

Issue 558

PS

May
1999

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-558



Approved for
Public Release;
Distribution Is
Unlimited

Get a Handle on SINGARS Cables
... See Page 48

START?

GOING ONCE...

CRANK AS LONG AS YOUR TM ALLOWS, STOP AND LET THE STARTER COOL OFF AS LONG AS YOUR TM REQUIRES.

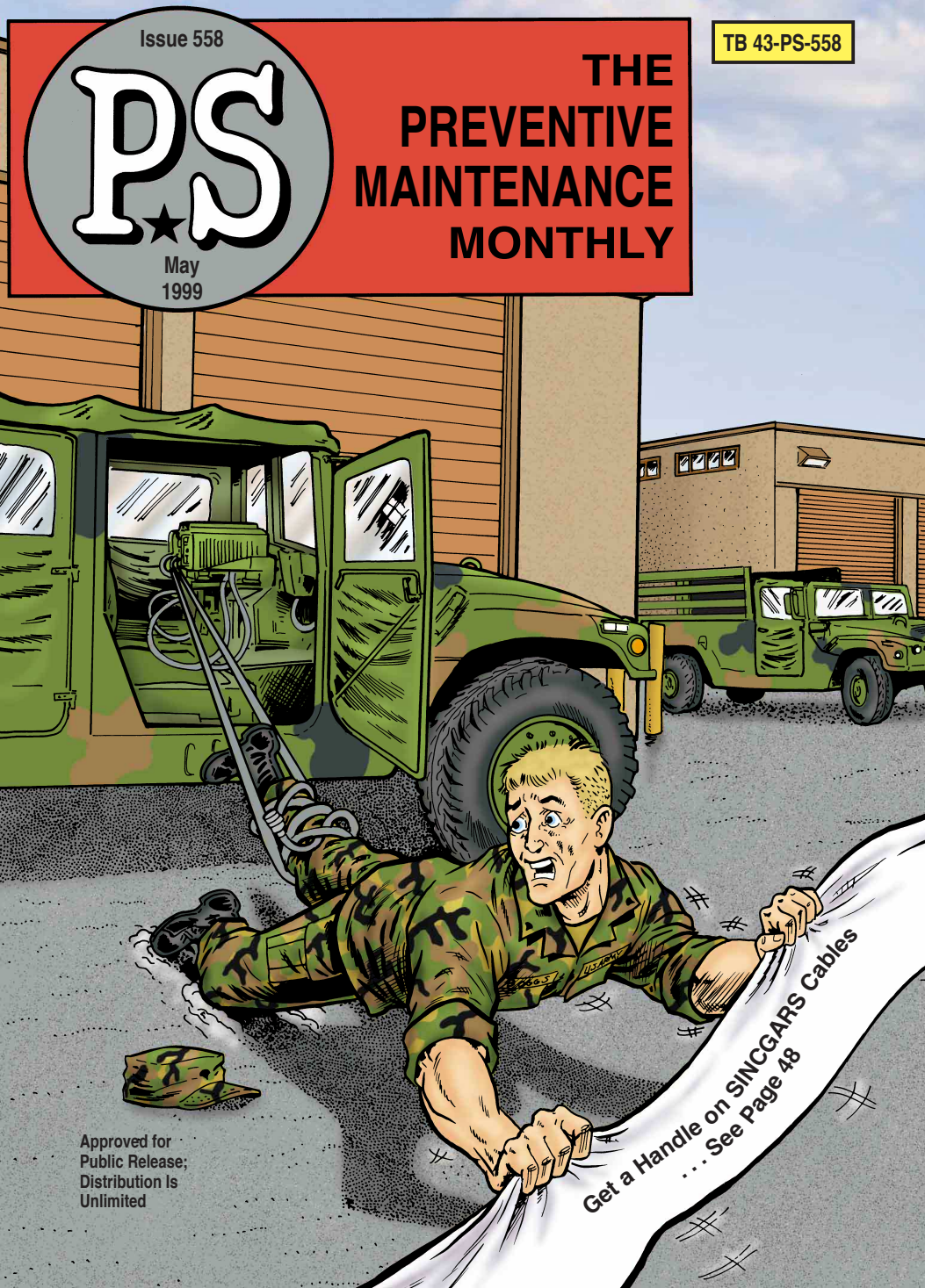
GOING TWICE...

CRANK AGAIN, STOP AND LET THE STARTER COOL AGAIN.

GONE!

NO START AFTER THE MAX NUMBER OF TRIES CITED IN THE TM MEANS YOU NEED A MECHANIC!

STOP!





THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-558, 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. Masculine pronouns may refer to both genders.

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

MSG Half-Mast
The Preventive Maintenance Monthly
LOGSA, Bldg. 5307
Redstone Arsenal, AL 35898-7466

Or E-mail to:

psmag@logsa.army.mil

Internet Address:

<http://www.logsa.army.mil/psmag/pshome.html>

By Order of the Secretary of the Army:

DENNIS J. REIMER

General, United States Army Chief of Staff

Official:

Joel B. Hudson
JOEL B. HUDSON

Administrative Assistant to the Secretary of the Army
05681

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Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, LOGSA, Redstone Arsenal, AL 35898-7466.

It's the Commander's Call

Some inspectors and supervisors tell equipment operators and mechanics that information in PS Magazine is not the real deal. They say it's not official until it shows up in a TM, AR or FM.

THE TRUTH IS,
THE INFO IN PS IS AS
USABLE AS COMMANDERS
ALLOW IT TO BE.

Preventive Maintenance is a command responsibility. DA helps meet its responsibility in this area by publishing PS to help unit commanders meet their responsibilities in the maintenance of equipment.

PS does its job by packaging information for soldiers who perform the maintenance. All a commander has to do is say "GO" or "NO-GO."

All information in PS is reviewed and approved by the same agencies or commands that put out the TMs, ARs, FMs and other official publications.

PS does not change the content of a directive publication. The only thing that changes a TM, for instance, is a published change or revision to that TM. What PS does on occasion, along with such things as EIR Digests and headshd messages, is to point out that the info in a publication is outdated, incorrect or misleading.

If this faulty information affects safety, or can damage equipment, commanders have the responsibility—and the authority—to decide the issue. Since it's their equipment and their people at stake, most commanders choose to go with information that is current and correct.



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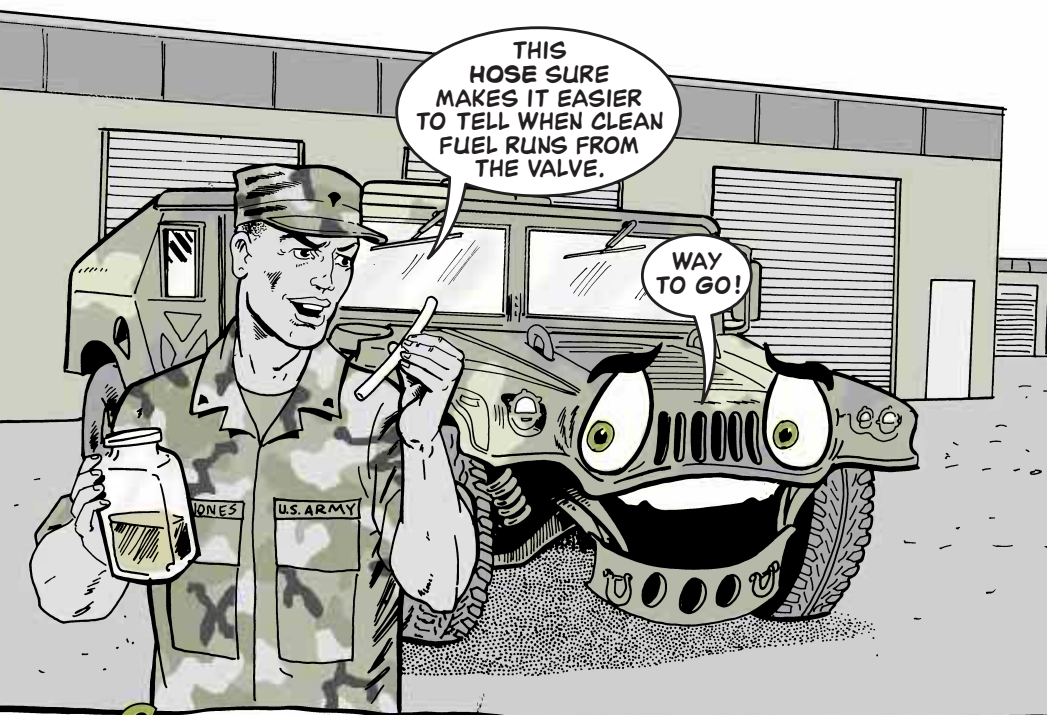
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HMMWV...

Make It Easy on Yourself



Cut yourself some slack when it comes to draining fuel filters on HMMWVs, drivers, by getting your mechanic to cut you some plastic tubing.

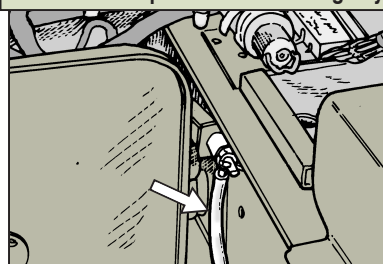
Add an 8-in piece of 1/4-in plastic tubing, NSN 4720-00-833-0867, to the end of the filter drain valve.

This clear tubing allows you to see when clean fuel starts running from the filter **and** helps keep fuel from spilling all over.

Be sure to put the drained fuel into an approved hazardous waste container.

If you drain more than a pint of dirty fuel from the filter, stop and let your mechanic know. The filter element, normally changed at least every annual service, may need changing more often.

Clear hose keeps fuel filter draining tidy



COVER OR RE-ROUTE HOSES



Many HMMWV owners prevent leaking surge tank return and supply hoses by routing the hoses underneath the air horn assembly.

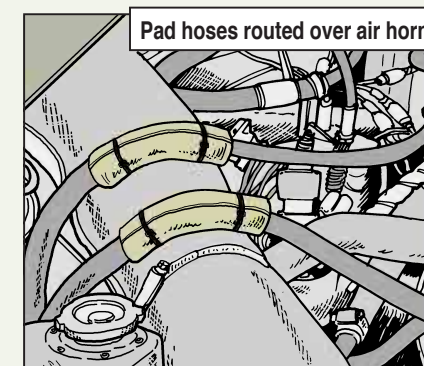
Left on top of the horn, the hoses rub against the air horn and hood until holes develop. That can empty the radiator.

Routing underneath is OK, but here's how to prevent the chafing problem caused by routing the hoses over the air horn:

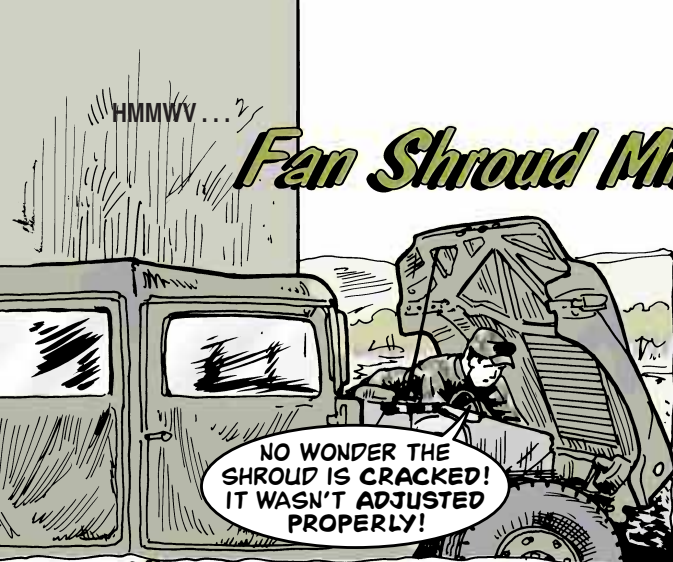
- Take two 6-in pieces of heater hose, NSN 4720-00-622-4743, and split them lengthwise.

- Put the pieces over the surge tank's return and supply hoses. Position the

pieces on the hoses where they rub against the air horn.



Use electrical tie straps, NSN 5975-00-985-6630, to keep the pieces in place.

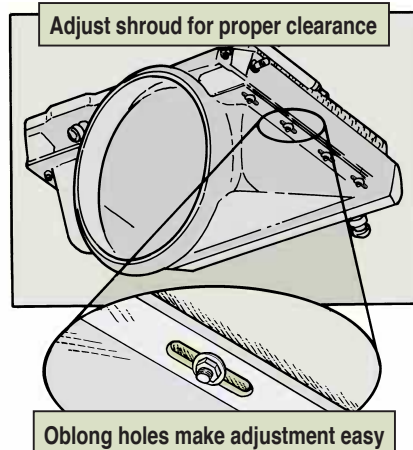


Fan Shroud Miseries

Mechanics, if you're tired of seeing so many cracked fan shrouds on HMMWVs, these tips are for you:

■ Eyeball the note at the top of Page 3-114 of TM 9-2320-280-20-2. When you install the radiator fan shroud, it must be adjusted so the edge of the shroud is about 1 1/2 inches from the back edge of the fan blades.

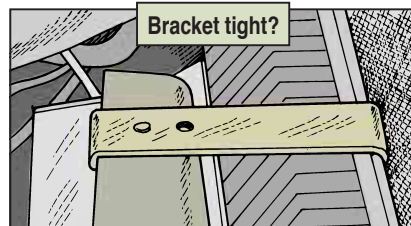
Additionally, there must be at least 1/4 inch between the fan shroud and the tip of any fan blade.



hits the shroud, with the same damage as above.

If the fan shroud is broken, cracked or loose, the HMMWV is NMC until repairs are made.

So, any time you're under the hood of a HMMWV, check the bracket. If it's loose, rivet it to the shroud. Use the rivet gun in the HMMWV's special tool kit and pop rivet, NSN 5320-01-151-1061.



If you spot small cracks on the shroud that you can fix without removing the shroud, use fiberglass repair kit, NSN 2090-00-372-6064. Instructions come with the kit.

If you must remove the shroud to make repairs or if the cracks are large, just replace the shroud.

If the shroud is installed without making these adjustments, the fan blades can hit the shroud, cracking or shattering blades.

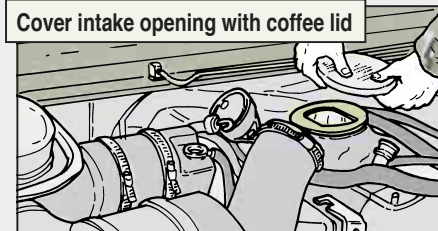
■ Make sure the fan shroud bracket is in place and tight. The bracket has a tendency to loosen and fly off. Then the fan

THE LID'S THE THING

Mechanics, when you set out to find something to cover the HMMWV's air intake manifold during maintenance, take a coffee break.

Yep, coffee. The plastic lid for a 34 1/2-oz coffee can fits the air intake opening just perfectly. It doesn't have to be taped in place either.

Using the lid means there's no need to tape the opening or cut cardboard circles to keep foreign objects out of the manifold when the air horn is removed.

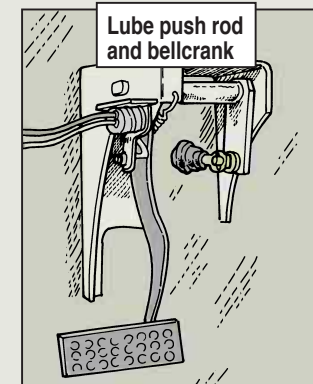


Rusty Rod Wears Brake Pads

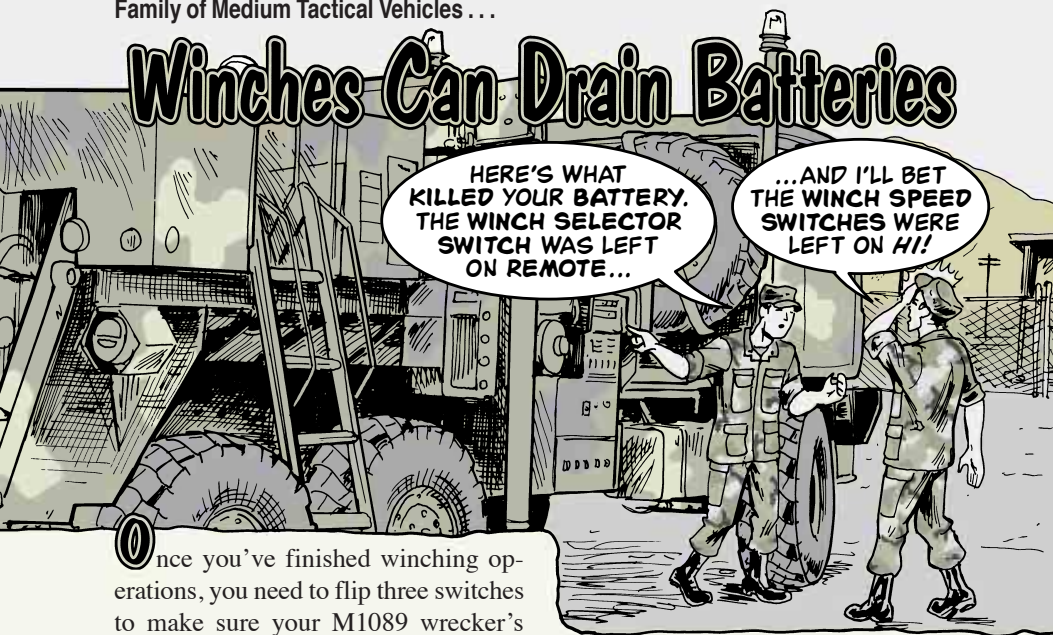
If your HMMWV is going through too many service brake pads for the miles it travels, give the hydro-booster push rod a look-see for corrosion.

Corrosion at the rod's eyelet end where it connects to the pedal assembly can cause a lack of free play at the pedal, which won't let it completely release. That means there's a drag on the brake rotor. In other words, the brakes are always "on."

To remedy the problem, spray solid film lubricant, NSN 9150-01-380-4470 or NSN 9150-01-380-4235, on the push rod and brake pedal bellcrank. Work the pedal several times until it releases to its upper stop.

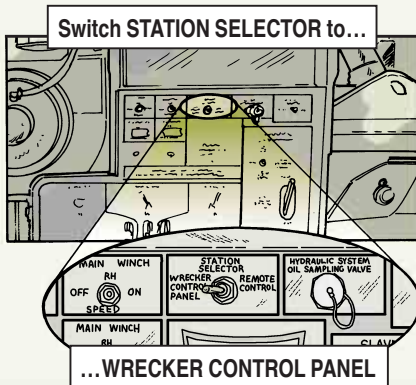
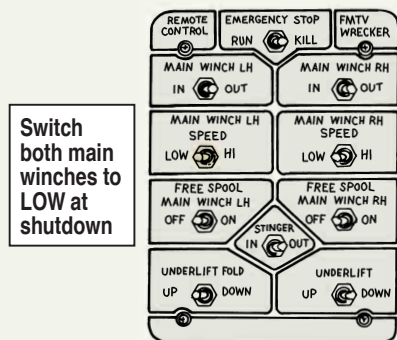


Winches Can Drain Batteries



Once you've finished winching operations, you need to flip three switches to make sure your M1089 wrecker's batteries don't run down before your next mission.

TM 9-2320-366-10 doesn't point out that both main winch speed switches on the remote control panel must be



If you leave the speed switches set to HI and the selector switch set to REMOTE CONTROL, battery power continues to go to the remote control panel. That can kill your vehicle's batteries.

Until the -10 is updated, make a note so your batteries don't come up short at the next start.

set to LOW at shutdown. In addition, the TM fails to note that the STATION SELECTOR switch on the fixed control panel must be set to WRECKER CONTROL PANEL.

TO EACH HIS OWN

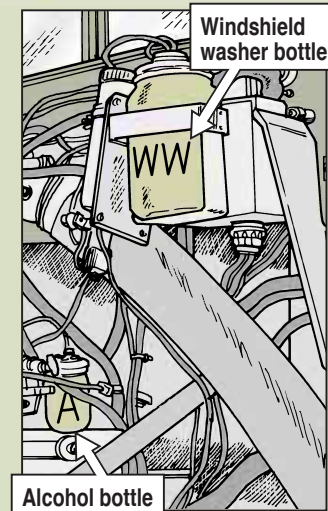


Some folks don't know the difference between the windshield washer bottle and the alcohol bottle on M939-series trucks.

The windshield washer bottle contains windshield washer fluid for cleaning the windshield. The alcohol bottle contains alcohol to keep water in lines from freezing.

Putting alcohol in the washer bottle, or washer fluid in the alcohol bottle could cause problems. Alcohol might clean the windshield, but it's flammable. Washer fluid won't dry moisture from air lines; in fact, it adds moisture.

If you really can't tell which bottle is which, use a marker to label the alcohol bottle (use a large A) and the windshield washer reservoir (use a large WW).



Save Those Mud Flaps

Drivers, be sure to hook up the mud flaps on your M929 or M930 dump truck before dumping a load. If you don't, the flaps get caught under the rear wheels when you back up. Before you know it, they're ripped off.

The mud flaps have special hooks to keep them out of harm's way when dumping. Use 'em.



HEMTT ...

Stop Oil Slop

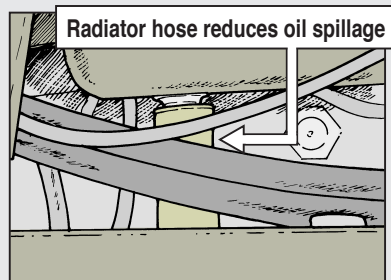
An engine oil change is a sloppy job on a HEMTT. As described in the manual, you remove the drain plug and catch the 28-30 quarts of oil in an oil pan on the ground.

The problem is that there are hoses, crossmembers and springs between the drain plug and the oil pan.

Since there's no room to place the pan closer to the drain plug, those components get covered in oil. And some oil splashes onto the ground.

Specialist Gregory Record at Ft Sill minimizes the mess by using a 4-ft section of radiator hose (NSN 4720-01-122-8202, for example) to guide the oil.

He holds one end under the plug and makes sure the other end feeds into the oil pan. The little oil that spills can be wiped up with rags.



Balky Emergency Lever Now NMC

Make a big note, fuel haulers, that your M978 HEMTT tanker is out of business if the MC MANUAL CONTROL EM VALVE lever does not return to the closed position after its weekly check.

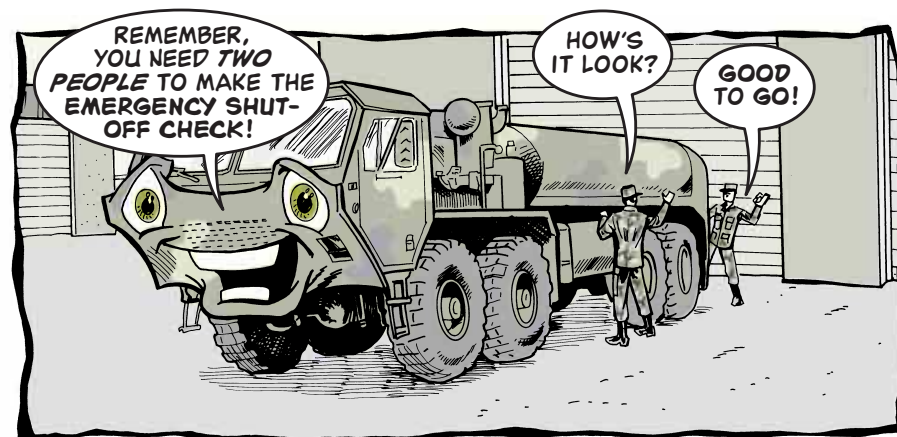
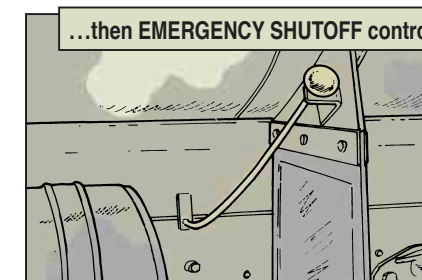
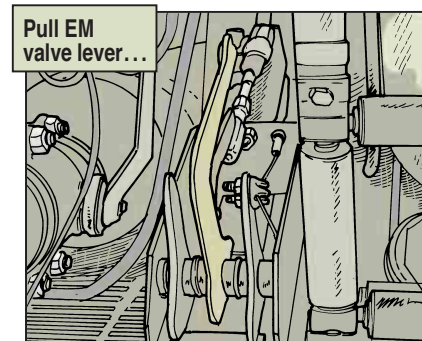
A change to TM 9-2320-279-10 is in the works, but you need to make that big note now.

Here's what you need to do every week to ensure the emergency fuel shutoff lever works:

- ➔ Pull the MC MANUAL CONTROL EM VALVE lever towards you. That opens the V1 emergency valve, letting you dispense fuel.

- ➔ Pull out the EMERGENCY SHUTOFF control. The MC MANUAL CONTROL EM VALVE should pop back into place and close down the V1 valve. That stops fuel flow during a spill or fire.

If the lever closes, your tanker is good to go. If it doesn't close, your tanker is NMC until it's adjusted, lubed or replaced.



Up, Down, Uneven Ground



Pulling a semitrailer requires a driver's complete attention. So does hooking up to and pulling out from under the trailer.

You can easily damage the landing gear and legs if you don't pay attention to hookups and drops.

For instance:

◆ After hookup, raise the landing gear legs completely before moving out. If you hook up and take off without completely raising the legs, they will hit the ground or something laying on it.

You're left with bent or broken legs, a tossed load or a ruined trailer.

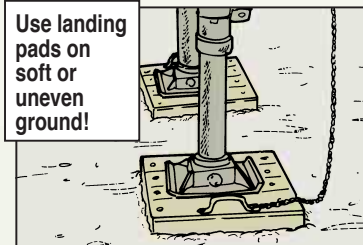
◆ Before pulling the tractor out from under the trailer, always lower the legs completely and make sure the ground underneath the legs is as even as possible.

If you pull out and both legs don't touch ground at the same time, the trailer can come crashing down.

◆ A heavy load pushes the legs into mud, sand or snow. Cargo can shift and tumble off.

So, use landing pads if you still have them. Otherwise put boards under the legs to provide an even surface when you must drop a trailer on soft or uneven ground.

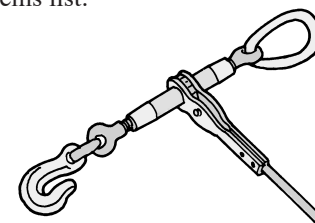
Use landing pads on soft or uneven ground!



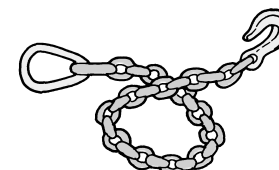
If it means a little shovel work before unhooking, consider how much more work you'll have recovering the trailer and its cargo if you don't shovel.

M1000 HETS BII Update

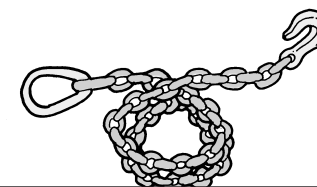
The load binder and some chains for the M1000 semitrailer have new NSNs. Note these new NSNs for Items 1-4 on Page C-3 of TM 9-2330-381-14's basic issue items list:



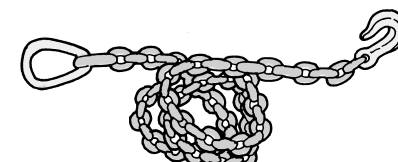
1/2-in load binder, NSN 3990-01-440-5975



1/2-in chain assy, 7 feet, NSN 4010-01-361-8378



1/2-in chain assy, 11 feet, NSN 4010-01-371-5772



1/2-in chain assy, 19 feet, NSN 4010-01-385-5974

Stick It to 'em

Dear Editor,

The only Army ground vehicle authorized to use the portable Halon 1301 fire extinguisher, NSN 6830-00-555-8837, is the M1-series tank. That's because the driver sits so low that he wouldn't survive a CO₂ discharge.

Unfortunately, you can find the Halon 1301 extinguisher in HMMWVs, Bradleys, and other vehicles because most soldiers don't realize what's in the bottle.

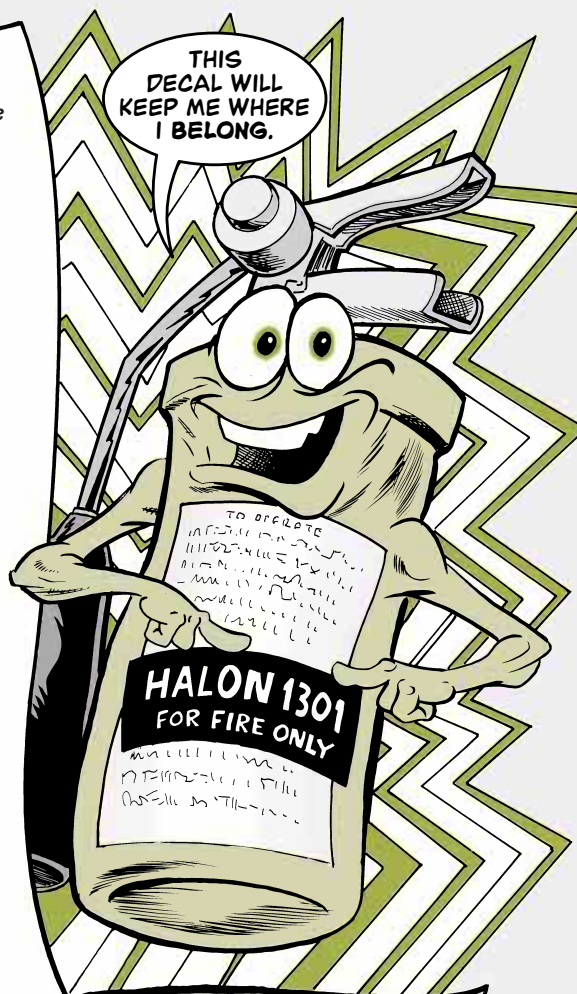
While Halon 1301's chemical name—CF₃BR—is listed on the data plate, most soldiers fail to make the Halon connection. Therefore, expensive and environmentally unfriendly Halon 1301 gets used in places where CO₂ will work just as well.

We've solved this problem by putting HALON 1301 decals on all Halon extinguishers. With the labels in place, the extinguishers are easy to identify and stay in M1-series tanks like they're supposed to.

NSN 7690-01-340-8901 gets 100 of the decals.

SFC Scott Jacobs
CSMS, IDARNG
Boise, ID

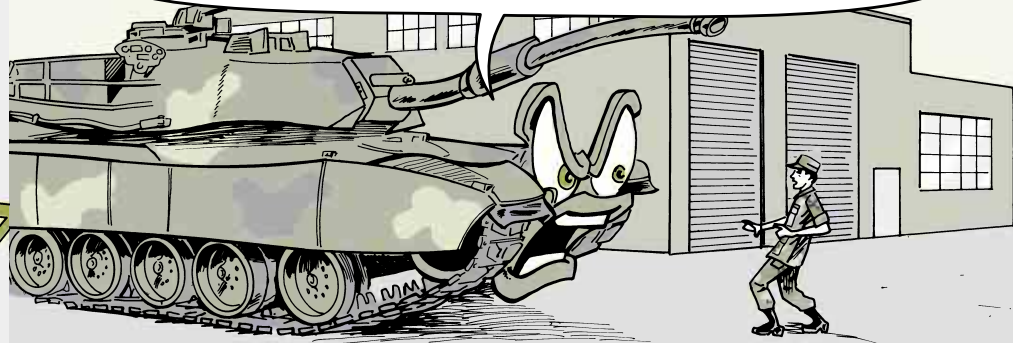
THIS
DECAL WILL
KEEP ME WHERE
I BELONG.



FROM THE DESK OF THE Editor

Now that's an idea that'll stick!
Sergeant Jacobs was recommended for
a monetary award for his idea through
the SMART suggestion program.

HANDS OFF MY EMFS CONNECTOR!



Tankers, keep your cotton pickin' hands off the electromechanical fuel system (EMFS) connector when pulling or installing the powerpack!

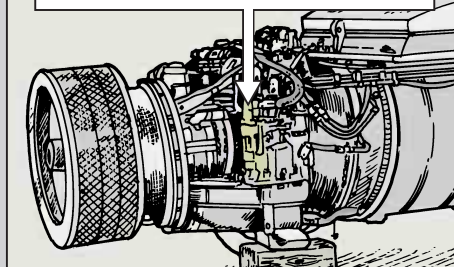
The connector is so delicate that using it for a handhold will break the pins.

That results in shorts in the EMFS and problems with low engine power and erratic RPM levels.

So resist the urge to grab what looks to be a strong handhold. If the pack won't go in or come out without extra pushing or pulling, something's not right.

Check your sling, lift points and lift angle, then try again.

Never use EMFS connector as handhold



M1A1 Spur Gear Set

You no longer have to order the M1A1 tank's spur gear set, NSN 3020-01-216-4507, in the commander's weapon station assembly as a matched set. You can order the entire gear set, which includes the spline gear and helical gear sector, or just the helical gear sector, NSN 3020-01-422-8566. Make a note until Fig 6 of TM 9-2350-264-24P-2 is updated.

M1 Tank Hub and Axle Kit

The hub and axle parts kit, NSN 2530-01-270-7499, is no longer available for the M1-series tank. Instead, order one each of the kit's component parts: gasket, NSN 5330-01-063-5798, and plain encased seal, NSN 5330-00-695-1178.

Track Wear

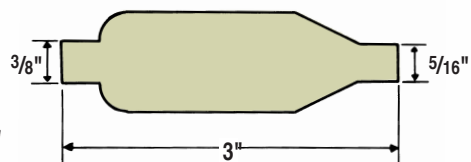
Dear Editor,

Checking your MLRS for excessive track wear is a time-consuming chore. Doing it right means using a tape measure to check each part individually.

Most crews don't have that kind of time, so the track never gets checked—or at least not often enough.

Since our biggest problems are center guide wear and shoe separation, I made a tool that makes these checks quick and easy.

Cut the tool from scrap metal plate using these dimensions:



Make sure you leave enough room to file down sharp edges without changing the tool's dimensions.

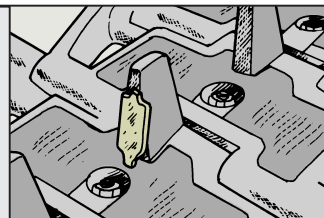
Center Guides: Lay the tool against the center guide with the 3/8-in side up. That lets you verify that the center guide is AT LEAST

Check Made Easy

3/8 inch wide when measured three inches up from the bottom.

If the center guide is less than 3/8 inch wide, get it replaced.

Check center guide width three inches from bottom



Shoes: Try to insert the 5/16-in side of the tool between track shoes. If the tool won't fit, the shoes are good. Shoes that are

Shoe gap less than 5/16 inch?



separated by 5/16 inch or more probably have worn bushings. Get 'em replaced.

SSG Danilo Rodriguez
6/27th FA
Ft Sill, OK

FROM THE DESK OF THE Editor

You're right on track with that tool! Good job!

Finding the Right Fan

Dear Half-Mast,

Fig 59 of TM 9-1450-646-24P lists only one vaneaxial fan, NSN 4140-01-310-1985, for the MLRS.

But, my vehicle uses a different fan. The mounting holes are bent back at a 90° angle and line up differently from the fan that's shown in the TM. Is there an NSN for this fan?

SFC W.D.H.

Dear Sergeant W.D.H.,

Yes. The vaneaxial fan you need comes with NSN 4140-01-108-5196. This fan is currently being replaced by the new fan system, but will remain available until supplies run out. When that happens, you will have to buy the new system shown in TM 9-1450-646-24P.

Half-Mast



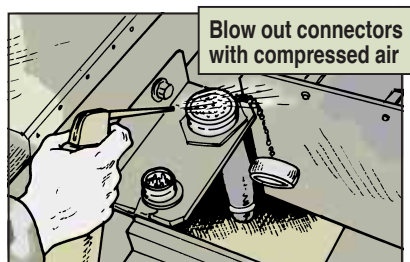
Clean Before You Troubleshoot

Mechanics, before you hook up the STE-M1/FVS to the Bradley, make sure the J1, J2, J3 and J4 connectors under the center floor plate are clean.

Dirt and dust inside these connectors can give you false readings which can lead to unnecessary repair and replacement costs.

Before you hook up the STE-M1/FVS, blow out loose dirt and dust from the connectors with compressed air. NSN 6850-01-368-4797 gets a 10-oz can of air. Order it on a DD Form 1348-6 from RIC GSA and put "NSN not on AMDF" in the Remarks block.

Dust particles blown by compressed air can be dangerous. Direct the air stream away from your face and others. Always wear safety glasses to protect your eyes.



If the receptacles are really dirty or covered with corrosion from moisture, clean the pins with isopropyl alcohol, NSN 6810-00-753-4993, and foam swabs, NSN 7045-01-154-1317. Order the swabs on a DD Form 1348-6 from RIC S9E and put "NSN not on AMDF" in the Remarks block.

PS 558



Make a note of the new cleaning procedure until it can be added to the -20-2-1 TMs.

Once you've finished troubleshooting, make sure you put the dust caps back on the connectors. They keep dust and corrosion out of the connectors

16

MAY 99

and make troubleshooting easier next time.

If the caps are missing, replace 'em. A new J1 cap comes with NSN 5340-01-147-0720. Get a new cap for the J2, J3 or J4 connector with NSN 5935-01-108-9518.



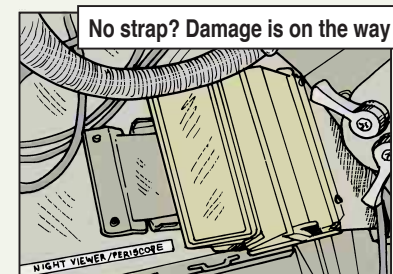
PS 558

Keep Periscope's Vision 20/20

Preventing damage to your periscope, NSN 6650-01-317-9138, is easy, drivers. Just make sure you store and use it properly.

Too many periscopes are damaged when they're left unstrapped in the driver's sponson stowage bracket. As the vehicle moves, the periscope bounces around in its bracket—or on the floor.

Prevent that damage by strapping the periscope in the driver's sponson stowage bracket when it's not in use.



Then, when you do use the periscope, make sure the wingnuts that hold it in place stay nice and tight. That stops unnecessary bounces while the periscope is in operation.



17

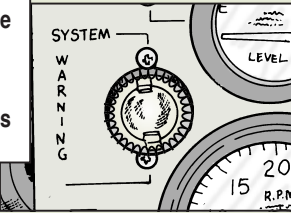
MAY 99

The Choice is Yours

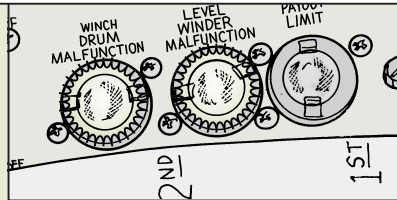
Mechanics, retrieving the main winch cable on your M88A2 Hercules is tricky business.

To reel it in properly, you have to have a heavy load attached to the cable—such as another vehicle. With-

When cable tangles, SYSTEM WARNING light comes on...



...WINCH DRUM MALFUNCTION and LEVEL WINDER MALFUNCTION lights come on, too



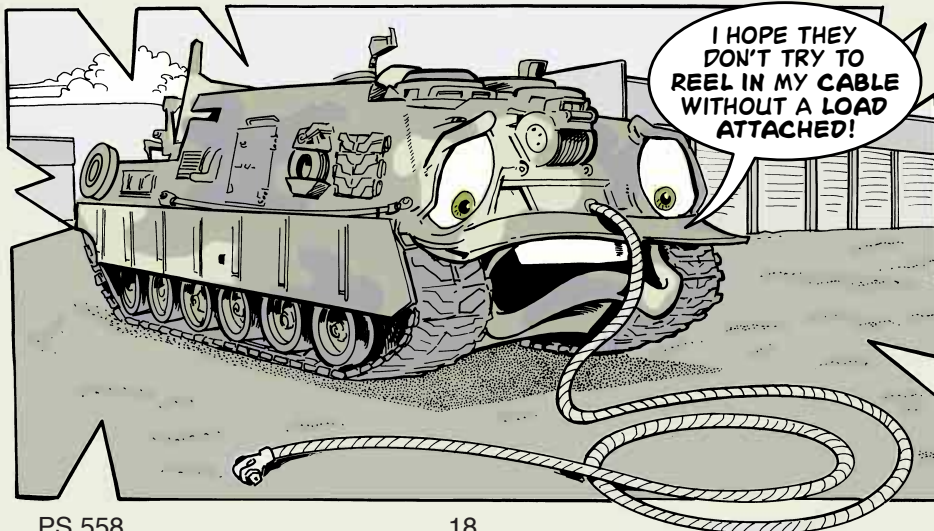
out that load, the cable comes in loose and tangles up on the reel. Warning lights flash, an alarm sounds and the winch shuts down.

Then it's decision time. And the choice you make will determine whether the winch works the next time you need it:

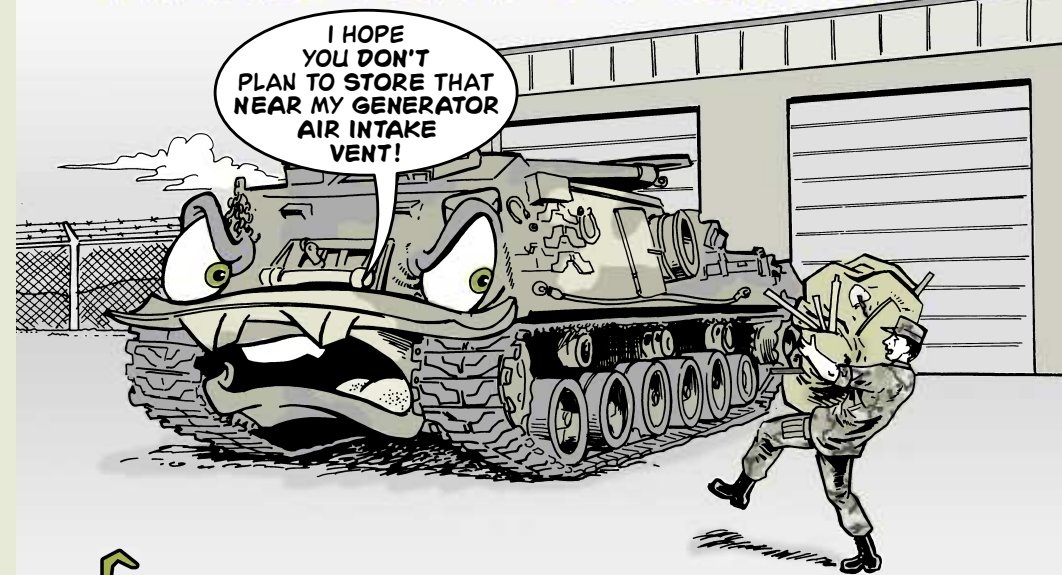
Wrong Choice: Flip the WINCH OVERRIDE switch to OVERRIDE and try to force the winch to continue pulling in the cable.

Unfortunately, forcing a tangled cable burns out the winch, NSN 3950-01-434-3231. Your unit has to foot the bill for a new winch—about \$95,000.

Right Choice: Use the WINCH OVERRIDE switch to pay the cable back out. With the cable untangled, apply a heavy load to the cable and slowly wind it back in again.



AVOID VENT COVER-UP



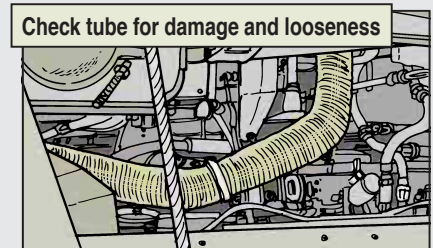
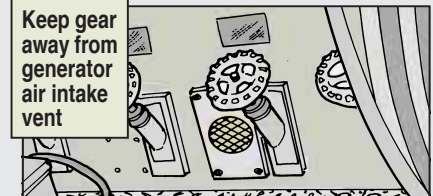
Crewmen, the generator on your M88A1 recovery vehicle generates a lot of heat while it provides the electrical power your vehicle needs. Cooling air is essential if it's to keep from overheating and shutting down.

The small air intake vent at the bottom of the back wall in the crew compartment will provide that cooling air if you let it.

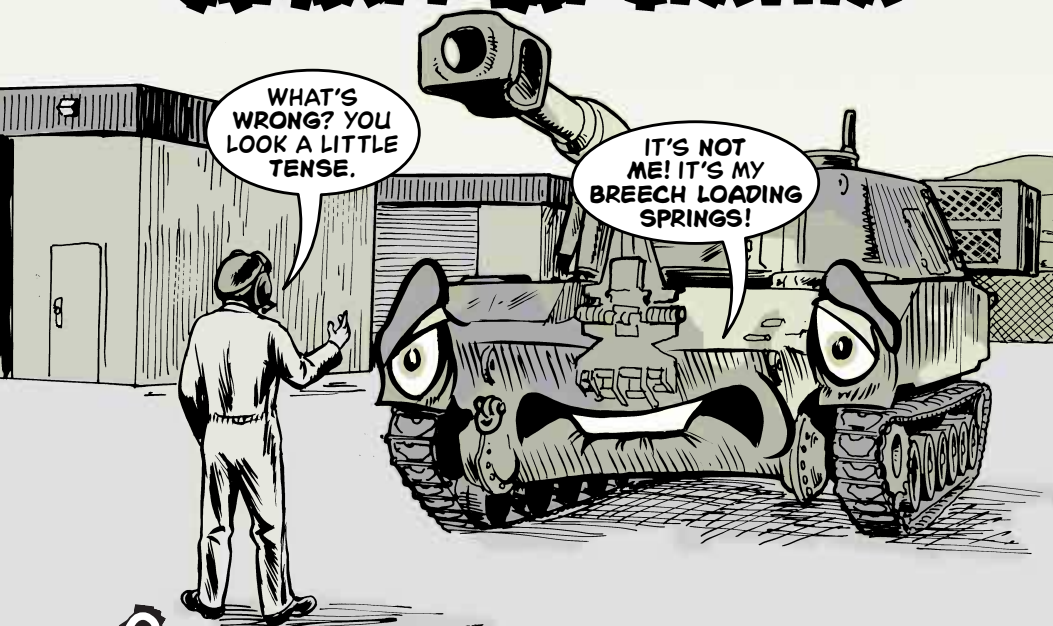
Tossing field packs, helmets, and other gear against the vent blocks the air-flow. No more air, no more power. It's as simple as that.

Of course, keeping the vent clear won't help a bit if the air intake tube that leads to the generator is loose. Check the clamps that hold the tube in place. If they're loose, tighten 'em.

While you're at it, eyeball the tube for cuts or cracks. They let air escape instead of cooling the generator. If you find any cracks or cuts, replace the tube with NSN 9330-01-054-9780.



Reduce the Tension



Crewmen, your Paladin needs good closing springs to help swing the breechblock closed. If the springs wear out, you've got a much tougher job closing the breechblock.

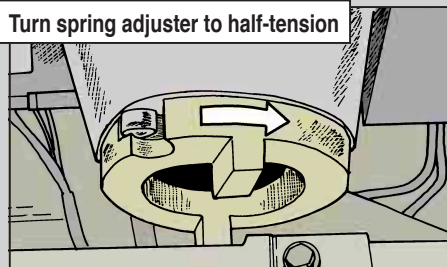
A lot of crewmen keep the springs under full tension. The breechblock closes firmly, but the constant pressure wears on the springs and leads to early failure. It also closes with enough force to damage the breechblock detent plunger and stop surface.

Your best bet is to apply only enough pre-load tension to the springs to securely close the breechblock at the loading elevation (less

than 300 mils). Most times, that means adjusting the springs to half-tension.

Just push in the plunger and rotate the spring adjuster clockwise to release the tension.

Turn spring adjuster to half-tension



If the breechblock won't close at loading elevation, return the springs to full tension.

Save with Homemade Tool

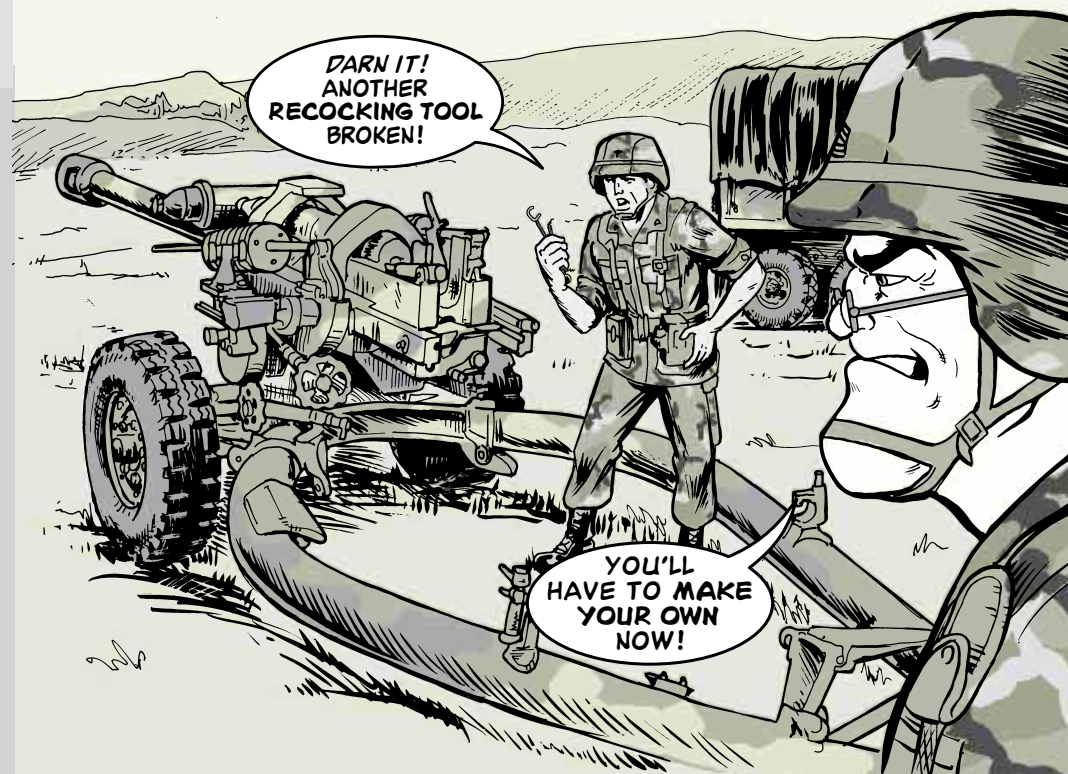
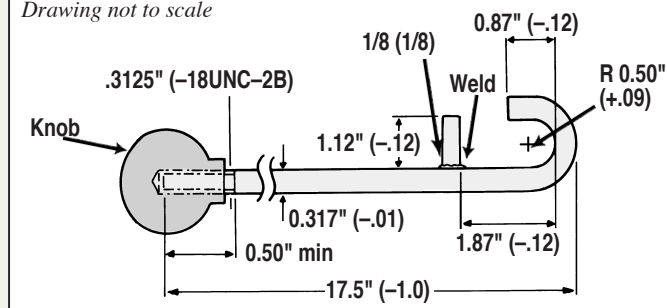
The M119A1's recocking tool, NSN 1015-01-340-7772, is no longer available in the supply system.

ACALA says to fabricate your own tool out of 5/16-in steel rod stock. Just follow these general dimensions.

Thread the straight end of the tool using the tap and die set, NSN 5136-01-119-0005, from the No. 1 Common Shop Set. Then, screw a knob, NSN 5355-01-206-7410 or 5355-00-921-8605, onto the handle end of the new tool and you're set to go.

Make a note until the drawing is added to TM 9-1015-252-20&P.

Drawing not to scale



Start from the Bottom

Building a strong PM foundation for your D7G dozer means starting at the bottom—the undercarriage.

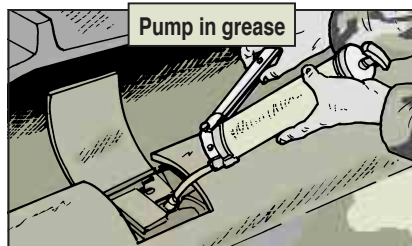
The well-being of all undercarriage components hinges on good track adjustment. If the track's too tight, it puts a lot of stress on undercarriage and drive train components. If it's too loose, the track flaps, wearing out roller flanges and sprocket teeth.

The amount of sag in your track tells you when to adjust. Measure sag by laying a straight edge across the top of the track from the idler to the front track support roller. If the track sags more than 1½ inches in the middle,



it's time for your mechanic to adjust it. Here's how he'll do it:

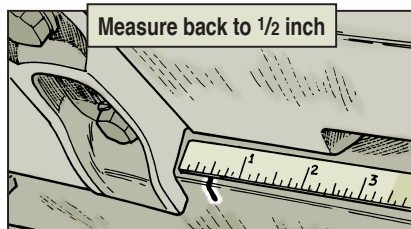
1. Make sure the dozer's on level ground.
2. Open the cover to the track adjusting mechanism and connect a grease



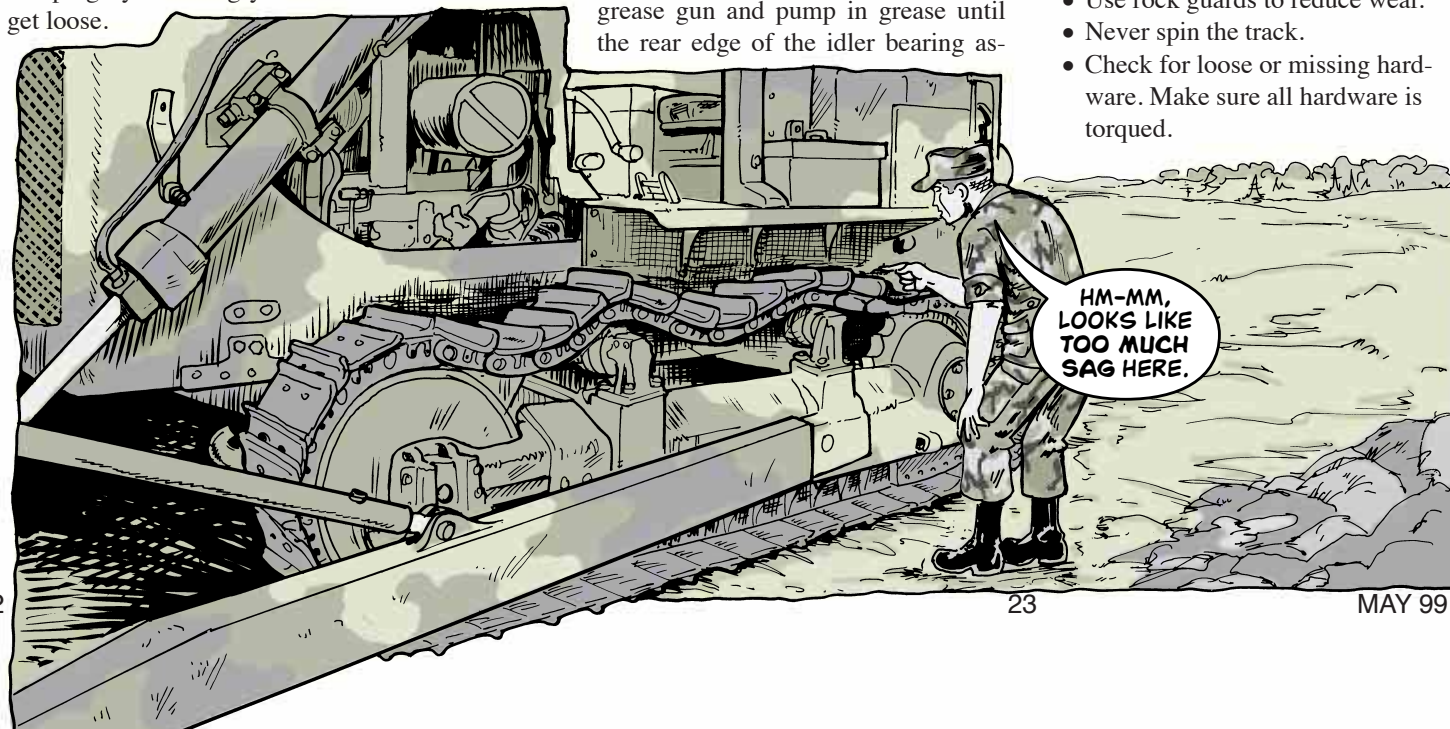
gun to the lube fitting. Pump in grease until the track idler is as far forward as it'll go.

At this point, the track will be almost straight between the front carrier roller and the idler.

3. Put a mark on the track roller frame, ½ inch behind the rear edge of the idler bearing assembly wear plate.

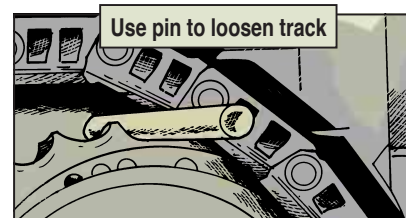


4. Open the hydraulic relief valve 1/6 turn at a time. You can tell if grease is escaping by watching your track. It'll get loose.



Wear eye protection while pumping grease, and **never** look directly into the relief valve. A shot of high-pressure grease could blind you.

5. Once the track is loose, place a track pin or drawbar pin between the sprocket teeth and the track.



6. Start your dozer and back it up until the idler backs up ½ inch or more. The pin will be at roughly the 12 o'clock position.

7. Close the relief valve. Connect the grease gun and pump in grease until the rear edge of the idler bearing as-

sembly aligns with the mark on the roller frame.



Rules to Doze By

Once your dozer's back on the job, follow this checklist for a longer undercarriage life:

- Slow down, especially in reverse.
- Keep track alignment right on the nose.
- Clean mud and debris from the undercarriage.
- Use rock guards to reduce wear.
- Never spin the track.
- Check for loose or missing hardware. Make sure all hardware is torqued.

D7G Tractors ...

Fan the PM Flames

Operators, if you want to keep your D7G cool on the job, remember the fan at PM time.

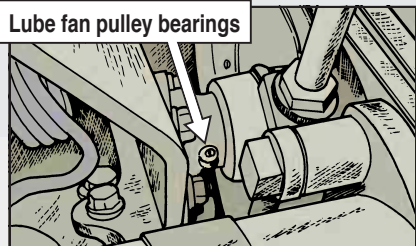
Grease Fitting Reminder

One grease fitting that's often overlooked during scheduled services is the one that lubes the fan pulley bearings. It's hidden behind the fan blades.

Without lube, the bearings seize up. Then the blade stops turning freely, letting the engine and transmission overheat.

Keep the fan pulley bearings lubed. During scheduled services, give all the fittings four to five pumps of grease.

Lube fan pulley bearings



Open Air Flow

Any dirt or mud caked on the dozer's fan blade screen stops air flow that carries heat away from the radiator. Blocked air flow also leads to overheating of the engine and transmission.

Clean off dirt or mud with low-pressure water or air.

Clean off caked mud



IS IT
JUST ME, OR
IS IT HOT OUT
HERE?

D5B, D7G and D8K Tractors ...

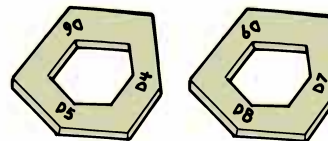
SPROCKET TEETH CHECKUP



Worn drive sprocket teeth can let the track on your dozer jump right off the sprocket. That leaves you with a dozer in need of some serious "dental" work.

Check your dozer's teeth right now. Use a drive sprocket gauge to measure sprocket wear. Order a gauge to measure the D5B's sprockets with PN 5P8616 and CAGE 11083 from RIC S9C on a DD Form 1348-6. NSN 5210-01-225-1132 gets a gauge for the D7G and D8K dozers.

Use these gauges

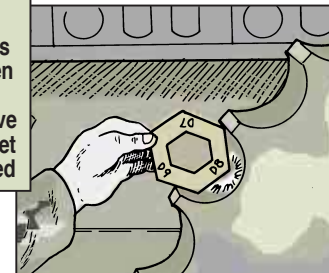


PS 558

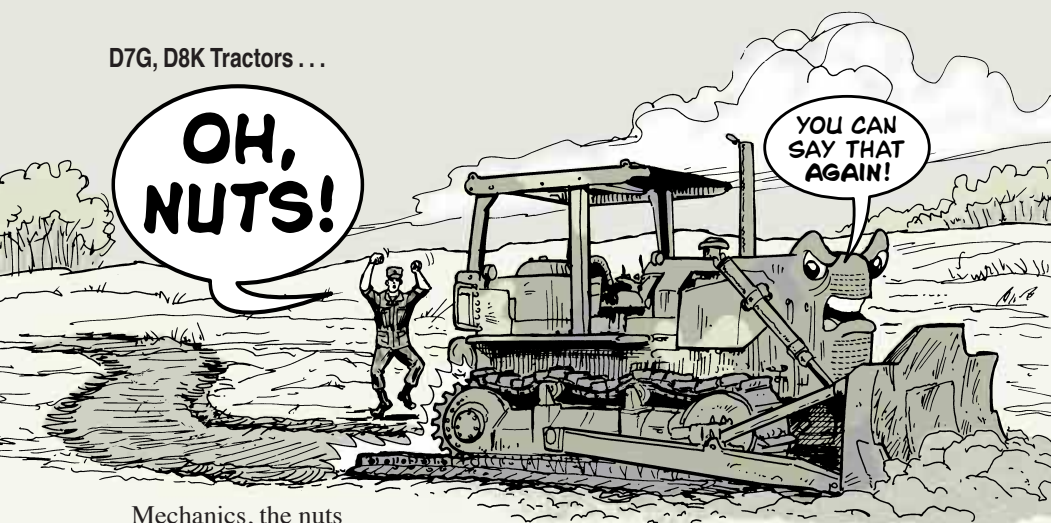
Here's how to gauge the sprockets:

- * Set the point of the gauge marked for your tractor between the teeth of the drive sprocket.
- * If the point doesn't touch, the sprocket's OK.
- * If the point touches, the sprocket's shot. Get support to replace it.

If point touches between teeth—get drive sprocket replaced



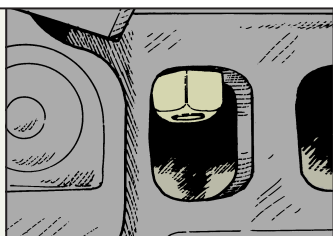
Gauge the sprockets every 1,000 hours or when you can no longer adjust the track.



Mechanics, the nuts for your dozer's track shoes have a rounded side and a flat side.

When a track shoe nut is installed upside down—with the rounded side against the track shoe—vibration will loosen the nut. That could lead to a thrown track.

Install flat side of nut toward shoe



To keep that from happening, always install the flat side toward the shoe.

You have to get the nut tight, too. For the D7-series, tighten the nuts to 180–260 lb-ft, then give them another $\frac{1}{3}$ turn.

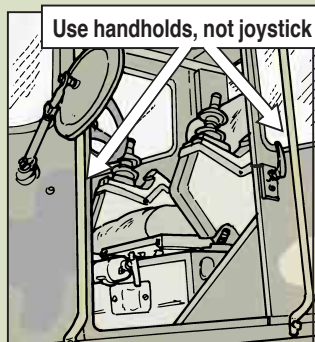
For the D8K, tighten the nuts to 200–300 lb-ft, then give them another $\frac{1}{3}$ turn.

Joystick No Handhold

Operators and mechanics, the 22-ton Grove crane's swing/auxiliary hoist control lever—the joystick—is no handhold for climbing into and out of the cab.

The joystick is not strong enough to support your weight climbing in and out of the cab. A busted joystick puts your crane out of action until a new one is installed. With that new joystick comes a \$410 bill.

Instead, use the handholds attached to either side of the cab door.



GODZILLA

1953, SOMEWHERE IN THE SOUTH PACIFIC. FOLLOWING NUCLEAR TESTING ON UNINHABITED ISLANDS, NOTHING WAS LEFT BEHIND BUT SMOKING ROCK AND MASSIVE RADIATION LEVELS...

...OR SO EVERYONE THOUGHT!

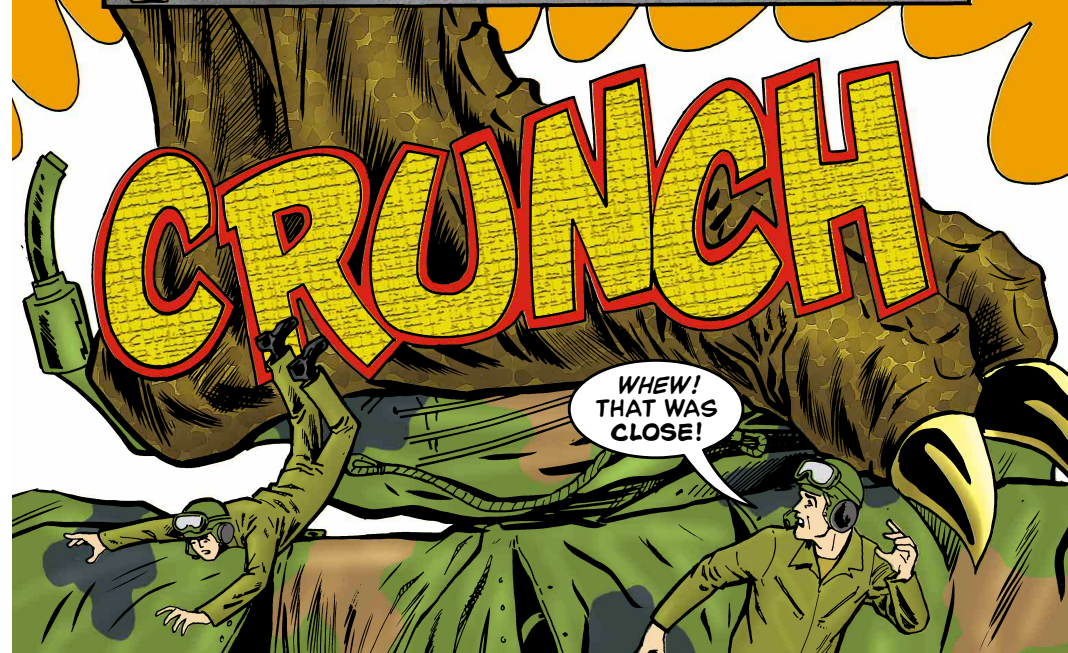
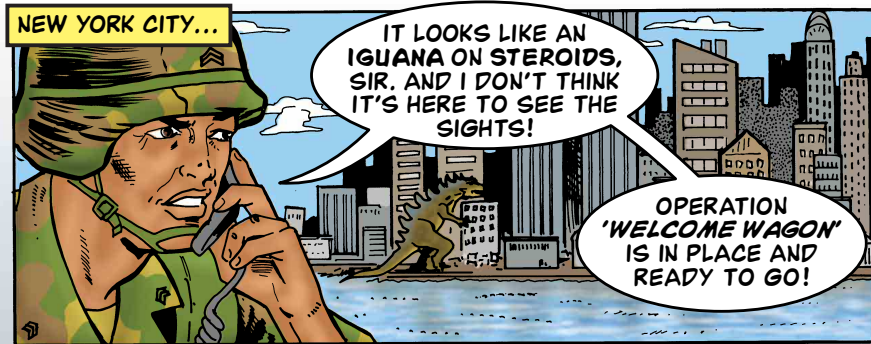
CRAAACK

CRAAACK

THE PENTAGON—1999.



NEW YORK CITY...





THIS MAY BE OUR ONLY CHANCE! LET HIM HAVE IT!

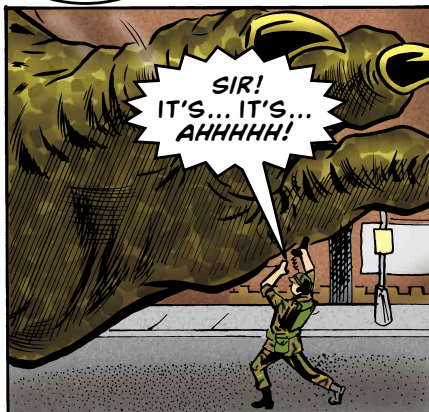
UH-OH!



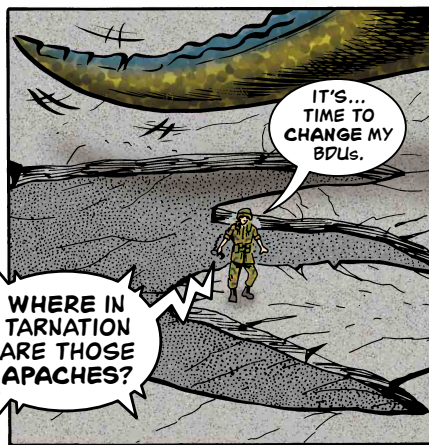
SIR, WE HAVEN'T GOTTEN A SHOT OFF! ALL OF OUR HEAVY ARTILLERY IS MALFUNCTIONING!

POSS NO BILLS

LOOK OUT! IT'S COMING THIS WAY!



SIR! IT'S... IT'S... AHHHHH!



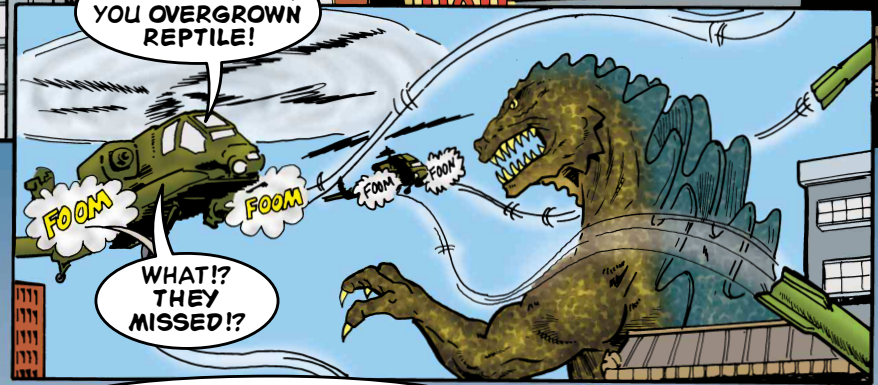
IT'S... TIME TO CHANGE MY BDUs.

WHERE IN TARNATION ARE THOSE APACHES?



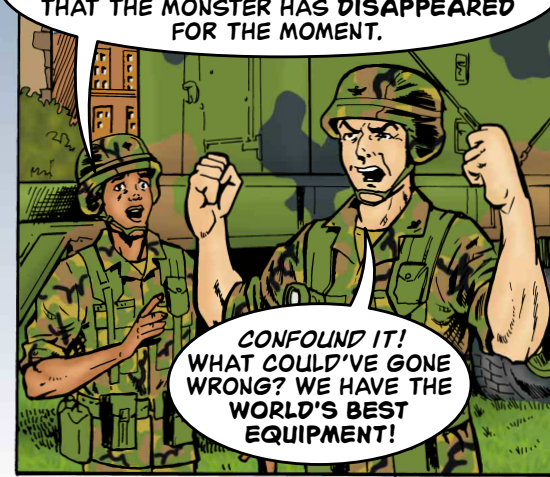
RIGHT HERE, SIR. LOCKED ON AND READY TO FIRE!

CHEW ON THESE, YOU OVERGROWN REPTILE!

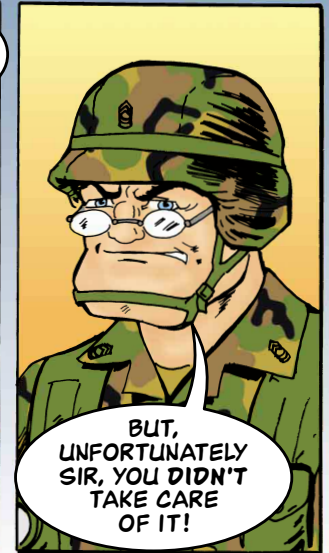


WHAT!? THEY MISSED!?

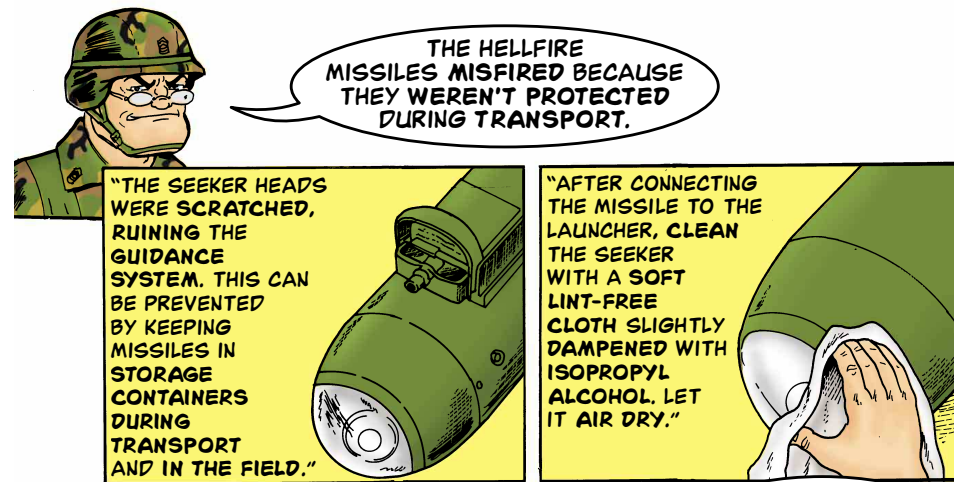
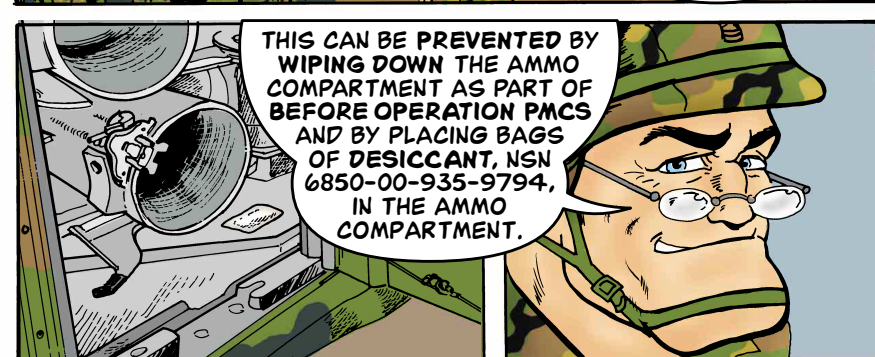
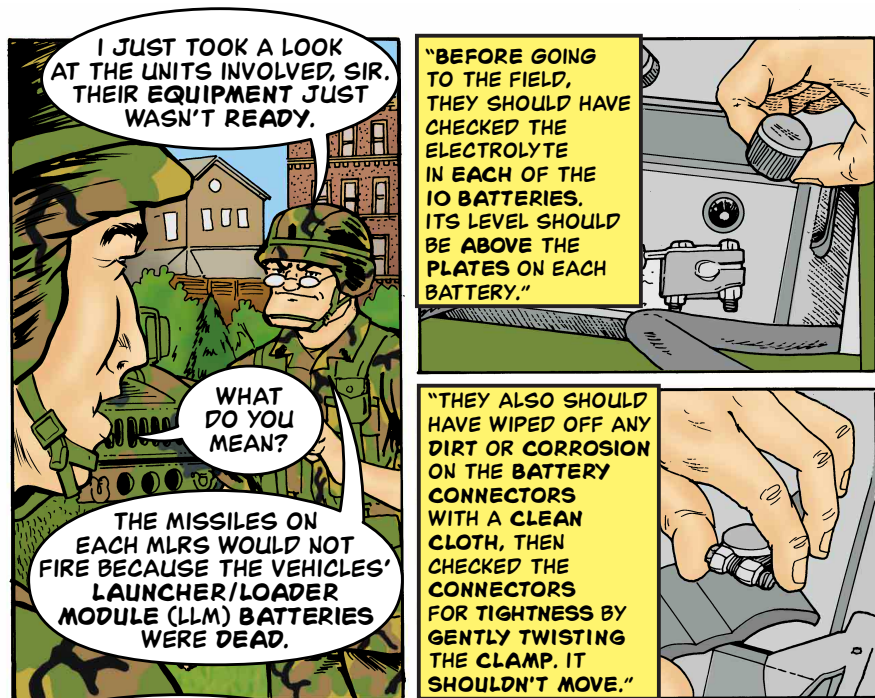
THE HELLFIRE MISSILES MISSED BADLY, SIR. THERE WAS SOMETHING WRONG WITH THE GUIDANCE SYSTEM. AND IT SEEMS THAT THE MONSTER HAS DISAPPEARED FOR THE MOMENT.



CONFOUND IT! WHAT COULD'VE GONE WRONG? WE HAVE THE WORLD'S BEST EQUIPMENT!



BUT, UNFORTUNATELY SIR, YOU DIDN'T TAKE CARE OF IT!





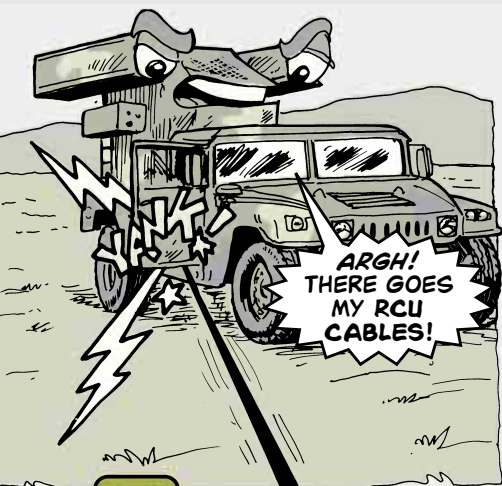
MASTER
SERGEANT
HALF-MAST WAS
RIGHT, SIR. PM
SAVED THE
DAY!

YEAH,
BUT HOW ARE WE
GOING TO GET RID OF
A TWENTY-TON
LIZARD?

CRACK

DON'T LET
A LITTLE PROBLEM
TURN INTO A MONSTER!
STAY ON TOP OF YOUR
PM EVERY DAY.

RCU ICU



The Avenger's remote control unit (RCU) needs intensive care from you or you won't have a remote chance of firing your Avenger.

Cables are your RCU's weak point. If the W80 cable is jerked or run over, the RCU is out of action. So, take the RCU cable out of the truck before you take out the RCU. That makes it easier

Take cable out before you take RCU out



to pull out the RCU without twisting and jerking the cable.

While walking the RCU out to where you will operate, try not to jerk or twist the cable. If the RCU gets hung up, walk back and find the problem.

Never jerk the cable free.

Don't leave the cable stretched out on the ground when you're not operating. That's how cables get run over and ruined. Gather the cable and take it back to the truck.

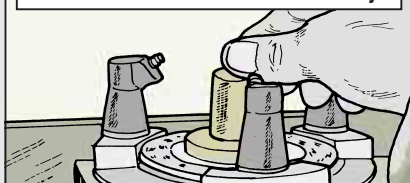
Give the cable extra support by tying it to the RCU brackets. That protects the cable against jerks.

If the auto slew is hard to turn, don't lube it. Lubricant gets inside the RCU and causes bigger problems in the electronics. If the slew doesn't want to turn—or it won't stay aligned because it's too loose—tell your repairmen. He needs to loosen or tighten the slew's setscrews.

Tie off cable



Auto slew turns too hard or too easily?



A Good Sight Better

You don't do well at the firing range if your eyes are giving you trouble. It's the same with your Avenger. If its laser range finder and forward looking infrared receiver (FLIR) lenses are dirty or scratched, you'll have trouble knocking anything out of the sky.

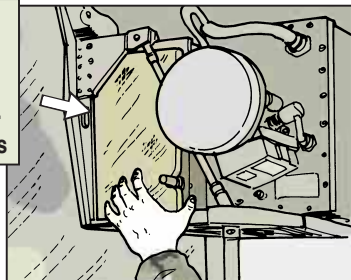
The best way to keep your Avenger seeing clearly is to keep the lenses covered when they're not being used. Driving down the road with nothing protecting the lenses almost guarantees damage.

That's no problem with the FLIR lens. It comes with a protective cap. If

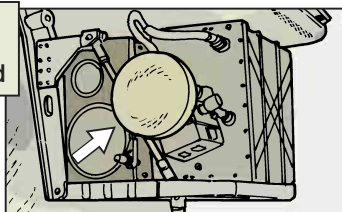
it's missing, your repairman can order a new one with NSN 5855-01-441-3189.

But there is no cover for the laser range finder lenses. The solution is simple. Cut a 1-in thick piece of styro-

Make cover for range finder lenses



Keep FLIR capped



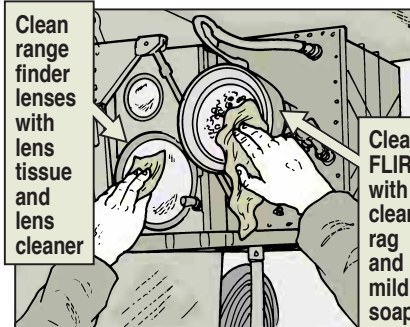
foam to 12 x 18 inches. Punch a hole in it for the boresight guide pin cover. Stick it in front of the range finder lenses so that the range finder support bracket holds it in place.

Never cover any of the lenses with tape. It removes their protective coating.

When the lenses do get dirty, clean them carefully and gently.

Clean the range finder lenses only with lens cleaner, NSN 6810-00-201-0906, and lens tissue. Never use your shirt sleeve or a dirty rag.

Clean range finder lenses with lens tissue and lens cleaner



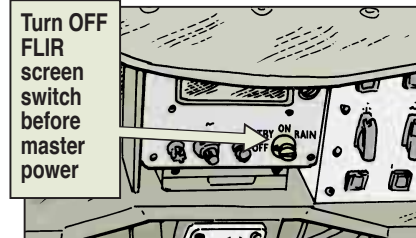
Clean FLIR with clean rag and mild soap

Clean the FLIR lens with a mild soap solution, NSN 7930-00-880-4454, and

a clean rag. Remove any soap deposits with a clean rag moistened with denatured alcohol. Your repairman can order 50 pounds of clean rags with NSN 7920-00-205-1711.

One other way to help the FLIR is to remember to turn off the FLIR monitor **before** you turn off the master power. If you forget, the FLIR screen can burn out.

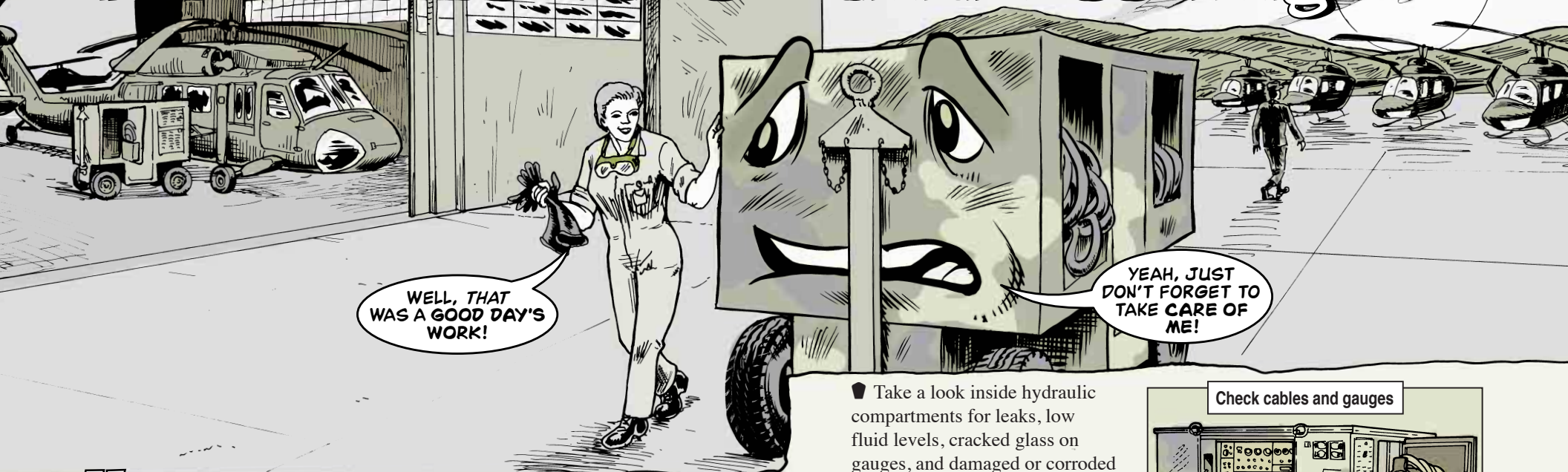
Turn OFF FLIR screen switch before master power



TARGET SIGHTED!
FIRE!

WHERE?!
WHICH WAY? I CAN'T
SEE THROUGH THESE
DIRTY LENSES!

Workhorse Care and Feeding



WELL, THAT WAS A GOOD DAY'S WORK!

YEAH, JUST DON'T FORGET TO TAKE CARE OF ME!

Your aviation ground power unit (AGPU) has to be there when you need it. You'd be hard-pressed to do your job without it.

So, never forget that an AGPU needs PM, too, just like your birds. Check TM 55-1730-229-12 for complete AGPU care, but take note of these tips.

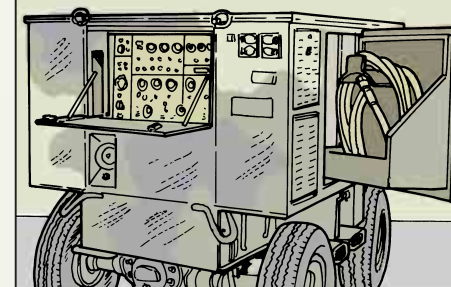
Spot the Little Things

Here's how to spot problems while they're small and keep an AGPU in top form. Report any problems.

- Check the frame and housing. Look for dents, cracks, punctures, corrosion, damaged hinges or broken latches on doors. Check doors for bent or broken braces.
- Take a close look at the control panel. Look for corrosion, missing parts, or cracked or broken glass on the gauges.
- Check the battery for a loose or missing holddown or guide, missing or damaged vent drain tubes, and loose or damaged connectors. Check the electrolyte level, too.
- Eyeball the engine compartment for oil or fuel leaks, corrosion in the air intake duct, loose or missing bolts, or damaged hoses.

- Take a look inside hydraulic compartments for leaks, low fluid levels, cracked glass on gauges, and damaged or corroded fittings.
- Check cables and hoses for torn or worn insulation, loose clamps, or missing spiral wrap and netting.
- Check out the propulsion system for oil leaks, worn tires, correct tire inflation, missing wheel lug nuts, damaged brake cables, loose or missing fasteners, bent or broken springs, broken or loose terminals, and loose or missing brush terminals.
- Before you switch on the AGPU, make sure the hydraulic reservoir is at least 3/4 full. Low fluid levels can damage the hydraulic pump.
- Hydraulic fluid in an AGPU is pressurized up to 3,300 psi. Make sure you wear eye and hearing protection and gloves when operating the hydraulic system.

Check cables and gauges



Use eye, hearing and hand protection



- ❖ Maintain correct tire pressure. You need 28 psi. Check it daily.
 - ❖ Maximum self-propelled speed is three mph. That's the **max!** Don't floor it and keep it floored. Ease up and cruise a little.
 - ❖ Top towing speed is 20 mph. That's if the surface is nice and smooth. Any roughness, cut it back to 10 mph.
 - ❖ Never back the AGPU with a vehicle. The AGPU is self-propelled. If it must be backed, do it with its own power.
 - ❖ The AGPU's propulsion system can be operated in two modes. The primary mode is with the engine running to provide DC power to the propulsion system. The alternate mode is without the engine running, operating on battery power.
- But never use battery power to move the AGPU more than 500 feet. If you're headed for the far end of the flight line, use engine power—don't drain the battery.

❖ When starting the AGPU, you get three tries of 30 seconds each. If that doesn't do it, wait 20 minutes for the starter to cool down before making another try. If the fourth attempt fails, that's it. Find and fix the problem before trying again.

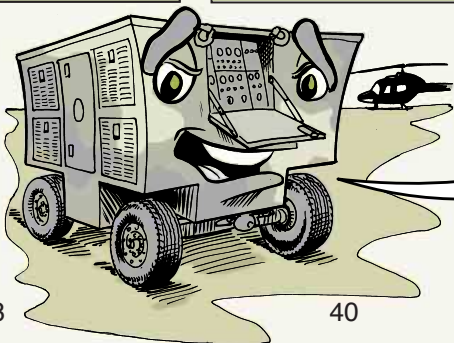
❖ Slave starting from a DC generator gets only two tries. Then give it 20 minutes to cool down before giving it two more tries of 15 seconds each. Still no luck? Troubleshoot and find the problem.

❖ Slaving from a battery is different from each of the other methods. You get three tries of 30 seconds each. Then wait 20 minutes; and try again twice, for 30 seconds each try. Nothing? Troubleshoot to find the problem.

To start AGPU
Try to start—30 seconds
Try to start—30 seconds
Try to start—30 seconds
Cool down—20 minutes
Try to start—30 seconds
Find problem

Slave from DC generator
Try to start—30 seconds
Try to start—30 seconds
Cool down—20 minutes
Try to start—15 seconds
Try to start—15 seconds
Find problem

Slave from battery
Try to start—30 seconds
Try to start—30 seconds
Try to start—30 seconds
Cool down—20 minutes
Try to start—30 seconds
Try to start—30 seconds
Find problem



On-target Help



focus is a focused front sight post, a fuzzy target, and a fuzzy rear sight.

Focus on front sight



- Keep your rifle clean. No matter how good a shot you are, you are less likely to hit the target if your rifle is dirty.

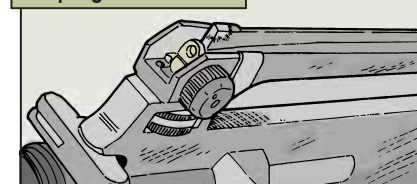
Clean rifle for straight shooting



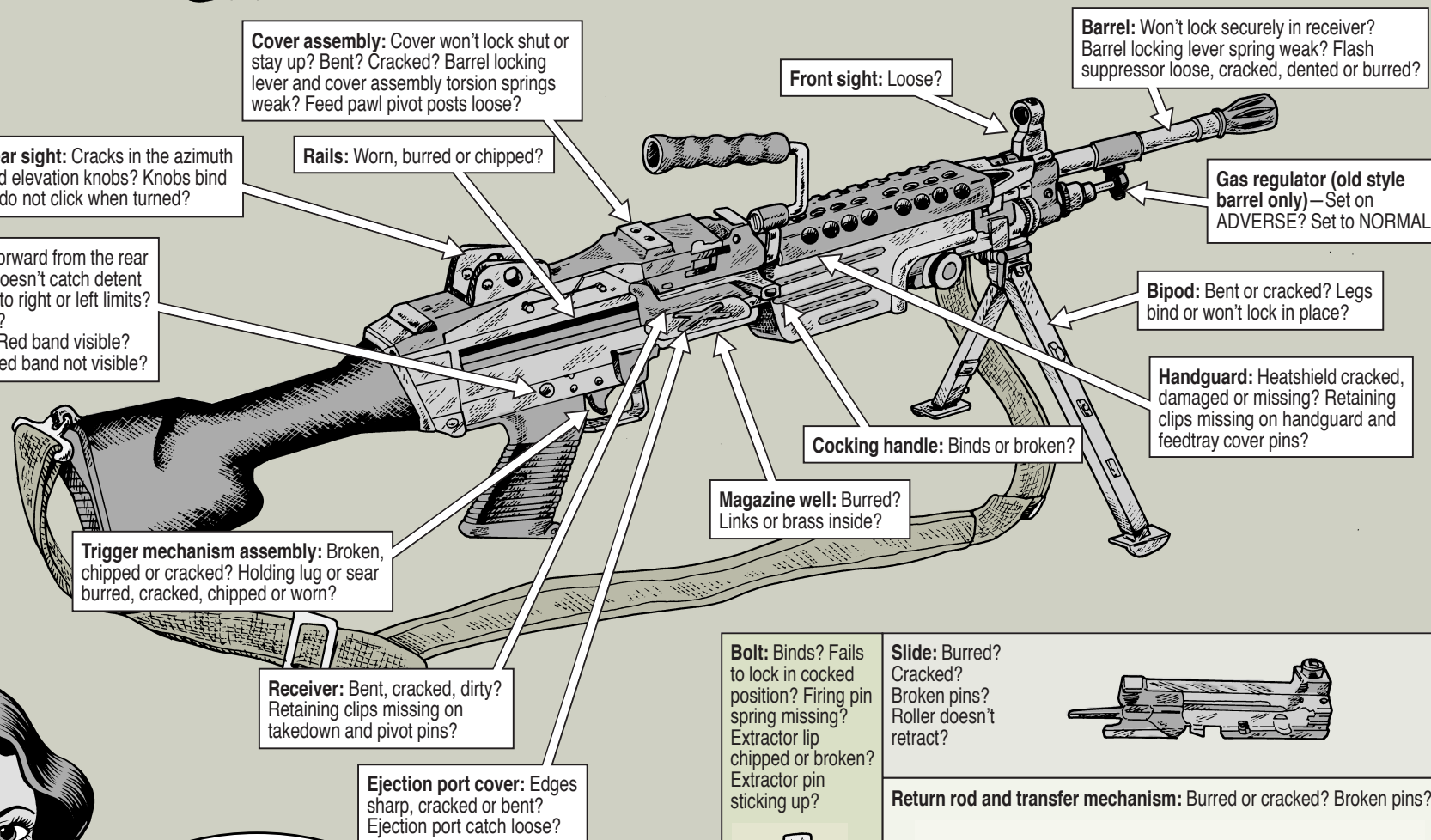
- When sighting a target, focus on the front sight post, not the target. Good

- Glare off the sights distorts sighting, so get your armorer to touch up the bare spots that cause glare with solid film lubricant, NSN 9150-01-260 2534.

Keep sights blackened

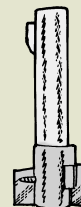


Be Your Own Inspector



BEFORE YOU GO TO THE FIELD, GUNNERS, GIVE YOUR M249 MACHINE GUN THIS CHECKUP. IF YOU FIND ANY PROBLEMS, TELL YOUR ARMORER.

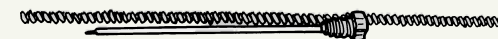
Bolt: Binds? Fails to lock in cocked position? Firing pin spring missing? Extractor lip chipped or broken? Extractor pin sticking up?



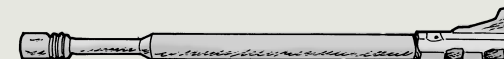
Slide: Burred? Cracked? Broken pins? Roller doesn't retract?



Return rod and transfer mechanism: Burred or cracked? Broken pins?



Piston: Burred or cracked? Housing moves when you pull on it?



Breathe

HERE ARE
A FEW WAYS
YOU AND I CAN
BREATHE
EASIER.



Easy

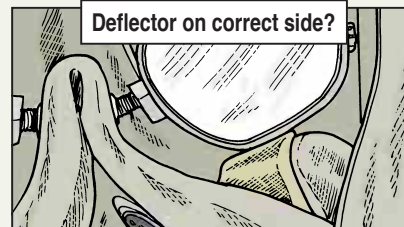
Check It Out

Spot problems before you go to the field. Do the PMCS in the -10 TMs, but pay special attention to these items:

Air flow deflector—The deflector is supposed to be on the left side of the mask for a right-handed shooter and on the opposite for a left-handed shooter.

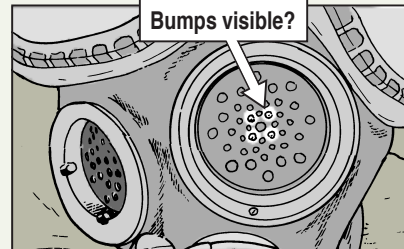
If it's on the wrong side, tell your NBC NCO and let him switch it. It's a tricky job that can tear the mask if it's done wrong.

Deflector on correct side?



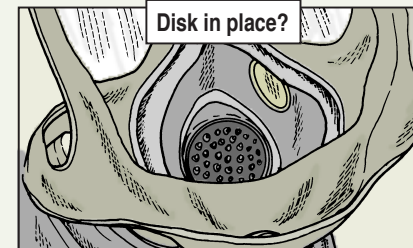
Voicemitters—Look for four bumps on the voicemitters. If you don't see the bumps, the voicemitter is backwards and the mask won't protect you. Also feel the side voicemitter retaining ring for looseness. If necessary, tighten it with the carrier's D-ring.

Bumps visible?



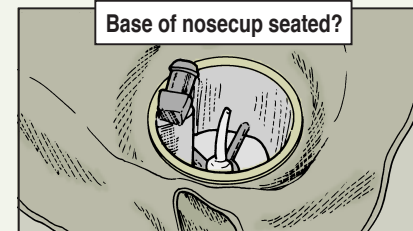
Nosecup—Look for its disk. The disk often disappears. Without it, the lenses fog up. Rotate the disk with your finger. If it's sticking, get a new one.

Disk in place?



Make sure the base of the nosecup is seated in the outlet valve housing groove.

Base of nosecup seated?



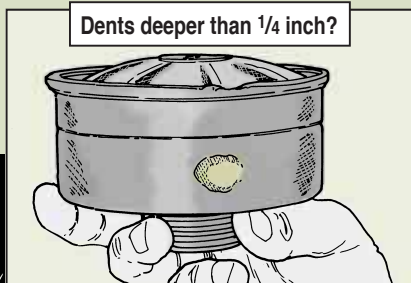
THERE'S
MORE ON THE
NEXT PAGE!



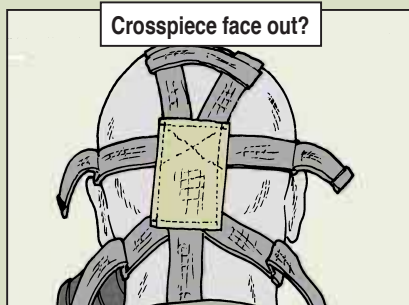
Outlet valve cover—Check that the cover fits snugly. The cover holes that fit on the valve body lugs round out or tear through use and the cover won't stay on the outlet valve. Get a new cover if necessary.



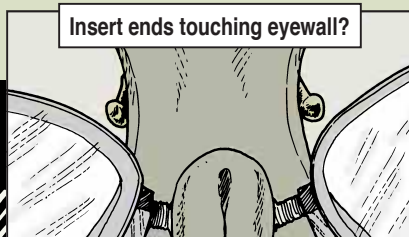
Canister—Look for dents. If a dent is deeper than 1/4 inch or on the threads or a seam, you need a new canister.



Head harness—Check that the crosspiece on the back of your head faces out. If it doesn't, it will rub your head raw. Pull on the straps to test their tension. If they've lost their snap, get a new head harness. That one won't hold the mask securely.

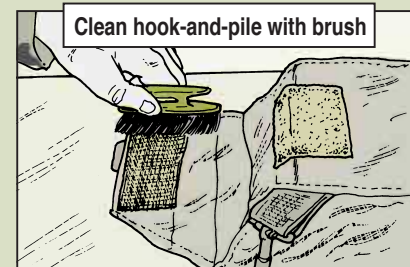


Optical inserts—Make sure the insert retainer ends don't stick out so



they block your vision. Your NBC NCO can use pliers to bend the ends so they touch the mask eyewalls.

Carrier—If the hook-and-pile is dirty, it can't do a good job securing the carrier flap. Wipe off any dirt with a plastic brush.



In the Field

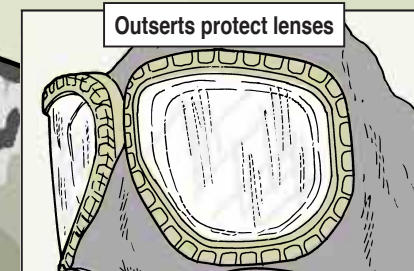
Loosen the hood straps before putting on or taking off the mask. Otherwise, the straps can be ripped off and the hood is ruined.

The best way to handle the straps is to get help. That way you don't have to twist yourself into a pretzel to get at the straps and there's less strap jerking, which can rip them.



Faceforms are for the NBC room, not the field. Faceforms should be used only when masks won't be worn for more than 30 days. In the field, they can damage the mask, get in the way and are soon lost.

Use the outserts. They are like a windshield for the eyelenses. If the outserts are scratched up, they can be quickly and cheaply replaced. But if the eyelenses are scratched, the facepiece must be replaced.



AAA!
I CAN BREATHE
GREAT!



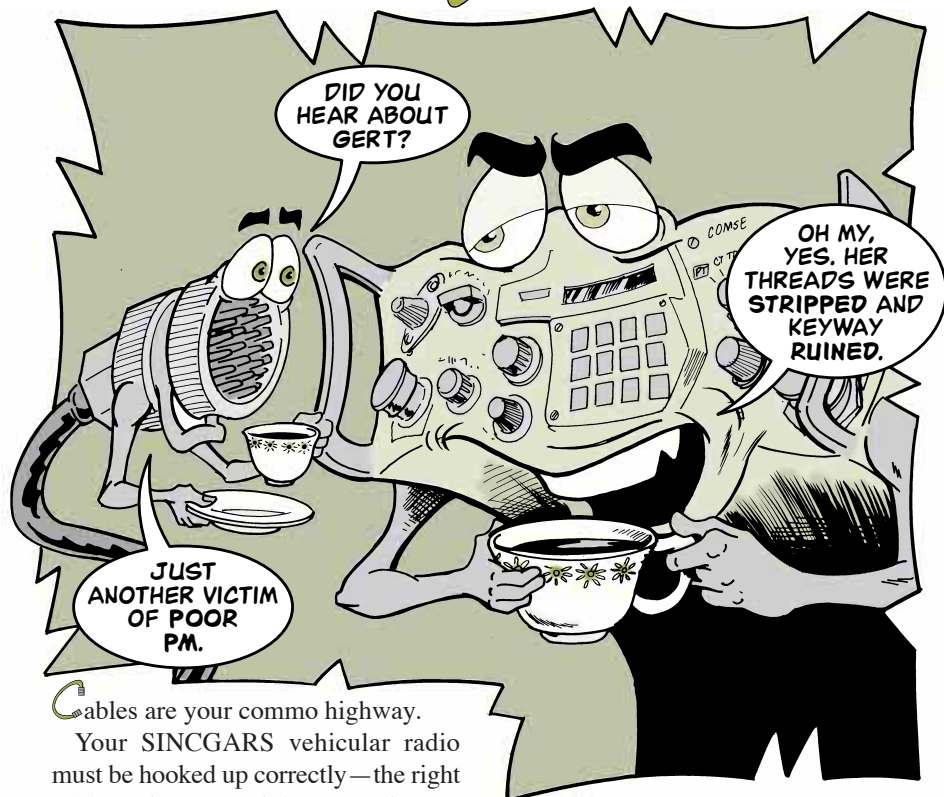
THANKS
TO PM!



DON'T LET
POOR PM LEAVE YOU
BREATHLESS.



Just Gabbin' About Cables



Cables are your commo highway.

Your SINGARS vehicular radio must be hooked up correctly—the right cables going to the right connections—or your signal grinds to a halt like a car snarled in rush-hour traffic. Bent pins and broken wires roadblock your signal and never let it reach its destination.

Check the cabling every time you pull PMCS. Here are some cable routing tips, hookup hints and PMCS tips to help with those checks:

Long Range Cables

Your SINGARS long range/long range (LR/LR) vehicular radio

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MAY 99

has twice the number of components of other SINGARS radios: two receiver-transmitters (RTs), two power-amplifiers and two antennas.

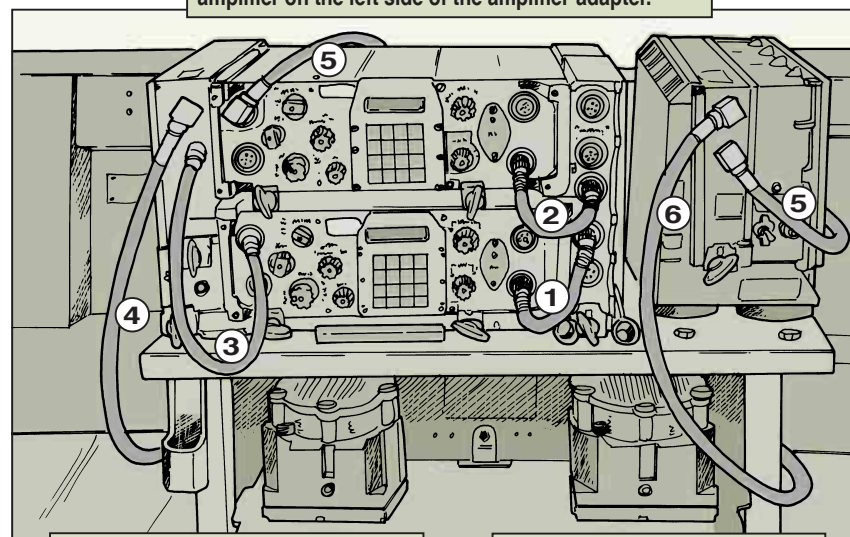
That makes cable hookup twice as confusing. And it doesn't help that the RF cables look alike. A cable connected to the wrong receptacle can silence your commo or overload a power amplifier.

You can clear up cable confusion in two easy steps. The first step is to learn **where** the cables go.

1. W-4 audio cable from the AUD/DATA connector on the lower RT goes to the J5 connector on the AM-7239 amplifier-adapter.

2. W-4 audio cable from the AUD/DATA connector on the upper RT goes to the J4 connector on the amplifier-adapter.

3. W-2 RF cable from the ANT connector on the lower RT goes to the J2 connector on the AM-7238 power amplifier on the left side of the amplifier-adapter.



4. CG-3855 RF cable from the J1 connector on the first power amplifier goes to the first vehicular antenna.

5. CG-3856 RF cable from the ANT connector on the upper RT goes to the J2 connector on the second AM-7238 power amplifier.

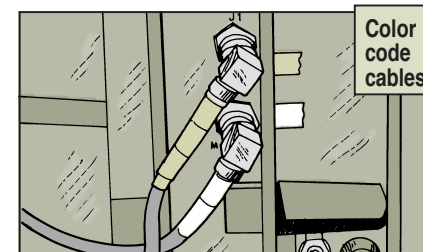
6. CG-3855 RF cable from the J1 connector on the second power amplifier goes to the second vehicular antenna.

The second step is to color code cables and receptacles for quick identification. Color coding with tape makes it easy to mate cables to the right receptacles.

Just put colored tape below the cable connectors and at their receptacles.

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PS MORE

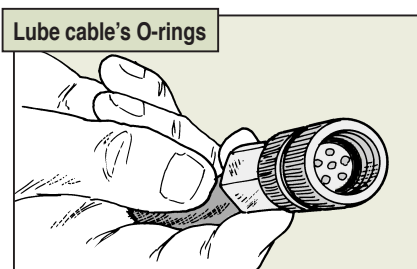
Here are some tapes to help identify connections:

Color	NSN 7510-00-
Black	551-8474
Dark blue	550-7124
Green	550-7129
Red	550-7126
White	550-7127
Yellow	550-7125

Additional W4 Stuff

The W4 audio cable on your vehicular SINGARS connects the AUD/DATA connector on the receiver-transmitter to the DATA connector on the AM-7239 amplifier-adaptor.

You must lube the cable's O-rings with a dab of silicone, NSN 6850-00-880-7616. Without lube, it's tough to make a good connection. You'll end up pushing, twisting and forcing a connection. That leads to damaged keyways, stripped threads and bent or broken pins.



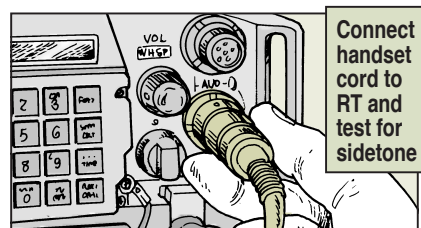
With silicone, the connectors will slide on without a hitch.

Don't unhook connections by yanking on the cable's insulation. That just bends and breaks the delicate inside wiring.

Unhook connections by pushing the connector in and turning it counter-clockwise. It will easily disconnect.

When you reconnect, make sure the connection is tight.

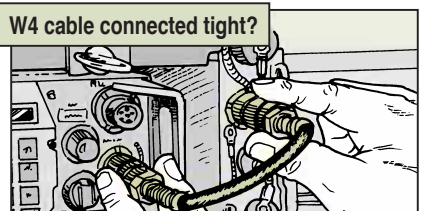
If the W4 cable connections are good, but you still can't hear sidetone, disconnect the W4 cable from the RT. Then connect the H-250 handset cord to the AUD/DATA connector on the RT. Test again for sidetone.



If you can hear sidetone, the likely culprit is a bad W4 cable, not the handset or the RT.

When you hook up the W4 cable or the handset, do it right:

■ Depending on the type of cable connector you have, line up the flat or raised part of the cable connector with the top of the receptacle.



- Push in the connector firmly.
- Turn it to the right.

Some Fill Cable Stuff

Always use the W4 ECCM fill cable, NSN 5810-01-066-7587, when you connect the ECCM fill device to your

SINGARS RT. It makes hookup easier and also prevents damage to connector pins.

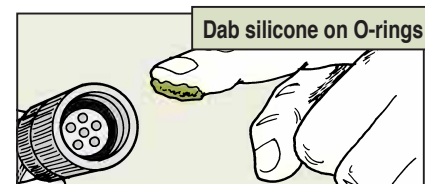
Trying a direct hookup between the fill device and the RT's AUD/FILL connector spells double trouble.

For one thing, it's hard to connect the fill device to the lower RT in a vehicle. The thumbscrew on the mount gets in the way.

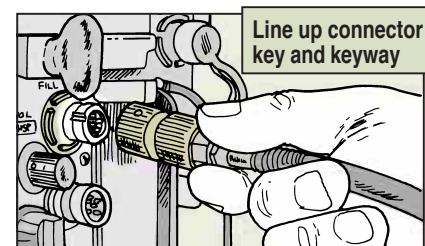
For another, you risk bending or breaking connector pins on the RT and the fill device with a direct hookup. Then you won't be able to load frequency-hopping data into the RT.

Follow these tips when using the fill cable:

- Look at all connectors for damaged or missing contacts. That includes connectors on the fill cable, the fill device and the RT itself. Report problems to your unit repairer.
- For an easier hookup, put a light coat of silicone, NSN 6850-00-880-7616, on the fill cable's O-rings.



- When it comes time to connect the fill cable to the RT, line up the keys



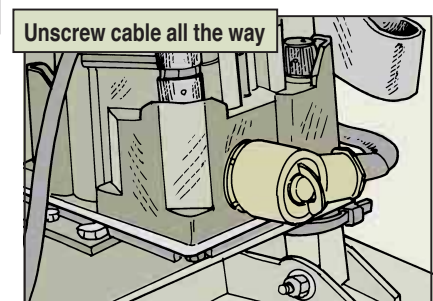
and keyways on the connectors. Do that by making sure the flat surface of the cable connector is facing up. Newer fill cables have a raised area with a red line. That red line should face up also.

Push the cable connector all the way in on the AUD/FILL connector. Then turn it clockwise until it snaps into place. Pull lightly outward on the connector to make sure it's locked into place.

Splitter Cable

There aren't enough receptacles to hook up all the power cables needed on both LS-671 loudspeakers when your vehicular SINGARS is in the short range/long range or long range/long range configuration. For these configurations, you need the CX-13417 splitter cable, NSN 5995-01-348-2264.

Halfway is not enough when you unscrew the primary power cable from the LS-671 loudspeaker on your SINGARS vehicular radio. It's all the way or nothing.



You need to unscrew the cable's connector the whole way before trying to unhook the cable. Some folks stop halfway. Then they yank and twist the cable in a vain effort to take it off. That just puts stress on the circuitry inside the

J1 connector. If the circuitry gets damaged, no power gets through to the loudspeaker.

Some Old Stuff

If you're just now replacing the AN/VRC-12-series radio in your HMMWV with a SINCGARS radio, remember to replace the RF cable, too.

You need to replace the AN/VRC-12-series' CG-1773 RF cable with the SINCGARS CG-3855 RF cable.

The CG-3855 is double-shielded to protect your digital and voice transmission from electromagnetic interference (EMI). The CG-1773 is not double-shielded.

EMI can create noise during voice transmission and cause loss of data during digital transmission.

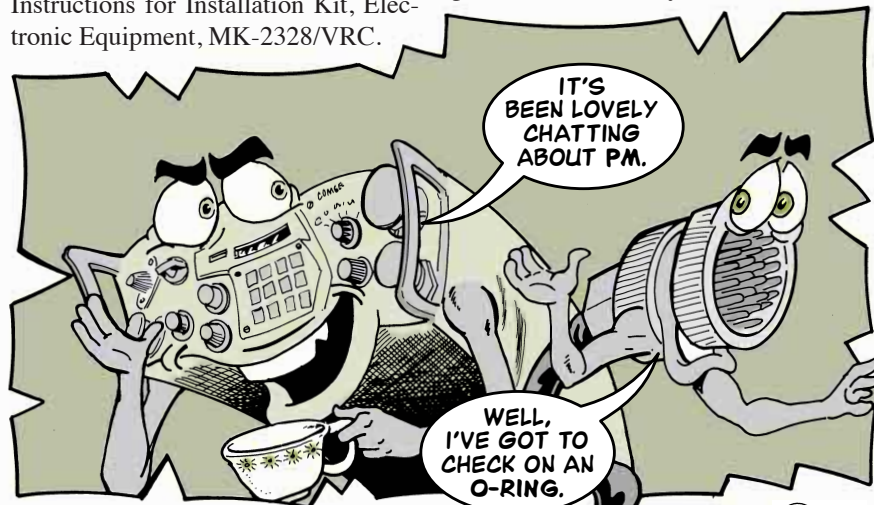
Depending on your SINCGARS configuration, you need one 21-ft CG-3855 cable, NSN 5995-01-225-1660, or two 18-ft CG-3855 cables, NSN 5995-01-219-7035. To get the whole story, see TB 11-5820-890-20-90, Installation Instructions for Installation Kit, Electronic Equipment, MK-2328/VRC.

The CG-3855 cables are included in the installation kit, or you can order them separately.

You need to take extra care when making connections with the RF cables and connectors. They're not as rugged as other cables and connectors on the radio, so they're more prone to damage from a sloppy hookup.

The secret to making a successful connection is playing it straight. Line up the RF cable keyway with the connector key. Push the cable straight in. Turn the connector to the right. To unhook the cable, push the connector in a little, turn it to the left and pull straight out.

If you push or pull the cable at even a slight angle, you risk breaking the center pin. You'll have to replace the cable. If the pin lodges in the receptacle, support will have to replace the connectors on the RT or the power amplifier. On some older models, they may have to replace an entire front panel or subassembly.



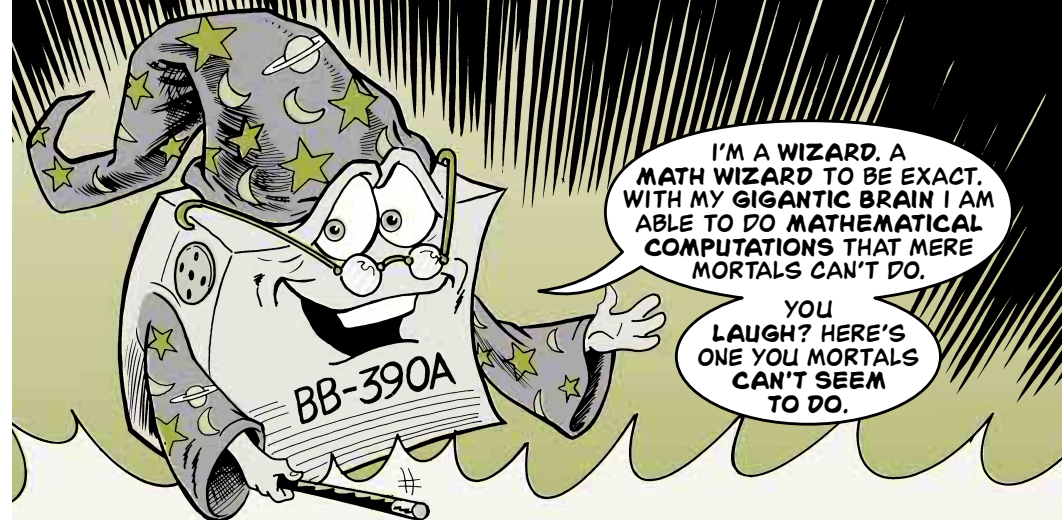
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PS END

SINCGARS...

Battery Magic



An AN/PRC-119 SINCGARS BA-5590 battery costs \$71. Use it 24 hours and it's dead.

For the cost of about 15 BA-5590 batteries, you can get a rechargeable BB-390A battery with a PP-8444A charger and a AP-390A adapter. A BB-390A can be recharged over 200 times.

If you use the BB-390A, every charge after the first 15 saves \$71.

Even though there's some cost to recharging, before the BB-390A dies your unit will have saved several thousand dollars for each SINCGARS!

Order the BB-390A battery with NSN 6140-01-419-8187; the PP-8444A charger with NSN 6130-01-443-0970; and the AP-390A adapter with NSN 5940-01-427-9110.

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There is also an adapter, AP-HUMMER, NSN 5940-01-427-9395, that lets you charge the battery with your vehicle.

Visit the battery web site at:

www.monmouth.army.mil/cecom/lrc

Click on Battery Support.



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SBCCOM Help



The new Soldier and Biological Chemical Command (SBCCOM) manages both soldier support items (like tents, clothing, and food preparation equipment) and NBC equipment (like M40 masks, smoke generators, and decon equipment).

If you have a question about an item managed by SBCCOM, your first stop

should be your local SBCCOM logistics assistance representative (LAR).

If you don't have a SBCCOM LAR where you are, contact the SBCCOM senior command representative for your area:

CONUS East

Rockwell Gerlach, DSN 337-3556, (910) 396-3389, e-mail: rgerlach@natick-amed02.army.mil

CONUS West

Jerald O'Hara, DSN 738-7750, (254) 288-7750, e-mail: oharaj@hood-emh3.army.mil

Far East

Ronald Nolte, DSN 722-3601, 011-82-32-520-6601, e-mail: nolter@usfk.korea.army.mil

Europe

Gregory Schech, DSN 375-3524, 011-49-621-487-3524, e-mail: gschech@hq.amceur.army.mil

Or contact SBCCOM's LAR coordinator, Steve DeBeradinis, at DSN 256-6348, (508) 233-6248, e-mail: sdeberad@natick-amed02.army.mil

Field Office Equipment

If you have to do admin work in the field, you need the right equipment. For storage, get a battle box, NSN 8460-00-243-3234. It's an olive drab plywood box with steel hinges, 31 inches long, 15¹/₈ inches high, and 11⁷/₈ inches deep. A one-drawer field filing cabinet comes with NSN 7110-00-823-7218, and NSN 7110-00-656-1110 gets you a seven-drawer field desk. The desk comes with a folding stool.

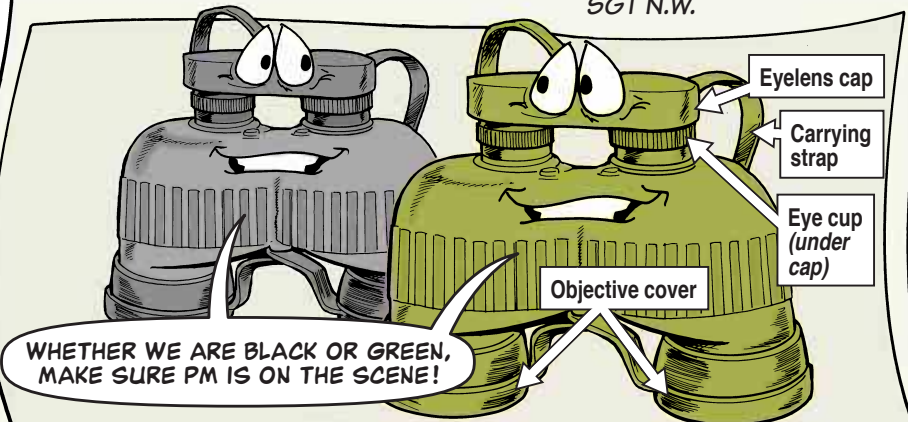
M22 Binoculars . . .

The Hue's the Thing

Dear Half-Mast,

Our unit has the new black M22 binoculars, but no TMs. Can you provide us with the TM number? If there's no TM, can you give us the NSNs for replacement parts?

SGT N.W.



Dear Sergeant N.W.,

Color matters when you're looking at your M22 binoculars. They come in black or green, and each color has its own TM because they are made by different manufacturers. Black M22s are covered by TM 9-1240-406-12&P, and green M22s by TM 9-1240-403-12&P.

Here's a parts list for the black model, NSN 1240-01-361-1318:

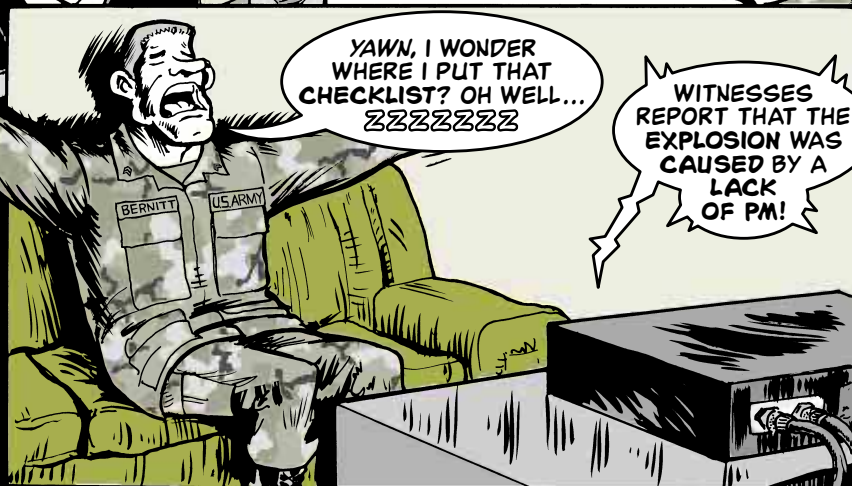
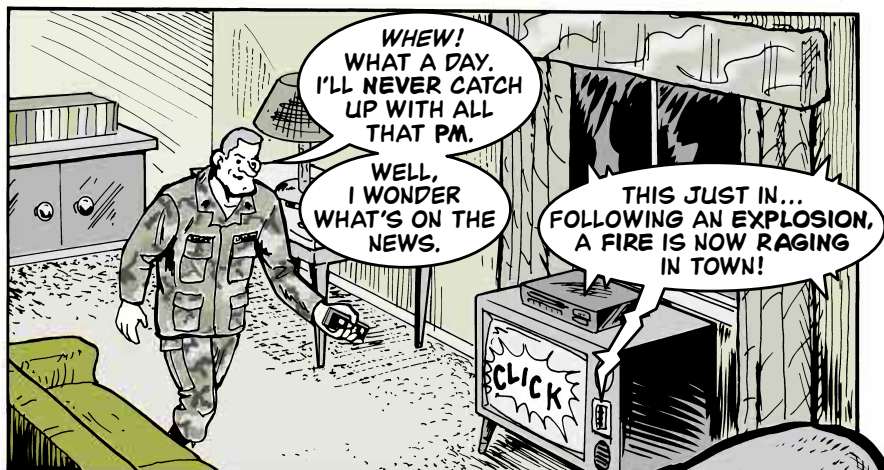
Part	NSN
Eye cup	1240-01-368-8736
Eyelens cover	6650-01-367-8916
Carrying strap	5340-01-369-3493
Objective cover	6650-01-367-8917

Here's a list for the green model, NSN 1240-01-207-5787:

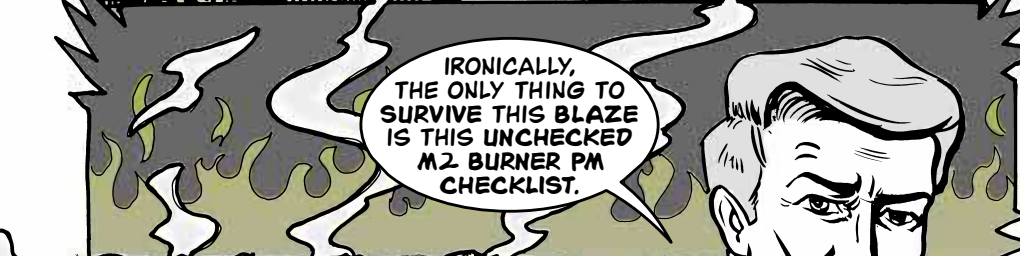
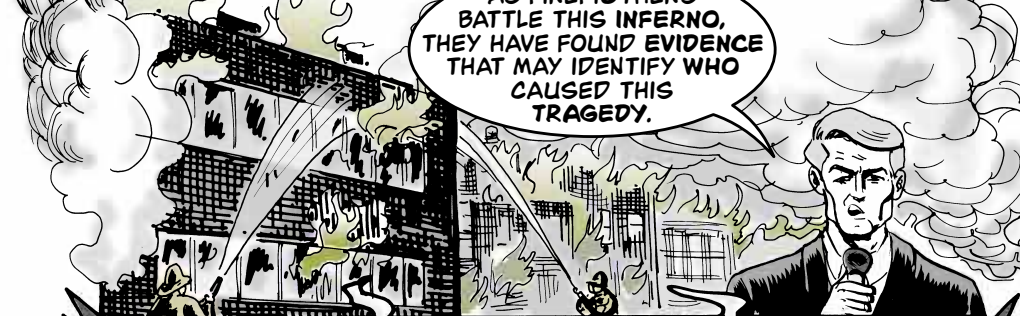
Part	NSN 1240-01-252-
Eye cup	8075
Eyelens cover	8073
Carrying strap	8072
Objective cover	8074

Half-Mast

EYEWITNESS

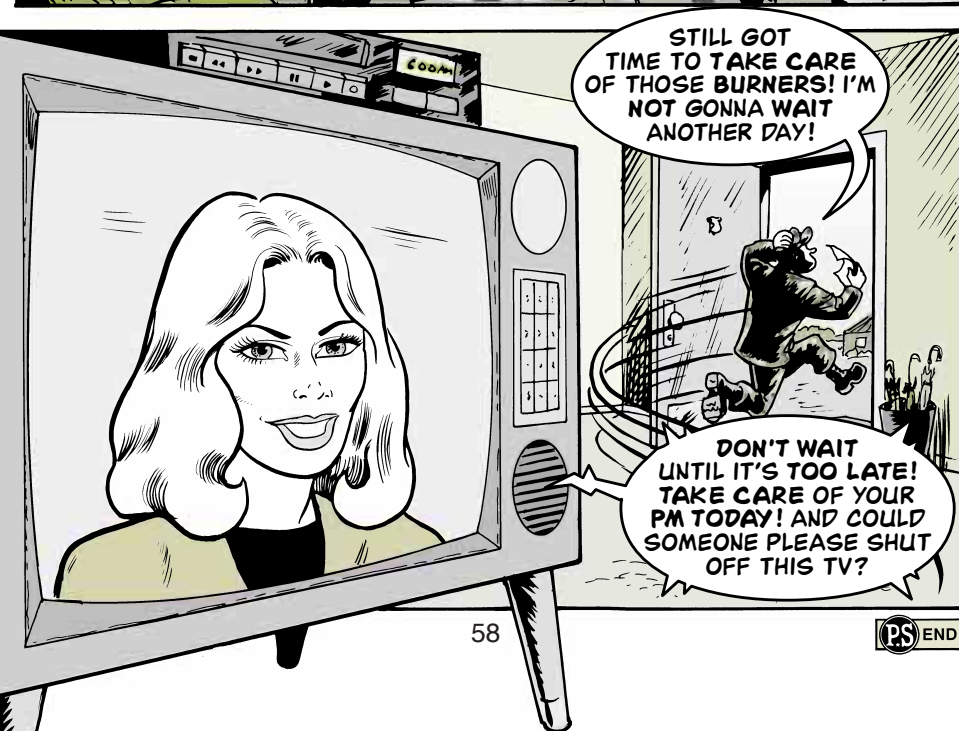


NEWS



- Make sure fuel points are 50 feet from tent.
- Make sure lighting points are 50 feet from fueling point and also remote from tent.
- Train soldiers to properly light and maintain burner.
- Move burner 50 feet from fueling point before lighting preheater burner.
- Keep fire extinguishers nearby at all times.
- NEVER light burner inside tent.
- Do soapy water test for leaks every day.
- Drain fuel tank before storage or transport.
- Check the O-rings and gaskets every day.
- Tighten O-rings and gaskets if needed before filling fuel tank.
- Move fuel can out of the way before lighting.
- Make sure generator is fully preheated before lighting main burner.
- After burner is lit, make sure that TWO people carry it inside. Don't do it alone.
- Adjust air shutter so that flame burns blue-green.
- Make sure burner is completely cool and away from operating burners before releasing pressure from tank.

AUTHORITIES
HAVE IDENTIFIED
THE CULPRIT
AS...



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PS END

NSNs for Straps and Clamps



Straps

NSN 5975-00-	Length (inches)
727-5153	21/2
074-2072	61/2
570-9598	10
156-3253	131/2

Each NSN brings 100 tiedown straps.

Clamps

NSN 4730-00-	Max Dia (inches)
908-6294	71/4
005-4894	61/8
005-1143	41/2
005-7603	33/4
138-9205	21/2

There are many more strap and clamp NSNs in the Federal Logistics Data (FED LOG). If you need other sizes, type "tiedown straps" or "hose clamps" in the ITEM NAME block and scroll through the NSNs.

HAZMAT Training

Learn the latest procedures for managing hazardous material from the Center for Environmental Initiatives and Hands-On Training at Ft Sill, OK.

Training courses available include:

- Developing and implementing environmental management systems
- Pollution prevention
- HAZMAT and user compliance

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To get the latest catalog, call (580) 442-2111 or DSN 639-2111. Fax your request to: (580) 442-7209 or DSN 639-7209. E-mail them at:

atzrbt@doimex1.sill.army.mil

The training catalog is also on the Internet at:

<http://sill-www.army.mil/ceihot/Default.htm>

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RCMAT to Disappear

If you use radio controlled miniature aerial targets (RCMAT) in your training and need more, act now. The Army is replacing the RCMAT F16 aircraft kit, NSN 1430-01-313-8340, and MIG 27 kit, NSN 1430-01-313-8342. After September 1999, no more of these targets will be available. If your unit needs RCMAT, which are free to Army and National Guard units, contact AMCOM at DSN 746-3451, (256) 876-3451, or e-mail:

jim_schwierling@stricom.army.mil

You can also order transmitter kits, NSN 1430-01-313-8343; free RCMAT fuel by the gallon, NSN 1560-01-L11-3546; engine replacement, NSN 2840-01-418-5759; and old aircraft kits, NSN 6920-01-191-0981.

AAFES Clothing Catalog

The Army and Air Force Exchange Service has put its military clothing catalogs on the Internet at:

<http://www.aafes.com>

You can still get a paper version of the catalogs by calling toll-free (888) 768-3204 (stateside calls only), or by visiting your local military clothing outlet.

Water Can Lid

Don't order a new 5-gal water can, NSN 7240-00-089-3827, if all you need is a lid. NSN 7240-00-089-7312 brings you the lid and cap assembly.

V-Belt for M35A3

NSN 3030-01-460-1030 gets the 2 1/2-ton truck V-belt shown as Item 1 in Fig 49 of TM 9-2320-386-24P. The NSN shown in the TM is wrong.

FMTV Headlight Lamp

Need a replacement headlight lamp for your 2 1/2-ton or 5-ton FMTV? Use NSN 6240-01-420-8320 to get the 12-volt lamp with pigtail connectors. The NSN for Item 12 in Fig 57 of TM 9-2320-365-24P and TM 9-2320-366-24P is wrong.

M1097/A1/A2 Jack Parts

Missing a part of the jack, NSN 5120-01-375-0070, used on M1097/A1/A2 HMMWVs? To replace one of the parts listed for Item 15 on Page B-6 of TM 9-2320-280-10, use these numbers:

Jack, NSN 5120-01-430-3123
Wrench, NSN 5120-01-429-6964
Extension, NSN 5120-01-429-6065
Handle, NSN 5120-01-429-8137
Bag, NSN 5140-01-429-6945

M60 SMR Correction
The SMR code for the M60 machine gun's trigger mechanism grip assembly should be PA000, not PA00F. That means armorers repair or dispose of the assembly, not support. The assembly is Item 14 in Fig 1 of TM 9-1005-224-23&P (May 98). Make a note until the next change to the TM corrects the SMR.

AN/GRC-122 Mast Confusion

The right antenna mast for the AN/GRC-122 radio is the AB-155B/U, NSN 5985-00-732-5146. If you have either of the two earlier models, AB-155/U, NSN 5820-00-251-2366 or AB-155A/U, NSN 5985-00-507-6261, keep using them. But when it's time to order a new one, use NSN 5985-00-732-5146.

M939 Spring Brake MWO

If your M939-series trucks have not had a redesigned spring brake control valve and mounting bracket applied, you have an unsafe truck. Until the modification is made, the valve can be engaged by accident, causing a loss of control. Contact your local MWO coordinator *now*. MWO 9-2320-272-24-1, which adds kit, NSN 2530-01-286-7754, should have been completed before 1995.

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

Would You Stake Your Life ^{right now} on the Condition of Your Equipment?