

Issue 409

PS

December
1986

THE PREVENTIVE MAINTENANCE MONTHLY

I'LL NEVER MAKE THIS YEAR'S
ROUNDS IF I DON'T GET A NEW RUNNER
FOR MY SLEIGH!

I'M CHECKING
PS MAGAZINE
FOR AN NSN.

HERE'S SOMETHING
THAT WILL HELP--
THE 1986 PS INDEX!

1986 INDEX
See Pages 27-35

Initial Peacetime

IF YOUR UNIT IS NEW OR YOU'VE GOT SOME MAJOR EQUIPMENT CHANGES, YOU'LL NEED TO PUT TOGETHER A PEACETIME PLL.

YOU CAN SET UP AN INITIAL PEACETIME PLL A COUPLE OF WAYS. THE PREFERRED METHOD IS TO BASE IT ON A SIMILAR UNIT WITH THE SAME GEAR AND A GOOD PLL.

THE OTHER WAY IS TO REQUEST AN INITIAL PEACETIME PLL FROM THE SUPPLY FOLKS AT MRSA. WRITE TO:



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

Or phone:
AUTOVON 745-3551/4137
COMM (606) 293-3551/4137

PLL

Be sure to give the following info:

- Your unit's Unit Identification Code (UIC).
- Your outfit's level of maintenance.
- Days of supply in 15-day increments.
- Modified Table of Organization and Equipment (MTOE) number.
- Each end item NSN and Line Item Number (LIN) not covered by a Mandatory Parts List. Appendix J of DA Pam 710-2-1 contains an LIN sequence Index of all end items covered by an MPL. (For aircraft and generators, give the engine NSN. Trailer-mounted generators require the NSN of the trailer, too.)
- On-hand quantity for each end item NSN.
- Name and telephone number of your unit's point of contact.

DEC 86

PS THE PREVENTIVE MAINTENANCE MONTHLY

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ISSUE 409 DECEMBER 1986

FIREPOWER			
SP Howitzers	2.5	M231 Submachine Gun BFA	10
Powder Thermometer	5	Battle Damage Repair	11
M1 Tanks	6	M163A1, M167A1	
M48/M60-Series Tanks	6.7	Vulcan	12-13
M113-Series	8.9	M21 Sniper Rifle	14
M577 Power Cable	9	Machine/ Submachine Guns	15
M2 MG Cover	9	.45 cal Pistol	15
M110 SP, M578 Rec Veh	9		
M12/M3 Bradley, MLRS	10		

GROUND MOBILITY			
CUCV's	16-18	M915-Series Trucks	22-23
HMMWV Start Switch	19	Tire Chain Adjusters	23
2½-Ton Truck	19	M747 HETS Semitrailers	24
5-Ton Truck	20	Tires	25
Multifuel Engines	21	Spray Can Ether	25

TROOP SUPPORT			
New Pubs	26	M17 Series Mask	54-56
1986 Annual Index	27	Hearing Protectors	57
18,000 BTU Air Conditioners	53	Fuel Contamination Supply Requests	58-59
M1950 Yukon Heater	53	Connie Briefs	61

AIR MOBILITY			
UH-60A Transmission		UH-1 Pillow Blocks	39
Seals	36-37	Aviation Messages	39
SPH-4 Helmet	37	UH-60A	40, 41
Cargo Slings	38	OH-58 Seat Belts	42-43
Fuel Boost Pump Cartridge	38		

COMMUNICATIONS			
AN/PPS-5 Radar Set	44-47	PU-618M-620 Generators	50
AN/GRC-106	48	1.5-KW Generators	50
AB-15 Mast Base	49	Hosing Woes	51
RL-31 Reel	49	AN/VRC-12 Radio Set	52

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

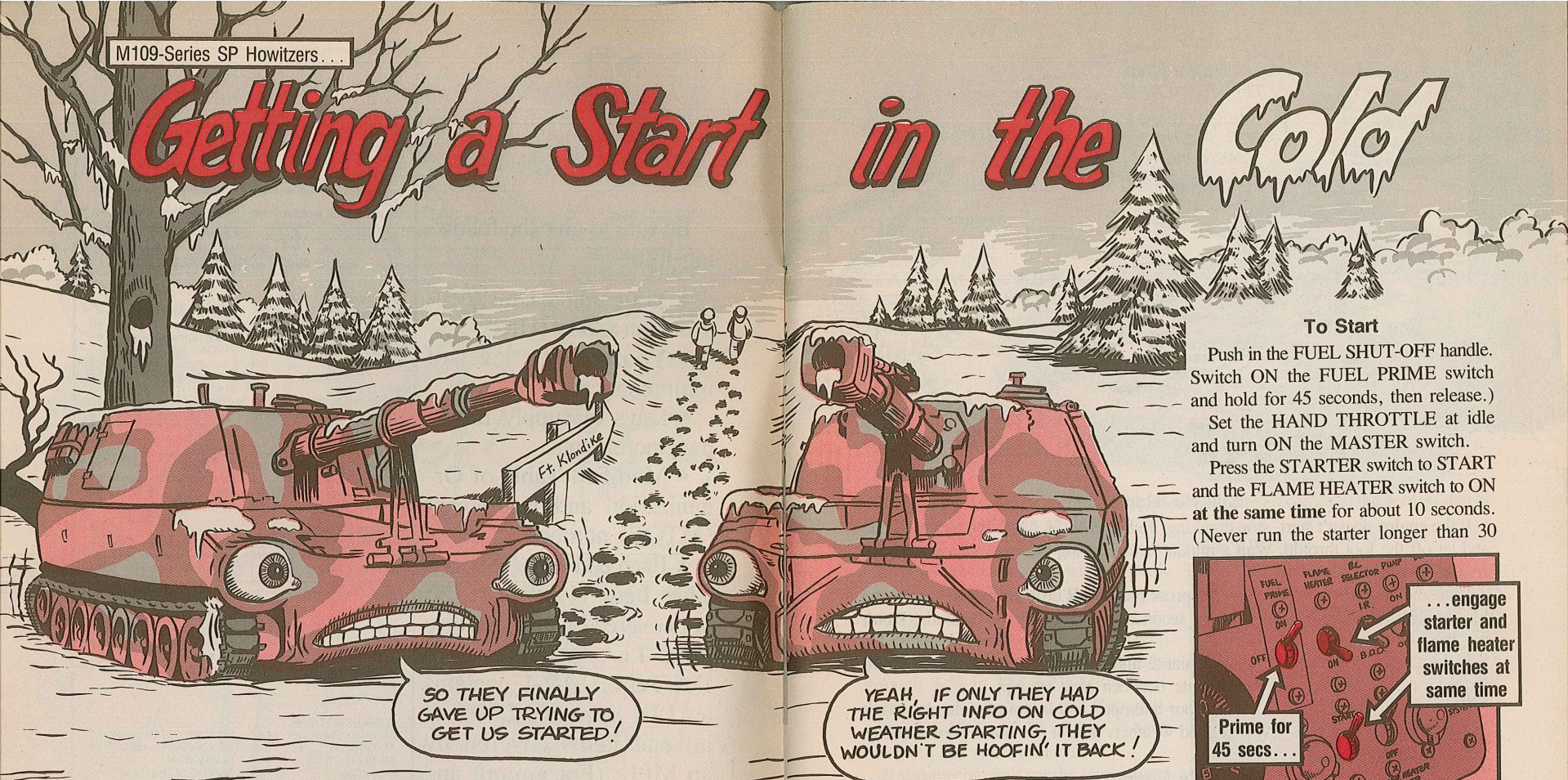
MSG Half-Mast
PS Magazine
Lexington, KY
40511-5101

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Getting a Start in the Cold



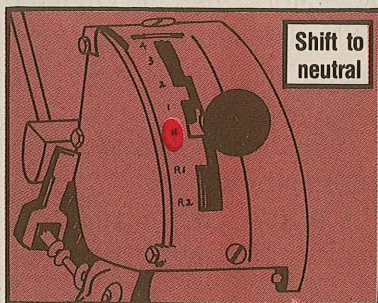
SO THEY FINALLY GAVE UP TRYING TO GET US STARTED!

YEAH, IF ONLY THEY HAD THE RIGHT INFO ON COLD WEATHER STARTING, THEY WOULDN'T BE HOOFIN' IT BACK!

When the temperature drops below 32°F, your vehicle may be hard to start. But the cold weather starting directions in TM 9-2350-303-10 and TM 9-2350-217-10N aren't quite right.

First, set the parking brake and shift the transmission to neutral. Pull out the FUEL SHUT-OFF handle.

Turn the MASTER switch to ON. Next, check for hydrostatic lock. Push the STARTER switch up to



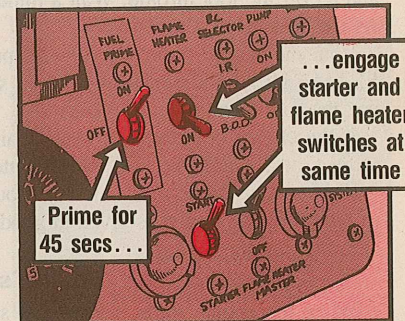
Shift to neutral

To Start

Push in the FUEL SHUT-OFF handle. Switch ON the FUEL PRIME switch and hold for 45 seconds, then release.)

Set the HAND THROTTLE at idle and turn ON the MASTER switch.

Press the STARTER switch to START and the FLAME HEATER switch to ON at the same time for about 10 seconds. (Never run the starter longer than 30



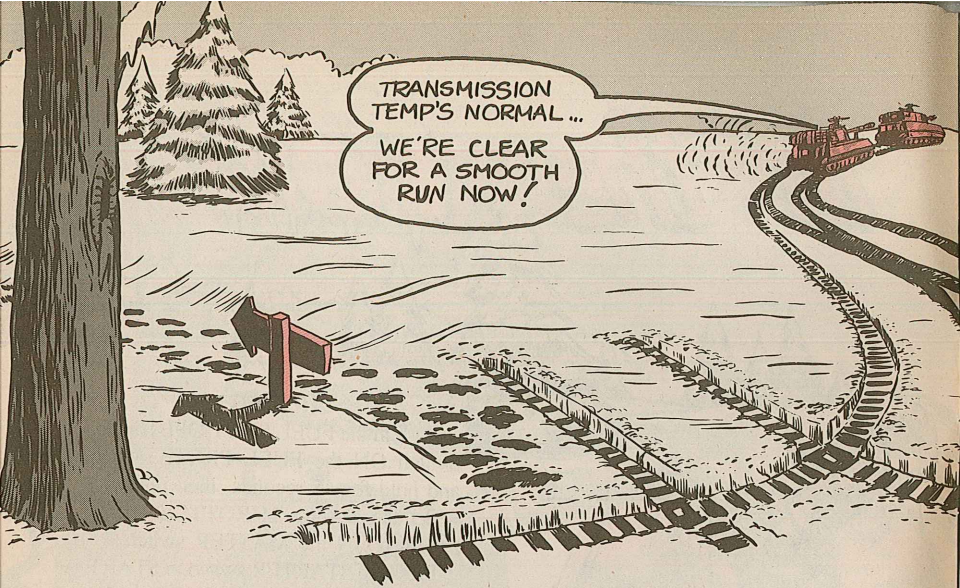
START for a couple of seconds, then release it. Repeat a couple of times while checking for symptoms of hydrostatic lock:

- The engine starts to turn over, then stops or binds.
- The starter makes a clicking noise.

If you think the engine is locked, stop cranking, turn off the MASTER switch, and get your mechanic.

seconds.) Depress the FOOT THROTTLE about half way and continue to crank the engine for another 20 seconds. Stop cranking if it starts. Don't pump the foot throttle.

If you hear unusual noises such as a shrill whine, or you feel unusual vibrations or see a sudden increase in exhaust smoke, shut down immediately and report it.



Still No Start?

If the engine doesn't start, stop cranking. Release the FLAME HEATER switch and let off the foot throttle. Wait a minute before trying again so you won't burn up the starter.

With the hand throttle still on idle, press the STARTER switch and cycle the FLAME HEATER switch ON for 10 seconds and OFF for 3-4 seconds. Don't use the foot throttle.

If the engine doesn't start, wait a minute and try again. Repeat this step two more times, waiting at least **one** minute between each attempt.

If the engine doesn't start after the four attempts, call in your mechanic. Don't make more than four tries, even in good weather. You'll run down your batteries and burn up the starter.

After It's Running

When the engine starts, release the switches.

Watch the engine's oil pressure gage for the first 15 seconds. If it doesn't come up to 5-30 PSI at 550-600 RPM, stop the engine—Now!—and report it. But, if the oil pressure's OK, set the hand throttle for 1,200 RPM.

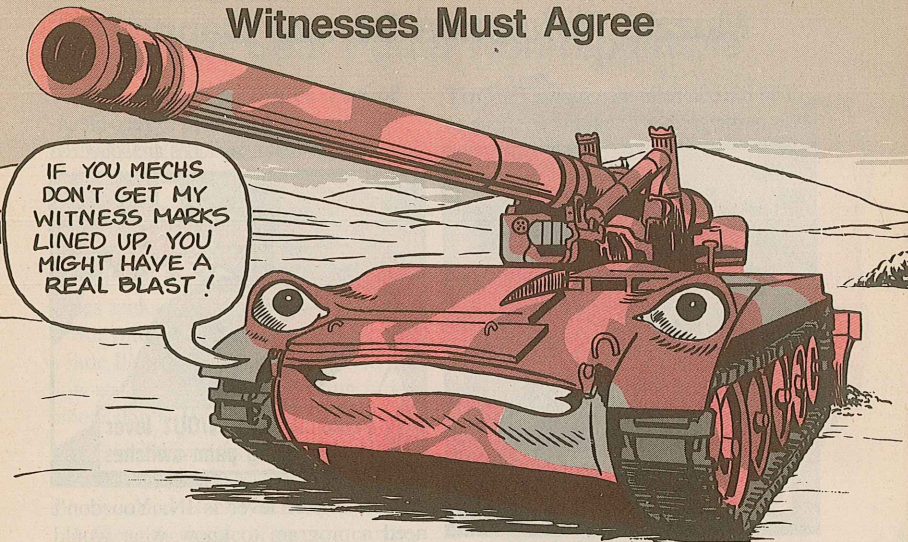
Warming the Engine

With the parking brake still on, shift to 4th gear and continue to cycle the FLAME HEATER switch until the engine coolant temperature gage reads 120°F to 140°F.

Eyeball the transmission temperature gage, tho. If it gets close to 300°F, immediately shift to neutral. When the transmission temperature goes back to 220°F to 240°F, shift to 4th gear again. Then continue to warm-up the engine.

Shift into neutral and set the hand throttle back to IDLE. You're good to go.

Witnesses Must Agree



There's no allowance for mismatch, Redlegs, when it comes to the witness marks on the breech of your M110A2.

Never fire any cannon when the marks don't line up.

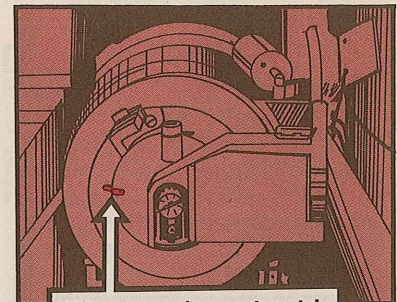
If your howitzer has a witness mark lineup problem, could be something is put together wrong.

Go back to the books. Put the breech together like it says on Pages 3-45 through 3-50 in TM 9-2350-304-10.

Marks still won't line up? Report it.

Pages 5-19 thru 5-23 of the -20 have the word for you mechanics.

If you mechs can't get the marks lined up, send the howitzer to DS.



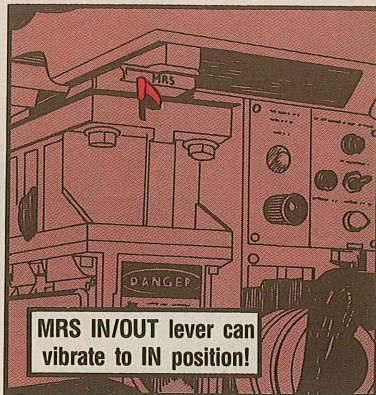
Witness marks must match

Powder Thermometer Not BII

Self-indicating, bi-metallic thermometer, NSN 6685-00-344-4603, is not a basic issue item for the M102 towed howitzer. The thermometer is authorized by CTA 50-970 as one per powder magazine or howitzer/gun. TM 9-1015-234-10 is wrong when it shows the thermometer as Item 42 of the BII.

Muzzle Reference Sensor Danger

The muzzle reference sensor IN/OUT lever at the gunner's station can move to



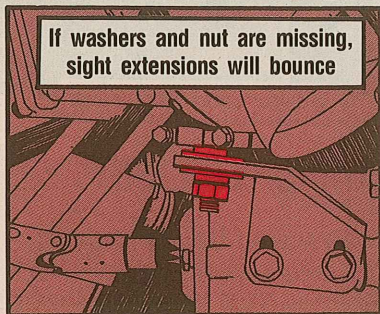
MRS IN/OUT lever can vibrate to IN position!

the IN position by itself during vehicle operation!

M60A3 Tanks...

Bouncing Bad for TTS

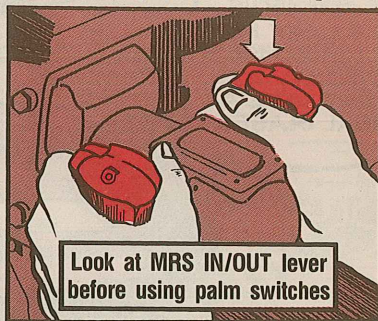
The commander's display mount isolates the Tank Thermal Sight (TTS) from shock and vibration—but only if the nut and washers are in place and snug.



If washers and nut are missing, sight extensions will bounce

The same vibration that hammers on the sight also loosens the nut. So keep

So keep an eye on it at all times. The gun tube can move to zero elevation when the palm switches are squeezed



Look at MRS IN/OUT lever before using palm switches

and the sensor lever is IN. You don't need a program to know what would happen if the tube moved and you or a buddy were in the way.

the hardware in place by using locking compound, NSN 8030-01-025-1692, on the nut.

To replace missing parts you need:

2 flat washers
1 ea NSN 5310-01-068-6848
and NSN 5310-00-767-9425

1 lock washer
NSN 5310-00-926-5880

1 hex nut
NSN 5310-00-768-0321

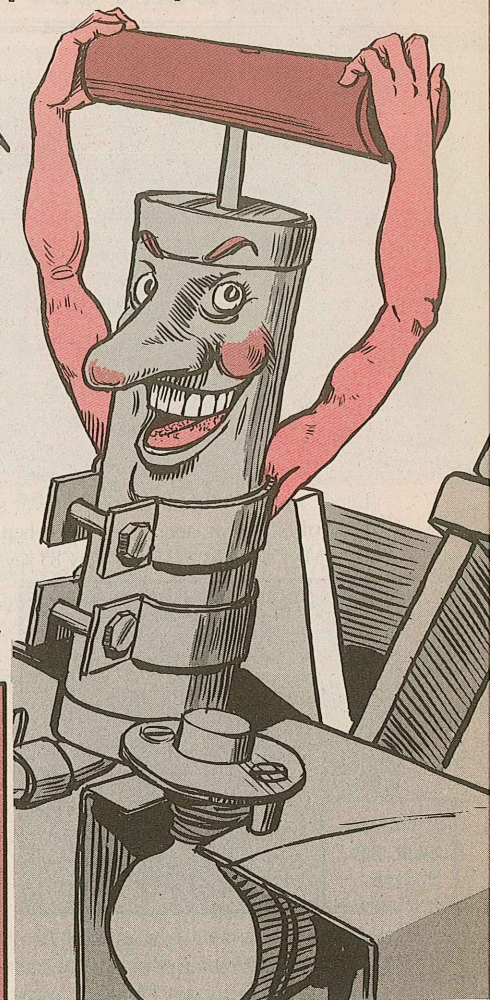
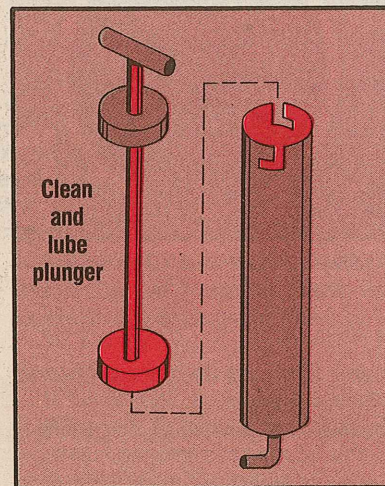
Turret Seal Pump Non-repairable

GOOD PM WILL KEEP ME PUMPING!

There are no repair parts for the turret seal inflation pump in M48A5 or M60-series tanks.

But you can help keep it working with a little PM. Some vehicle TM's tell you how to keep it in good working order, others don't. Here's what to do:

- Every 6 months or so, remove the handle and plunger assembly by turning the cap counterclockwise and pulling out.
- Clean the inside of the pump cylinder, plunger and rod with crocus cloth, NSN 5350-00-221-0872. Wipe the parts clean with dry cleaning solvent, NSN 6850-00-281-1985.
- Apply silicone compound, NSN 6850-00-880-7616, lightly to the plunger and rod.

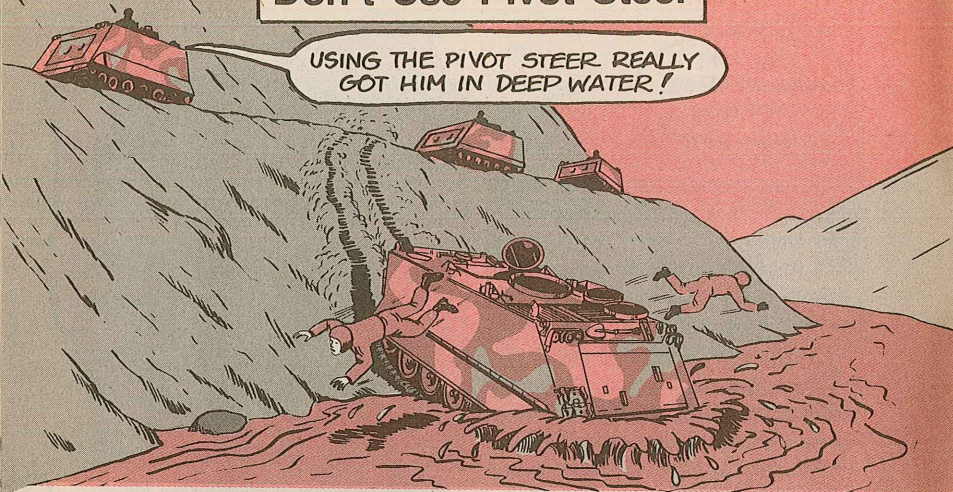


- Put the plunger assembly back into the cylinder. Align the cap pins and slots and turn clockwise to attach.

If any of the pump parts are damaged or if it won't pump, replace it with a new pump, NSN 4320-00-825-6934.

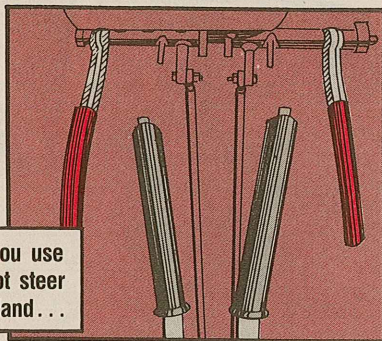
Don't Use Pivot Steer

USING THE PIVOT STEER REALLY GOT HIM IN DEEP WATER!

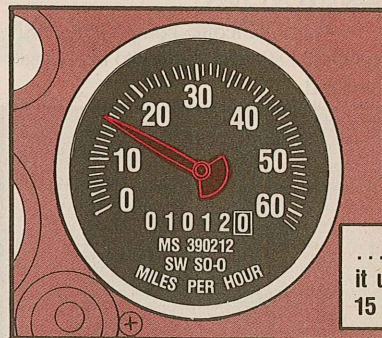


Land, speed and your carrier's pivot steering don't mix.

First of all, pivot steer is for use when you swim your vehicle. But, TACOM SOU AMSTA-MCB 311900Z May 85 says you can't swim any of the M113 family.



If you use pivot steer on land...



...keep it under 15 MPH

Second, pivot steer used at more than 15 MPH or in any drive range other than 1-2 will break U-joints and the transmission case. That means time and money.

Even at speeds under 15 MPH, using pivot steer tears up U-joints, the transmission and differential.

Some folks have disconnected the pivot steer to prevent damage and possible injuries.

That can cause trouble, too. If a loose horizontal rod jams the steering laterals, you lose control of the vehicle.

Your best "steer" is to keep the pivot steer connected and leave it alone.

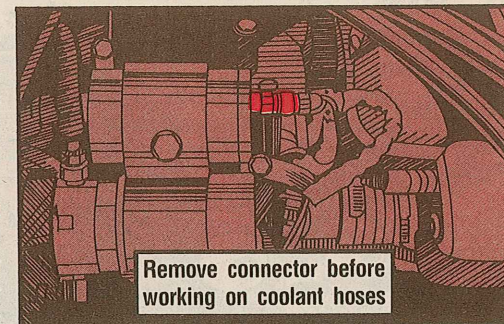
Airbox Heater Connection Fragile

The electrical connector for the airbox heater ignition unit sticks out like a sore thumb.

So you've got to be very careful when you're working on the water pipe joint nearby.

If you hit the connector with your hand, screwdriver or anything else, you'll break it. That ruins the ignition unit, at a cost of more than \$53.

So remove the connector before you start working on the pipe joint.



Remove connector before working on coolant hoses

M577 Power Cable Repair

Looking for the end connector assembly and dust cap for the auxiliary power cable used on M577A1 and -A2 command post vehicles? NSN 5935-01-157-2772 gets you both the connector and the cap. The cap is not available separately.

M2 Machine Gun Cover

If you need a canvas cover for your truck-mounted M2 machine gun, order NSN 1005-00-487-4100. It's in TM 9-1005-245-14.

M110A2 SP Howitzer, M578 Recovery Vehicle...

Spare the Torch, Save the Lever

You wouldn't cut off your nose to spite your face, so don't cut off the lockout cylinder control lever just because the connecting pin is frozen in place.

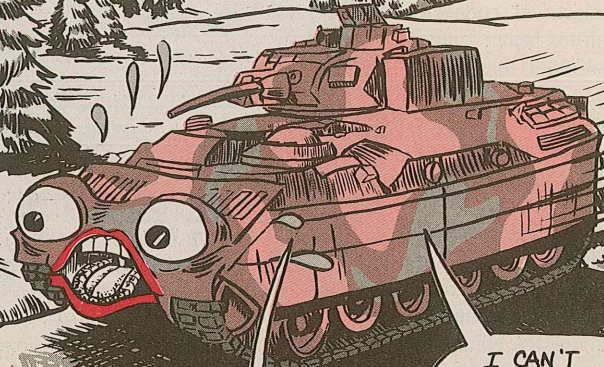
That's \$96 down the tube!

To free the pin, try applying CLP, NSN 9150-01-054-6453, or any other penetrating oil to the pin. Let it soak in. Then, usually, the pin can be loosened.

If that doesn't work, use the torch as a last resort.

When you reconnect the lockout cylinder and control arm, coat the pin with corrosion preventive compound so it will come out easy next time. Get a gallon with NSN 8030-00-231-2345.

The Right Oil's the Only Oil



I CAN'T
SHIFT GEARS!
THE TRANSMISSION
FEELS STRANGE!

HEY... YOU'D
BETTER SHIFT DOWN!
WE'RE GOING DOWNHILL
TOO FAST!

Mechs, when you change oil in your Bradley or MLRS transmission, pay close attention to the oil called for in the LO.

Both LO 9-2350-252-12 (Feb 86) and LO 9-1450-646-12 (Feb 86) specify 15W40 oil for the 5°F to 125°F temp range.

Using the wrong oil can lead to damage of transmission parts—and transmission failure.

Stick with the LO. Only use the oil specified.

M231 Submachine Gun BFA

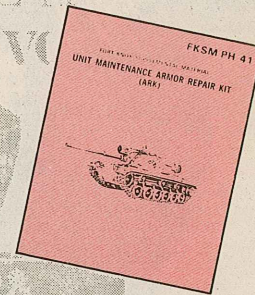
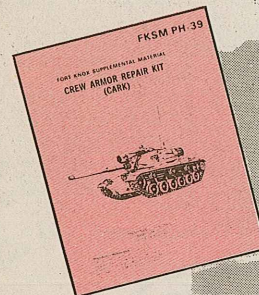
Good news, armorers! The blank firing attachment for the M231 firing port weapon is now available. Order it with NSN 1005-01-163-3725.

Get Armor Repair Pubs, Kits

Two new pubs on repairing battle-damaged combat vehicle armor also contain info on the repair kits that'll be needed by crews and unit maintenance.

Crew Armor Repair Kit (FKSM PH-39) and Unit Maintenance Armor Repair Kit (FKSM PH-41) discuss methods and materials to make BDAR-type repairs.

To get the pubs, write to:



US Army Armor School
Maintenance Department
ATTN: ATSB-MAL
Ft Knox, KY 40121-5200

KNOW BDAR

*Battlefield Damage Assessment and Repair

Training Film Available

To get the Army's training film on the battlefield damage repair program, follow these steps:

- For each copy wanted, get a blank tape (¾-in, U-Matic, 20 min) from your local Training and Audiovisual Support Center (TASC).
- Complete a DA Form 3903, Training-Audiovisual Work Order. Specify television tape (TVT) 38-16, "Battlefield Damage Assessment and Repair."
- Mail the form along with the blank tape(s) to:

US Army Armor School
ATTN: ATSB-DOTD-TV (Librarian)
Ft Knox, KY 40121-5200

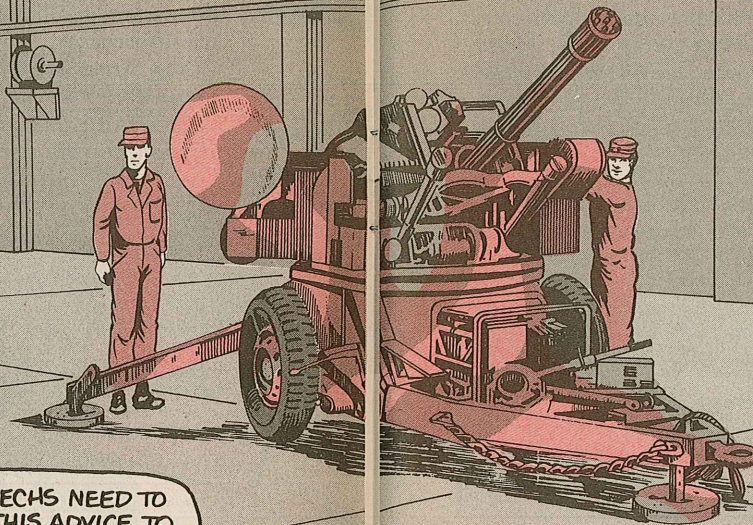
• Be sure to include your return address. The Ft Knox TV studio will copy the film on each blank tape you provide.

• If you can't get the required blank tapes through your local TASC, contact the Ft Knox TV studio video tape librarian at AUTOVON 464-2106/3725 or commercial (502) 624-2106/3725.

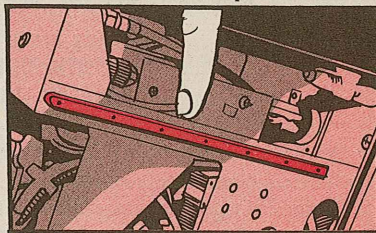
Slide It, Purge It, Lock It Right



YOU MECHS NEED TO KEEP THIS ADVICE TO KEEP ON TARGET!



Mechs, keep these tips in sight to keep your Vulcans right. Careful when you pull out components like the range computer or power supply, or you can slide them right into a trip to DS. Rails that hold components in their boxes break easily if you twist and tug a component. With broken rails, the component can bounce around in its box and suffer damage. Before you slide a component out, disconnect all cables. Then slide the component out as straight and evenly as possible. If you meet resistance, stop. Slide the component back in and try again. Never force it out.



Twisting components out breaks rails

trical trouble. Besides, the M61 gasket needs quarterly testing to make sure it's keeping the sight pressurized.

Radar verification, antenna boresighting, and major battery service are all DS jobs. But it's **your** job to make sure they get done every 90 days. Keep track of service.

If you let the radar and antenna lose their accuracy, the Vulcan will shoot everywhere but where it's supposed to. Without on-time DS service, battery life is shortened.

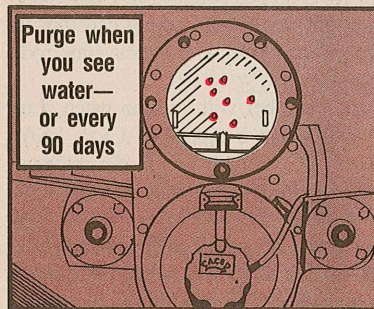
Remember, too, any time you change a component of the antenna, the antenna needs boresighting.

Bolt Booster

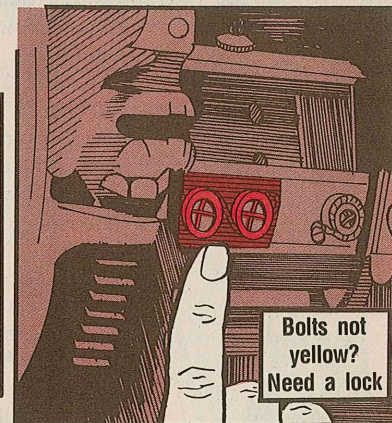
Color makes a difference for bolts holding the six upper tracks of the cannon. Bolts that aren't yellow-headed need bolt head locks, NSN 1005-00-148-2324,

Purge It

TM 9-1005-286-20-1 and TM 9-2350-300-20-1 tell you to purge the M61 sight



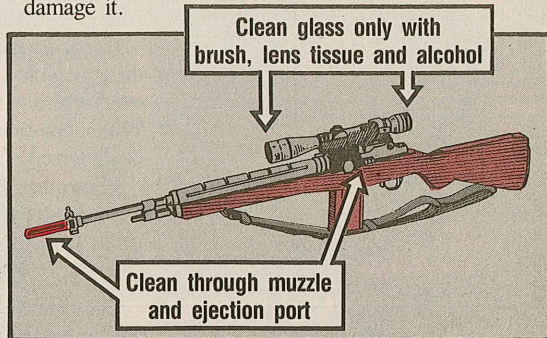
whenever you spot moisture. But if you see no moisture after 90 days, purge the sight anyway. Even small amounts of water that can't be seen can cause elec-



before they're lockwired. Without the locks, the bolts can loosen and cause the Vulcan to jam or explode.

Leave It to the Experts

Your M21 sniper rifle requires special treatment. Because of the M21's close tolerances and critical alignment, major maintenance—the kind requiring disassembly—must be done by repairmen specially trained at the National Match Rifle and Pistol Maintenance School. If you try to disassemble your M21, you can damage it.



You can clean the M21 without taking it apart. Run a chamber brush, NSN 1005-00-690-8441, dipped in CLP or Rifle Bore Cleaner (RBC) through the ejection port.

Push a CLP- or RBC-dipped bore brush, NSN 1005-00-556-4174, through the muzzle, taking care not to damage the crown of the barrel with the cleaning rod. That can ruin accuracy.

Dry the bore and chamber with a clean patch. Lubricate the bore with a patch dipped in CLP, LSA, or LAW.

Before firing again, dry the bore and chamber with a clean patch.

Clean the sight's glass only with a clean artist's brush, such as NSN 8020-00-597-4767, lens tissue, NSN 6640-00-597-6745, and alcohol. Cleaning cloths, polishing liquids or pastes, and abrasives will damage the sight.

If you spot problems, tell your armorer. He can send the M21 to the folks trained to give the M21 the special treatment it needs.

Rack Plans Available



If you armorers need racks for machine and submachine guns, get your support to make them. Racks are not in the supply system.

Plans for making racks include NSN's for material. One set of plans is for the M60 machine gun. The other plans can be adapted to fit the other machine and submachine guns. Specify which plans you need when you write to:

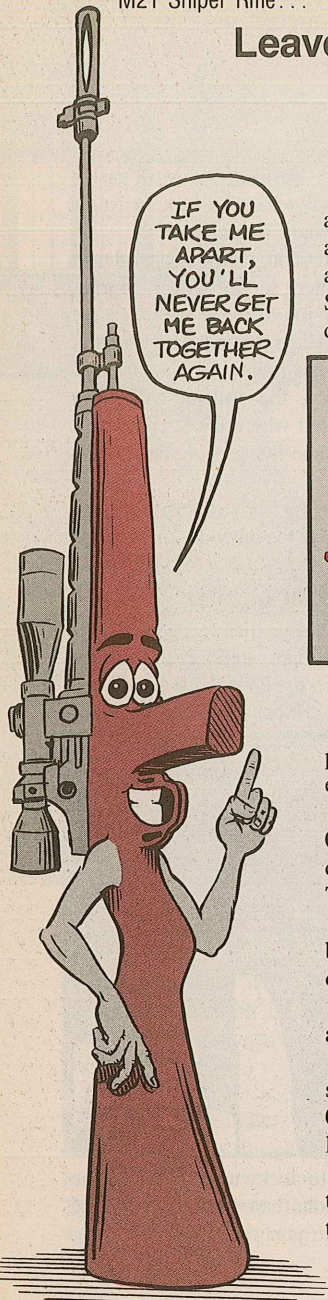
AMCCOM
ATTN: AMSMC-MAG-SD
Rock Island, IL 61299-6000

SHORTEN LONG SPRINGS

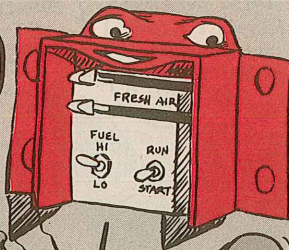


Armorers, if you get new M1911A1 recoil springs that are slightly longer than the new maximum free length limit of 7¼-in, try this fix.

- ▼ Put the spring in a pistol.
- ▼ Pull the slide fully to the rear.
- ▼ Let the slide slowly go forward.
- ▼ Do that 10 times.
- ▼ Remeasure the spring. If it's now within standard, it's acceptable.



Heater Lamp Protection



IT'S A GOOD THING I'M HERE TO PROTECT THIS PANEL.

Dear Editor,

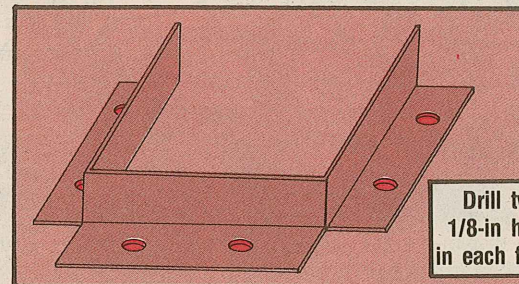
We've had problems with medics breaking the ON light on the personnel heater's control panel while working with patients. The panel's down low, so it's easy to bump it.

We solved the problem by making a protective shield to go around the control panel.

Here's what we used:

- 2 x 18-in piece of 1/8-in thick aluminum (NSN 9535-00-260-3079 gets a 12 x 36-in sheet).
- Six 3/8-in long pop rivets, NSN 5320-00-903-8778, and the rivet tool, NSN 5120-00-017-2849.

Bend the aluminum so it has three 6-in sides. Make cuts at the corners so you can bend 1-in flanges on each side.



Drill two 1/8-in holes in each flange

Hold the shield up over the control panel, mark and drill holes, then rivet it in place.

SP4 Jesse Pridgen
Ft Polk, LA

(Editor's note: Sounds great. You can replace broken lamps with NSN 6240-00-155-8714, and lens with light assembly, NSN 6210-00-688-5088.)

CUCV Ambulance Light

The rear clearance marker light for the side panel of your CUCV ambulance (M1010) is not in TM 9-2320-289-20P. You can get the light by ordering FSCM 25022, PN 19-0981, on a DD Form 1348-6 using RIC S9C.

Replace CUCV Starter Bolts

You mechs can head off loose starters on the CUCV with new mounting bolts, NSN 5306-01-227-9085. These replace the bolts called out as Item 9 in Fig 32 of TM 9-2320-289-20P. You'll also need two flat washers, FSCM 11862, PN 22521054. Order them on a DD Form 1348-6 from S9C. Torque these new bolts to 25-30 lb-ft.

Warning Light Doings

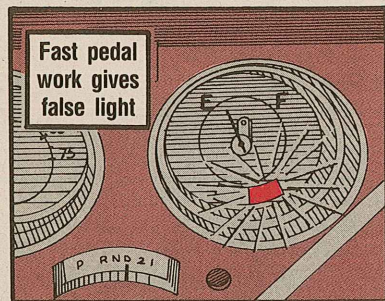
MY BRAKE WARNING LIGHT KEEPS COMING ON!

IT COULD BE YOUR FAST FOOT!

Bothered by a flickering brake warning light? Or the light stays on after a brake application?

The hydraulic-assisted brake system has a very fast response time and develops high brake pressures.

So the warning light may flicker ON during a hard application.



Don't sweat it—it's no problem.

The light may come on and stay on if you apply and release the brake pedal quickly. The brakes are OK, tho, if the light goes off the next time you apply the brakes.

Mechs, if drivers report the light stays on, check for a low fluid level or leaks. If there are no leaks, but the light stays on, replace the combination valve, Item 21 of Fig 80 in TM 9-2320-289-20P.

CUCV Wrench Change

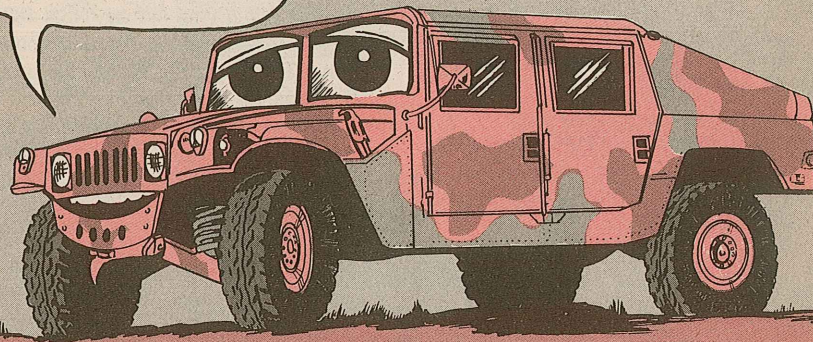
Use NSN 5120-01-180-0558 to get the wheel bearing wrench listed as Item 2 of Figure 185 in TM 9-2320-289-20P. This replaces the NSN in the TM.

CUCV Power Steering Bolt Torque

Torque CUCV power steering pump mounting bolts to 26-37 lb-ft. This torque is not called out in TM 9-2320-289-20, so make a note. The bolts are Items 11 and 12 in Figure 93 of TM 9-2320-289-20P.

Neutral Start Switch Fails

DO IT BY THE BOOK WHEN IT COMES TO STARTING ME!

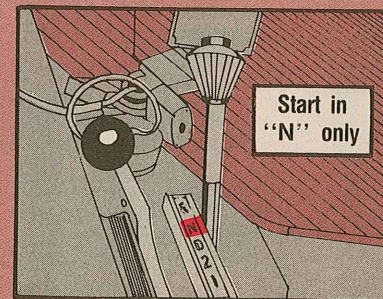


Your failure to start your HMMWV "by the book"—along with failure of the neutral start switch—can get somebody hurt!

If the starter engages with the transmission selector in DRIVE or REVERSE, your truck will move. You can run over a buddy!

Dirt in the neutral start switch is usually the cause of the problem.

So make sure you have the transmission selector in NEUTRAL before you turn the engine STOP-RUN-START switch to START. That's spelled out in Para 2-9f of TM 9-2320-280-10.



2½-Ton Truck Mirrors

Use NSN ⁹2540-01-193-1747 to get 5-ton truck mirrors (west coast mirrors) for your 2½-ton trucks. The kit includes both the regular mirrors and the convex mirrors.

NSN's Changed For M939's

BE SURE YOU GET THE PROPER LINEAR VALVE FOR YOUR 5-TON TRUCK!

The direct linear valve for the shift control and the linear valve on the spring brakes of M939-series 5-ton trucks are the same. But the NSN's listed in TM 9-2320-272-20P are wrong. NSN 4820-01-187-9542 gets you the shift control valve, Item 15 in Fig 89, and the spring brake valve, Item 2 in Fig 131.

Get the fording valve cable for the 5-ton's transfer transmission with NSN 2590-01-100-3871. TACOM is changing the SMR code to PAOZZ.

Shutoff Valve Goes "0"

DON'T FRET, OL' BOY, THAT EMERGENCY FUEL SHUTOFF VALVE'S SIMPLE TO CHANGE!

I'M SO DEPRESSED!

AND NOW US UNIT MECHANICS DO IT! WE'LL GET YOU BACK ON THE ROAD SHORTLY!

You organizational mechs can now replace a bum emergency fuel shutoff valve on M809-series 5-ton trucks.

Thanks to a SMART idea from SGT Thomas R. Labine of Fort Ord, CA, the procedure is no longer a direct support job. This means less downtime to repair a truck.

You'll find the procedure for removing and installing the valve is in Para 3-30 of TB 43-0001-39-3 (Jul 86).

Extend AOAP Valve

LOOK AT THE MESS THEY MADE GETTING AN OIL SAMPLE CONNIE!

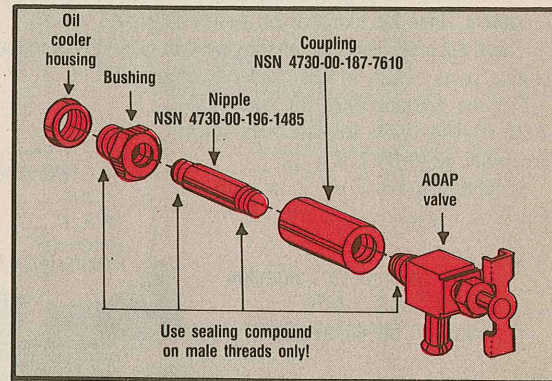
IT LOOKS LIKE YOUR MECH FORGOT TO EXTEND YOUR VALVE!

The AOAP valve on multifuel engines in 2½- and 5-ton trucks is hard to reach. So oil is spilled when samples are taken.

Extending the valve like so solves both problems.

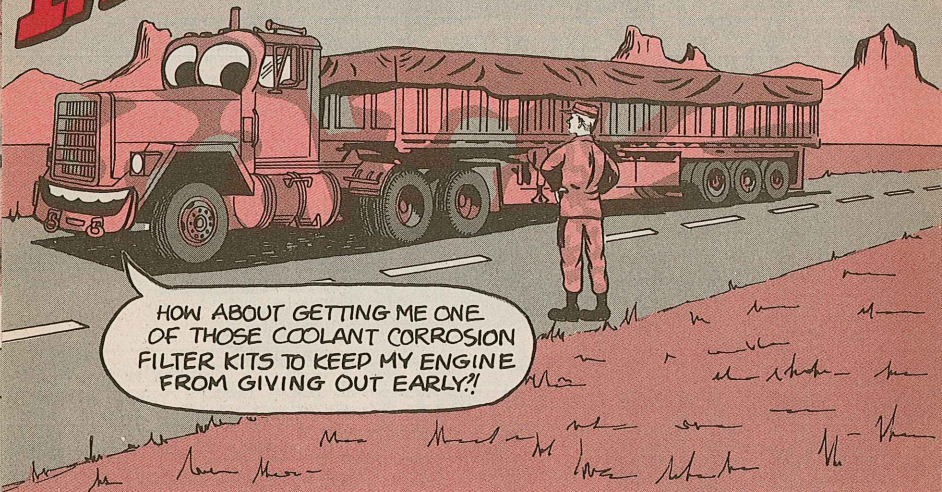
Easy when tightening the valve and fittings! Overtightening can crack a fitting or—worse—the oil cooler housing.

Use sealing compound, NSN 8030-00-656-1426. Tighten the connections only snug. Run the engine and check for leaks. If needed, tighten a little more...e-a-s-y!



M915-Series Truck...

Increase Engine Life



Hauling the BIG loads takes a heap of truck—and an engine that can take the BIG strain on the road.

You mechs can give the M915-series truck's engine a longer life by installing a coolant filter kit like that on newer M915A1 trucks.

The filter helps keep the cooling system clean. This reduces corrosion of internal engine parts. That, in turn, extends engine life.

Get the coolant filter kit with NSN 2930-01-184-1877. Replacement filters are NSN 4330-00-274-4712.

Mounting instructions come with the kit. You can also get a copy from:

**Tank-Automotive Command
ATTN: AMSTA-MTC
Warren, MI 48397-5000**



M915-series/M915A1 Trucks...

Battery Hold-down Holdup



MAKE SURE YOU SPECIFY THE RIGHT TYPE OF BATTERY WHEN FILLING OUT THE FORM!

You may get a battery that won't fit in the hold-downs on your M915-series or M915A1 truck.

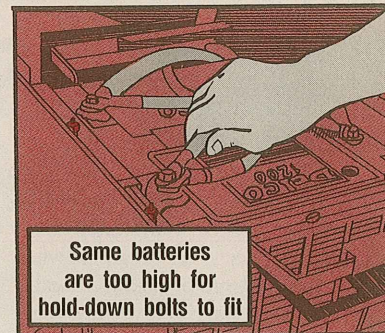
That's because two different batteries come under NSN 6140-01-032-1326.

Type A battery has a vent cap 1 1/4 inches long and won't fit under the hold-down.

Type B battery has two T-shaped caps and will fit the hold-downs.

When you need batteries for these trucks, order on a DD Form 1348-6 and use Advice Code "2B" in Columns 65-66. Write in the Remarks Block:

"Provide only Type B batteries. These batteries have two T-shaped vent caps on top of battery."



Tire Chains...

Adjusting the Slack

If your tire chains are slack, use tire chain slack adjusters. NSN 2540-00-507-3467 is for a pair of 'em.

Or try rubber tie-downs:

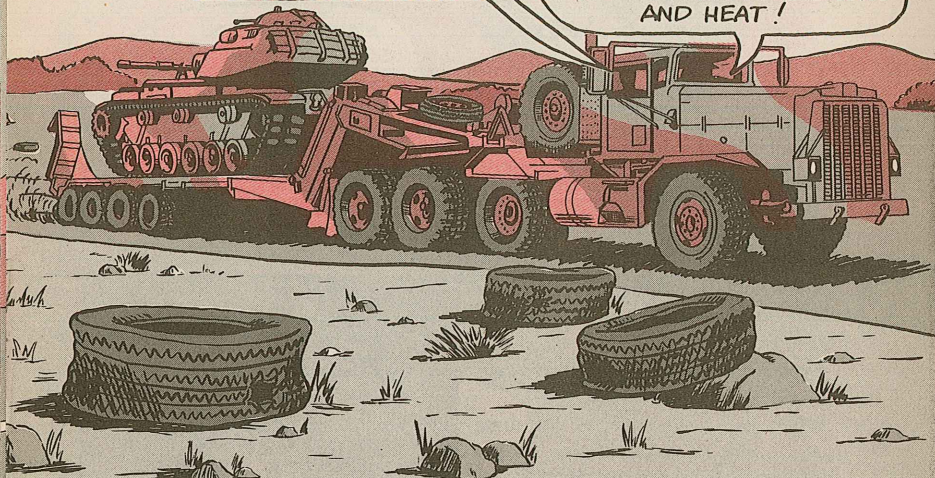
NSN 5340-01-	Length (inches)	Stretched Length (inches)
029-9084	15	20-30
030-3098	21	26-42
029-9085	31	36-42

The tie-downs are authorized by Appendix A, CTA 50-970.

Keep Your Tires Turning

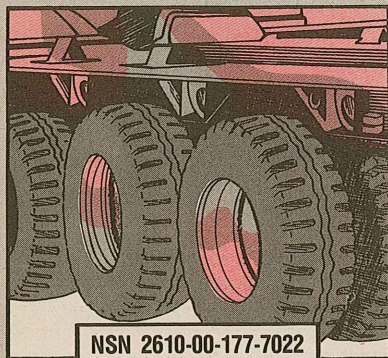
HEY, SARGE, WHAT'S WITH ALL THE FLAT TIRES?

IT'S A GRAVEYARD FOR BLOWN-OUT TIRES THAT COULDN'T HACK THE STRAIN AND HEAT!



Tires on a loaded M747 HET semitrailer are under a lot of strain when you're toting 60 tons of tank. Add heat—a real tire killer—and you've set tires up for a lot of stress...and blowouts.

So you need the best—and the best are NSN 2610-00-177-7022, called out in TM 9-2330-294-24P. They've been



NSN 2610-00-177-7022
for the best tires

toughened up to handle loads and high temperatures better.

The other tire listed, NSN 2610-00-840-9270, doesn't hold up as well and will be dropped from the TM.

Heat + Speed = Blown Tires

When you have a heavy load, and temperatures are up, keep your speed down! Here's a guide to follow:

	Weather	Maximum speed (MPH)
Hot	80°F and up	15
Warm	50° to 80°F	25
Cold	Below 50°F	35

Of course, cross-country travel calls for even lower speeds—10-15 MPH or less.

Give your tires a break by carrying as light a load as possible. Load extra fuel or ammo on another truck.

Line Up Gap with Valve

Dear Half-Mast,

At one time, TM 9-2610-200-24 said to position the gap in a tire rim lock ring away from the valve stem. But the new TM doesn't say that! What's the latest?

MSG K. T. L.

POSITIONING IS THE KEY WHEN IT COMES TO THE LOCK RING GAP!

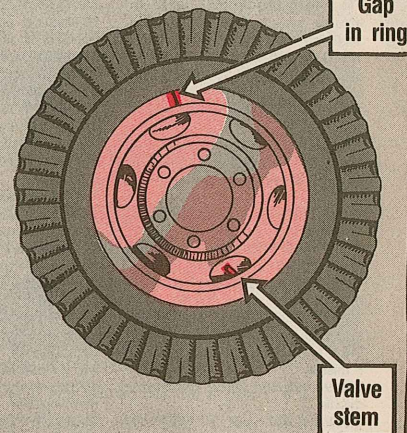


Dear Master Sergeant K. T. L.,

Here's the latest tip from the top... position the lock ring gap directly across from the valve stem. Then, if a tire iron slips during removal of the ring, there's less chance of damaging the valve. This info was omitted from the tire TM.

When you put duals on a vehicle, position the valve stems across from each other. That way, when you find one in the dark, you know where the other one is.

Half-Mast



Spray Can Ether Taboo

Spray can ether is a no-no for starting engines in cold weather. It can seriously damage the engine—and you too if it explodes. This word is in Para 3-7 of TB 43-0001-39-1 (Jan 86). Go by your vehicle TM for cold weather starting instructions.

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 3-4230-209-20&P Jul M12A1 decon
 TM 5-3610-260-14 Sep Topographic map layout
 TM 5-3610-287-24 Jun Topographic press
 TM 5-4130-237-24P Jul Water chiller
 TM 5-4310-369-14, C1 Sep Reciprocating compressor
 TM 5-4610-228-13 May Water distribution system, NSN 4610-01-114-1450 thru -1453 and 4610-01-120-7529
 TM 5-6115-612-12 Jul Generator set, trailer mounted, 10-KW, 28 volts, MEP 362A
 TM 5-6115-612-34 Jul Gas turbine generator
 TM 9-1015-221-20P May M40A2 and M40A4 rifle
 TM 9-1410-387-12-2 Apr Pershing II missile
 TM 9-1425-450-24P Jun M220A2 launcher
 TM 9-1430-1535-24P Nov HAWK missile
 TM 9-1450-394-24P Jun Pershing II missile
 TM 9-1425-386-10-3-1 May Pershing II missile
 TM 9-1425-386-10-3-2 May Pershing II missile
 TM 9-1425-600-24P-2 Jul Patriot missile
 TM 9-1550-417-14&P Jun FQM-117B radio controlled miniature aerial target (RCMAT)
 TM 9-2350-255-20P-2 Jun M1 and IPM1 tank
 TM 9-2350-311-10-HR Jun M109A2/A3 howitzer
 TM 9-2350-311-20-1 Nov M109A2 and M109A3 howitzers
 TM 9-5855-252-12 Feb AN/TAM-4 bottle cleaning and charging station

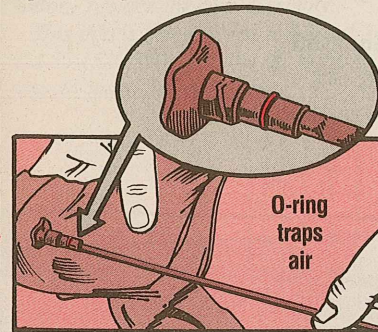
TM 11-3895-209-14 Jun RL-207(V)G cable reeling machines
 TM 11-4940-482-10-HR Jan AN/MSM-108 shelter mounted electronic shops
 TM 11-5820-540-20P Aug AN/GRC-103(V)1, 2, and 3 radio set
 TM 11-5820-863-23P-1 Feb 85 AN/FRC-171(V)-series radio set
 TM 11-5820-924-13 Feb AN/GRC-193A radio set
 TM 11-5821-331-13 Apr C-11188A amplifier control and AM-7189A radio frequency amplifier
 TM 11-5840-293-10-HR Jun AN/FPN-40 radar set
 TM 11-5865-223-24P-1 Jan 84 S-250/G electrical equipment shelter and AN/GLQ-3B w/counermeasures set
 TM 11-5865-236-13 Apr 85 CP-1606/ARW-83(V) radio frequency processor
 TM 11-5865-237-24P Oct 85 CP-1603/ARW-83(V), CP-1604/TSQ-105(V) digital processor
 TM 11-5865-238-13 Apr 85 CP-1602/TSQ-105(V) intermediate frequency processor
 TM 11-5865-238-24P Oct 85 CP-1602/TSQ-105(V) intermediate frequency processor
 TM 11-5865-240-13 Apr 85 OL-334 computer terminal group
 TM 11-5865-240-24P Oct 85 OL-334 computer terminal group
 TM 11-5865-241-13 Apr 85 TD-1376/U multiplexer and TD-1373/U demultiplexer
 TM 11-5865-241-24P Oct 85 TD-1376/U multiplexer and TD-1373/U demultiplexer
 TM 11-5865-250-13 Apr 85 CV-3836/ARW-83(V) frequency converter
 TM 11-5865-251-13 Apr 85 CV-3835/TSQ-105(V) digital to digital converter
 TM 11-5865-253-13 Apr 85 ID-2341/TSQ-105(V) command word indicator and C-11361/TSQ-105(V) direction finder test control
 TM 11-5865-254-13 Apr 85 SB-4187/ARW-83(V) radio frequency distribution unit

TM 11-5985-379-14&P Feb AS-2259/GR antenna
 TM 11-5895-104-24P Oct AM-6701/TSC radio frequency amplifier, PP-7086/TSC power supply
 TM 11-5895-1094-14 Jan AN/FYQ-89 digital data terminal
 TM 11-6665-236-12 Feb AN/PDR-75 radiac set
 TM 11-6665-243-24P Feb AN/GDQ-3 radiation monitor and automatic alarm system
 TM 11-6665-361-10 Jun MX-7338/PDR-27 test sample, Krypton 85, Gamma
 TM 43-0001-28-10 Jun Artillery ammunition: Projectile, fuze and propelling charge combinations
 TM 55-1500-342-23 Aug Maintenance engineering, weight and balance
 TM 55-1680-349-10 Jul Survival kit, hot climate, individual
 TM 55-6695-217-23P Sep AVUM and AVIM RPSTL for tester, oxygen mask, headset, microphone and flash goggles, Type MQ-1A, PN 1854
 TB 55-1520-240-20-11 Jul Inspect longitudinal cyclic trim actuator operation, CH-47D
 TB 55-1520-242-20-20 Jun SOF, Technical, UH-1 and EH-1, inspect nuts, rotor driveshaft
 TB 55-1520-242-20-21 May SOF, Technical, inspect trunnion bearings, UH-1D/H/V and EH-1H
 TB 55-1520-244-30-2 Jul Inspect pylon bolt TH-1/TAH-1/AH-1S/AH-1P (PROD)/AH-1E(ECAS)/AH-1F(MC)
 LO 3-4230-209-10 Jun M12A1 decon apparatus
 LO 9-2320-272-12 Apr M939/M939A1 5-ton trucks
 LO 9-2320-289-12 Jun CUCV
 CTA 50-900 Oct Clothing and individual equipment
 CTA 50-970 Jul Expendable/durable items

Pressure

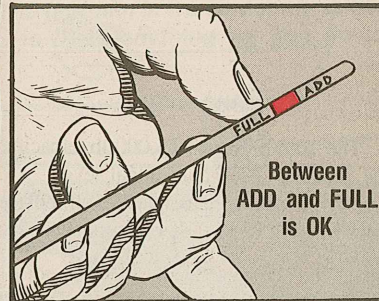
ALL RIGHT... COME ON YOU GUYS... I'M PUTTING THE PRESSURE ON. WE'RE GONNA BLOW THIS JOINT!

A bum oil reading could also be caused by the dipstick design. An O-ring at the top of the dipstick keeps water out of the



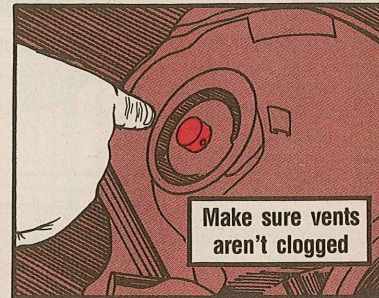
oil, but it also traps air in the dipstick tube. Oil is slow to return to the tube, so you may not get an accurate reading the first time.

Remove the dipstick 2-3 times to remove the trapped air and get a more accurate reading. An oil level between the ADD and FULL marks shows you



have about the right amount of transmission fluid—about 7 gallons.

You also prevent blown seals by making sure vents are not clogged with dirt and



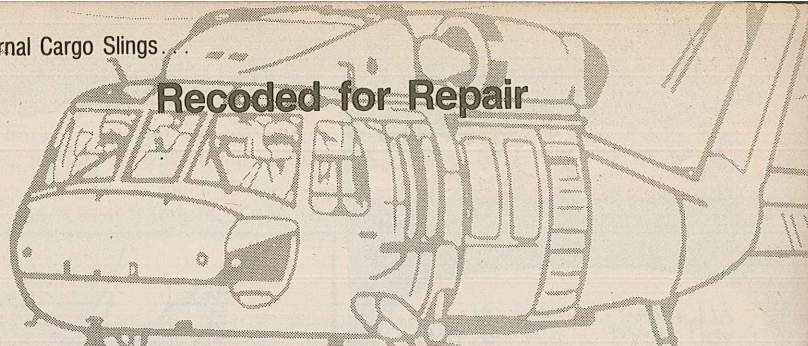
grime. If internal pressure can't escape, the seal will blow. So run a piece of safety wire through the vent holes—at least every PMI—to make sure they're clear.

TM 10-8415-206-12&P

New Helmet Manual

DEPARTMENT OF THE ARMY TECHNICAL MANUAL
 The new maintenance and parts manual for your SPH-4 flight helmet, TM 10-8415-206-12&P (5 May 1986), has complete details on operation and new maintenance at the AVUM level. If you haven't received yours, see your pubs clerk.
 DEC 86

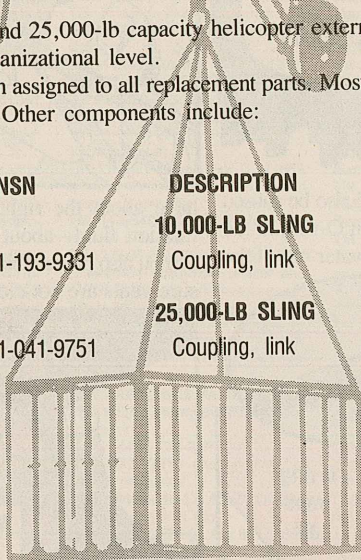
Recoded for Repair



The 10,000-lb and 25,000-lb capacity helicopter external cargo slings can now be repaired at organizational level.

NSN's have been assigned to all replacement parts. Most are listed in Appendix A of FM 55-450-1. Other components include:

NSN	DESCRIPTION	QTY
	10,000-LB SLING	
4010-01-193-9331	Coupling, link	4
	25,000-LB SLING	
4010-01-041-9751	Coupling, link	4



So don't turn in any more sling sets that can be repaired by replacing unserviceable components. Fix 'em yourself. Chap 4 of the FM 55-410-1 tells how.

Return Fuel Boost Pump Cartridge

Huey, Cobra and Kiowa mechs, don't throw out unserviceable fuel boost pump cartridges. Assign a condition code of F and return them to supply for storage until repair procedures are available. The cartridge, NSN 2915-01-131-4998, is part of fuel boost pump, NSN 2915-01-124-5222.

Pillow Block Contamination?

Dear Windy,

We can't keep moisture from contaminating the oil in our Huey's rotor head pillow block reservoirs. The problem is worse during colder months because of condensation. Is there anything we can do to keep the moisture out?

SSG V. C.

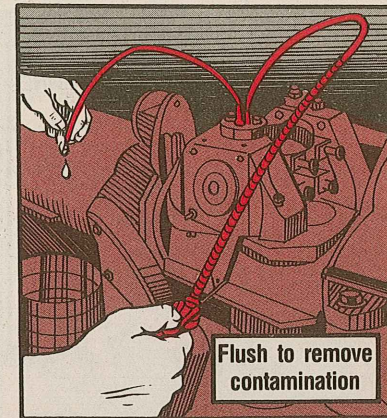
Dear Sergeant V. C.,

There's no way to keep the moisture out. If the oil is discolored, it's contaminated. Flush and refill the reservoirs during the next scheduled inspection or service.

If flushing fails to remove the contamination, replace the hub assembly.

This info is being added to Chap 5 of TM 55-1520-210-23-1, but the headshed says to move out on it now.

Windy



Aviation Messages

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

UH-1-86-08, SOF, Technical, One-time inspection of swashplate control assembly for proper serialization and identification, 061900Z Aug 86.

OH-6-86-10, SOF, Operational, Aircraft with T63-A-700 engines, flight restrictions, 222300Z Aug 86.

CH-47-86-07, SOF, Maintenance Mandatory, Manual release for the forward hook, 041400Z Aug 86.

OH-58-86-04, SOF, Maintenance Mandatory, Clarification of MWO's and associated aircraft pubs, 191315Z Aug 86.

OH-58A-86-05, Operational, Aircraft

with T63-A-700 engines, flight restrictions, 222300Z Aug 86.

OH-58-86-06, SOF, Technical, One-time inspection of trans spt fittings, 271940Z Aug 86.

UH-60A-86-14, SOF, Technical, Clarification/changes concerning lever assembly, P/N 70900-02623-041, NSN 1560-01-083-6799, 051800Z Aug 86.

UH-60-86-15, SOF, Maintenance Mandatory, Revision to removal of AN310-8 nut, NSN 5310-00-167-1280, 191300Z Aug 86.

AH-1-86-14, SOF, Operational, Operation of aircraft in high wind, 292300Z Aug 86.

OV-1-86-03, SOF, Technical, One-time inspection of deice generators AGE-

121A, 051700Z Aug 86.
SOU-GEN-86-01, SOU, Operational, Tester exhaust gas temperature (JETCAL), NSN 4920-00-673-5514 Model BH 112JA-36, 051600Z Aug 86.
SOU-CH-47-86-01, SOU, T55 engine sling, NSN 1730-01-007-6990, 271940Z Aug 86.

AH-1-86-ME-05, Composite main rotor blade (K747) update, 122300Z Aug 86.
MIM-UH-1-86-ME-09, Component update No. 2, 201230Z Aug 86.

MIM-OH-58-86-ME-05, T-63-Engine, helical gear, 292100Z Aug 86.

MIM-UH-60-MEM-10, Inspection repair of droop stop nut, 051900Z Aug 86.

MIM-GEN-86-MEM-03, Advance notification of change to TM 55-1500-328-25, 301700Z Aug 86.

CAT 1 EIR Phone
AUTOVON 693-2066
(24 hours)

Secure the Oil Filler Cap

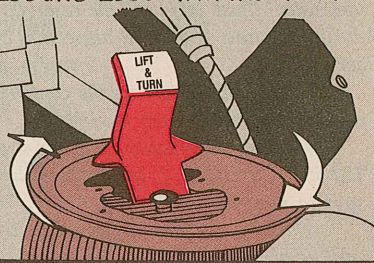
Putting your Black Hawk's engine oil filler cap on right can be a little tricky.

If you don't get the cap on right and tight, oil can be siphoned out during flight. If enough oil is lost, oil pressure will drop.

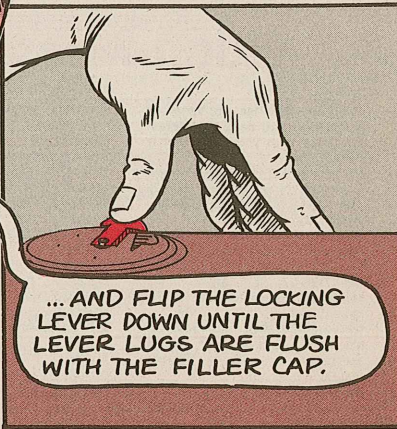
LOW OIL PRESSURE COULD ABOUT THE MISSION. MAKE SURE YOU ...

... SEAT THE CAP FIRMLY, POINTING THE LOCKING LEVER TOWARD THE ENGINE ACCESSORY GEAR BOX.

ROTATE THE CAP LOCKING LEVER CLOCKWISE TO ENGAGE THE LOCKING LUGS WITH THE TANK.



PULL UP ON THE LEVER. IF THE LUGS ARE ENGAGED, THE CAP WON'T BUDGE...

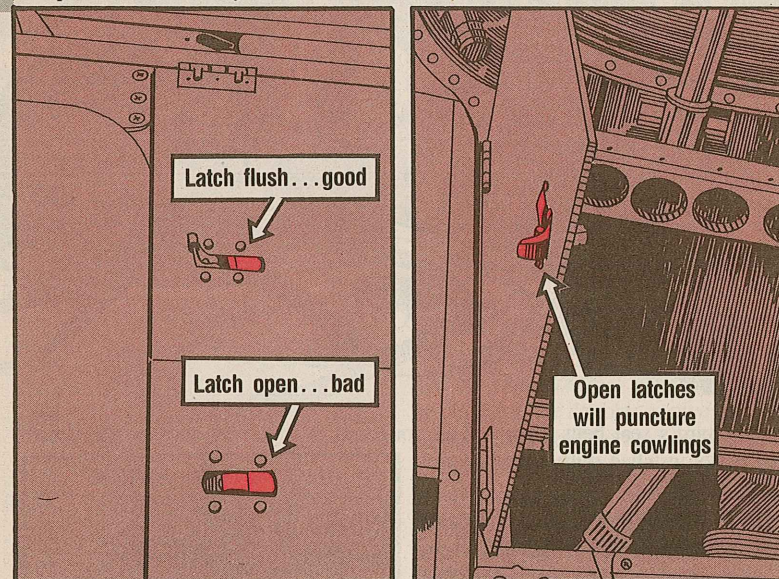


... AND FLIP THE LOCKING LEVER DOWN UNTIL THE LEVER LUGS ARE FLUSH WITH THE FILLER CAP.

Use Care for Unblemished Skin

NEVER GET CARELESS WHEN WORKING UP TOP. IF YOU DO, YOU COULD POKE A HOLE IN YOUR BIRDS THIN SKIN.

Take it easy, for example, when you open the oil cooler access door. The latches are flush with the airframe when the doors are closed. But when you pull the latches to open the doors, they stick out like a sore thumb.



If you let the doors swing open and fall free, the latches puncture the engine cowling. But the worst mistake would be to step on top of an open access door. Ouch! You can mash those latches right into the cowling.

If you're not sure where it's safe to step, eyeball Fig 1-5 of TM 55-1520-237-23-2 before you go topside again. It shows steps, handholds, walkways and "no step" areas.

The Seat Belt

Connection

WE'RE GOIN'
DOWN FAST!

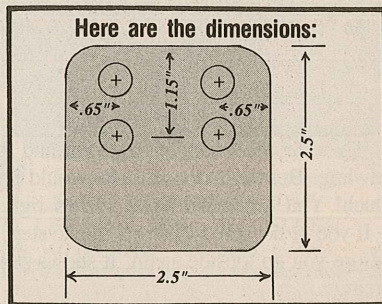
OMIGOSH!
MY SEAT BELT
JUST PULLED
LOOSE!

Your bird's seat belts keep you in your seat in the event of a crash. But if they're not installed right, they may not do the job.

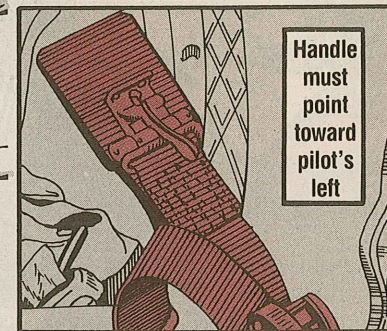
Here's how you can make sure the seat belts hold fast in an emergency:

Install doublers on the seat panel. This protects the panel against punctures and scratches by seat belt hardware. Make the doublers from 0.040-in aluminum alloy or 0.032-in stainless steel sheet. Cut a 2 to 2½-in square of whichever material you choose.

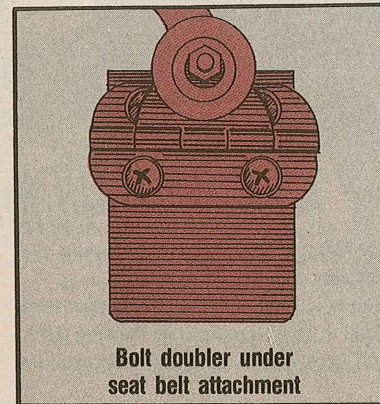
Here are the dimensions:



Next, put the seat belts on so that the release handle points to the pilot's left when he's seated.



Either bond the doublers in place using adhesive, NSN 8040-00-016-8662, or attach them to the seat panel under the seat belt hinges using the hinge bolts. If you bolt them on, mark and drill four



holes in each doubler to match the seat belt mounting holes.

Attach one belt fitting to each seat panel hinge support. Be sure to install the hardware like it shows in Fig 2-7a of TM 55-1520-228-23-1. The nut should be closest to the doubler to give the belt the strength it needs to hold under stress.

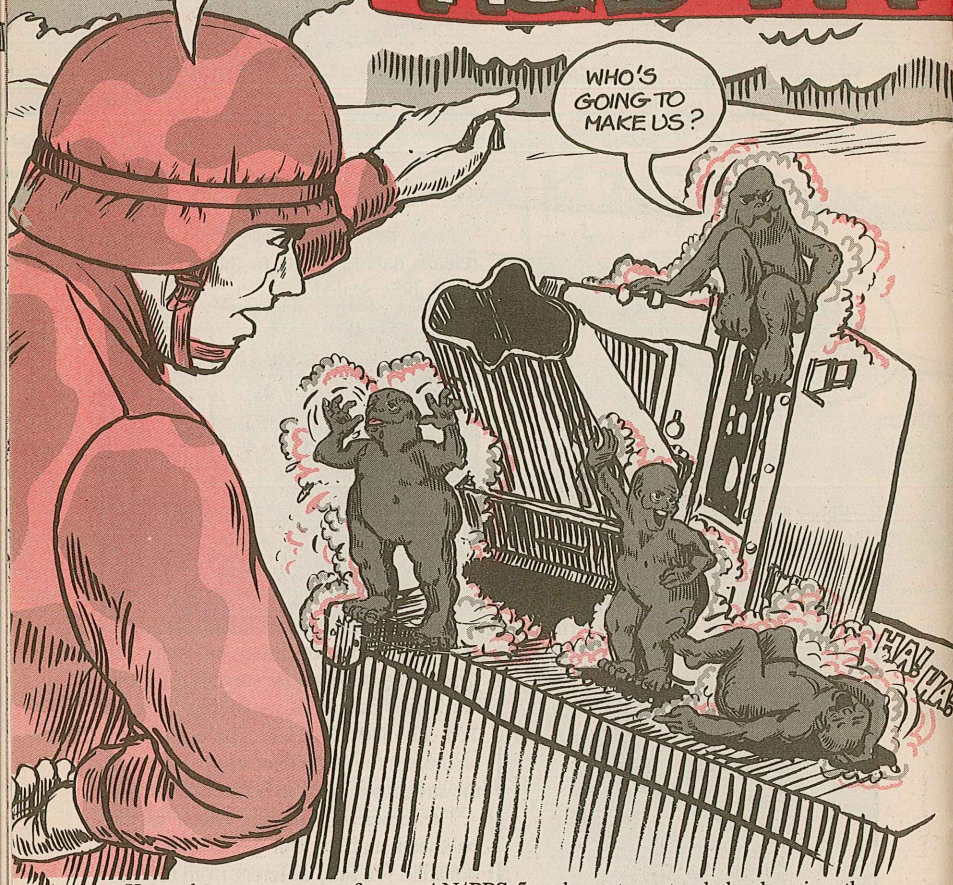
The other belt fittings attach to the bulkhead support. But the hardware installation is a little different from the seat panel hardware, so pay close attention to the stackup in Fig 2-7a.

If you put the bolts in the wrong way, the armor panel will bind on the nut and cause the panel hinge to loosen. Proper installation will keep the hinge—and the aviator—in one piece during hard landings.

Make PM a Pipsy-5 Must

YOU GUYS BETTER SCAT! I DON'T WANT DIRT DOIN' IN MY SET!

WHO'S GOING TO MAKE US?

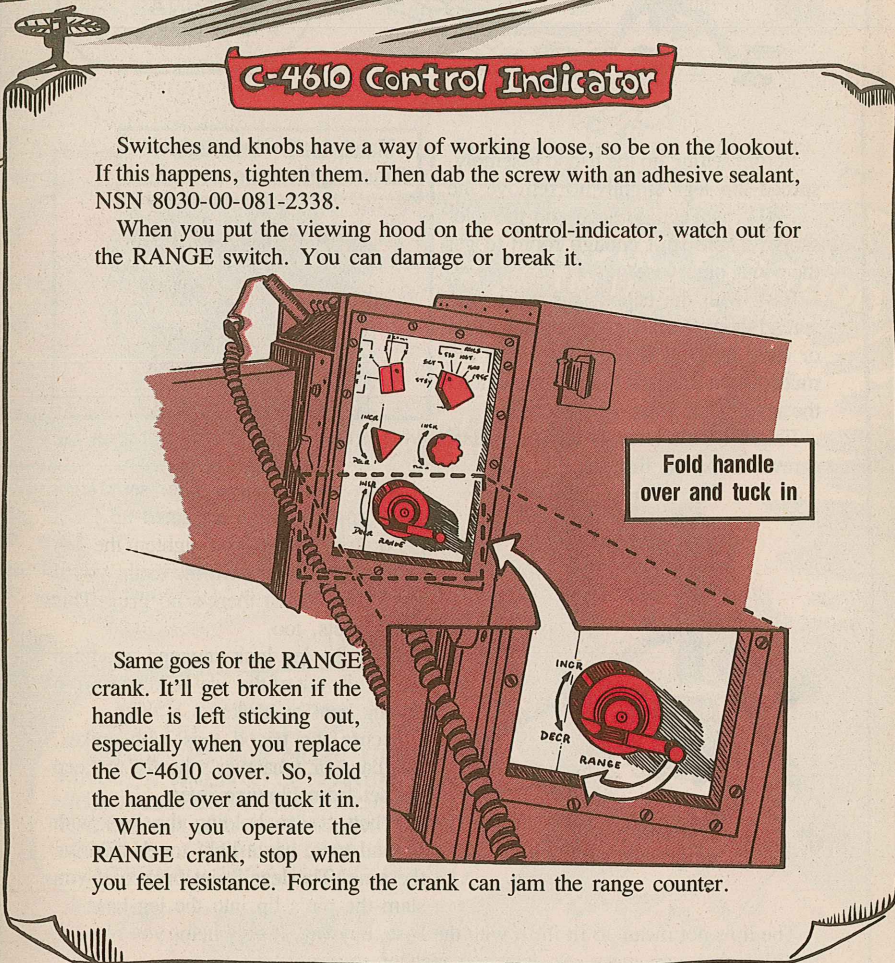


Keep the movements of your AN/PPS-5 radar set on track by keeping the guesswork out of PM on the Pipsy's movements.

Keep switches and knobs snug so they'll stay put. Tighten loose screws that hold those moving parts. Check the screws from time to time to make sure they are tight.

If dirt or dust gangs up on your set, get rid of it. It has a way of working into moving parts, causing them to bind.

Use silicone grease, NSN 6850-00-880-7616, on exposed gaskets and the access door rubber to protect circuitry from dirt and moisture.



Switches and knobs have a way of working loose, so be on the lookout. If this happens, tighten them. Then dab the screw with an adhesive sealant, NSN 8030-00-081-2338.

When you put the viewing hood on the control-indicator, watch out for the RANGE switch. You can damage or break it.

Same goes for the RANGE crank. It'll get broken if the handle is left sticking out, especially when you replace the C-4610 cover. So, fold the handle over and tuck it in.

When you operate the RANGE crank, stop when you feel resistance. Forcing the crank can jam the range counter.

MT-2958 Tripod Assembly

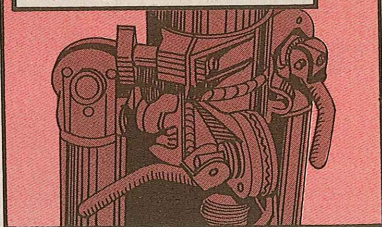


Before setting up the tripod assembly, spread the legs slightly to remove the AS-2024 waveguide horn and the telescope. There isn't enough room to get them out otherwise.

Easy with the tripod legs when you spread them. You can bust up the rivets or bend the legs if you spread 'em too much. Then it's hard to retract or extend the legs. This limits operations.

Finger-tight's enough for the collar's wingscrew. Too much twisting on the screws strips the threads.

Match teeth—then tighten.
Finger tight's snug enough...



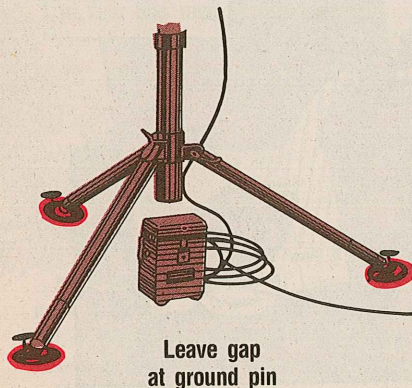
After you've spread your set's legs, make sure the teeth are lined up for a good grip before you tighten the leg locks. If you mismatch the teeth, you'll chip them. Then there's no grip. This ruins rivets, too.

With the leg lock snugged up, push the handle out of the way to keep it from getting bent or broken.

Secure the tripod legs with spikes, sandbags or whatever's handy to keep the set from blowing over.

When you're holding the legs with ground pins, use a light touch to drive the pins. The legs'll get broken if you slam the pin's lip into the leg base.

The lip's not meant to fit flush with the base, anyway. It only helps you remove the pin when you move. So leave an inch or so gap.



Leave gap
at ground pin

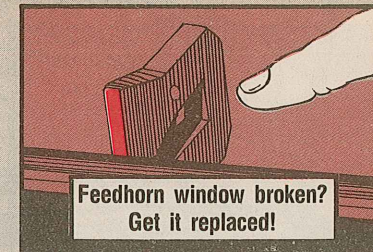
More PM Tips

Take care of the feedhorn's windows on each end. They must be intact. They let RF energy pass and keep out dirt and moisture.

Treat them with tender care, but if you accidentally break one, get it replaced.

Handle that BB-622 battery carefully. Rough handling punctures cells, kills the battery and maybe injures you... from splashing electrolyte.

Take heed of the sign on the antenna... **DO NOT PAINT.** Paint changes the electrical response of the antenna and gives you wrong readings.



Never lube the Pipsy-5's gears. Since the gears are plated, no grease, graphite or the like is needed. Lubing gears causes them to bind and knock out your set.

Believe that **warning** on electromagnetic radiation
on page A B in change 2 of TM 11-5840-298-12

NEVER STAND CLOSER THAN TWO FEET IN FRONT OF THE RADAR SET FOR MORE THAN TEN MINUTES WHEN IT'S TRANSMITTING! HIGH FREQUENCY ELECTROMAGNETIC RADIATION CAN CAUSE FATAL INTERNAL BURNS. IT CAN LITERALLY "COOK" INTERNAL ORGANS AND FLESH!

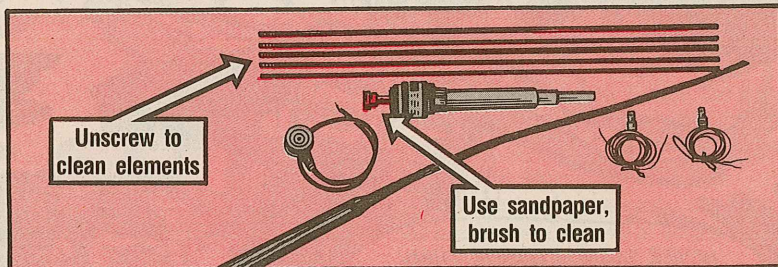


Prevent Antenna Rust



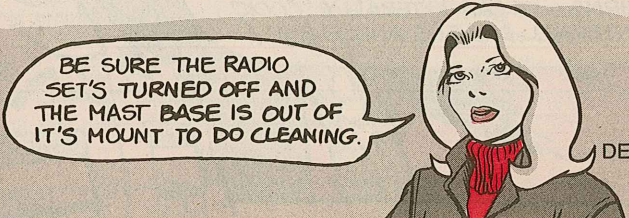
Rust and corrosion can zap your radio in a hurry if it's not detected early. Eyeball the antenna from top to bottom. If there's rust on the base, chances are it's worked its way inside the contact. If the signal can't get out, it'll damage the AM-3349 amplifier.

Head off this kind of radio silence—clean the base contact with sandpaper or a small brush, like the one in your weapon cleaning kit. Coat the brush with cleaning compound, NSN 6850-00-105-3084, to clean the **inside** of the contact.



Use sandpaper or a brush to clean the outside. Then coat the area with silicone compound, NSN 6850-00-880-7616.

Finally, unscrew the antenna elements and rub the mating ends with a polishing cloth, NSN 7920-00-985-6849, to get a clean connection.



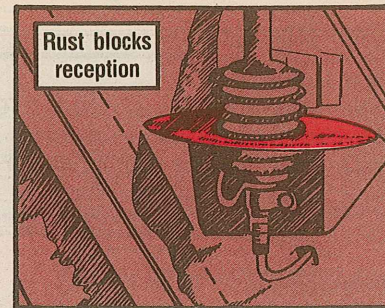
Rid AB-15 of Rust

With rust on your vehicle's AB-15 mast base, chances are that moisture has settled in the bowl.

Moisture rusts the receptacle connector screw. Rust insulates the antenna and blocks radio reception.

Stop dampness buildup. Take the base apart and dry out the bowl as often as necessary.

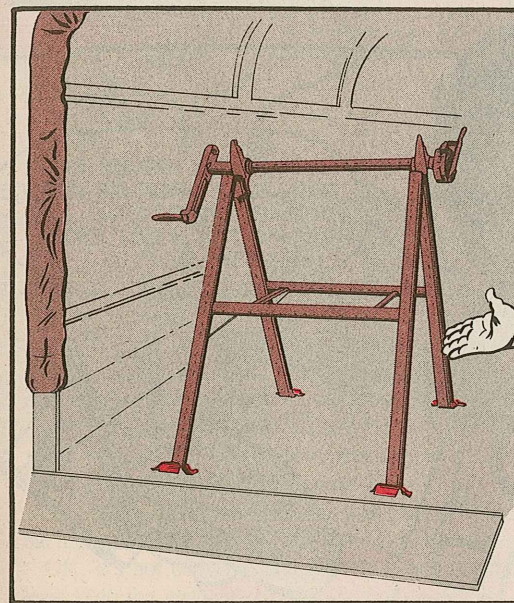
If you see cracks or other damage to the bowl, get your repairman to replace it.



Strap Reel In

If your RL-31 reel unit topples over when it's used in a vehicle, snug it down. Here's how:

Fasten retaining straps, NSN 5340-00-128-9610, to the vehicle. Then slip the edge of the reel's legs under the straps.



Easy on the Knob!

Dear Half-Mast,

Sometimes the **SELECTOR SWITCH** knob on top of the generator's distribution box is broken during an FTX. Do we replace the distribution box, or can we get another knob?

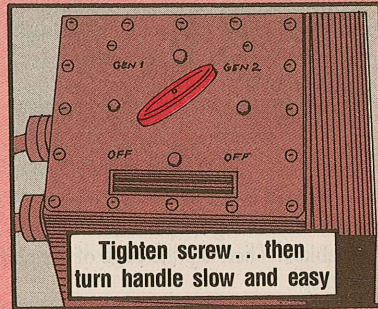
SP4 P. W.

Dear Specialist P. W.,

Get the knob, with NSN 5355-01-166-3672.

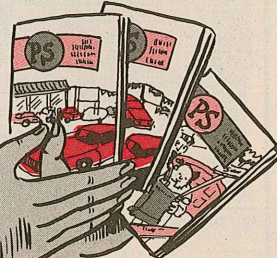
To make the knob last longer, tighten the screw when the knob's loose. Also, grip the knob firmly when turning it—then pause for a moment at each switch setting. Flipping the stiff rotary switch through the settings puts a strain on the knob.

Half-Mast

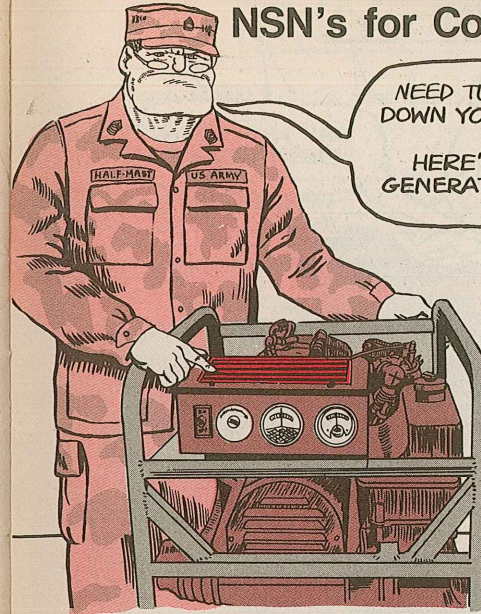


Tighten screw... then
turn handle slow and easy

NEED BACK ISSUES OF
PS? JUST DROP ME ANOTE
c/o PS MAGAZINE
LEXINGTON, KENTUCKY
40511-5101.



NSN's for Cover Fasteners



NEED TURNLOCK FASTENERS TO HOLD
DOWN YOUR GENERATOR'S CONTROL
BOX COVER?
HERE'S WHAT YOU NEED FOR
GENERATORS MADE BEFORE APRIL 1979:

Item	NSN
Turnlock stud	5325-00-432-9796
Split washer	5310-00-822-8525
Lock washer	5310-00-845-7769
Turn receptacle	5325-00-282-7471

Check the date of manufacture on your generator's data plate. If it was manufactured **after** 1979, the hardware is listed in TM 5-6115-323-24P for 1.5-KW and in TM 5-6115-271-24P for 3-KW generators.

Hosing Woes

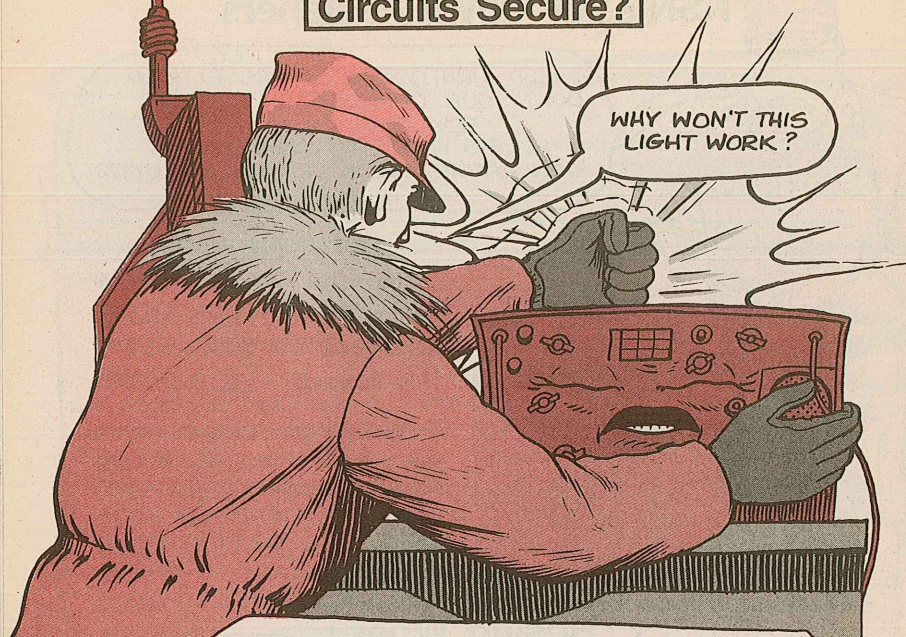


The high-pressure jet of water that knocks field crud off your vehicle will also knock the life out of your commo gear.

That gear is water-resistant, not waterproof. That means raindrops won't hurt it, but high-pressure water will. It'll force its way past gaskets and corrode what's inside.

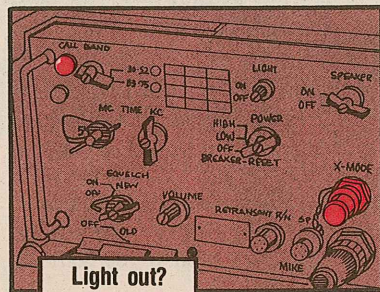
OK, it's not convenient to remove a radio at the wash rack. If you don't, at least keep the water away from commo gear.

Circuits Secure?



Use your eyes and ears to make sure your AN/VRC-12-series receiver-transmitter is ready to operate in secure circuits.

Switch on your RT-524 or -246. Turn the light switch ON and the squelch to OLD ON.



Light out?
Check X-mode

Then take off the X-mode cover. If the CALL lamp lights, your circuits are secure.

If the lamp fails to light, you have either an insecure circuit or a bad lamp. Here's how to tell:

- Turn the receiver-transmitter OFF.
- Replace the X-mode cover.
- Set the squelch to NEW OFF and turn the RT on.

You'll hear a rushing sound.

- Take off the cover. If the rushing sound stops, your circuits are secure and you'll only have to replace the lamp. If it keeps making the sound, get your support to adjust the RT.

Be sure to put the cover on the X-mode plug when you're not using secured circuits, like it says on Page 2-5 of TM 11-5820-401-10-1.

18,000 BTU Conditioners

Some 18,000 BTU air conditioners have clutches containing mercury and need special turn-in procedures when you replace the unit.

HERE ARE THE NSN's OF THE CULPRITS:

4120-00-759-2632	4120-00-168-2044
-935-5367	-406-3222
-679-1339	-230-2772
-926-1203	-606-8909

See your Defense Reutilization and Marketing Office (DRMO) or your TROSCOM LAR for details.



M1950 Yukon Heater...

No Extra Extensions

The tapered stack of the M1950 was not made to be extended beyond its normal length.

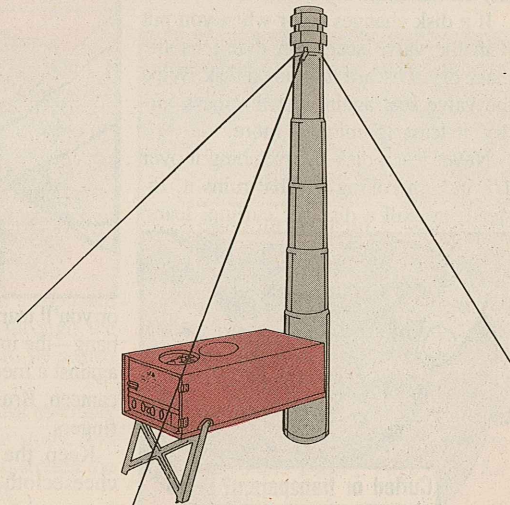
Extra extensions can:

- Leak carbon monoxide.
- Fall and set fire to your tent.

- Prevent the use of the draft diverter. Sparks will fly. Your tent can catch fire.

Use the M1950 only in tents that need a stack of 8 feet or less.

If you need more stack, use the M1941 Type I or II heater.



Unmasking Mask Problems

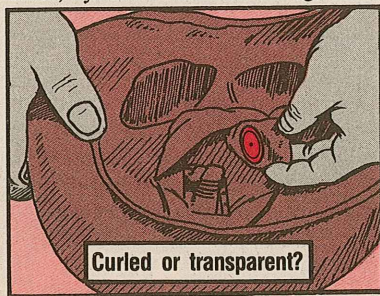
Follow these tips, operators, for seeing clear and breathing easy in your M17-series mask:

After washing, wait for your mask to dry completely before installing valve disks or moisture will ruin them. Bad disks make it hard to draw air... and trapped air fogs up eyelenses.

After washing the mask, swing it briskly to shake out water. Dry it thoroughly with cheesecloth, NSN 8305-00-222-2423. Let the mask air-dry for at least 1 hour.

If a disk changes color when you put it in the valve seat, you didn't let the mask dry. Discard the ruined disk. Wipe the valve seat again. Let the mask air-dry at least 15 minutes more.

Never test a disk by stretching it over 1/8 inch or rolling it. That ruins it. Instead, eyeball a disk for curling, tears,

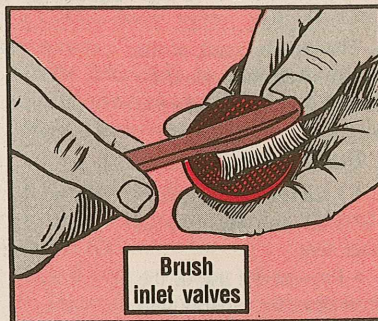


Curled or transparent?

creases, dirt, or cracks—all reasons for replacement. If you can see through it, a disk is bad, too.

Unplugging Valves

Help the inlet valves breathe by cleaning them with your M16A1 rifle toothbrush, NSN 1005-00-494-6602. Lightly brush the valves' matting—not too hard



Brush inlet valves

or you'll tear the matting off. Tap—don't bang—the inside (disk side) of the valve against a medium hard surface like your canteen. Brush away any gunk with your fingers.

Keep the outlet valves clean with cheesecloth. Remove dust or debris from outlet valves with a damp cheese-

IF THIS GUY DIDN'T CLEAN ME RIGHT THIS TIME, I'M REALLY GOING TO BE SICK!



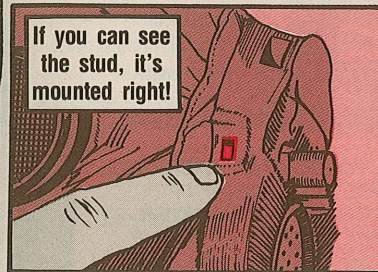
I KNOW... MY GUY DIDN'T DRY ME RIGHT LAST TIME. SO HERE I AM AGAIN!

cloth. Never use paper to wipe away moisture—it can break and lodge in the valve.

Use only clean cheesecloth to clean eyelenses. Coarse cloth scratches eyelenses, blurring your vision.

Mounting It Right

When installing the voicemitter-outlet valve assembly cover, put it fully on the two side mounting studs. Otherwise, the

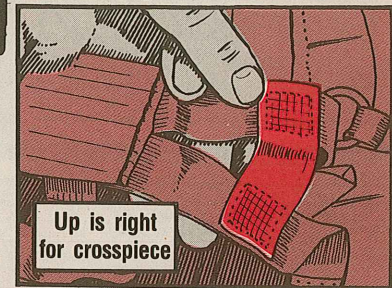


If you can see the stud, it's mounted right!

cover will work loose. If it's mounted right, you'll see the studs through the cover's holes and the lip will be seated around the rim.

If the voicemitter-outlet valve assembly cover refuses to go over the studs, wet the studs. With your thumbs, stretch the cover's holes over the studs.

If your mask doesn't fit after you've put it back together, check the harness.



Up is right for crosspiece

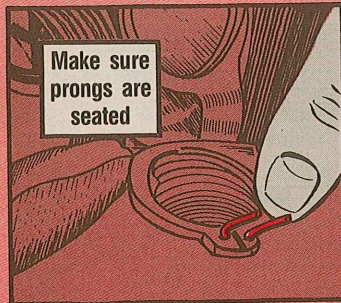
You may have it upside-down. The harness crosspiece should be at the top of the mask.



Strap tip chipped? Tell your NBC NCO

Watch for chipped paint on the metal tips of straps. Chipped tips rot mask rubber. Your NBC NCO can touch up chipped tips with black lacquer, NSN 8010-00-085-0559 or he can cannibalize tips from old, unserviceable straps. See TM 3-4240-279-20&P, Page 2-9, for the procedure.

If you use an optical insert, always make sure the insert's prongs are fully seated before you put it on. That can save a nasty poke in the eye.



Make sure prongs are seated

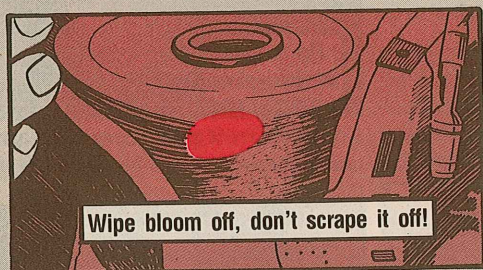
Loosen First

When you're ready to take your mask off, first loosen the



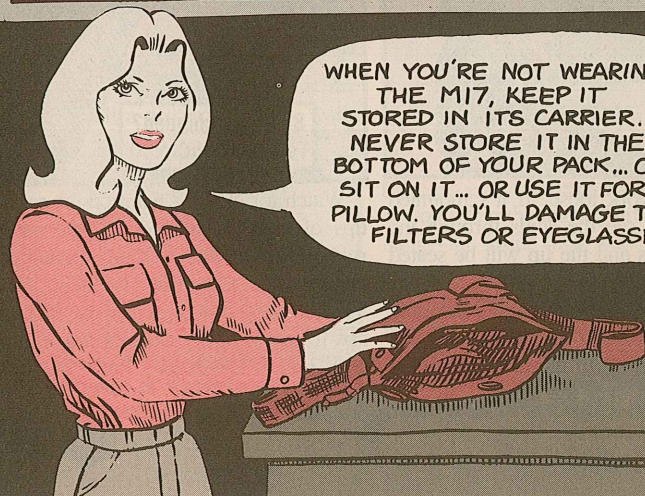
Loosen cheek strap before taking off mask

cheek straps. If you pull the mask off again and again without loosening straps, the straps lose their snap. The whole harness has to be replaced.



Wipe bloom off, don't scrape it off!

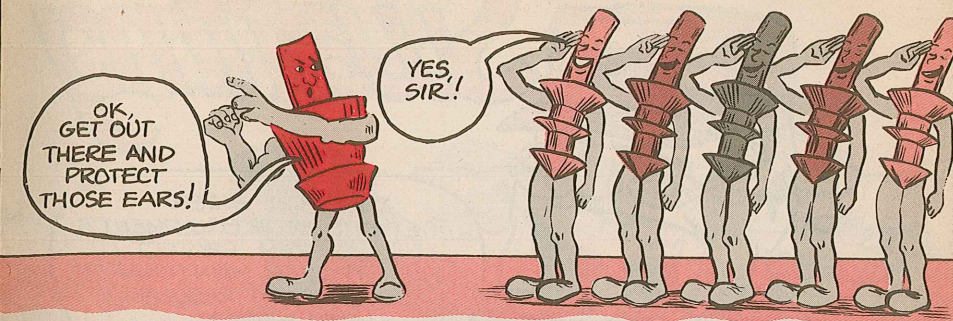
Remember, it's OK for your mask to "bloom". That white or rust-colored film on facepiece rubber is rubber preservative, not dry rot. Just wipe bloom off gently. Never scrape it off. You'll damage the mask.



WHEN YOU'RE NOT WEARING THE M17, KEEP IT STORED IN ITS CARRIER. NEVER STORE IT IN THE BOTTOM OF YOUR PACK... OR SIT ON IT... OR USE IT FOR A PILLOW. YOU'LL DAMAGE THE FILTERS OR EYEGLASSES.

PS END

Hearing Protectors—The PM for Hearing



Real soldiers don't need hearing protection, right? They just keep working in loud noise until their ears get tough, right?

WRONG! Your ears can't get tough—they get deaf. If your hearing's already bad, it keeps getting worse if you don't use protection. And there's no way to reverse the damage.

Preventive maintenance is the only way to keep your hearing sharp. If you're working in a noisy area, or your TM says to wear hearing protection when operating your equipment, wear your earplugs, muffs or ear canal caps. Even if the noise doesn't seem loud, it can cause damage.

Remember, somebody with lots of know-how tested for dangerous noise levels before deciding hearing protection was needed.

Sometimes you're told what type of hearing protection to use. If not—unless a medic has told you not to wear a certain kind—you have a variety of choices.

Preformed, permanent-type earplugs—triple-, or single-flange—are fitted by a medic and issued to you. NSN 6510-01-100-1674 gets a box of 30 carrying cases. Each case comes with a gadget to help you get triple-flange plugs into your ears.

Disposable plugs come in foam or silicone-rubber. Get them with these NSN's:

Type	Quantity	NSN 6515-00-
Silicone	200 (100 pr)	133-5416
	48 (24 pr)	135-2612
Foam	400 (200 pr)	137-6345

Get ear muffs with NSN 4240-00-022-2946. Ear canal caps are NSN 6515-01-149-4133.

A medic can answer questions about the proper use of earplugs and muffs. Training Film (TF) 8-4602, Prevention of Hearing Loss, is available for loan through your local audiovisual support center or training office.

Swatting



Water in your equipment's fuel system is like flies at a picnic.

BOTH ARE BAD FOR HEALTH—your engine's health in the case of water. Water in diesel fuel makes a home for microbes—a living black slime that plugs fuel filters. Water freezes in fuel filters—fuel can't get through. Water rusts finely machined parts in the fuel injector pump. Water turns to steam in fuel injectors—and can blast off the tips.

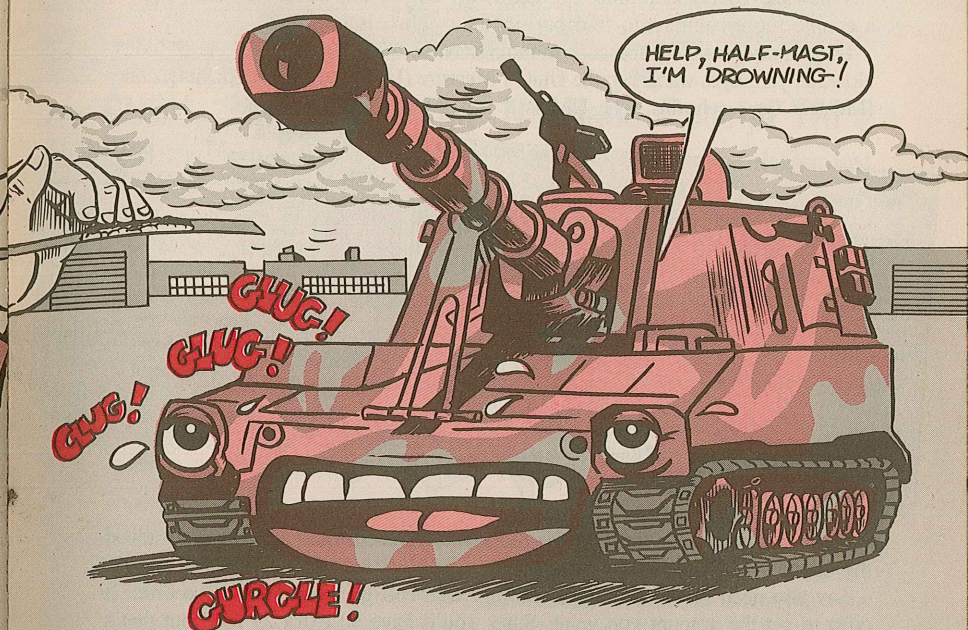
FLIES AND WATER can't be completely eliminated—and there's always more where they came from. Water in your fuel usually comes from moisture in the air. There's air in your fuel tank. Moisture condenses and becomes water.

YOU CAN SWAT FLIES, and you can hold water down to a problem your equipment can live with. All it takes is a little effort on your part.

Keep your fuel tank filled to the full mark. This allows less space for moist air.

In cold weather, use icing inhibitor to keep water from freezing in your fuel system. For diesel fuel, use inhibitor NSN 6850-00-753-5061 (5 gallons) or NSN

Water



6850-00-060-5312 (55 gallons). Icing inhibitor for gasoline is NSN 6810-00-597-3608 (1 gallon) and NSN 6810-00-275-6010 (5 gallons).

For either diesel fuel or gasoline, use 1 pint of inhibitor to 40 gallons of fuel. Put the inhibitor in the tank before refueling so they'll mix.

Drain fuel filters. Drain exactly when and how your operator's TM tells you to. This is the best way to fight water in the fuel. Water sucked out of the fuel tank is stopped by the fuel filters—unless you let the filters overload with water.

A lot of water from the filters means there's a lot of water in the fuel tank. Report it—get the tank drained.

If there's a straight drop from the filler opening to the bottom of the fuel tank, check for water by using water indicating paste, NSN 6850-00-001-4194 (3 ounces) or NSN 6850-00-001-4193 (2½ ounces). Smear paste on a clean stick or rod. Insert the stick or rod until it touches the bottom of the tank. Check to see if the paste changed color. A color change shows water. Get your tank drained.

Water indicating paste is authorized by Appendix A of CTA 50-970.

STE/ICE
is a

Fortuneteller

It Tells What's
Ailing Your
Engine
NOW...

... and What'll
cripple your
Engine
LATER

