook-offs due to faulty cartridge indicator, NSN 1005-01-128-5478, PN 9348292, and cartridge indicator spring, NSN 5360-01-128-5638, PN 9348293, AMSMC-MA 141435Z Mar 88.

AMCCOM SOU-MSG—Advisory, Operational, Proper use of PIVADS, M163A2 and M167A2, ACO/TRK button in the manual mode, AMSMC-MA 121915Z Apr 88.

AMCCOM SOU-MSG—Operational, Personnel injury and equipment damage when transporting BFV turret in turret maintenance stand, AMSMC-MA 181800Z Apr 88.

AMCCOM Maintenance Advisory MSG-88-5—Local purchase authorization for Edelmann flexible fuel line P/N 482-24 for deadlined M3A4 smoke generators, NSN 1040-01-143-9506, AMSMC-MAR-EC (A) 311100Z Mar 88.

TACOM SOU-MSG-88-13—One-time inspection of caution data plate on 2 1/2-ton earth boring truck V18A/MT0 (M764), LIN HHX53983, AMSTA-M 131900Z Apr 88.

TROSCOM SOU MES-11-88—Advisory, Takes mountain piton snap link, NSN 8465-00-360-0228 off deadline, AMSTR-MES 201435Z Apr 88.

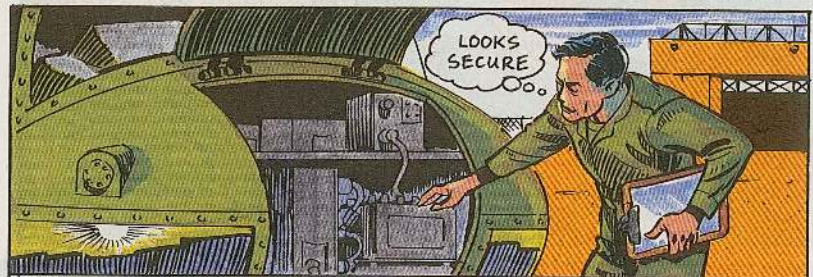
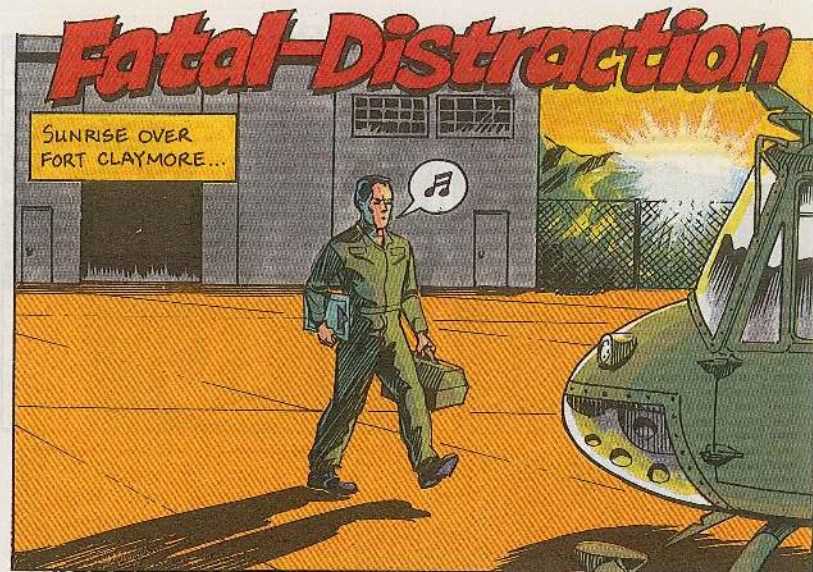
TROSCOM MSG-88-17—Maintenance Advisory, Wiring change of

the components used on the portable bath unit, NSN 4510-01-139-4973, LIN B43663, AMSTR-MES 041245Z Apr 88.

TROSCOM MSG-88-14—Maintenance Advisory, Improper alignment of the valve control rods with the valves and pump panels on fire fighting truck, NSN 4210-01-219-8763, LIN X44701, AMSTR-MES 211700Z Mar 88.

TROSCOM MSG-88-15—Maintenance Advisory, Jump start warning for auxiliary power unit for fire fighting truck, NSN 4210-01-193-

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





PROJECT SMART

SUPPLY and MAINTENANCE ASSESSMENT and REVIEW TEAM

For use of this form, see HQDA LTR 700-86-1, the proponent agency is DCSLOG.



STOP, BE SMART:

- HAVE YOU INCLUDED A FULL ADDRESS (*Rank, APO, Etc.*) ?
- HAVE YOU INCLUDED ONLY ONE IDEA ON THIS FORM (*Multiple ideas on a single form delays your getting an answer*) ?
- DO YOU KNOW THAT DA FORM 2028 IS THE WAY TO GO IF YOU WANT TO CHANGE A PUBLICATION, AND SF 368 IS ANOTHER WAY TO IMPROVE EQUIPMENT (*EIR's*) ?
- DOES THE IDEA APPLY TO A SUPPLY, MAINTENANCE OR TRANSPORTATION IMPROVEMENT? IT CAN BE ANY LEVEL.
- HAVE YOU RE-READ YOUR IDEA TO INSURE IT SAYS WHAT YOU WANT IT TO SAY?
- HAVE YOU INCLUDED DIMENSIONS, IF APPROPRIATE?
- DO YOU KNOW THAT YOU DON'T HAVE TO USE THIS FORM; YOU CAN SEND US A LETTER IF YOU WANT TO GIVE US MORE INFO THAN THE FORM PERMITS OR TO SEND PHOTOS?
- MOST OF ALL, DO YOU KNOW THAT THE FOLKS AT SMART CARE ABOUT YOUR IDEA?

REFERENCES (If any):

CURRENT PROBLEM/PROCEDURES: (Print)

RECOMMENDATION FOR IMPROVEMENT: (Print)

30

FULL NAME		RANK
-----------	--	------

RANK

MILITARY ADDRESS (city, state, zip code)

AUTOVON PHONE NUMBER	COMMERCIAL PHONE NUMBER

LOGC SMART USE

IDEA CONTROL NUMBER

Reverse of DA FORM 5533, OCT 86

***Mail this form FREE! Official Mail is authorized. SEND IT through your unit or mail room.**

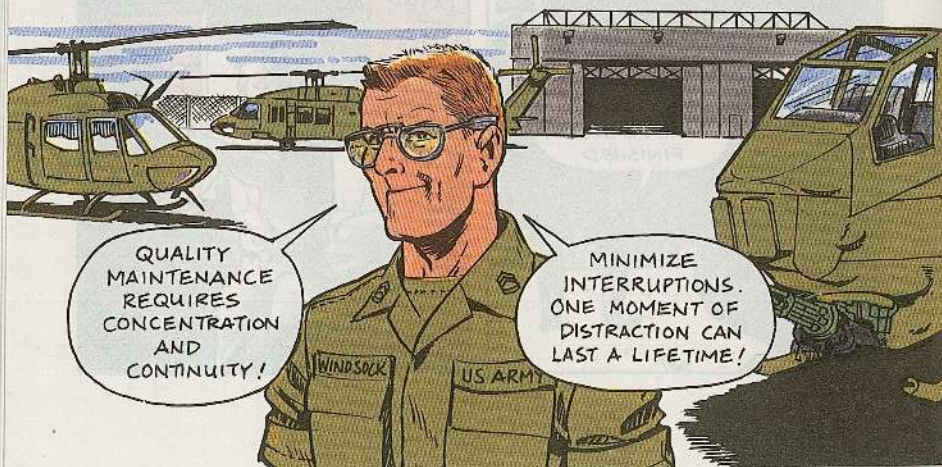
9.36... INTERRUPTION No. 3...



DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

SMART
U.S. ARMY LOGISTICS CENTER
FORT LEE, VIRGINIA 23801-6000

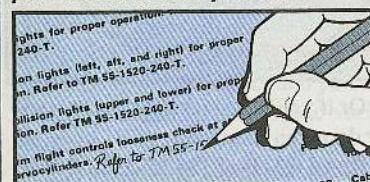


Fill in the Blanks

Dear Editor,

The Progressive Phase Maintenance Checklist for our Chinooks sometimes fails to give a TM reference for the specific task required.

That means we spent a lot of time searching for maintenance instructions. Now, when we pull an inspection, we write in whatever references we need to avoid the same confusion next time we pull the same inspection.



Inspections P.12 and P.41 of PPI No. 11, for example, tell you to perform flight controls looseness checks. But they don't say where to find that task in the TM's.

We found that Task 11-6.2 tells us how to perform those checks.



So we write it in beside Inspections P.12 and P.41.

When we have time, we annotate all 30 PPI for each aircraft, so there's no confusion about what to do for any inspection.

SGT Jose Balado
Ft. Bragg, NC

(Editor's note: Sounds like a big time-saver!)

ELSE...

CWU-16/P Gear NSN's

Here are some hard-to-find NSN's for the CWU-16/P anti-exposure gear:

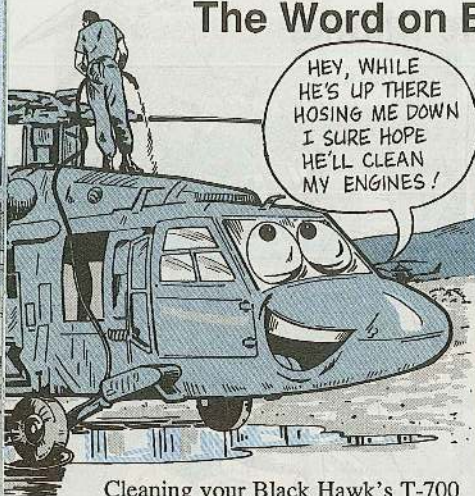
The hood NSN's not on the AMDF, so order it on a DD Form 1348-6 from RIC N32.

JUL 88

ITEM	NSN 8475-
Coveralls, CWU-16/P	00-768-2048
Hood	01-184-9770
Mittens	00-460-2825

35

The Word on Engine Cleaning



Cleaning your Black Hawk's T-700 engine every 100 flight hours is recommended, but it's not a hard and fast requirement.

Certain operating conditions let you extend the interval. Like if you have a limited water supply or if ambient temperatures are below 5°F.

Other conditions call for more frequent cleaning. Like if you get oil or hydraulic fluid in the engine inlet.



Or if you're operating in a salt water or desert environment.

Para 1-131B of TM 55-2840-248-23 spells out the conditions under which you can adjust the cleaning interval.

Task 3 of TM 55-1520-237-23-4 is being changed to agree with the engine manual requirements.

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)

FW-88-01, SOF, Technical, Certain fixed wing aircraft, Inspection of engine oil filters on teledyne continental engines, 031800Z Mar 88.
CH-47-88-03, SOF, Technical, CH-47D, Inspection of heater fuel line and electrical components for chafing, 042300Z Mar 88.

CH-47-88-04, SOF, Operational, CH-47, Clearing of red //X// procedures, 160100Z Mar 88.

AH-64-88-06, SOF, Technical, AH-64A, Revision to inspection of strap assembly main rotor (strap pack), 042300Z Mar 88.

AH-64-88-07, SOF, Maint Mandatory, AH-64A, Restaking access door hinges, 091800Z Mar 88.

CH-47-88-05, SOF, Operational, Revision to CH-47D engine transmission clutch failure to engage procedures, 172100Z Mar 88.

UH-60-88-02, SOF, Maint Mandatory, UH-60A/EH-60A, Inspection of tail rotor gearbox out shaft, 172200Z Mar 88.

CH-47-88-06, SOF, Technical, CH-47C, Inspection of bearings in aft swiveling servo actuators, 211900Z Mar 88.

CH-47-88-07, SOF, Technical, CH-47D, Inspection of engine cross shaft, 222300Z Mar 88.

OH-58-88-02, SOF, Technical, OH-58A/C/D, Inspection of aircraft with landing search light, 241800Z Mar 88.

OH-6-88-02, SOF, Technical, H-6 series, Inspection of rigid connecting links, 242000Z Mar 88.

OH-6-88-03, SOF, Technical, OH-6A, Inspection of main rotor hub strap pack assembly, 281900Z Mar 88.

UH-60-88-MIM-01, UH-60A, Optional removal of the upper cabin aft vibration absorber, 142100Z Mar 88.

A Wrenching Problem



Notice a loss in engine power?

Could be a broken connector rod. Check the N1 on the T53 engine.

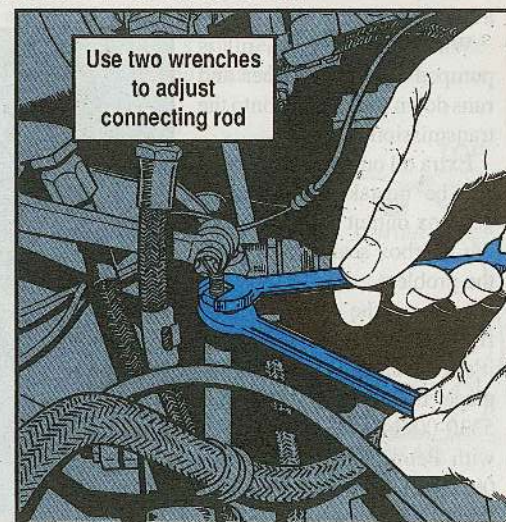
If the N1 is running about 8 percent above normal, and the EGT and torque are OK, the connector rod on the variable inlet guide vane assembly is probably broken.

The vanes won't open and the N1 will run above normal.

Any time you install or adjust the connector rod, use 2 wrenches—one to loosen or tighten the jam nut and the other to keep a backup force on the self-aligning bearing.

If you don't put a backup force on the bearing, the jam nut will twist and weaken the connector rod. Maybe not right away, but it will sooner or later and the rod will break.

So don't take chances. Grab two wrenches next time you install or adjust the connector assembly.



Gearbox Filler Cap O-Ring

I'M CONFUSED.
WHAT'S GOING
ON HERE?

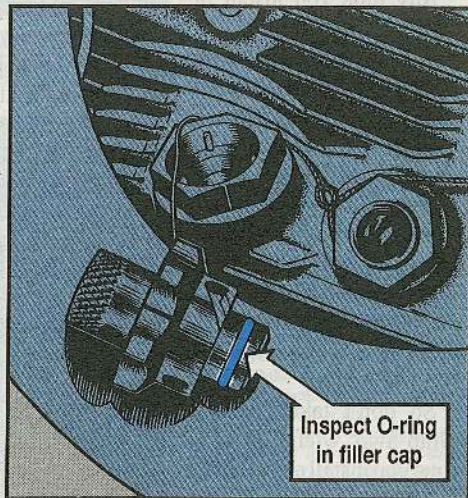
I QUIT, I'M
COMPLETELY
WORN OUT!

When the O-ring on your Apache's engine nose gearbox filler cap wears out, it can cause a lot of confusion.

When it wears out, oil is pumped out the breather and runs down the gearbox onto the transmission.

Extra oil on the transmission can be mistaken for leaking gearbox output seals. Replacing gearbox seals won't solve the problem.

Look at the O-ring in the filler cap when you add oil. If it's torn, crushed or worn, replace the O-ring with NSN 5330-00-349-9491. Coat it with Petrolatum, NSN 9150-00-250-0926, before installation.



The Wrong Stuff

BEAT IT YOU
BUMS, YOU'VE
DONE ENOUGH
DAMAGE!

I, I DIDN'T KNOW!

Some ALSE technicians are using the wrong stuff to install liners in SPH-4 helmets.

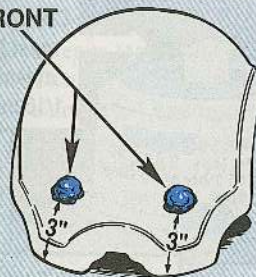
Super glue and rubber cement are absolutely, positively, the wrong stuff! Never use either in place of rubber base silicone adhesive, NSN 8040-00-833-9563.

The wrong stuff causes the plastic foam liner to deteriorate quickly. Then your helmet can't protect your head against blows.

But even the right stuff is not good enough if it's not used right. If you use one big glob to attach the liner to the helmet, you'll need dynamite to separate 'em next time the liner has to be replaced.

Instead, attach at these five points:

FRONT

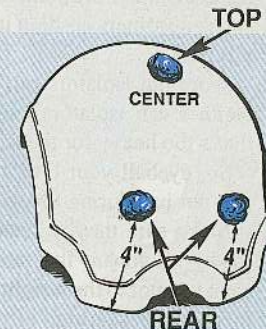


Apply silicone
adhesive in tabs the size
of a quarter:

FRONT: 3" up from the
bottom of the liner.

REAR: 4" up from the
bottom of the liner tabs.

TOP: Center of liner.



Spread the adhesive to the size of a quarter at each point. Install the liner in the helmet shell, then wait at least 24 hours before you reassemble the helmet.

Bad Vibes Can Be a Real Bummer



Bad vibes from your bird's avionics compartment turn into costly repairs for some high-powered and high-priced gear.

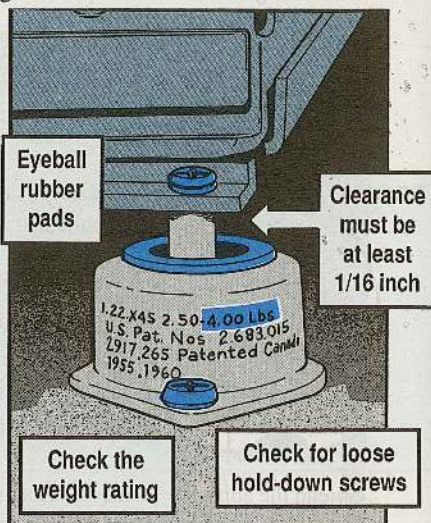
Bad vibes are caused by bum vibration isolators. These isolators are nothing more than shock absorbers. They cushion your bird's sensitive electronics gear much the same as your car's shock absorbers cushion it against road vibration.

Worn out isolators can't do the job. Neither can isolators carrying a load that's too heavy for them.

So, eyeball your bird's isolators often, not just during Phase inspections.

Make sure they're matched to their loads. Compare the rated weight of each isolator to the weight of the equipment it's supporting.

The rated weight for each isolator is usually printed on the casing.



Aviation Life Support Equipment...

Pocket Change

Crewmen, there's just not enough room in the radio pocket of your survival vest to store an extra battery—or anything else besides your radio.

When you put an extra battery in there, you have to bend the antenna too much to make it fit. That's when the wires inside the antenna get a permanent kink.

The result is limited reception on your radio. That could be curtains for you in a survival situation.

So forget the extra battery unless you've got a better place to store it than in your radio pocket.

If you can't find the rated weight of an isolator or the weight of its supported equipment, use a thickness gage or ruler to measure the clearance between the isolator and the equipment. The clearance must be at least 1/16 inch.

Also check for loose rivets or hold-down screws by moving the equipment or mounted panel to extreme positions in every direction.

While you're at it, eyeball the sponge rubber or metal mesh pads for deterioration or separation of rubber from the metal. If you find any, replace the isolator.

Performing these checks will turn bad vibes into good vibes.



Get All

YOU'RE KIDDING ME... THIS IS THE **WHOLE** TAB ATTACHMENT KIT?

When you order the tab attachment kit, NSN 8415-01-207-1197, you don't get all the parts you need. You get only the tab.

CONUS customers can local purchase the screw, washer and post using a DD Form 1348-6.

Order from:

Gentex Corporation
Manufacturing Division
Eighth Ave., P.O. Box 315
Carbondale, PA 18407

Use CAGE 97427 and these part numbers:

Item	Part Number
Screw	A30935
Washer	A3443
Post	A21042

OCONUS customers submit an off-line requisition using FSC 8415, part number and manufacturer.

SEND THE REQUISITION TO...

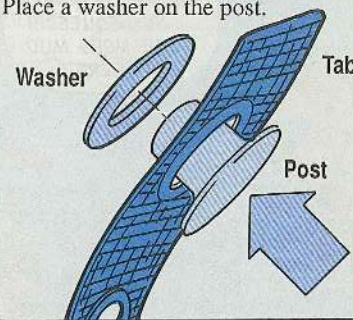
Defense Personnel Support Center
ATTN: DPSC-FODR
2800 S. 20th Street
Philadelphia, PA 19101-8419

Parts Needed

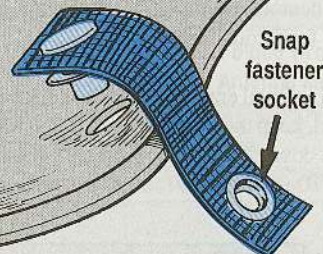
You'll also need sealing compound,
NSN 8030-00-058-5398.

HERE'S HOW TO REPLACE THE TAB ON THE HELMET SHELL...

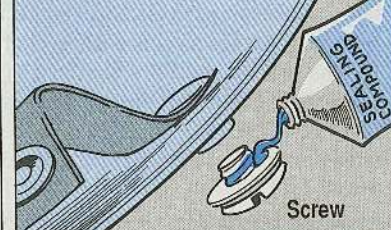
Put the post through the tab eyelet.
Place a washer on the post.



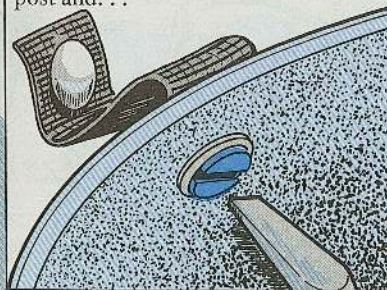
Align the tab eyelet and the post with the hole in the shell. The snap fastener socket on the tab must face inward.



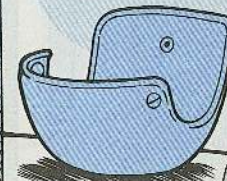
Put a washer on the screw and dab a little thread sealing compound on the screw threads.



Put the screw through the helmet shell from the outside. Thread it into the post and...



...LET THE WHOLE THING SET UNTIL THE ADHESIVE DRIES!



Clean Contacts Keep Commo Coming

I'LL BLOW IN MORE DIRT, THEN YOU SQUEEZE SOME MORE MUD IN THERE!



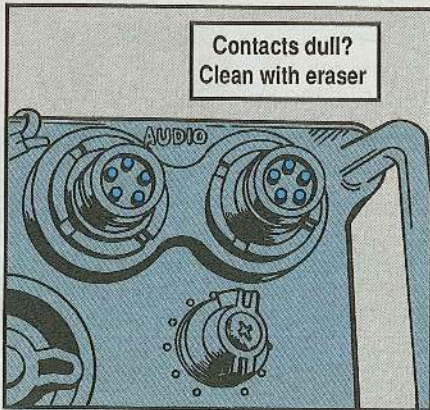
Dirt and mud work into the audio connectors of your RT-505 or -841 portable radio set, keeping the electrical contacts from touching.

Clean the contacts with a damp cloth.

If the contacts are dull, shine them with a pencil eraser. Blow eraser flakes away.

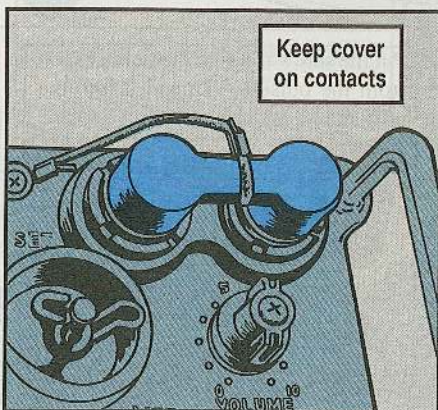
When the connectors are not being used, keep the cover on them. This keeps out moisture as well as dirt. If the dumbbell cover is missing, protect the connectors with a piece of waterproof tape, NSN 5970-00-419-4291, until you get a replacement.

Contacts dull?
Clean with eraser

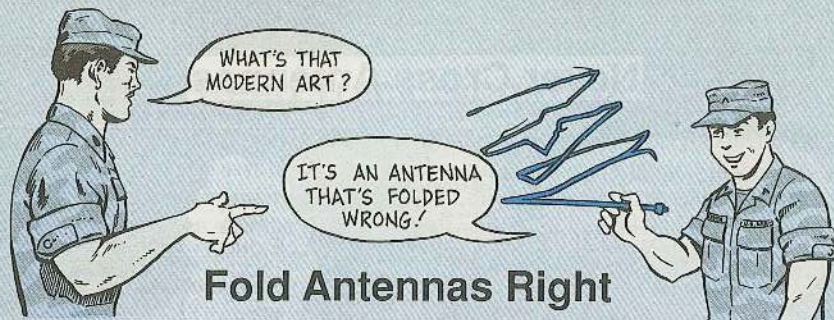


44

Keep cover
on contacts



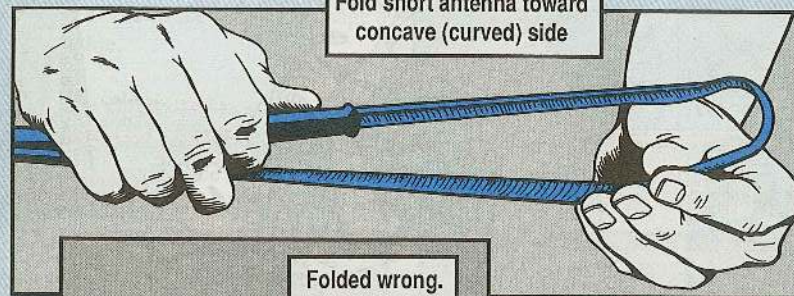
JUL 88



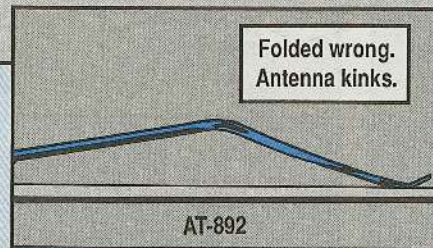
Fold Antennas Right

The long and short of it is to fold the short AT-892 antenna toward the concave side or it'll kink and go limp.

Fold short antenna toward concave (curved) side



Folded wrong.
Antenna kinks.



A drooping antenna gives you little help in sending or receiving a radio signal.

When you collapse the long AT-271A antenna, fold the top section first to take the tension off the spring and cord inside.

If you fold the antenna starting at the bottom, you'll stretch or break the spring in the bottom of the antenna or snap the cord. Then, you'll lose antenna sections.

If the cord breaks, get your unit repairman to replace it with NSN 4020-00-281-8439.

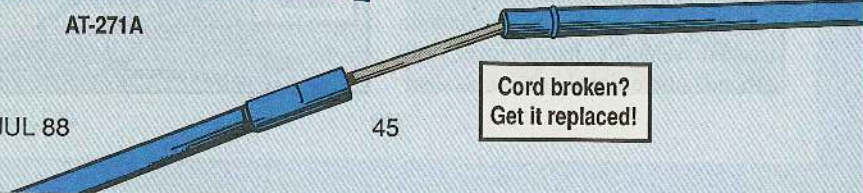
Start fold
from the top



AT-271A

JUL 88

Cord broken?
Get it replaced!



45

Never Cross Antennas

CROSSING YOUR "T's"
AND DOTTING YOUR "I's"
IS WHAT YOU'RE
SUPPOSED TO DO WHEN
YOU WRITE HOME
TO MOMMA...

GEE,
MOM
IF ONLY
YOU
WERE
HERE...

But you never cross antennas when you have two of them in your vehicle. If they touch while you're transmitting, you can zap a radio set.

Instead of the signal going over the air, it feeds back to the antenna it's touching. Circuits will be damaged as well as the signal being blocked.

So, when you tie down the antennas, make sure they're not crossed. Cross the tiedown ropes instead. Other tiedown info is in TM 11-5985-262-14.

Keep the antenna from touching metal objects when you're ready to operate your radio. That grounds it.

If the antenna comes in contact with tracked vehicle's hatch cover, it'll ground out the signal, too.

Cross ropes,
not antenna



Keep
antenna
from
metal

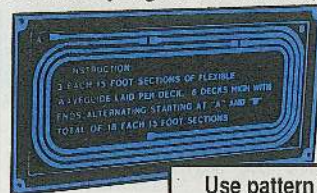


Keep Track Signal Tops

A waveguide with hot spots from overheating will cut down on your track's operation. So, you'll have to replace the waveguide to put your AN/TRC-110, -112, -138 or -151 radio repeater set back on top of the commo signal.

Hot spots happen after the waveguide is dented by big feet or vehicles, or after it's rolled too tight for storage.

So, keep the waveguide out of the way of traffic. Roll it up like it shows on the storage box cover, making sure a connector is away from the waveguide. The lip of the connector will damage a waveguide.



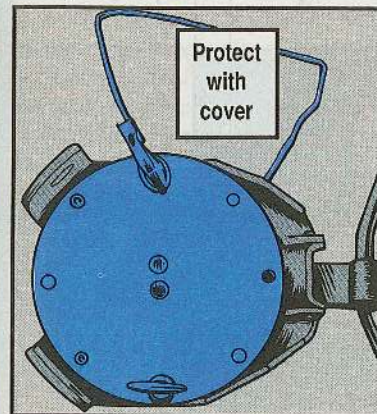
Use pattern for
storing waveguides

Fight the Dust

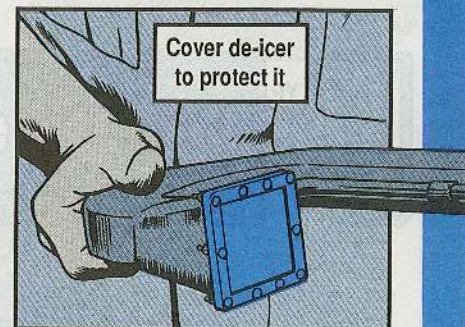
Protect the connectors by putting dust covers on them during storage.

Be sure to cover the feedhorn de-icer element when it's disconnected. Left bare, it'll get poked or punched. This'll knock out the feedhorn.

Protect
with
cover



Cover de-icer
to protect it



Grab the jack,
not the cord!



Patch Panel Pluggin'

Never yank the patch cord out of the panel by grabbing the cord. You'll pull the wire out of the jack.

Grab it by the jack instead. Then, pull it straight out. This keeps the wire and jack together.

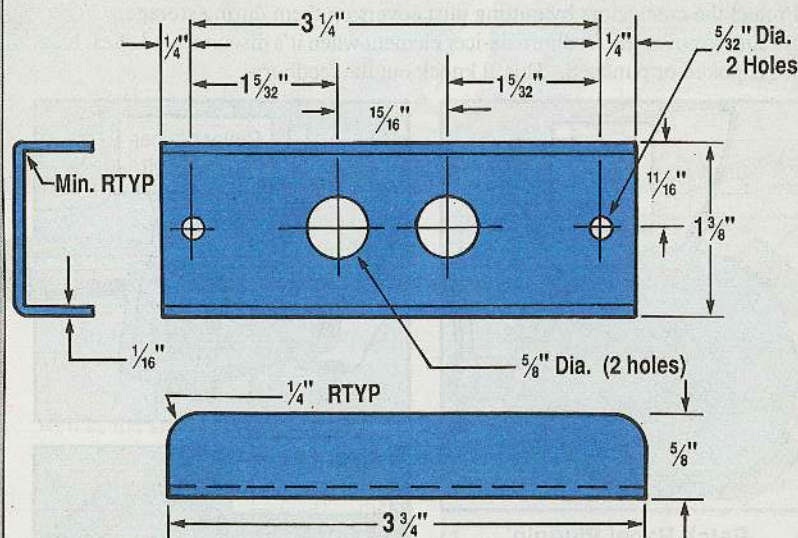
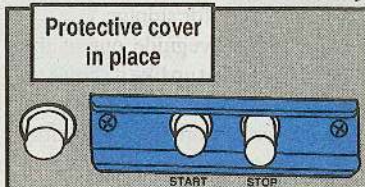
Guarding the PP-7442/G Switch

Dear Editor,

Loss of commo between an air traffic controller and an aircraft's pilot can be fatal. That's what happens if the controller accidentally bumps the control switch on the PP-7442/G power supply in the AN/TSC-61B flight coordination control central with his leg.

We came up with a protective guard for the switch to prevent that.

Make the guard of steel sheet, using these dimensions:



(Editors note: Sounds like you've got the situation well guarded.)

Benjamin T. Walker
Edward F. Timek
Tobyhanna Army Depot

Use Tape for Hookup ID

GEE! WE SURE LOOK ALIKE, COUSIN.

YEAH, EXCEPT FOR MY ID TAPE!

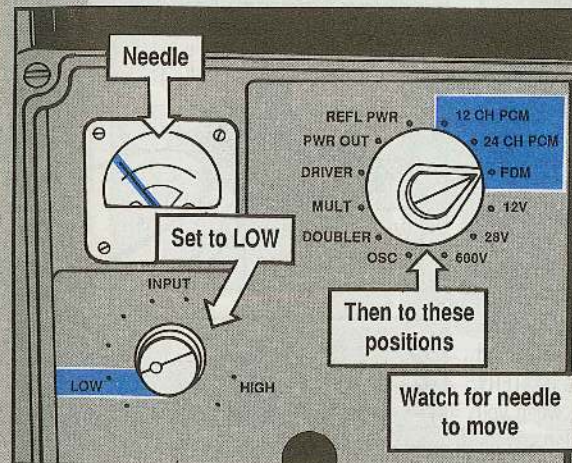
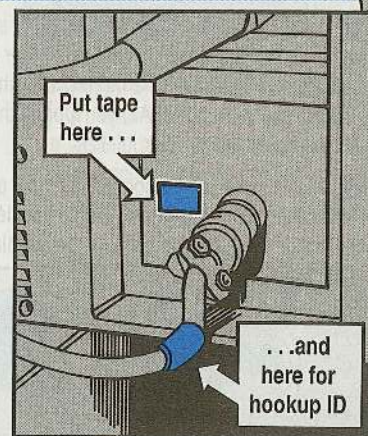
Before you hook up the CX-10762 power cable to your T-983 () transmitter, heed this warning:

Do not connect the look-alike 115 VAC connector to the OW (order wire) receptacles!

The power cable connector will fit onto either one if you force it.

But if you connect the connector to the OW receptacle, the 5TR1A5 amplifier monitor panel will get damaged.

Put tape, NSN 7510-00-550-7126, around the power cable and under the receptacle to clue you to put only these two together.



Here's how to find out if a bad connection's been made:

- Connect the cable to the right receptacle. Then, turn the radio on.
- Turn the transmitter input control knob fully counterclockwise to LOW.
- Set the meter switch in the 12 CH PCM, 24 CH PCM and FDM positions.

If you see a meter reading in any of these settings, the panel is damaged. Get your repairman to replace the transmitter.

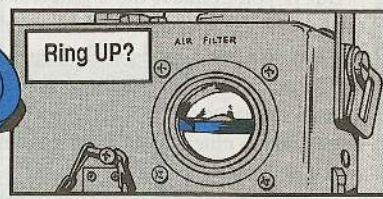
PM Helps Your Alarm

Without proper PM, your M8 soon becomes so insensitive it can't tip you off to chemical hazards...until it's too late.

Keep your M8 alarm on its toes with these tips:

✓ The M8 and M8A1 use different parts, so never switch 'em. For example, an M8 flowmeter used in an M8A1 will set off the alarm. If you push an M8 air filter paddle in an M8A1, you'll bend the metal flanges inside the air filter inlet.

✓ If an air filter paddle doesn't slip in the air inlet real easy, don't force it. Something's wrong! First, check that the **UP** is up on the paddle. Make sure the pressure ring on the filter slot is up, too. If it's down, flip it up. If the paddle still won't slip in, tell your NBC NCO.

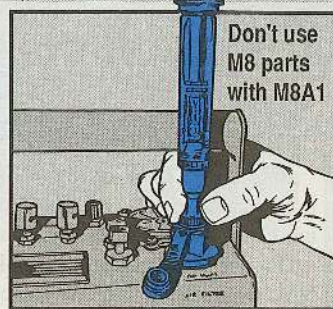
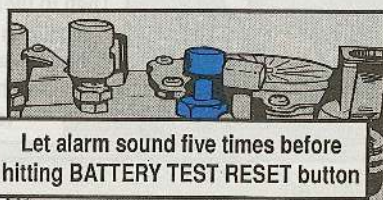


✓ Never leave a test paddle in an M8A1 longer than 2 minutes. Never try more than 2 paddles during PMCS. Otherwise, you'll contaminate the detector cell. It takes hours and hours of running your M8A1 to purge the cell.

When you remove a test paddle, immediately put it back in its foil wrapper. Then you can use the paddle again and again.



✓ If the M8A1's alarm sounds when you connect the power during PMCS, let it sound at least 5 times before you hit the **BATTERY TEST RESET** button. Otherwise, when you release the button the alarm will start sounding again. You may have to do this procedure several times to clear the alarm.

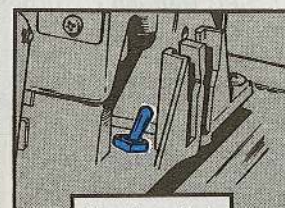


✓ For both alarms, if the ball in the flow meter doesn't rise to the correct zone during the air flow test, make sure the rainshield adapter and the air filter cap are tight. If either is even a little loose, the alarm loses air pressure.

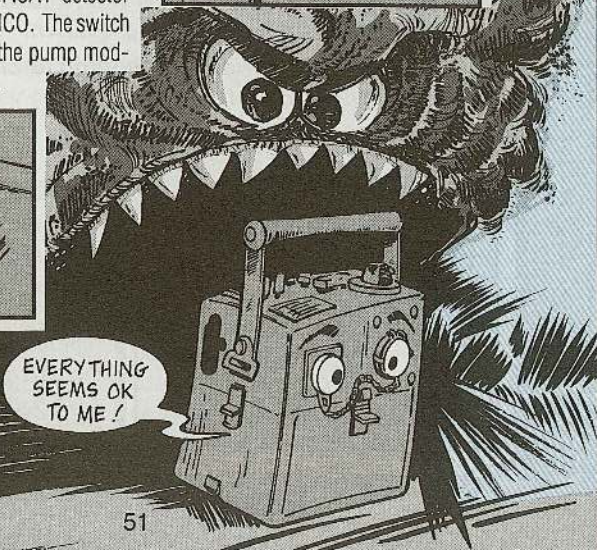
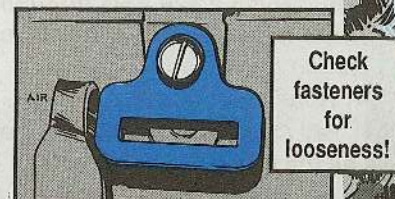
✓ When you test an M8A1's air outlet, use your finger instead of the air outlet cap to close off the air outlet. You'll get a better seal and be able to do the test faster.



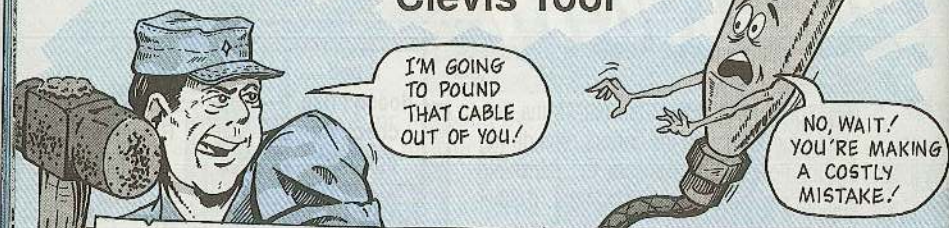
✓ If your M8A1's not responding to tests, check the toggle switch on the chassis beside the pump module on the M43A1 detector before you yell for your NBC NCO. The switch should point out, away from the pump module. Flip it right if it's wrong.



✓ On both alarms, feel the strap loop fasteners for looseness. The fastener's screws vibrate out and the fasteners are lost. Tighten loose screws.



Clevis Tool



Dear Editor,

Knocking a broken cable end out of the clevis socket assembly, NSN 5340-01-026-3033, is tough. The clevis is shot if the cable doesn't come out. That costs Uncle money!

We solved the problem by having our DS folks make a tool that helps free the cable. They made it from an old clevis. Here's how:

- Cut the pivot hole in half.
- Starting from the socket end, drill a 3/4-in hole through the entire unit. Be careful not to touch the threads.

Here's how to use it.

- Cut the rope flush with the socket screw, then screw the socket all the way into the assembly.
- Mount the assembly into a vise, allowing it to sit firmly on the vise's adjustable bar, then clamp it down.
- Heat the socket with your cutting torch and drive the wire out the bottom with a punch.



(Editor's Note: That's using the ol' clevis to solve a pesky problem. But you'll need a new sleeve plug, NSN 4030-00-001-9952, to hold the wire rope in the socket. The plug's not on the AMDF, so order on DD Form 1348-6, from S91.)

SFC Randall L. Turner
118th Engr Co
UTARNG

Belly Up to the Bar Oil



Dear SGT B. D. O.,

Use nondetergent, single viscosity, MIL-L-2104 engine oil to lube the chain saw bar. NSN 9150-00-186-6681 gets a quart of 30-weight oil.

If you're cutting in temperatures -34°F and below, use kerosene to thin the 30-weight oil. Get a 5-gal can of kerosene with NSN 9140-00-242-6749. You'll need a mixture of one part kerosene to two parts oil.

No kerosene? Use 10-weight engine oil. NSN 9150-00-189-6727 gets a quart.

Half-Mast

Give Your File the Extra Mile

Not all files are the same. They have different shapes, different filing surfaces and different teeth for different jobs.

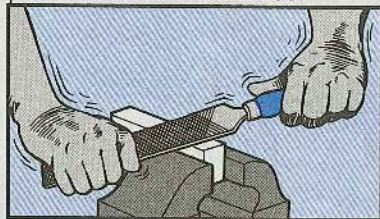
Chapter 28 in TM 9-243, Use and Care of Hand Tools and Measuring Tools, identifies the different kinds of files and tells which kind to use for specific tasks.

WHEN YOU KNOW WHICH FILE TO USE...

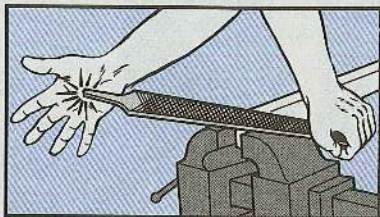
...HERE'RE SOME DO'S AND DON'T'S TO FOLLOW!

DO:

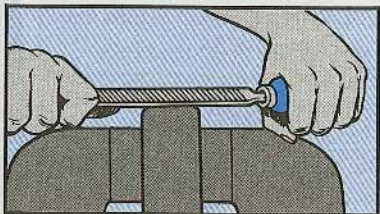
✓ Break in a new file with light pressure and even strokes.



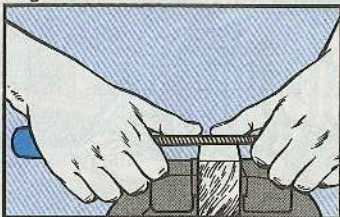
✓ Make sure your file has a handle. Without one, a slip and the tang will puncture your hand.



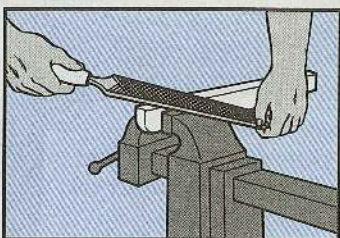
✓ Apply pressure only on forward strokes when filing hard metals.



✓ Clamp whatever you're filing in a vise.



✓ Hold the file on both ends when you're filing.

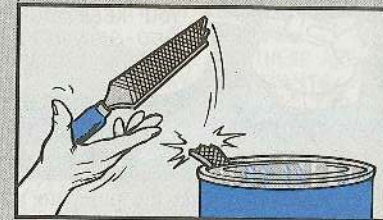


✓ When filing soft metals, apply pressure in the return stroke as well as the forward stroke to keep the cut clean.



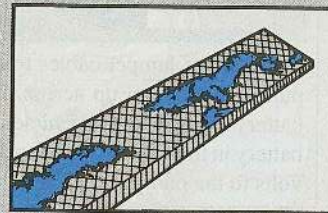
the Extra Mile

✗ Use a file for prying. Even light pressure can break it.

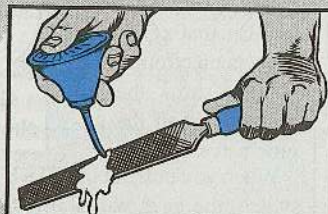


DON'T:

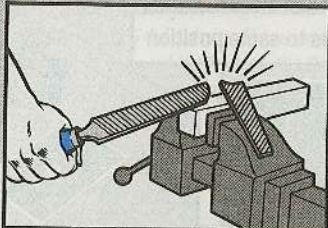
✗ Use a clogged file. You'll scratch your work.



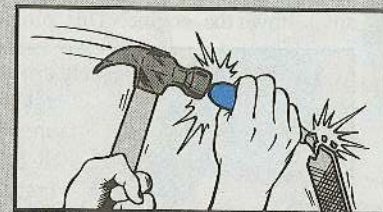
✗ Lube a file. Lube will cause your file to clog easily. Then it slides instead of cuts.



✗ Bang a file on a hard surface to unclog it.



✗ Hammer on a file.



✗ Toss a file in a toolbox unprotected. You could break it or dull the teeth.

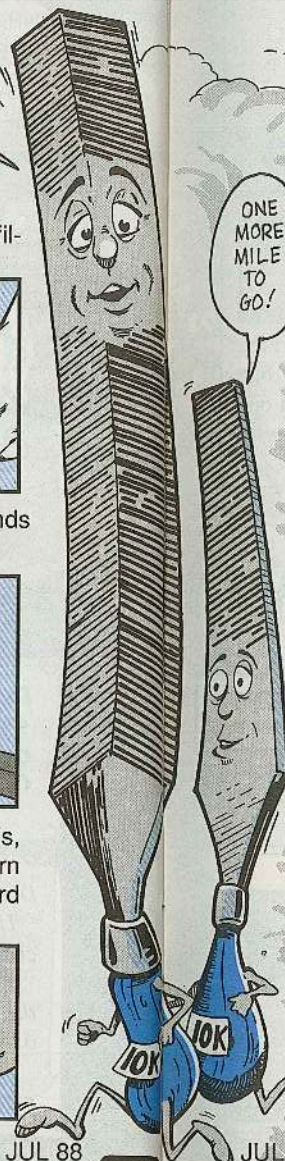


Canvas or cardboard (stapled together) make good file shields

✗ Use a file for anything but filing.



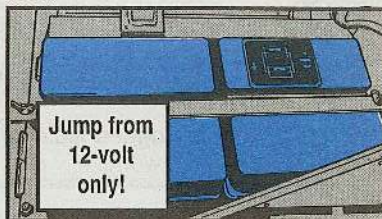
ONE MORE MILE TO GO!



Pump Pointers

Jump Starting

The pump is a 12-volt system. It has two 12-volt batteries connected in parallel.



Jump from
12-volt
only!

If you use jumper cables to start the pump, hook them up across only one battery in the slaving vehicle and one battery in the pump so you send only 12 volts to the pump.

Gage Glitches

Before you start the engine, the oil pressure gage may show a reading. But that's OK. The gage is electronic, and it may show the oil pressure when the engine was shut down.

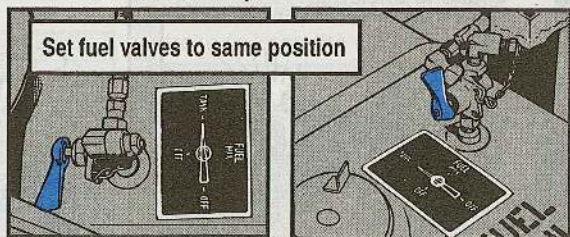


Gage may
show pressure

When you pull out the START/STOP switch, the gage will show 0 pressure before you start the engine.

Valve Matchup

Set both the fuel shutoff valves to the same position—FUEL TANK, or AUX—before you try to start the engine. Otherwise, the engine won't start.



Set fuel valves to same position

HERE ARE SOME
POINTERS TO HELP
YOU KEEP YOUR
350-GPM DEP
PUMP ON THE JOB!

If you can't get the pump to start, check the V-belt. If the belt is broken, the safety switch on the idler pulley shuts down the engine. This protects



Safety switch
stops
engine
if belt
breaks

the engine if the belt breaks. Belt tension is automatically adjusted by the spring's tensioner.

If tension is all right, look at the switch and be sure the plunger is extended—sometimes it sticks.

Key Ring and ID Tags



AREN'T YOU THE
KEY MASTER?

SOME CALL ME THAT,
BUT MY REAL NAME IS
FLAT RING...
... AND THESE ARE
MY ASSISTANTS,
**KEY TAG AND
SNAP HOOK!**

Dear Half-Mast,
We want to use key rings and
ID tags to control vehicle keys
in our motorpool. How can I get
them?

SFC J. S.

Dear Sergeant J. S.,

For key rings use flat ring, NSN 5365-00-933-3596. It's 3/4-inch in diameter.

For ID tags, use NSN 9905-00-245-7826 to get blank key tags with snap hooks. They come in a box of 100.

Half-Mast



Flat Ring
NSN 5365-00-933-3596



Tag and Hook
NSN 9905-00-245-7826

Protection Against Chemical Attack

There's nothing mysterious about Chemical Agent Resistant Coating (CARC), but some folks are hard to convince. They put the emphasis on the first two words instead of the word "resistant."

Here are some popular myths and facts about CARC:

MYTH—CARC contains harmful chemical agents.

FACT—Not so! CARC resists chemical agents. That's why the Army adopted it. Equipment painted with CARC cannot be penetrated by chemical agents and it's more easily decontaminated. CARC is also much more durable than alkyd paint.

MYTH—CARC is more dangerous to use than alkyd paint.

FACT—When properly handled, CARC is no more dangerous to use than any other kind of paint. It is simply an aliphatic polyurethane topcoat applied over an epoxy primer. Private industry has been using polyurethane for years on military and commercial aircraft, floors, furniture, and bowling alleys. In fact, you can buy polyurethane for home use. The latest CARC topcoats—Types 2, 3, and 4—are lead and chromate free and comply with state and national environmental requirements.

MYTH—Respiratory protection is required for CARC, but not alkyd paint.

FACT—Respiratory protection is required for all paint, not just CARC. OSHA's safety standards for spray painting are the same for all paints. Your local industrial hygienist can tell you what's required.

MYTH—To paint CARC, paint booths have to be upgraded to meet OSHA and applicable environmental standards.

FACT—If your paint booths did not meet OSHA and applicable environmental standards before CARC, you were in violation. OSHA's standards and environmental standards are for spraying paint of any type, not just CARC.

MYTH—If CARC is not available, alkyd paint is OK to use for touching up vehicles and other equipment painted with CARC.

FACT—Wrong! You can't use alkyd paint to touch up CARC-painted equipment. Any other kind of paint over CARC destroys its ability to be easily decontaminated. Chemical agents can be quickly and easily removed from CARC, but alkyd paint absorbs chemical agents and

releases them later. The only way to remove chemical agents from alkyd paint is to remove the paint with a DS2 solution that leaves metal bare and unprotected. If you apply alkyd paint over CARC, dangerous "hot spots" are left when you decontaminate the CARC.

Here are some additional facts about CARC that might clear up any confusion:

FACT—Equipment painted with CARC should have the word "CARC" stenciled near the data plate. If you don't see it, do this simple test: Wet a cloth with acetone (fingernail polish remover) and rub hard on the painted surface for about 10 seconds. If paint comes off, it is not CARC.

FACT—Instructions for using CARC are in TM 43-0139, Painting Instructions for Field Use, and in TM 55-1500-345-23, Painting and Marking of Army Aircraft. Safety and health precautions for using paint are spelled out in TM 43-0139.

FACT—CARC is supposed to look dull and faded, not bright and shiny, to help camouflage equipment. You should never use baby oil or diesel oil or car polish on a CARC-painted item. That kind of stuff reduces the chemical protection of CARC.

NOW, MORE QUESTIONS?
CALL THE
TECH EXPERTS AT:
AUTOVON 354-5889
OR
COMMERCIAL 703-664-5889



Bolt Update

Bolts have been in the headlines. They've been called substandard, mismarked and counterfeit . . . but this does not necessarily mean they're all bad!

The critical issue is being able to select the right bolt for the job.

If you put a grade 5 bolt in where the TM calls for a Grade 8 bolt, you've got problems. Tightening that weaker bolt to the torque called for in the TM will snap off the bolt. Then you have a lot of work removing the stub. And even if you do get the bolt torqued to the higher spec, it could fail, causing equipment damage or personnel injury.

So, before you use a bolt, make sure you know its grade. Some bolts may be identified by counting the dashes on their heads; however, if in doubt, don't use the bolt.

DASHES ON THE HEADS OF THE BOLTS TELL THE *SOCIETY OF AUTOMOTIVE ENGINEERS* GRADE, AND HERE ARE THE GRADES MOST COMMONLY USED!

SAE		
No dashes = SAE Grade 2		
3 dashes = SAE Grade 5		
6 dashes = SAE Grade 8		
SAE Grade 8.2		

Never use a lower graded bolt when a higher graded bolt is called for, and above all sort through all the bolts in your bins, separate them out to one grade per bin . . . and mark the bin. That way you won't be fooled.

Connie's
POST
SCRIPTS



I GOT A MAINTENANCE PROBLEM!

M16A2 Buttstock DS Job

Replacing the M16A2's buttstock assembly is a DS job. The SMR code for the buttstock (Item 7, Page C-19 in Change 2 of TM 05538C-23&P/2) should read: "PAFFF (Army only), PAOFF (Marines only)."

Usage Reports and AOAP

DA Pam 735-750 in Maintenance Management UPDATE 11 drops the requirement for annual DA Form 2408-9 usage reports on combat and tactical vehicles that are **covered under the Army Oil Analysis Program (AOAP)**. For those vehicles, record the mileage or hourmeter reading in the Remarks Block of the AOAP DD Form 2026. These changes are spelled out in Para 5-6c(3)(f) and Appendix 0-11a(20) of DA Pam 738-750.

Apache Wheel Bearing Lube

Good news, Apache mechanics! You now repack your bird's wheel bearings and check for smooth operation every 500 hours instead of every 250 hours. Message AH-64A-88-MIM-03 has the word. Make a note in TM 55-1520-238-PM until it's updated.

M17 TM Changes

Make two changes to your new M17-series mask manual, TM 3-4240-279-10 (Oct 87). The correct NSN for M8 detector paper on Page C-3 is NSN 6665-00-050-8529. On Page 2-56, cross out the NSN's for M13 and M13A1 filter elements. Order only M13A2 elements, NSN 4240-00-165-5026. You'll find more on this in AMCCOM Msg AMSMC-MAR-EC(A) 311400Z Mar 88.

M242 Gun Solenoid

The M242 automatic gun's electrical sear solenoid, NSN 5945-01-089-7649, is out of stock and won't be available until late in 1988. Until then, order it by the piece. The plunger is NSN 5945-01-203-2720 and the body is NSN 5945-01-203-2721.

M16A1 Left-Hand Guards Gone

There are no more M16A1 left-hand handguards, NSN 1005-00-056-2251. If you armorers need a left-hand handguard, order two—not one—M16A2 handguards, NSN 1005-01-134-3629. M16A1 and M16A2 handguards won't mix. You must have either two M16A1 handguards or two M16A2 handguards. You can still order M16A1 right-hand handguards, NSN-1005-00-056-2252.

M249 Cartridge Indicator Removed

If your M249 squad automatic weapons (SAW) still have cartridge indicators, armorers, get direct support to remove them. The indicators can cause cook-offs. AMCCOM Msg 141435Z Mar 88 has the word.

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



WHAT A PLACE TO
GO DOWN... IN THE
MIDDLE OF NOWHERE!

IT
COULD BE
WORSE,
SARGE...

...AT LEAST OUR
LIFE SUPPORT
EQUIPMENT
CHECKS OUT OK...

...GLAD WE
INSPECTED IT
BEFORE WE
TOOK OFF!

**Do You
Inspect Your
Aviation Life Support
Equipment (ALSE)
Before Every Flight?**