Issue 448

PS

March 1990

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-448

For Care and Feeding of a Monster . . .
See Page 2

Antennas...

Steer Away from Power Lines

When your vehicle's on the move, make sure the antenna is tied down.

That means combat vehicle antennas, for sure. They stand tall where a loose whip can easily contact an electrical power line.

The power in those high voltage overhead lines can burn up your gear or fry you—or both.

Save your equipment and yourself from a shocking experience by being safe.

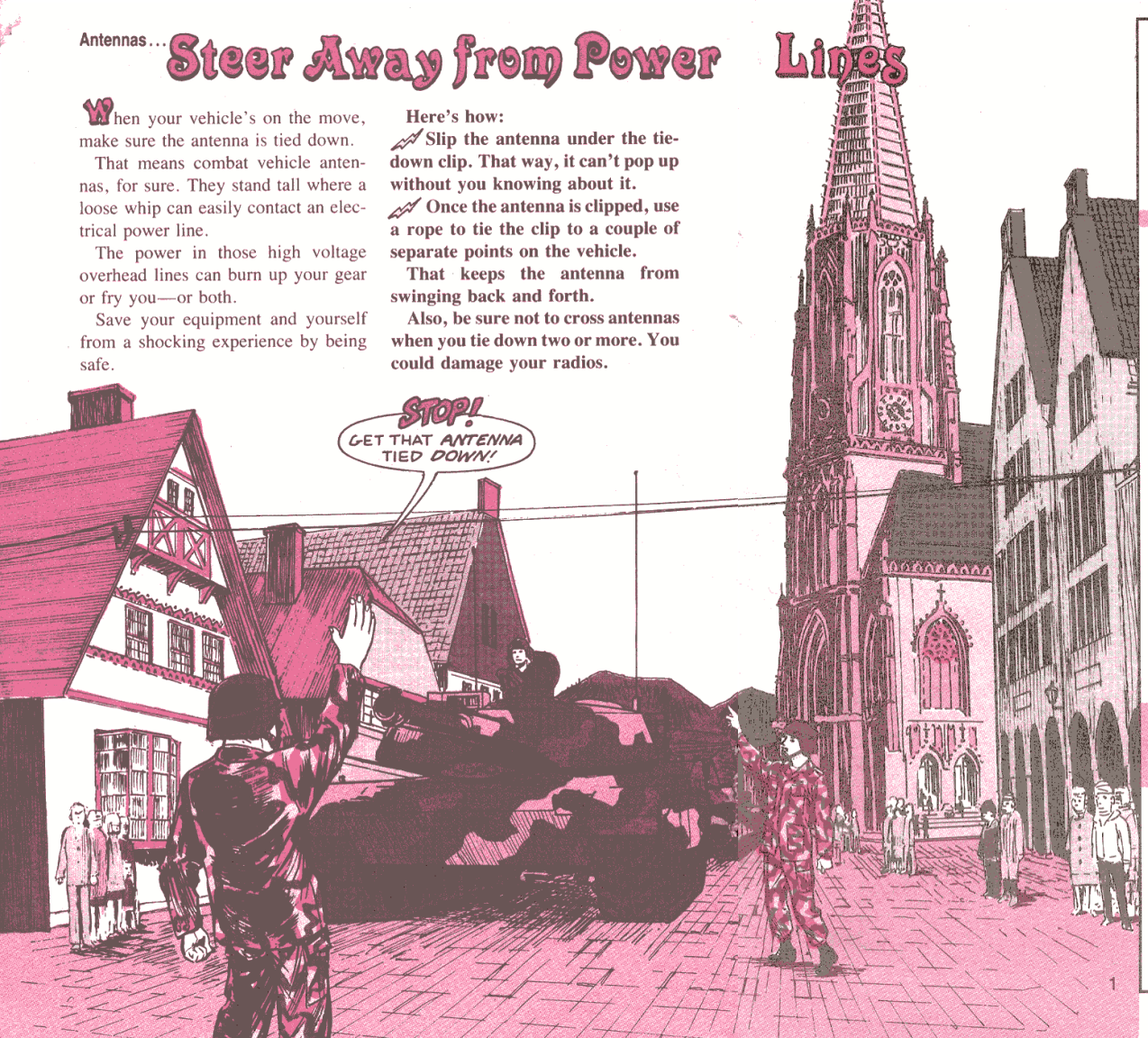
Here's how:

Slip the antenna under the tie-down clip. That way, it can't pop up without you knowing about it.

Once the antenna is clipped, use a rope to tie the clip to a couple of separate points on the vehicle.

That keeps the antenna from swinging back and forth.

Also, be sure not to cross antennas when you tie down two or more. You could damage your radios.



PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-448, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

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

MSG Half-Mast
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CARL E. VUONO
General, United States Army
Chief of Staff

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

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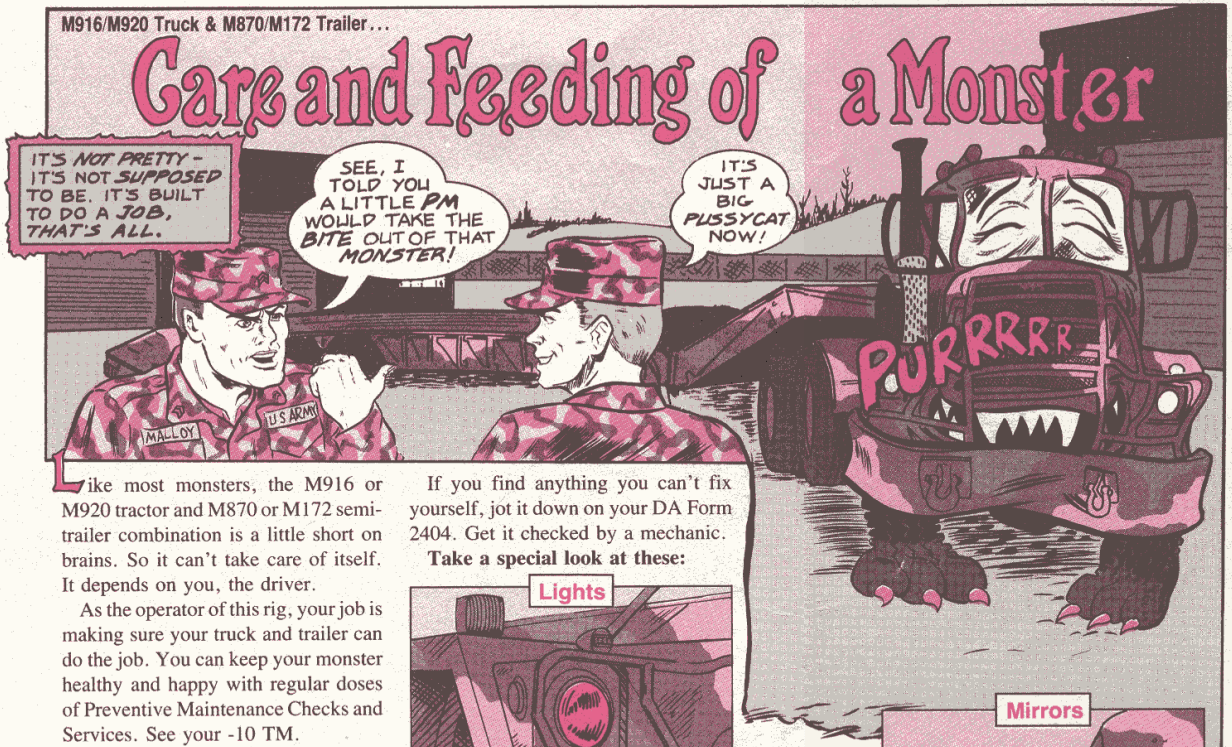
Care and Feeding of a Monster



Like most monsters, the M916 or M920 tractor and M870 or M172 semi-trailer combination is a little short on brains. So it can't take care of itself. It depends on you, the driver.

As the operator of this rig, your job is making sure your truck and trailer can do the job. You can keep your monster healthy and happy with regular doses of Preventive Maintenance Checks and Services. See your -10 TM.

Start looking for trouble as soon as you set eyes on your rig.

Leaning to one side? Could be a broken spring.

Low on one corner? Look for a flat tire.

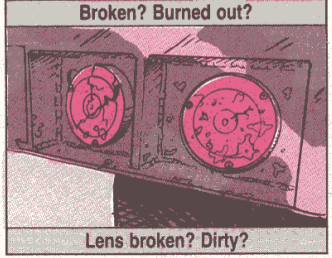
Eyeball the beast all over as you close in. Walk all around the critter, checking the top, sides, and underneath. Look for wet spots . . . dangling wires . . . broken or missing parts . . . things that grab your eye.

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

Take a special look at these:

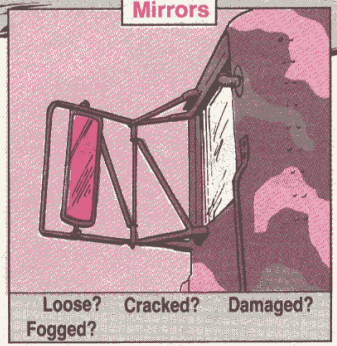
Lights

Broken? Burned out?



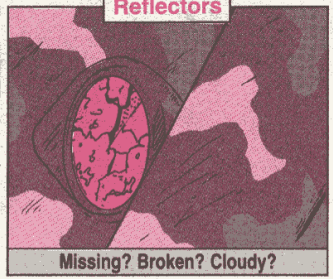
Lens broken? Dirty?

Mirrors



Loose? Cracked? Damaged? Fogged?

Reflectors



Missing? Broken? Cloudy?

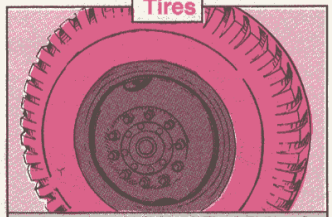
Windshield and Windows

Cracked? Chipped? Scarred? Broken? Leaking?

Windshield Wipers

Bent? Blade worn or missing?

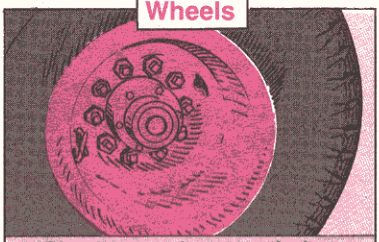
Tires



Any missing? Low? Flat? Bulges? Cuts? Cracks? Worn unevenly? Valve caps missing? Nails or glass in tread? Bald?

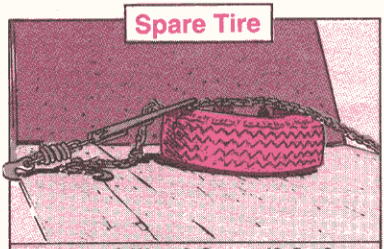
PS MORE

Wheels



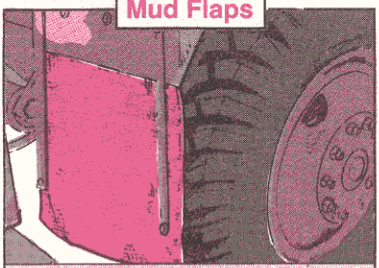
Rim clamps or lug nuts missing or loose?

Spare Tire



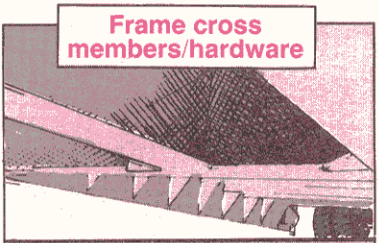
Loose? Worn? Gouged? Cut?

Mud Flaps



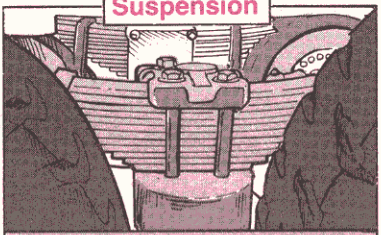
Torn? Missing? Bolts gone?

Frame cross members/hardware



Cracked? Broken welds? Metal corroded? Rivets or bolts loose/ missing? Pins gone?

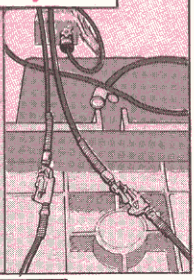
Suspension



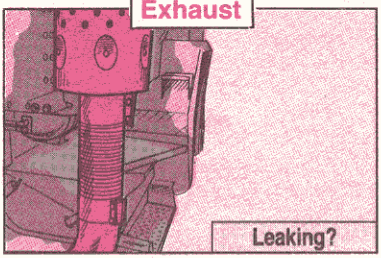
Broken springs? Loose bolts or hardware? Axles bent or out of alignment?

Electrical System

Loose wires? Ends frayed? Connections corroded? Cracked or broken insulation? Couplers, quick disconnects, plugs, and receptacles loose —or dirty? Lights not working?

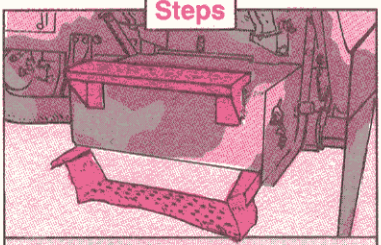


Exhaust



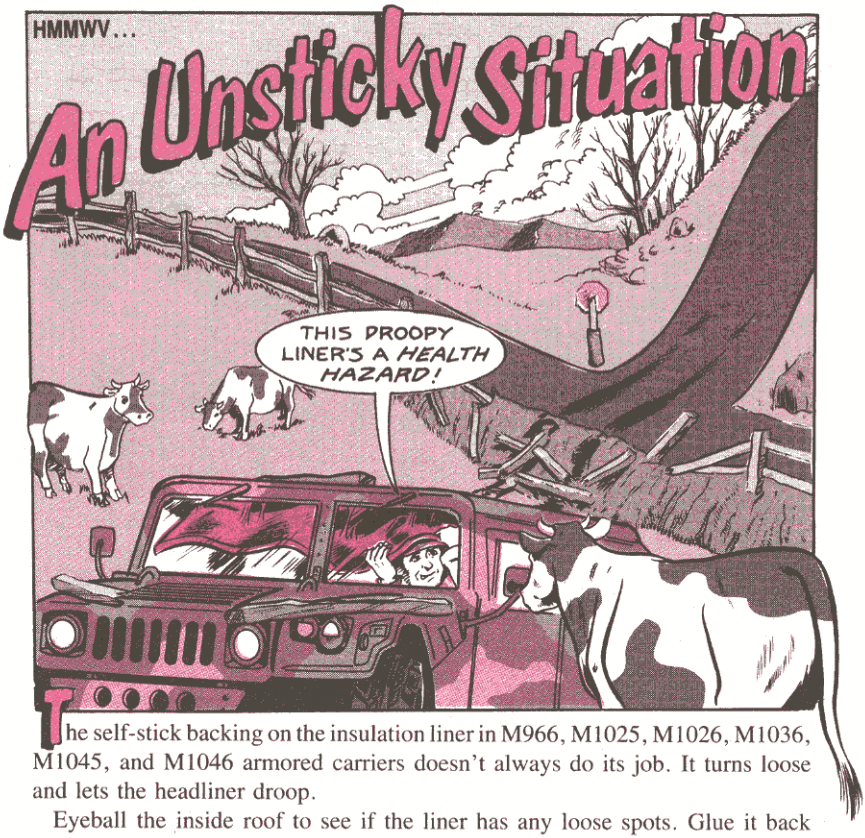
Leaking?

Steps



Broken? Loose? Gone? Ripped?

P.S END



The self-stick backing on the insulation liner in M966, M1025, M1026, M1036, M1045, and M1046 armored carriers doesn't always do its job. It turns loose and lets the headliner droop.

Eyeball the inside roof to see if the liner has any loose spots. Glue it back with primer coating, NSN 8010-01-040-0947. Hold the liner against the roof for about 3 minutes while the primer dries.

The NSN's for the four sections of liner are not listed in TM 9-2320-289-20P.

Here they are:

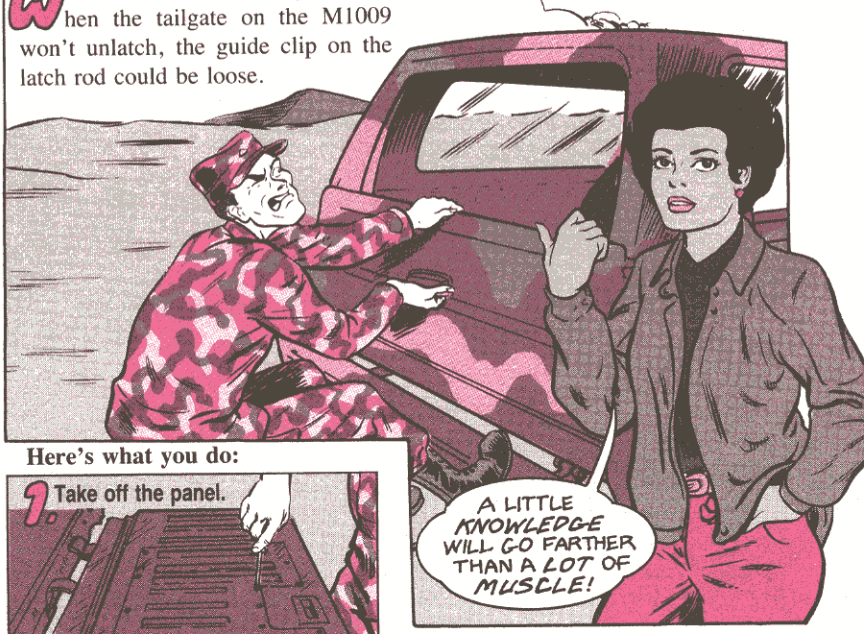
Liner	NSN
Left Front	2590-01-205-2506
Left Back	2510-01-205-2507
Right Front	2510-01-203-9873
Right Back	2510-01-203-9872

Before you install the liner, spray primer coating on the roof to make sure the liner stays put.

CUCV Blazer...

LATCH CATCH

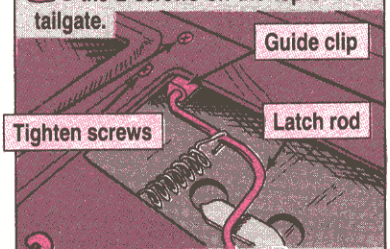
When the tailgate on the M1009 won't unlatch, the guide clip on the latch rod could be loose.



Here's what you do:

1. Take off the panel.

2. Tighten the clip by snugging up the 2 screws on the top of the tailgate.



3. The latch rod should slide freely through the guide clip. If it doesn't, the rod could be bent. Straighten it out.

4. Close the door and try the latch.

5. If the latch still won't open, the rod support bracket could be bent. The bracket's hard to reach so straighten it by putting a long punch on it and tapping with a hammer.

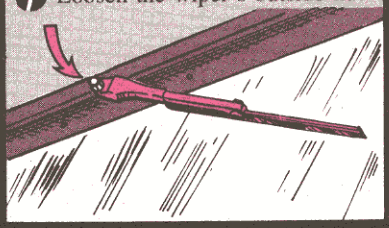
Wiper Blade Adjustment

WHEN THE WINDSHIELD WIPER BLADES COME TO REST ON THE 5-TON TRUCKS, THEY CAN STOP IN FRONT OF THE DRIVER OR PASSENGER.

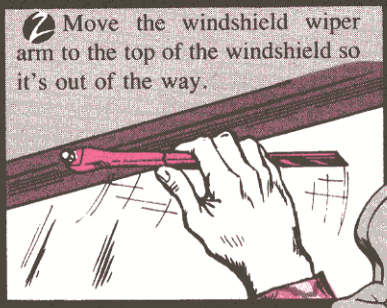
WITH A SMALL ADJUSTMENT, YOU CAN MOVE THE BLADE OUT OF THE DRIVER'S VIEW.

Here's how:

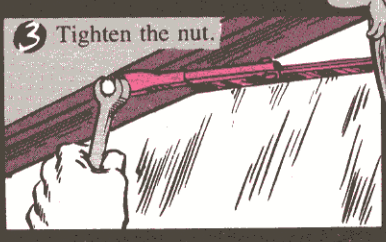
1. Loosen the wiper's outside nut.



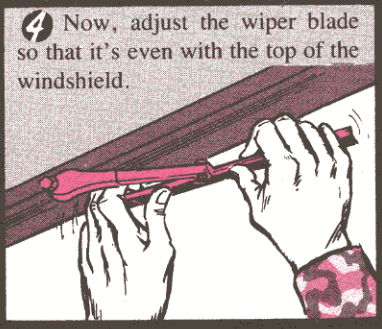
2. Move the windshield wiper arm to the top of the windshield so it's out of the way.



3. Tighten the nut.



4. Now, adjust the wiper blade so that it's even with the top of the windshield.



M939-Series Trucks...

Leaky Air Tank Gets Fix

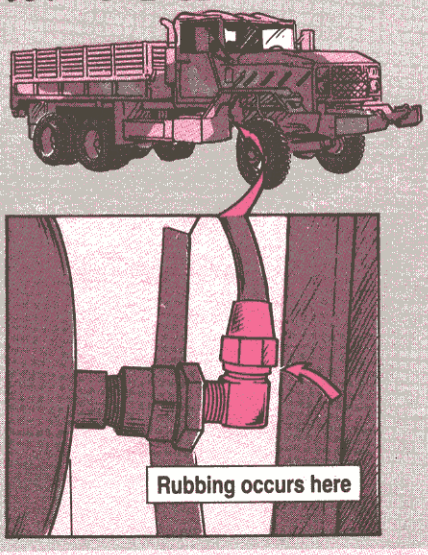
Seems some of these trucks were put together with the air tank so close to the splash guard that the elbow on the lower front air tank rubs on the guard.

In some cases, the straps loosen and the tank slides forward.

The result's the same: Enough rubbing wears a hole in the elbow and air leaks out. That's deadly!

To make sure the air stays inside, eyeball the elbow on the front of the tank during each scheduled service.

There needs to be at least a 2 inch clearance between the elbow and the guard. That's about 3 fingers wide. If not, move the tank back.



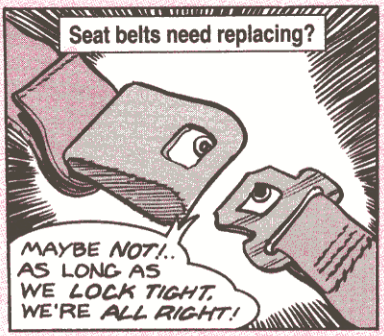
Wheeled Vehicles...

No Deal on Seat Belts

You're betting someone's life on a dead man's hand, if you cannibalize parts for a seat belt.

The male and female halves in each belt come as a pair. They're made for each other. If one breaks, replace both halves, or the lock-and-release mechanism might not work right.

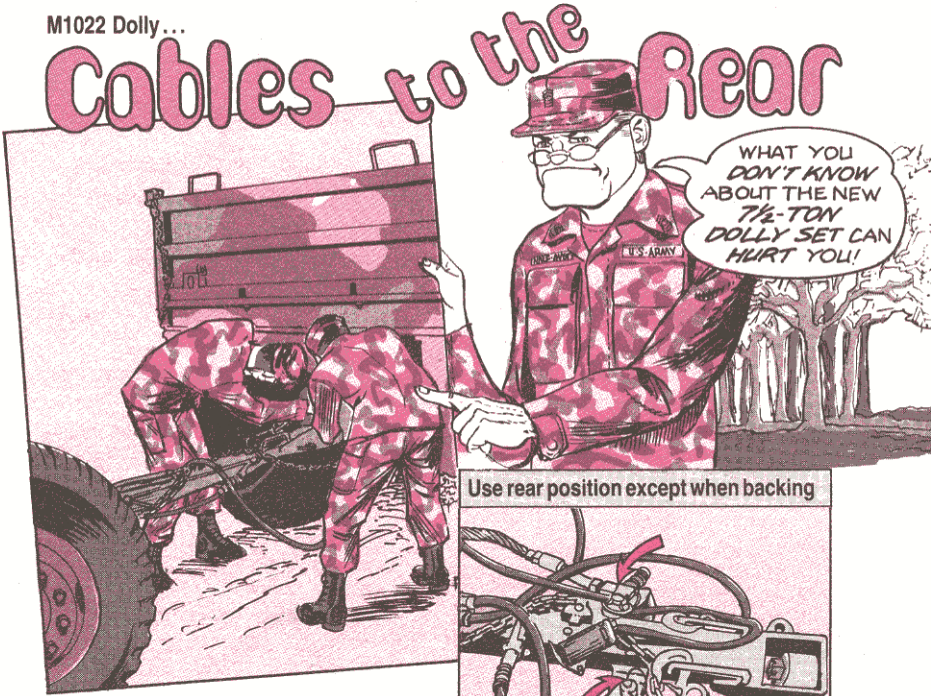
A pair always beats one-of-a-kind. That's true in poker and seat belts.



Cosmetic damage, like cracks in plastic covers, do not make seat belts unserviceable. Make sure seat belts need replacing before you replace them.

M1022 Dolly...

Cables to the Rear



TM 9-2330-379-14&P does not warn you about the restraining cables.

There are two mounting positions for the cables on the dolly's tongue. The front position is used only when you back the dolly. The rear position is used the rest of the time.

Unhook the dolly from the tow vehicle before you raise or lower the load. Otherwise, you'll bend the wheel caster assembly.

If you hook the cables in the forward position, they snap the tongue straight up when you lift the load. The force of a 15,000-lb load means you could be seriously hurt, if you're in the way of the flying tongue.

Always—every time you hook up—make sure the cables are in the rear position. Move the cables to the front position only when the trailer has to be backed. You'll break the cables if you leave them in the front position and tow the dolly.

Never back the dolly unless it's absolutely necessary. If you must back the dolly, move the cables to the forward position. Then move 'em to the rear before you lift the load.

Trans Oil Belongs in the Transmission

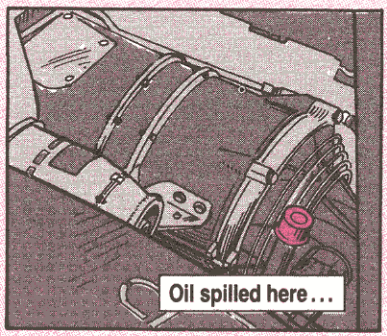
Belongs in the transmission and not sprayed all over the oil cooler, that is.

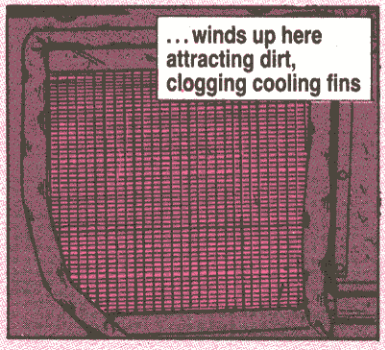
Every time you add oil to your M1's transmission and it spills, the oil residue ends up stuck to the cooling fins of the oil coolers.

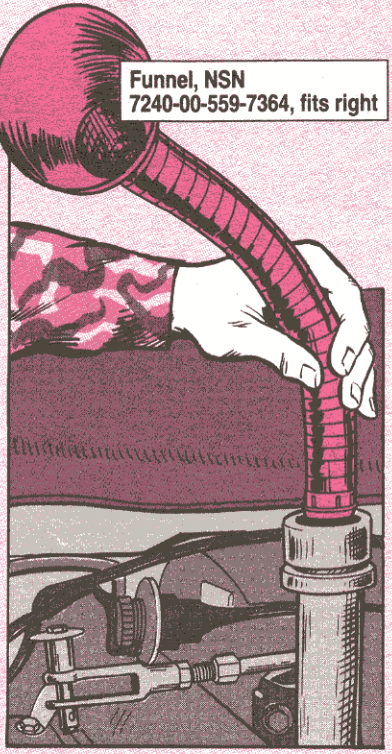
That spilled oil attracts dirt and dust like a magnet. The goopy mess that forms on the cooling fins won't let the heat radiate away from the oil inside the coolers. You end up with engine or transmission damage.

If your tank's oil funnel tip is broken or is too large for the transmission filler opening, don't use it. It makes no sense to spill oil on your tank. Get another funnel first.

Funnel, NSN 7240-00-559-7364, is made for the job. Use it carefully. It holds one quart. Do not pour more than that in the funnel at one time. Then be real careful that all the oil you mean to go into the transmission gets there.





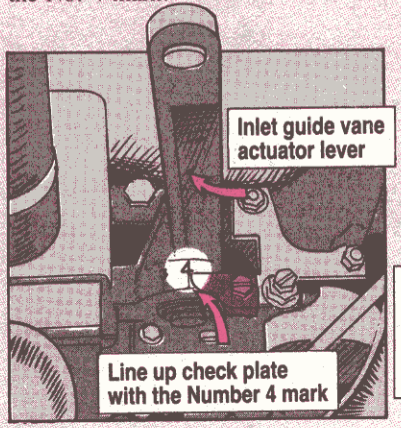


Tweaking the Turbine IGV

Could be the only thing that keeps a sluggish M1 tank turbine from pouring out the power is a tweak or two to the inlet guide vane (IGV) actuator.

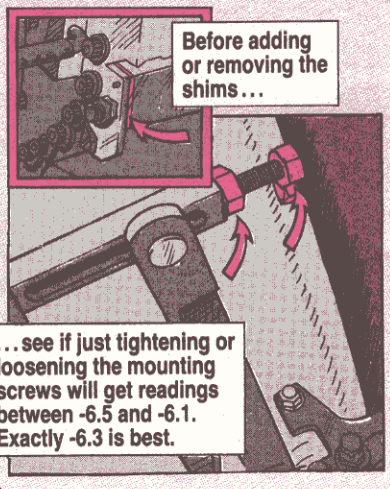
The actuator and other parts of the fuel/air system make sure the right amounts of air and fuel are available for combustion. They can get out of adjustment, however, causing a power loss.

To check, push the lever all the way back in the direction of the arrow. The end of the check plate must line up with the No. 4 mark.



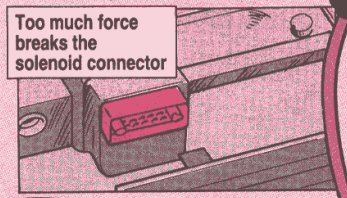
For M1's and IPM1's, adjust according to Page 5-53 of TM 9-2350-255-20-1-3. For M1A1's, use Page 5-54 in TM 9-2350-264-20-1-3.

Then measure the IGV feedback voltage. Follow the instructions on Page 3-900 of TM 9-2350-255-20-1-2 for M1/IPM1, and Page 3-1143 of TM 9-2350-264-20-1-2 for M1A1. Use either the STE-M1/FVS outfit or a breakout box and groundhop interface kit.

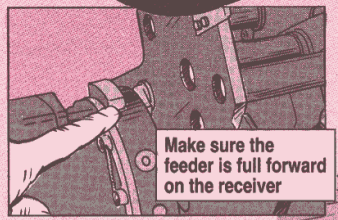


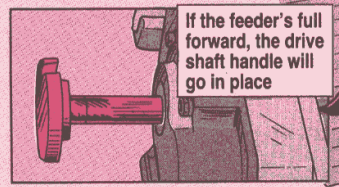
Use No Force on M242

Anything more forceful than the following 3-step feeder-to-receiver lineup procedure can break the electrical sear solenoid connector and the motor connection on your M242 cannon.



STEP 1

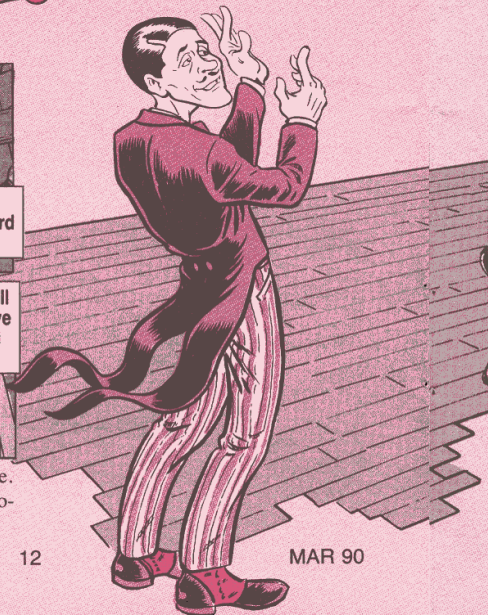




Push up on the drive shaft handle. If you get resistance, back off and reposition the feeder.

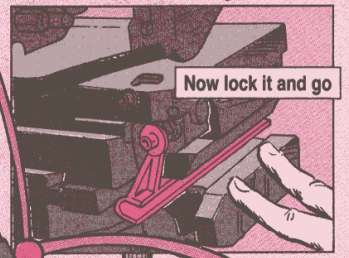
STEP 2

Once the drive shaft is engaged, lift the feeder lock and push the locking handle down with a couple of fingers.



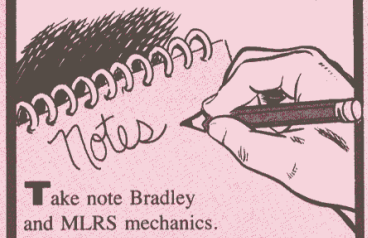
STEP 3

If the handle swings down fully against the receiver, lock it and go.

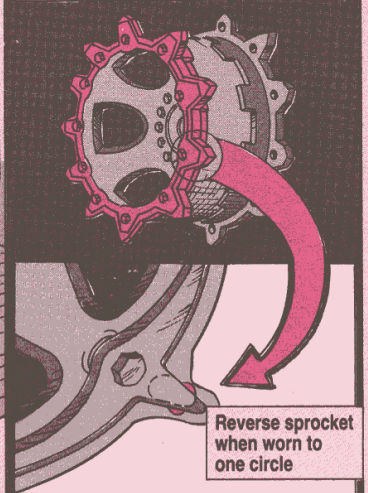


If you get resistance to the two-finger push on the handle, do not force the handle. Reposition the feeder again and repeat the procedure. If the handle will not lock easily, get your armorer to check it out.

Sprocket Turnaround



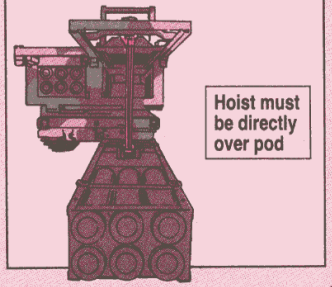
Take note Bradley and MLRS mechanics. Reverse a final drive sprocket when it's worn to the wear circles. You get more wear out of the sprockets—and keep those vehicles on the road.



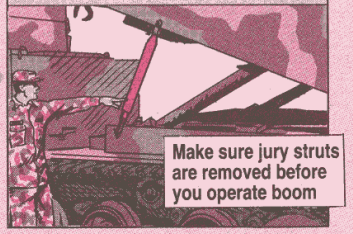
If you let the sprocket wear too far, it'll start hooking the track shoes, causing damage and failure. When both sides are worn to the circle, then you need a new one.

LIFE BOOSTERS

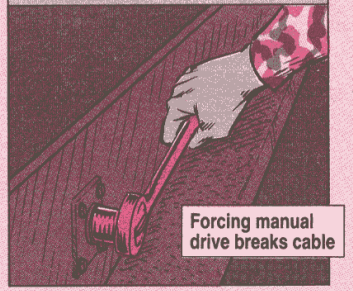
1 Pick pods straight up. If you pick up a pod at an angle, you bust the hoist cables—and maybe the hoist assembly. If the hoist isn't directly over the pod, reposition the MLRS until you've got things straight.



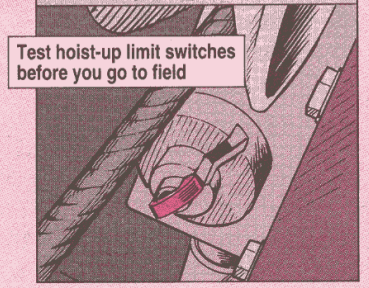
2 Make sure jury struts are removed before you operate the Launcher Loader Module (LLM). If you forget the struts, your MLRS will need new actuator supports. If you forget only one strut, you may need a new actuator and actuator supports, seats, bearings, yoke and prop shafts. You may also have a bent turret.



3 Stop cranking if the manual elevation drive or manual azimuth drive is hard to turn. That's usually a sign a drive's cable is binding. Force the crank and you bust the cable. If a crank turns hard, tell your repairman.



4 Test the two hoist-up limit switches before you go to the field. If the switches stick, the hoist will put too much strain on the hoist cables. That can break the cables and even the hoist drum. Clean and lube the switches. If that doesn't cure them, tell your repairman.



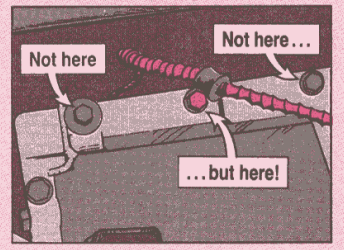
If the limit switch is out of adjustment, tell your repairman. Don't try to fix things yourself with the hoist position adjusting handle. All that does is throw the pod out of alignment with the LLM centering pin.

Steer Clear in Cable Routing

Keep your MLRS carrier's steering in line by making sure the steer cable is secured the right way next to the transmission.

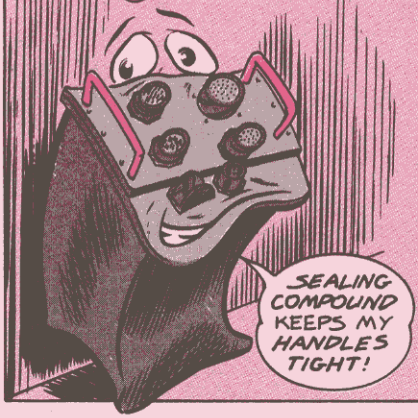
The only correct location for the steer cable clamp is under the second screw from the front left edge of the transmission controller.

Put under any other screw, the cable sits up too high and is in the way of the cab floor and personnel heater when the cab is lowered. The cable gets pinched.



A pinched steer cable can mean your favorite driver has limited control over his MLRS.

CIB Handles



When the handles of the Controllable Interface Box (CIB) are loose, rain and moisture get inside, causing the wires to short out. If screws loosen enough, the handle could pull off and you would drop the box.

To tighten the handle screws, the front panel has to be removed, which means that this becomes a DS job.

So, the next time you send the CIB to your DS shop, ask them to add some sealing compound, NSN 8030-00-081-2328, to the screws to help hold those handles in place and keep out moisture.

Transducers, Fittings Get Cover

The molded tray holding the pressure transducers and pipe fittings in the STE-M1/FVS vehicle test meter carrying case can now be fitted with a cover.

Cover assembly, NSN 5340-01-248-7616, is available and will be added to TM 9-4910-751-14P. You can use it to help prevent the loss of small items.

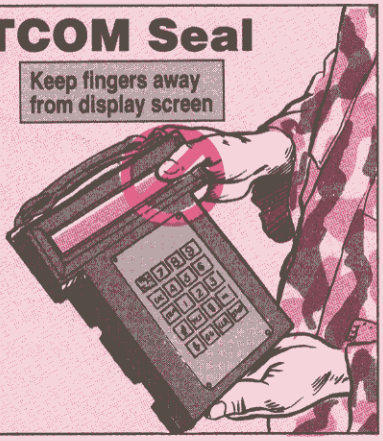
Protect SETCOM Seal

Be careful where you put your hand when you pull the Set Communicator (SETCOM) from the carrying case.

Keep your fingers and other objects away from the display lens.

The lens is plastic. Any type of pressure can very easily break the seal or crack the lens.

If the seal is broken, moisture gets inside the SETCOM and shorts out the electronic parts. That means a trip to the DS shop.



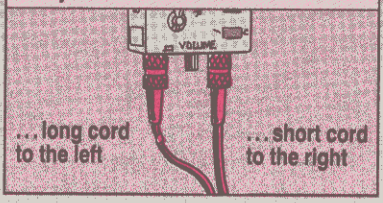
HEARING AIDS

If your tracked vehicle's intercom squelch sounds like fingernails on a blackboard, try these hearing aids:

Make sure the cords are hooked up right

Pay attention to the color code when you hook up the CVC's retractile cord assembly. The control box and the long cord each have yellow tabs. Hook the two together.

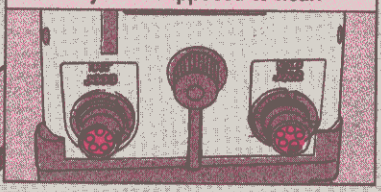
No yellow tabs? Just remember...



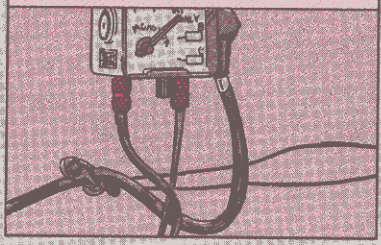
If you reverse your CVC's connections, your set is hot-miked. That means that when you key the helmet switch, you override all other commo on your net.

A quick test is to move the helmet switch forward. If it keys the radio, you're OK. If you don't break squelch, switch connectors at the control box.

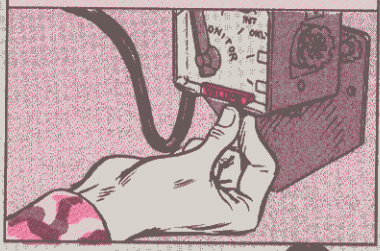
Keep contacts clean and dry. That keeps static from drowning out the words you're supposed to hear.



Be sure the cable connectors are snug. You get static or silence if connectors are loose.

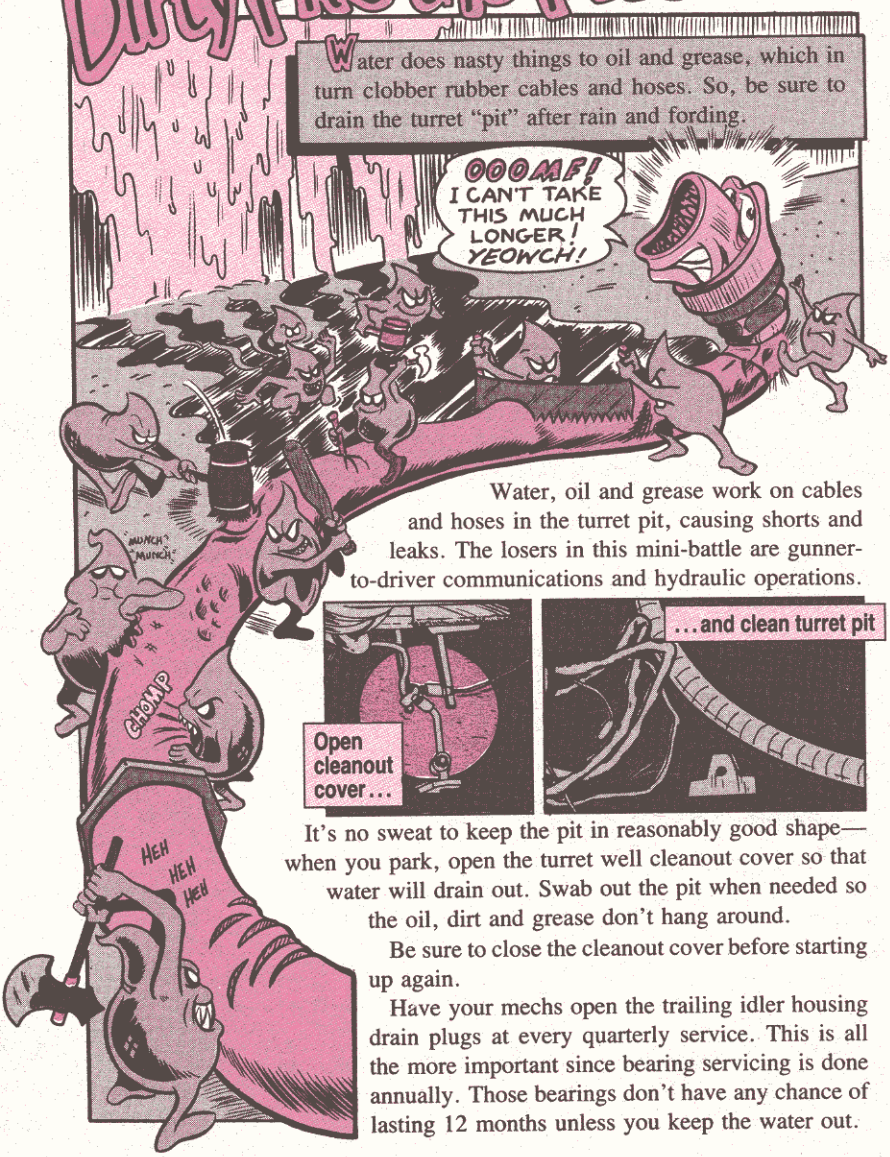


Turn the volume down. When the volume is on HIGH, the background noise is louder.



Dirty Pit's the Pits

Water does nasty things to oil and grease, which in turn clobber rubber cables and hoses. So, be sure to drain the turret "pit" after rain and fording.



Water, oil and grease work on cables and hoses in the turret pit, causing shorts and leaks. The losers in this mini-battle are gunner-to-driver communications and hydraulic operations.

Open cleanout cover...

...and clean turret pit

It's no sweat to keep the pit in reasonably good shape—when you park, open the turret well cleanout cover so that water will drain out. Swab out the pit when needed so the oil, dirt and grease don't hang around.

Be sure to close the cleanout cover before starting up again.

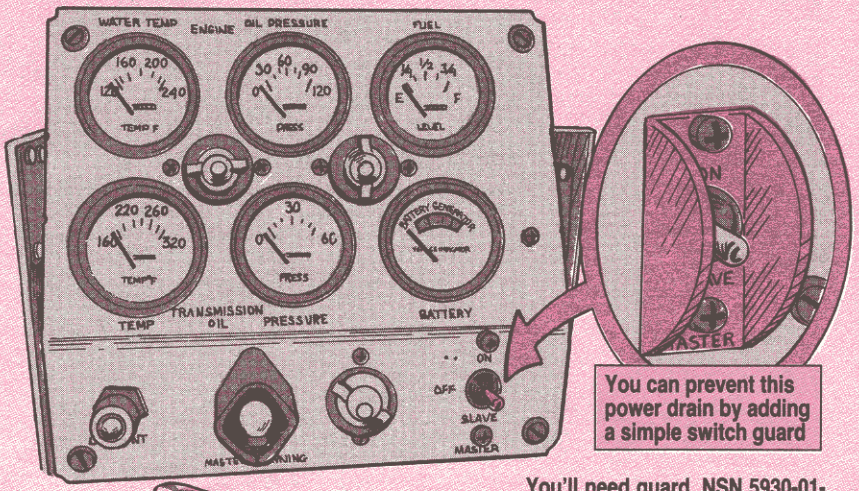
Have your mechs open the trailing idler housing drain plugs at every quarterly service. This is all the more important since bearing servicing is done annually. Those bearings don't have any chance of lasting 12 months unless you keep the water out.

M109-Series SP Howitzers, M992 Ammo Carrier...

Add Guard to Master Switch

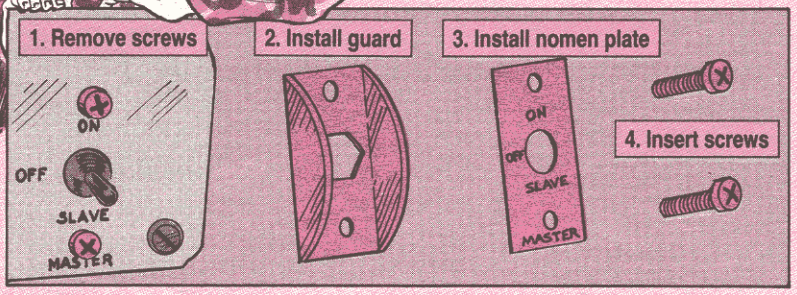
The master switch in M109's and M992's gets a kick out of the drivers when they climb out of their seats.

It's such a kick that the switch is turned on, which runs down the vehicle's batteries.



You can prevent this power drain by adding a simple switch guard

You'll need guard, NSN 5930-01-087-1069, and nomenclature plate, PN 12268261 CAGE 19207, RIC AKZ. Order the plate on DD Form 1348-6. Remove the two mount screws for the master switch and place the guard over the toggle. Put the plate over the toggle and guard, then reinstall the screws.



M60 Machine Gun...

BACKING IN

It's easy to get things backwards when putting an M60 back together. Get something in wrong and your "smokin' 60" may not shoot, and if it does shoot it'll damage the parts.

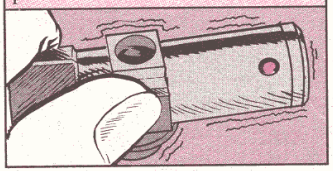
The bolt's the usual victim. If you put the cam actuator on backwards, you damage the bolt. If you reverse the guide and spring, you break the firing pin in the bolt.

Practice putting the bolt together until you can do it in your sleep.

Here's how:

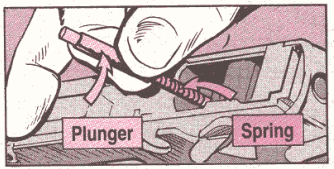
1. Put the long end of the firing pin in the bolt first.
2. Fit the small hole in the guide on the short end of the firing pin.
3. Place the spring in the guide.
4. Put the cam actuator's roller end on the bolt first.

When the bolt's assembled, give it a shake to be sure the bolt plug pin holds.

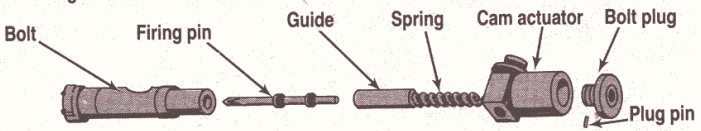


Trigger Assembly

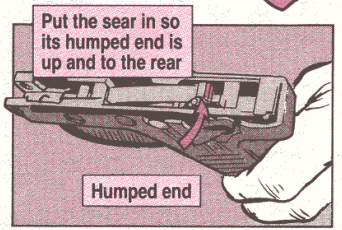
If the spring, plunger or sear are backwards, you've got a runaway gun. Always put the sear spring in first, then the plunger.



Put it together like this:



TO PROBLEMS



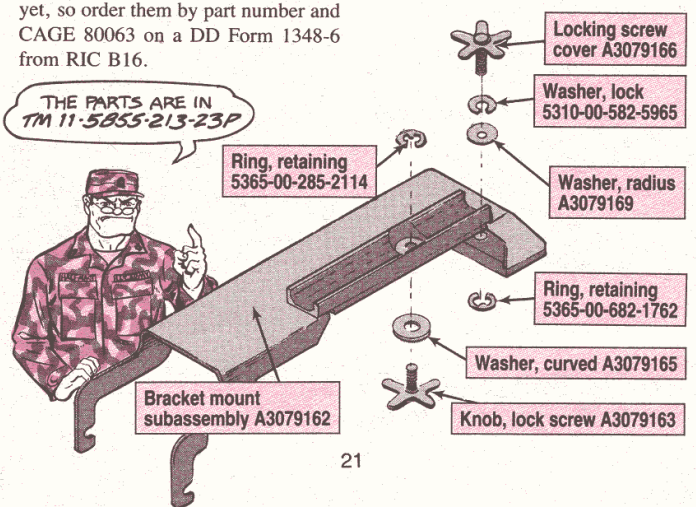
Cover

The cover's hinge pin must always go in from the right, the hinge pin latch from the left. If they're reversed, the cover's bent and the M60 jams.

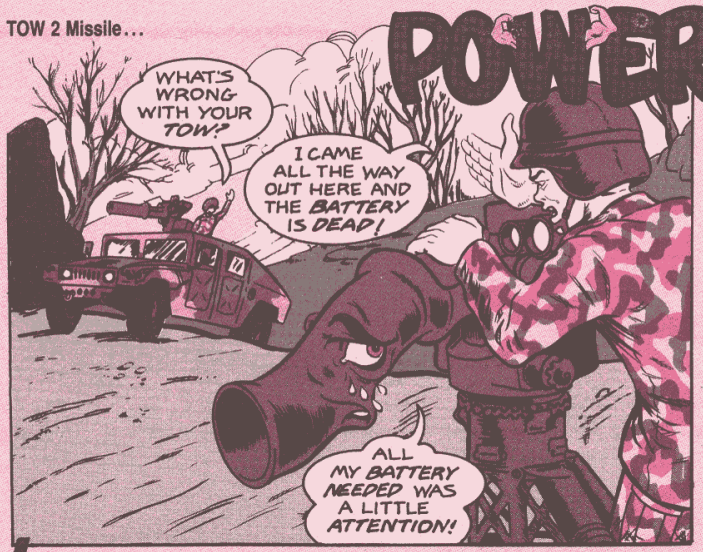
M249 Machine Gun...

AN/PVS-4 Bracket Parts

You can get individual parts for the M249's AN/PVS-4 night vision scope mounting bracket, NSN 3040-01-233-0352. Some of the parts don't have NSN's yet, so order them by part number and CAGE 80063 on a DD Form 1348-6 from RIC B16.



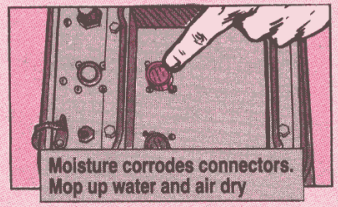
POWER BOOSTERS



If you ignore battery PM, you can haul your TOW to the field for nothing. Without power it's just going to sit. But just a little attention can give your TOW all the boost it needs.

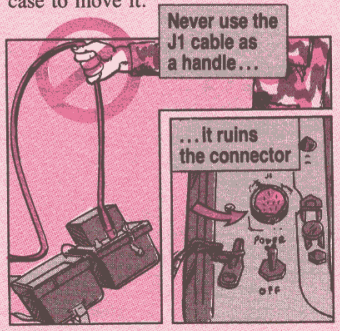
Night Sight Battery Conditioner

Water corrodes connectors and puts the night sight battery power conditioner down. Keep the conditioner's lid on. Never use high pressure water or steam cleaners around it.



If the conditioner gets wet, pull its batteries and eyeball for moisture. Mop up moisture and let it air dry for 24 hours before you replace the batteries.

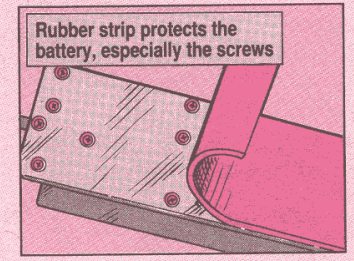
Never use the conditioner's J1 cable as a handle. That twists and pulls out the connector. Grip the conditioner's case to move it.



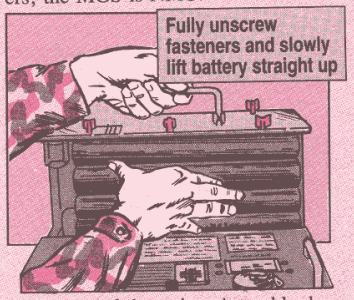
MGS Battery

Setting the missile guidance set battery on metal or concrete drains power out of it. Put it on rubber or cardboard.

Protect it by gluing a battery-sized strip of rubber on the truck floor below the spare battery rack. That prevents battery-to-metal contact and protects the bottom of the battery from getting banged up.



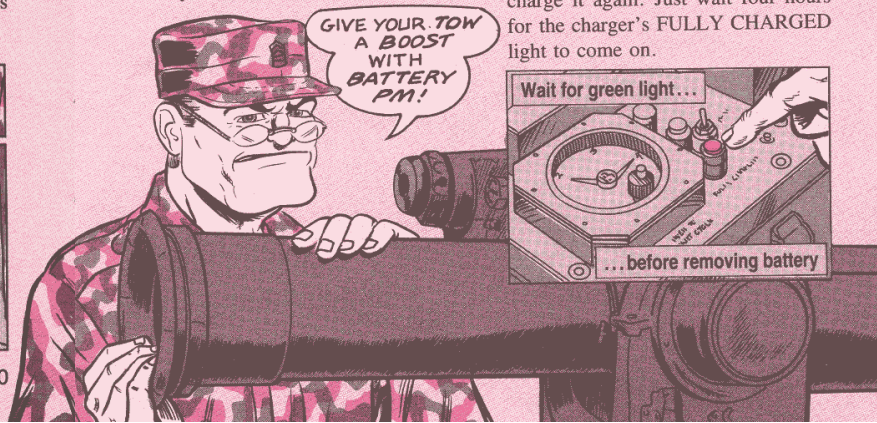
When you change MGS batteries, fully unscrew all wing fasteners. Slowly lift the battery straight up. Check the fasteners if you feel resistance. Jerking the battery out breaks fasteners. Without at least four fasteners, the MGS is NMC.



Never stack batteries. A tumble destroys wing fasteners and batteries.

Charging

Before you charge, discharge a TOW battery fully. And then charge it all the way. Otherwise, you can't fully charge it again. Just wait four hours for the charger's FULLY CHARGED light to come on.



Patriot Missile System...

Drain That Problem Away

Dear Editor,

On the newer Engagement Control Stations (serial numbers 680511-710107) and Launcher Stations (serial numbers 700250-710167), there's a problem with the antenna for the Data Link Terminal (DLT).

Whenever it rains or the temperature changes drastically, water collects in the antenna's protective sleeve. That causes high reverse power and you can't tune the DLT. The high reverse power can also damage the ECS or LS transmitter.

We've found you can get rid of the water by standing on the antenna maintenance platform and gently bending the antenna toward the ground and pinching the protective sleeve to force the water out. Just keep pinching the sleeve until all the water's gone.

We do this every morning before we raise the antenna and it's drained away the problem.

WO1 Kevin Hargens
WO1 David Stuart
Ft Bliss, TX

(Editor's reply: I'm glad you didn't keep that idea up your sleeve. It's a good one in a pinch. Thanks.)

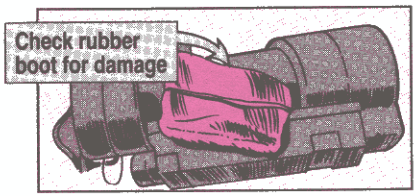
Dragon Missile...

Faulty MILES Dangerous

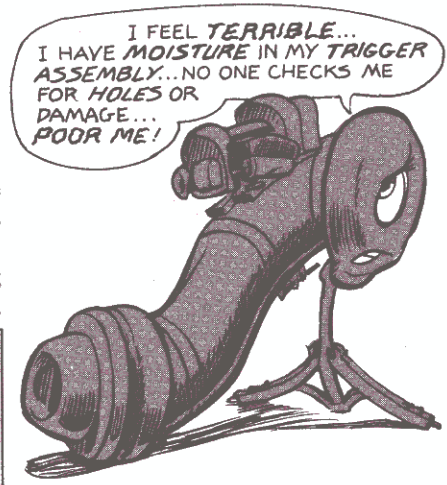
Some Dragon Multiple Integrated Laser Engagement Systems (MILES) are firing ATWESS cartridges when they're not supposed to.

Moisture gets into the trigger assembly through the rubber boot. It causes a micro switch to short circuit and the MILES fires when the ARM switch is pulled.

Weed out bad MILES by eyeballing the trigger assembly for damage,



holes, tears, and moisture. If you spot problems, turn in the MILES to your repairman. *Don't use it.*



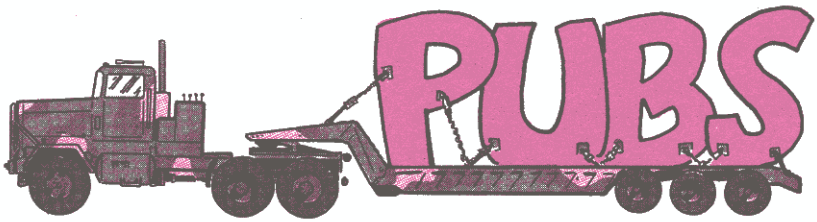
Always stay at least 50 yards away from the rear of Dragon MILES when it's being fired or armed. MILES' backblast can be lethal.

STINGER Missile...

Keep THT on Track

TM 9-6920-429-12 is not clear about how long your tracking head trainer (THT) should rest between missions. If the THT doesn't have time to recover, it won't find the target. Here's the scoop:

The THT duty cycle is three missions of 45 seconds each, separated by at least 15-second intervals. After three missions, the THT must cool off for at least 5 minutes if the temperature's 93°F or below and for 15 minutes if it's hotter than that.



This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer printout provided by the Adjutant General.

TM 1-1520-250-23-1 Sep 89 General tie-down and mooring procedures, AH-64, UH-60, CH-47, UH-1, AH-1 and OH-58

TM 5-3805-263-14&P-3 Apr 89 CAT 130 road grader type I (nonsectionalized), NSN 3805-01-252-0128 and type II (sectionalized), NSN 3805-01-251-8252

TM 5-4310-382-23P Nov 89 Compressor unit, reciprocating (NSN 4310-01-247-2584)

TM 11-5805-766-23P Feb Node center switch AN/TTC-47 and AN/TTC-47A(V)1 MSE

TB 55-1520-214-20-60 Aug 89 Inspection of main rotor blade and lead-lag link assemblies on OH-6 helicopters

TB 55-1520-237-20-105 Aug 89 Inspection of all main rotor spindles

TB 55-1520-237-20-107 Aug 89 Inspection of relay panel assemblies for suspect grounding modules

TB 55-1520-238-20-66 Sep 89 Inspection for properly wired fire extinguishing system installations on AH-64A

TB 55-1520-240-20-37 Aug 89 Inspection retorque jam nuts on the integrated lower control actuator (ILCA) CH-47D

TB 55-1520-240-20-39 Oct 89 Inspection and degreasing of combining transmission cooling fan drive shaft (P/N 145D5319-3) with cooling fan inspection clarification procedures, CH-47D

SC 5180-90-NO1 Nov 89 TE 50B tool kit

LO 9-2350-252-12 Jan M2/M2A1/M3/M3A1 Bradley

LO 9-2350-284-12 Jan M2A2/M3A2 Bradley

Maintenance & Safety-Of-Use Messages

CECOM SOU-MSG-89-10-01—Mandatory, Operational, Integrated family of test equipment (IFTE), Base shop test station (BSTS), AN/USM-632(V) and IFTE Commercial equivalent equipment (CEE), AN/GSM-340, AMSEL-SF-SEC 271800Z Oct 89.

CECOM SOU-MSG-89-12-02—Advisory, AN/TRC-170(V)2 and (V)3 radio terminal sets, AMSEL-SF-SEP 111800Z Dec 89.

TACOM SOU-MSG-89-74—Advisory, Technical/Maintenance, CUCV M1009 retread tires, AMSTA-MTA 131400Z Sep 89.

TACOM SOU-MSG-89-81—Operational, Brake slave cylinder, NSN 2530-00-248-0944, AMSTA-M 281400Z Dec 89.

TACOM SOU-MSG-89-83—Operational, M2A2/M3A2 Bradley, AMSTA-M 261800Z Dec 89.

TACOM SOU-MSG-89-80—Advisory, Operational, M1A1 tank NBC, AMSTA-M 131500Z Dec 89.

TACOM SOU-MSG-89-82—Operational, M2A2/M3A2 Bradley, AMCPM-BFVS 061900Z Dec 89.

TACOM SOU-MSG-89-79—Advisory, Technical/Maintenance, HMMWV M998, M1038, M996, M1045, M0146, M1025, M1026, M1043, M1044, M997, M1035, M1037, and M1042, AMSTA-M 211300Z Nov 89.

TACOM Maintenance Advisory, MSG—Operational, M939, draining air tanks, AMSTA-MTB 272000Z Nov 89.

TROSCOM Maintenance Advisory, MSG-89-56—Water purification units, AMSTR-MES 122115Z Dec 89.

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

TEC Lessons

020-171-5370-F M60 series and M48A5 tanks - PMCS Part II

474-091-1896-A Troubleshoot CUCV power steering system

AUDIO-VISUAL STUFF Available at battalion or Post Learning Center

Films, TV Tapes

TVT 9-101 M1 Tank - PMCS of the fuel system

TVT 20-835 Guidelines for laser safety

TVT 9-172 M1A1 fuel system - Troubleshooting

TVT 17-24 M1A1 Abrams safety

TVT 9-166 SUSV power pack removal and installation M-973

TVT 21-214 MILES - Installing on Bradley

TVT 21-212 MILES - Installing on Vulcan

TVT 46-21 Aviation Ground Power Unit - Electrical System

TVT 46-22 Aviation Ground Power Unit maintenance procedures

TVT 46-24 Theater Aviation Maintenance Program (TAMP)


DESERT LESSONS LEARNED
THE DESERT IS NOT A FORGIVING PLACE.
HOT DAYS...
...COLD NIGHTS, DRIVING SAND, AND RAZOR-SHARP ROCKS CAN QUICKLY CAUSE HAVOC.
YOU CAN BE STRANDED, MILES FROM HELP WITH NO WHEELS!
...NO POWER ...OR NO FIREPOWER!

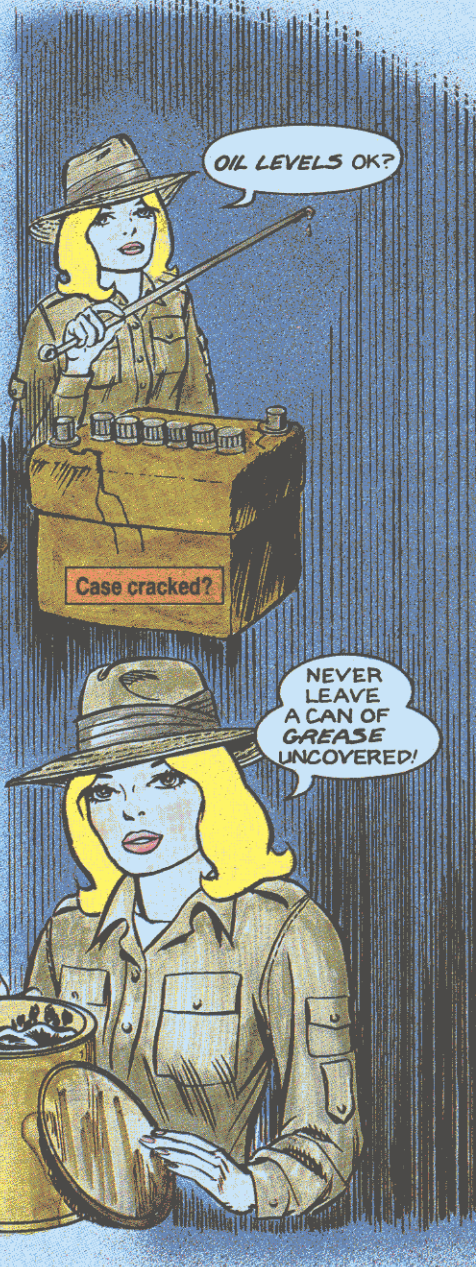
If you don't want to end up in the boondocks with broken-down equipment, you've got to give your equipment the strength to fight the desert. Do all the PMCS in your -10 TM. Read and heed TB 43-0239, Maintenance in the Desert. And every chance you get:

- Measure oil and water levels.
- Watch gages for warning signs.
- Eyeball batteries for cracked cases or low fluid levels.
- Keep equipment clean.
- Cover unused glass surfaces.
- Report faults to your mechanics.

Lubing

Wipe off grease fittings before you plug in the grease gun. Otherwise, you pump in sand. Sand chews up the bearings. It can also plug up the relief fittings.

Keep grease cans sealed. If their lids are off, sand gets in the grease. You're pumping sand in with grease again.



Wheeled Vehicles

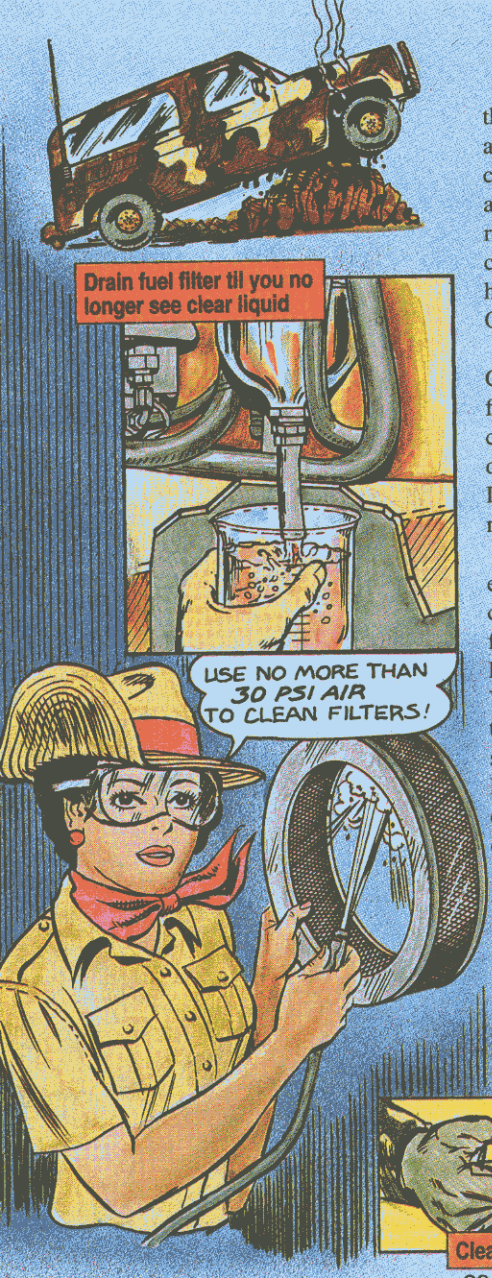
Drive around big rocks, not over them. On vehicles like the HMMWV and CUCV, there's less than 1½-feet clearance between the undercarriage and the ground. If you drive over a big rock, the oil pan or steering arm is crushed or ripped. Soon your vehicle has no oil . . . and the engine is seized. Or you can't steer the vehicle.

Drain the fuel filter first thing daily. Condensation forms in the fuel tank from the desert's cold nights. Water causes your truck to run rough and damages diesel engine fuel injectors. Drain into a clear container until you no longer see clear liquid.

Sand clogs air filters. Keep a close eye on your truck's air restriction indicator. If it says red, stop. Take out the filter and tap it to knock out most dirt. Don't bang it against a rock or tire. You'll bend its sealing edge or crush the filters. An air hose will blow away stubborn dirt. Use no more than 30 PSI. If your vehicle still can't get enough air, your mech needs to wash or replace the filter.

On CUCV's, you'll need to eyeball the filter element at least weekly. If it's clogged, get a new element.

Clean battery cap vents daily to keep them open. Plugged vents cause gases to build up that can cause the battery to explode in the heat of the desert. Clean out vents with a paper clip.




Clean battery vents with a paper clip

When you fill the battery and the radiator, use distilled water, NSN 6810-00-356-4936, only. Tap water in the desert has lots of chemicals that will weaken the battery's acid solution and prevent it from holding a charge.

The chemicals form a crusty coating inside the radiator and clog it. Be sure to check your -10 TM for the right amount and mixture of coolant to add in the desert.

Blow out sand and dust weekly from the radiator fins so the radiator has no trouble getting fresh air. Without air, the radiator overheats . . . and so does the engine.

Avoid driving for long periods in low gear. That also causes your truck to overheat.

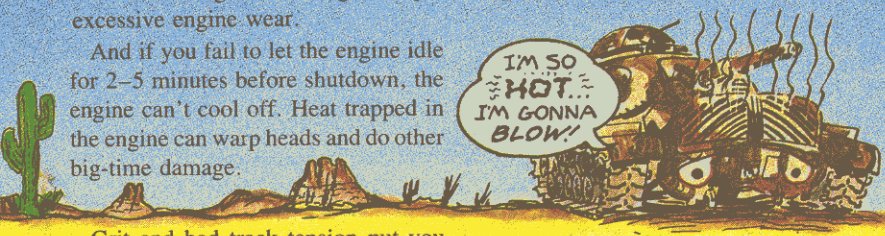
Desert heat softens tires. Soft tires and sharp rocks mean lots of flats. Take two spares for each vehicle and a good supply of tire patches and inner tubes. Check air pressure first thing daily. That will help tires last.

On the ¼-ton truck, the U-joints and prop shafts need daily lubing. Otherwise, friction from sand will grind up the U-joints in the prop shafts.

Track Vehicles

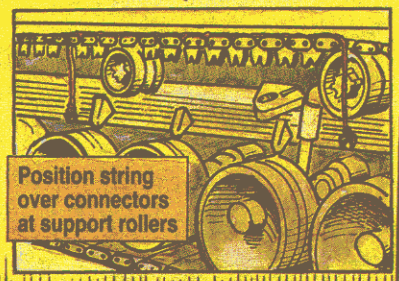
Carefully follow the procedures in the -10 TM for warming up and cooling down your track vehicle. Even in the desert, cold, sluggish oil needs time to circulate throughout the engine to protect against things like valve damage and excessive engine wear.

And if you fail to let the engine idle for 2–5 minutes before shutdown, the engine can't cool off. Heat trapped in the engine can warp heads and do other big-time damage.



Grit and bad track tension put you down in no time in the desert. Grit gets in the running gear and causes wheel bearings to overheat. Loose track is thrown in soft sand. Tight track wears out bushings fast and burns out No. 1 hubs.

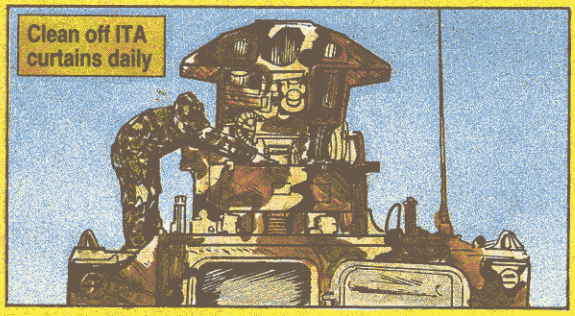
Lube road wheels, road arms and support rollers daily. That pushes out grit. Measure track tension daily. Keep tension right on the money.

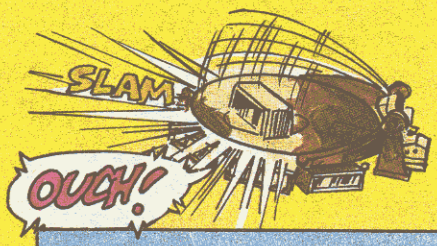


Heat knocks out solid-state electronics, especially on M113's and M60's. Mechanics, take all authorized solid-state regulators to the field as backups. M60 regulators come with NSN 6110-01-259-0267, for 650 amps. For 300 amps order NSN 2920-01-054-0479. Order M113 regulators with NSN 2920-00-900-7993.

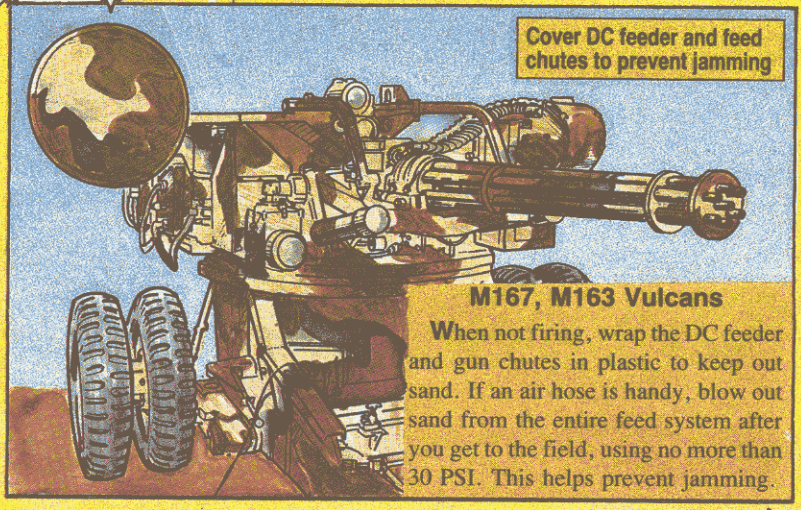
M901 Improved TOW Vehicle

Image Transfer Assembly (ITA) curtains don't seal well. If dirt builds up around the curtains, the curtains bind and light and dirt get inside the assembly and make it hard to see through the ITA. Daily wipe the curtains clean. Never spray water around the ITA curtains.





The driver's hatch cable is one thing you don't want to lube. Lube attracts sand. Then the cable binds. You think you have the hatch locked in place . . . until it slams into your face. Keep the cable wiped clean. Lightly lubricate hold open stop only in accordance with LO 9-2350-259-12.



M167, M163 Vulcans

When not firing, wrap the DC feeder and gun chutes in plastic to keep out sand. If an air hose is handy, blow out sand from the entire feed system after you get to the field, using no more than 30 PSI. This helps prevent jamming.

Power Generators

Generators need your help to make sure they get clean fuel and air. Drain fuel filters daily. Eyeball the air filter daily. When it's real dusty, clean it, or replace it if it's clogged, torn, or damaged.

Cut condensation by topping off the fuel tank at shutdown.

Check—and feel—engine oil daily. Heat causes oil to break down more quickly. Sand damages the engine. If you feel grit on the dipstick, get your mech to change the oil and filter.

Close doors and shrouds to keep the generator cool. With the doors and shrouds shut, air is funneled to the parts of the generator that need cooling. They also keep sand out of the engine compartment.

Never block open the radiator shutters on the 15-KW or larger diesel generators, either. That keeps the generator from reaching operating temperature, even in the desert. If the generator runs cold, its oil turns to sludge . . . and it slobbers.

Make sure, though, the shutters do flip open when the generator reaches operating temperature. Otherwise, the generator overheats in no time.

Small generators with "splash type" lubrication must be level during operation. If they're run on an incline, oil won't be picked up. Moving parts don't get lube. Bearings get hot and seize.

PS END

UH-60A Black Hawk...

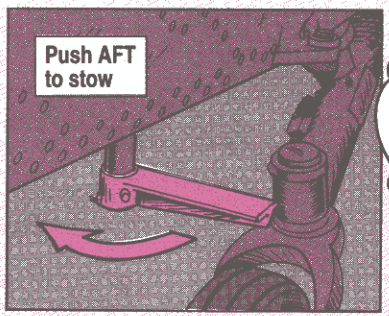
Tail Rotor Cable Caper

If the lower step on your Black Hawk's tail rotor pylon rotates forward under pressure, you've got trouble.

Anybody standing on the step when it rotates could lose his balance and fall.

And when the step rotates forward instead of aft, the spring attached to the step tube inside the pylon gets mashed against the tail rotor cable guard, which gets mashed against the tail rotor control cable. If it happens over and over, the guard frays the cable.

So never force the step forward to stow it. The stow position is AFT ONLY.



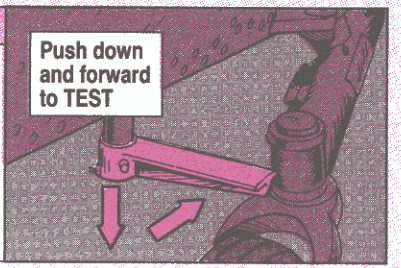
Eyeball the tail rotor cable often to make sure the cable is not frayed.

If the detent pin on the step tube inside the pylon is worn to the point it won't keep the step from being forced forward, get the tube assembly replaced.

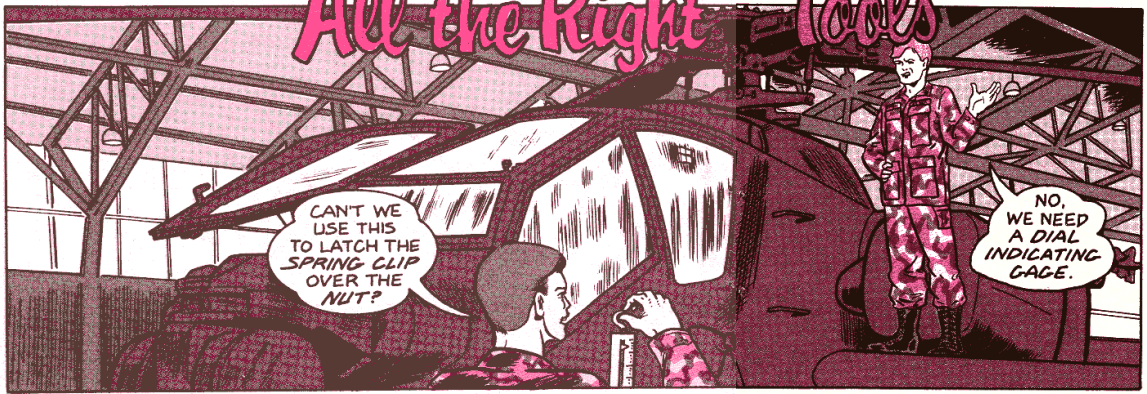
Test the pin like this:

1. Pull the step out and lock it in position.
2. With both hands, push down and toward the nose of the aircraft.

If it holds, it's OK. If it slips forward, replace it.



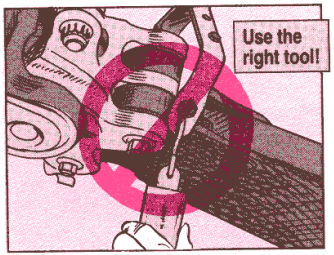
All the Right Tools



When you install your bird's main rotor blade, make sure you've got the right tools.

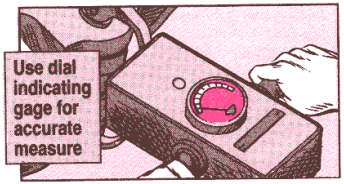
Some mechanics are using ordinary fish scales—the kind that are in your No. 1 and 2 tool sets—to latch the spring clip over the nut.

But a fish scales is not very precise, and, besides, the dial on the scales only goes up to 50 pounds.



The closing force should be 50 to 60 pounds, like it says in Task 5-2-5 of TM 55-1520-238-23-3.

The tool you need is dial indicating gage, NSN 6635-00-578-5285. It has a scale range up to 100 pounds.

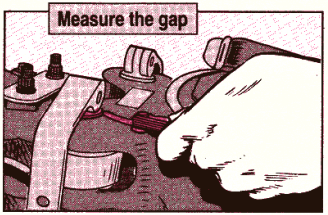


If it takes less than 50 pounds of force to close the clip over the nut at the bottom of the blade attaching pin, turn the nut clockwise to increase tension.

If it takes more than 60 pounds of force to close the clip, turn the nut counterclockwise to decrease tension.

Then check the gap between the attaching pin washer and the blade link. If the gap's less than 0.002 inch or more than 0.060 inch, release the clip and move the pin up or down to adjust the gap, like the TM says.

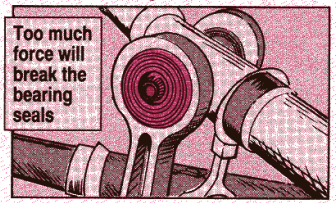
Then use the gage to close the clip again. Adjust the gap as many times as you have to, to get the gap within tolerance.



Save the Bearings

Easy, crew chiefs and pilots, when you check pitch bearing play in your Apache's tail rotor assembly.

If you use excessive force on the rotor blades when you perform the daily or preflight checks, you could break the bearing seals.



Then your bird's down until you can get the rotor hub replaced.

Just give the blades a slight push and pull to check bearing play. That's enough force to determine if the bearings are worn. If you get any movement at all, get your mechanic to inspect the bearings like it says in Task 5-3-1 of TM 55-1520-238-23-3.

Aviation Messages

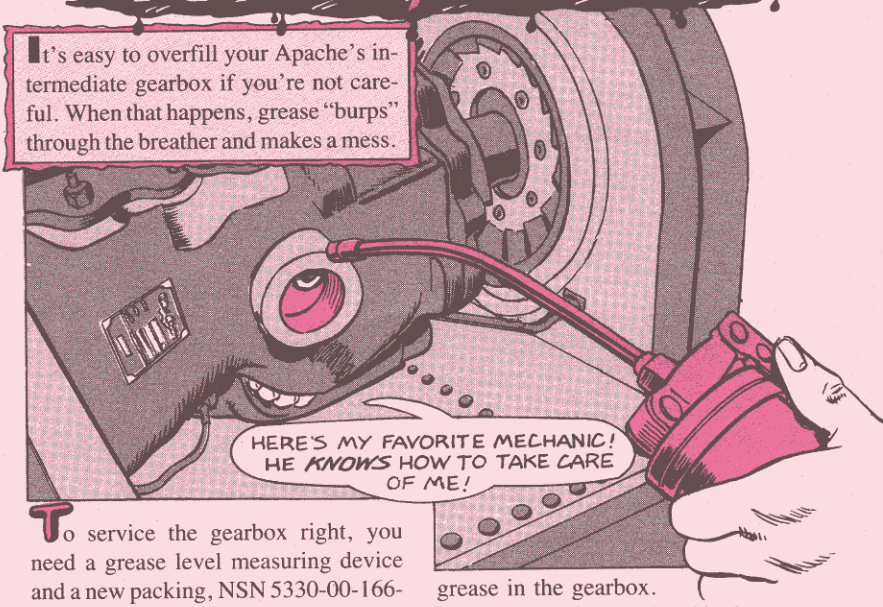
CAT 1 EIR Phone: AUTOVON 693-2066 (24 HOURS)

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

UH-60-89-11, SOF, Maint Mandatory, Inspect oil cooler axial fan, 072110Z Nov 89.
OH-58-89-08, SOF, Operational, OH-58D, Modify fuel boost pump procedure, 072030Z Nov 89.
AH-64-89-22, SOF, Emergency, Immediate grounding of AH-64A, 092030Z Nov 89.
OH-58-89-09, SOF, Maint Mandatory, OH-58D, Inspect fuel system, 131910Z Nov 89.
AH-64-89-23, SOF, Technical, Inspect main rotor hub retention nut, 132000Z Nov 89.
UH-1-89-11, SOF, Operational, Cold weather use of hub moment spring and hub restraint, 132100Z Nov 89.
CH-47-89-13, SOF, Technical, CH-47D, Ungrounding requirements, 171900Z Nov 89.
UH-60-89-12, SOF, Technical, Inspect oil cooler axial fan, 222330Z Nov 89.
UH-1-89-12, SOF, Technical, Inspection of tail rotor yoke assembly, 292130Z Nov 89.
UH-60-89-MIM-11, T700-GE-700 engine operational health indicator test (HIT), 082000Z Nov 89.

No Greasy Kid Stuff

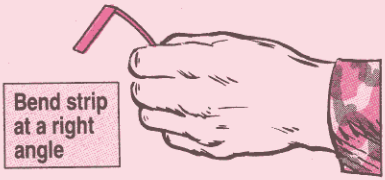
It's easy to overfill your Apache's intermediate gearbox if you're not careful. When that happens, grease "burps" through the breather and makes a mess.



To service the gearbox right, you need a grease level measuring device and a new packing, NSN 5330-00-166-1072, for the filler plug.

Since the filler plug hole is located on the side of the gearbox instead of on the top, you have to make your own measuring device.

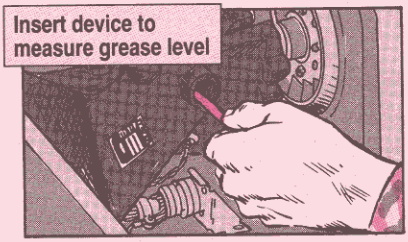
Just bend a 4-in to 5-in plastic or cardboard strip at a right angle near the middle.



Make sure your bird is parked on a level surface.

Wait 10 minutes after rotor shutdown before you check the level of grease in the gearbox.

Measure the grease level in the gearbox by holding one end of your measuring device while inserting the other end into the hole.



Make sure the grease level is no higher than 1½ inches below the bottom edge of the filler plug hole.

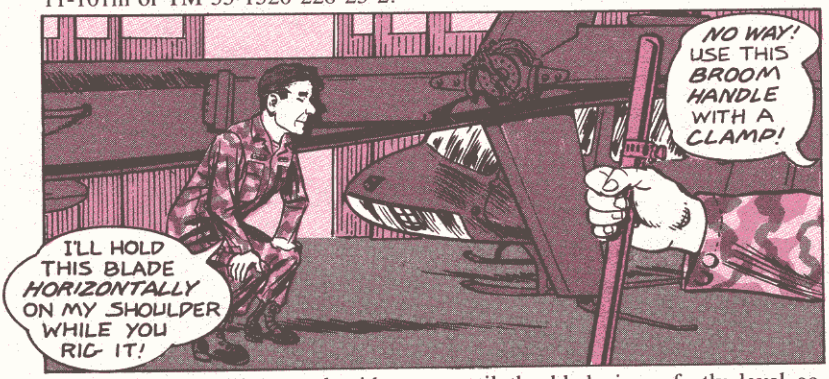
When you reinstall the filler plug, replace the old packing and torque the plug to 35 lb-in.

OH-58...

Keep It on the Level

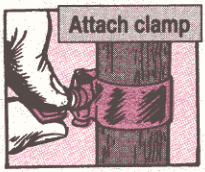
You need to keep the Kiowa's tail rotor blades perfectly horizontal when you're rigging them in order to get an angle reading within 22 to 23 degrees.

But keeping them perfectly horizontal is the problem. You need a fixed work aid to support the blade horizontally like it says in the Caution following Para 11-101m of TM 55-1520-228-23-2.

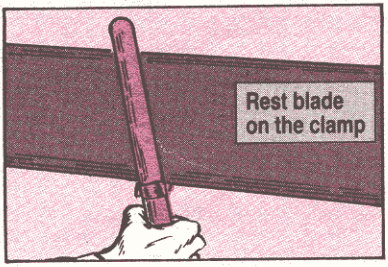


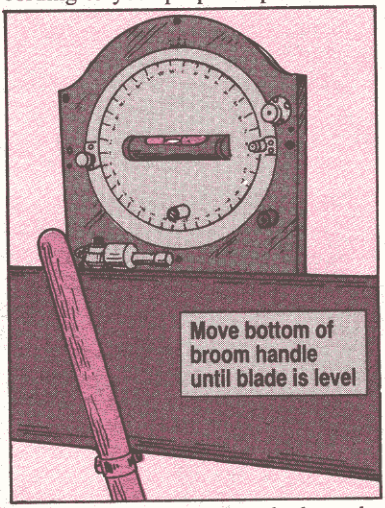
One of the simplest work aids to make and use requires only a broom handle and a hose clamp like the ones used on your bird's battery vent hoses.

Just attach the clamp to one end of the broom handle. Rest the trailing edge of the blade on the clamp.



Move the other end of the handle away from or toward the blade until the blade is perfectly level according to your propeller protractor.





Then measure and calculate the blade angle like it says in Para 11-93A.

PROPER PAD POSITIONS

Installing Velcro pads on SPH-4 flight helmets can be a frustrating experience for you ALSE technicians.

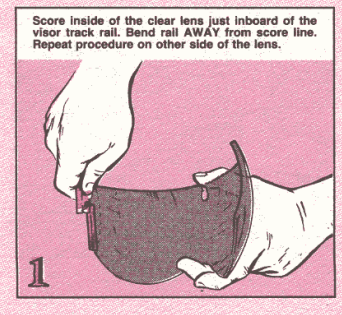
If you glue just one of the pads down in the wrong position, it makes the helmet look off-center. If it's far enough off, it screws up the night vision goggles when you attach them to the helmet by Velcro straps.

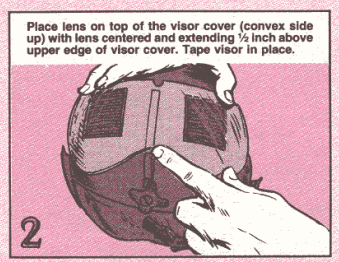
But Daniel H. Little of the West Virginia National Guard made a jig that correctly marks the pad location every time without time-consuming measurements.

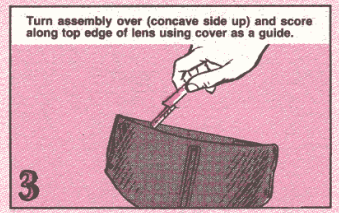
Here are the materials you'll need:

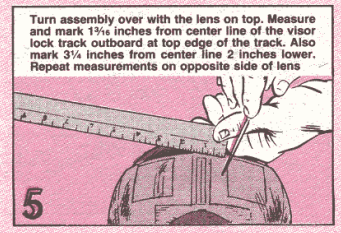
1 roll of heavy tape
2 scrap helmet visor lenses (1 clear and 1 smoked)
6-in flat file
Wire pliers
Super glue
Single-edge razor blade or exacto knife
Coping saw or bandsaw
SPH-4 helmet visor cover
Scribe or similar marking device

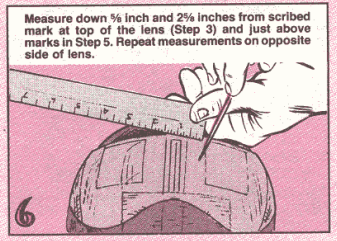
Here's how to make the jig:

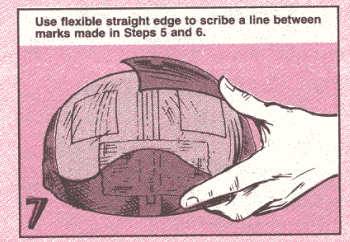


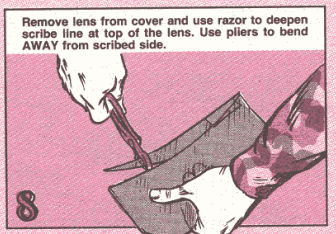


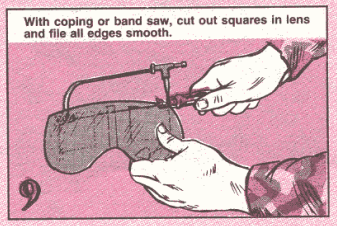


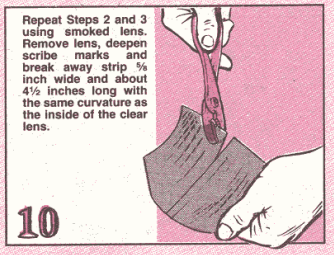


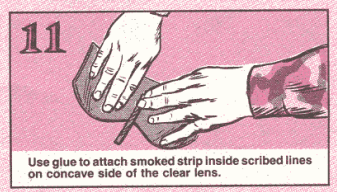


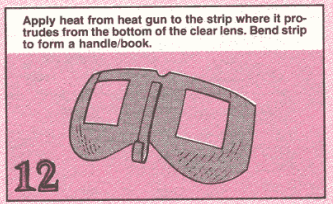




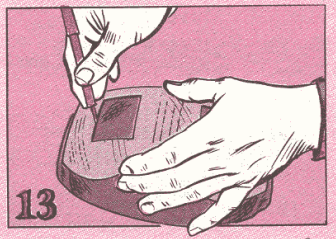








To use the jig, place it over a helmet cover. Press the smoked strip in and up into the visor lock track of the cover. Mark inside the squares on the cover.



You get the perfect placement for Velcro every time.

SB-22 Switchboard...

Binding Post PM

The out-of-sight, out-of-mind switchboard binding post puts a crimp in telephone talk if it can't put a crimp in field wire controlling circuits.

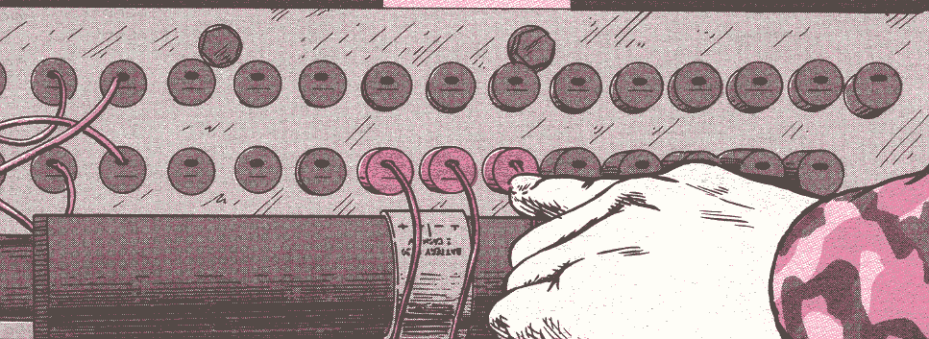
The spring-loaded binding post, NSN 5940-00-272-1477, must grip the wire to make firm contact.

Dirt, grime or grit will freeze the post. Then the post won't hold onto the wire.

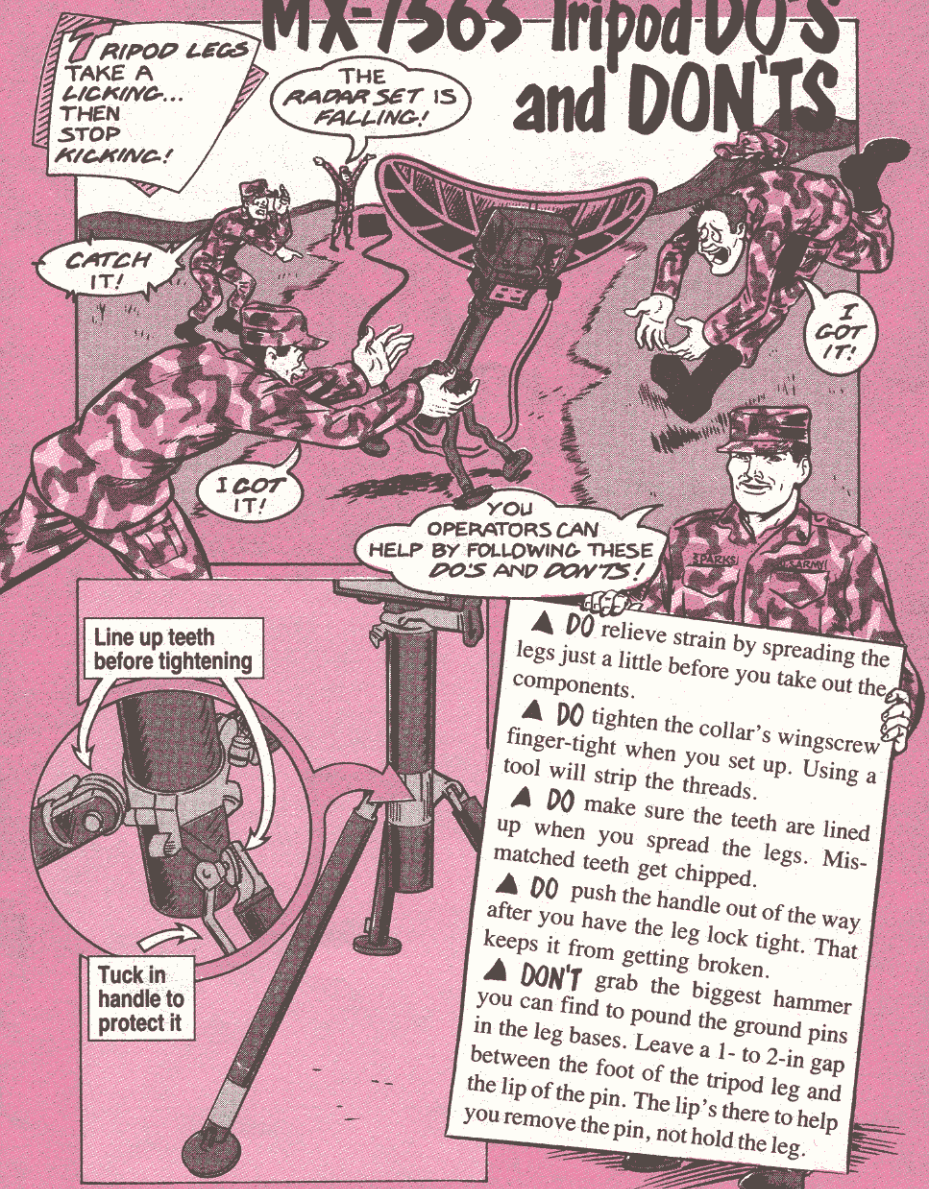
Make sure the field wire and binding post are clean before putting them together.

Never use a knife or other sharp object to force in the post. Use a screwdriver or your fingers to push in the post. Gently tug on the wire to see if the post is gripping the wire.

Keep binding post and wire clean



MX-7565 Tripod DO'S and DON'TS



▲ **DO** relieve strain by spreading the legs just a little before you take out the components.

▲ **DO** tighten the collar's wingscrew finger-tight when you set up. Using a tool will strip the threads.

▲ **DO** make sure the teeth are lined up when you spread the legs. Mismatched teeth get chipped.

▲ **DO** push the handle out of the way after you have the leg lock tight. That keeps it from getting broken.

▲ **DON'T** grab the biggest hammer you can find to pound the ground pins in the leg bases. Leave a 1- to 2-in gap between the foot of the tripod leg and the lip of the pin. The lip's there to help you remove the pin, not hold the leg.

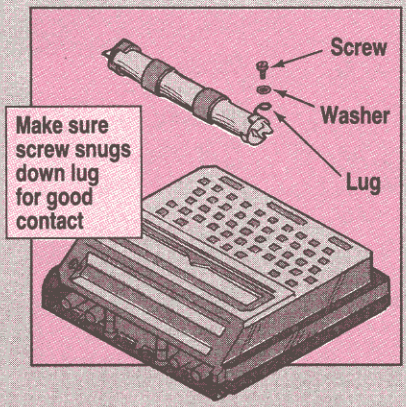
OA-8990...

Keep Battery Snug

If the battery fails to make good contact all the time, the message in your digital message device group will mess up—and make you think you have a faulty device. This leads to unneeded maintenance.

Make sure the battery's snug.

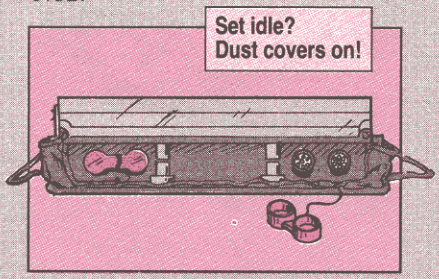
First, finger tighten the screws holding the battery lugs in place.



Then, finish tightening the screws with your flat-tip screwdriver, like it says on Page 3-9 of TM 11-5820-887-10.

If screws are missing, replace 'em with NSN 5305-01-146-7272.

While you're there, eye the connectors' dust covers, NSN 5340-00-973-1732.



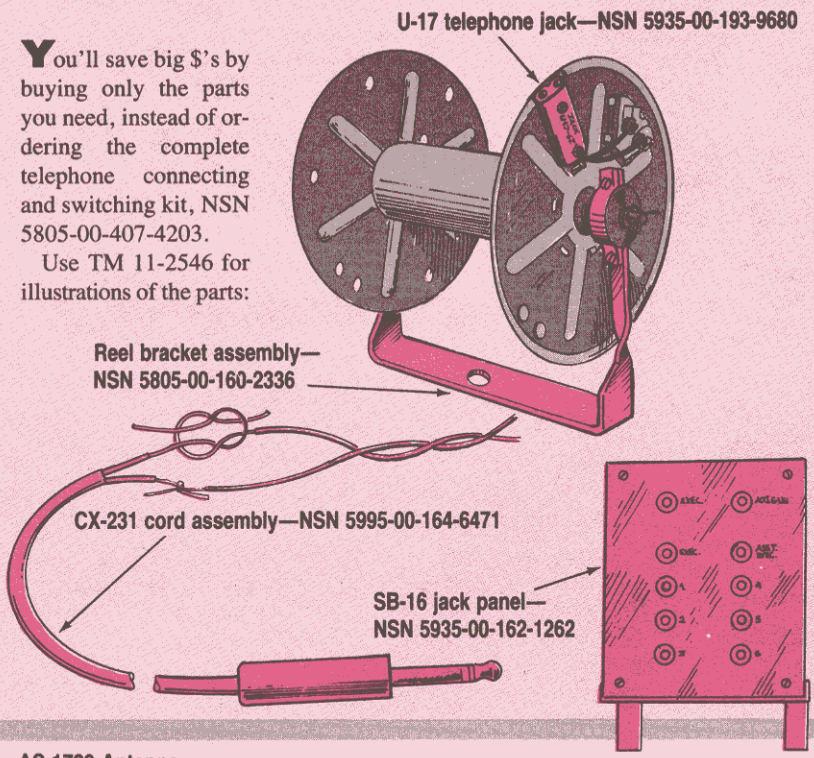
When either set of connectors is idle, put the cover on.

MX-155 Switching Kit...

Get It by the Part

You'll save big $'s by buying only the parts you need, instead of ordering the complete telephone connecting and switching kit, NSN 5805-00-407-4203.

Use TM 11-2546 for illustrations of the parts:



AS-1729 Antenna...

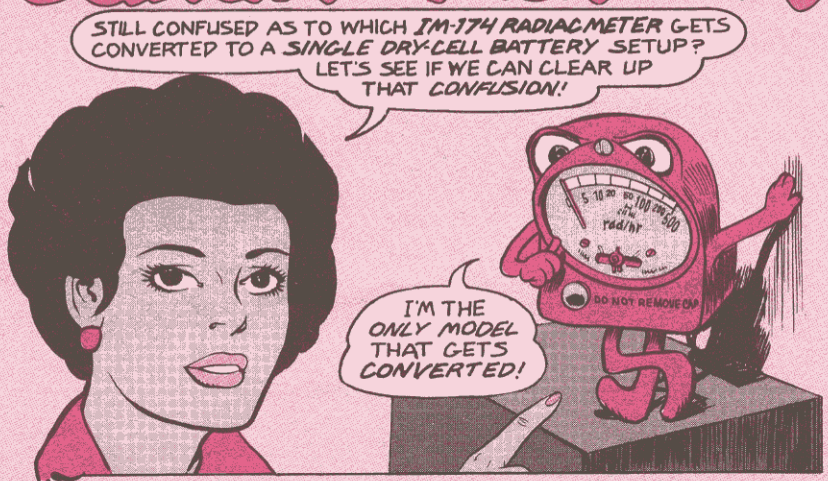
HMMWV Revisited

When you tie down an AS-1729 antenna, it rubs the rear bow of the canvas support frame on your cargo HMMWV. This causes holes in the canvas and a worn antenna that could short out.

You can stop the rub by tying down the antenna along the back of the vehicle.

IM-174 Radiacmeter...

Convert "A" Model Only



Only the IM-174A/PD, NSN 6665-00-999-5145, needs to be converted from a multiple battery power source to a single D-cell setup.

If you have an "A" model that has not been converted, fill out a DA Form 2407, maintenance request. In Block 16, put "D" cell conversion, TM 11-6665-232-12, Lexington Blue Grass Army Depot (LBAD).

Send the 2407 along with the radiacmeter to your support for TMDE processing to:

Lexington Blue Grass Army Depot
Receiving Branch
Warehouse 220
Lexington, KY 40511-5101

The converter set gets a DA 80 label changing the calibration recall date.

Commo Gear...

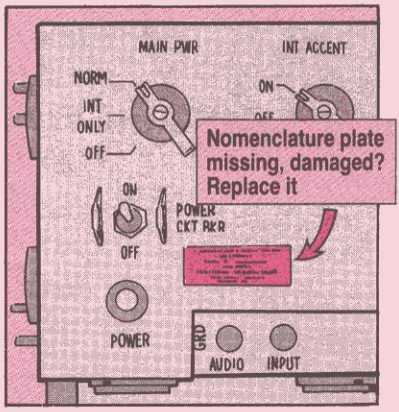
REPLACEMENT ID PLATE

When your communications or electronics equipment's identification/name plate is missing or damaged so bad you can't use it, you can get a replacement.

There's no NSN, but SB 11-631 is your guide to get a plate through DS.

Be sure to include the nomenclature, serial number and manufacturer's name and contract number, if you have them.

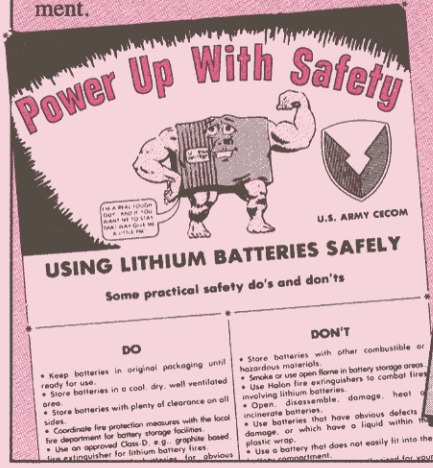
If you're replacing a badly battered plate, let your support send it along with the request.

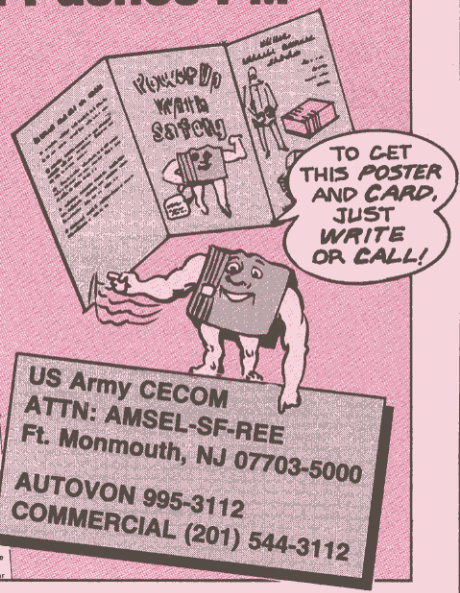


Lithium Battery...

Poster, Card Pushes PM

Get a poster and a ready reference card to help you use a lithium battery in your radio or other electronic equipment.





CG-1773/U...

Get a Longer RF Cable

Dear Half-Mast,
The 18-ft. RF cable is too short to install on the AN/VRC-46 radio set in our M1038 truck. Is there a cable that's 2 feet longer that'll help us out?
SFC B.P.

Dear Sergeant B.P.,
Yes, NSN 5995-00-985-7885 gets a 20-ft RF cable. Or, you can use a 22-ft RF cable, NSN 5995-01-054-7178, which is part of an installation kit as listed in SB 11-131.
Half-Mast

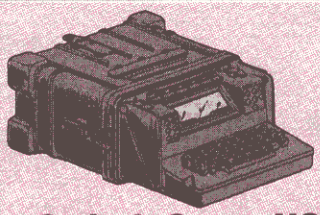
OA-9054 Antenna...

PM Saves Antenna

Rough handling of your OA-9054 antenna mast's gear box assembly when you take it out or stow it will bend or break cogs.

Use care when you guide antenna sections into and out of the clamps. Heed the handling info on Pages 2-51 and 2-89 of TM 11-5985-368-12&P.

Commo Stuff...



Signal Cable NSN

When you install the AN/UGC-74 teletypewriter set in the AN/GRC-122D and -142D Ratt Rigs, order the signal cable with NSN 5995-01-245-9069. Only the part number, SC-D-960624-005, is listed for Item 58 on Page B18 in TM 11-5815-334-10.

Switch Cover NSN

If you have trouble finding an NSN for the polarity switch cover on your AN/UGC-74 radio teletypewriter set, look no further. The switch cover, NSN 5930-00-442-5701, is listed as Item P/O 2 in Fig 20 of TM 11-5815-602-24P.

Replacement NSN

Use NSN 5945-00-413-1220 to order a time-delay relay which is for the Patriot's 150-KW generator. It replaces NSN 5945-01-130-3810 listed as Item 44 in Fig 71 of TM 5-6115-598-24P.

Loose Connection

Before you launch your J031 radiosonde, check the battery connection wire. If the wire's loose, it can cause signal interference. Tape the wire around the body of the sonde using tape, NSN 5970-00-685-9059.

Tie 'em Back

If just one of the small wires inside your goggles breaks, you and your AN/PVS-5 will be blinded.

The wires get broken because they dangle between the eyepieces where they can easily be jerked loose.

Prevent that by using a small piece of electrical tape to fasten the wires back to the frame where nothing can catch them.

New Tube for Airman

Never use a rebuilt image intensifier tube (IIT) in the modified version of the night vision goggles worn by an aviator.

Rebuilt IIT's will not provide the full life expectancy of new IIT's because they have been used previously. Therefore, goggles with rebuilt IIT's should not be used by an airman.

A tube rebuilt before May 88 states on the serial number tag, "Overhauled by SAAD".

A tube rebuilt after May 88 states "Not for aviation use".

Use only new IIT in airman's goggles. It's OK to wear goggles with a rebuilt tube if you are a ground soldier.

Switch Cover NSN

If the push-to-talk switch cover on your H-60 handset is cracked or torn, order a new cover with NSN 5930-00-173-8358. Use Appendix A of CTA 50-970 as the ordering authority.

STEP by STEP Track Adjustment

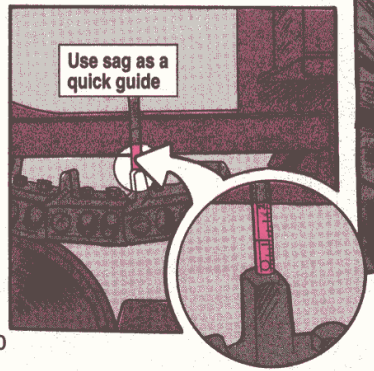
The track adjustment procedure in the manuals for the D5, D7 and D8K Caterpillar tractors leaves out a few steps.

Adjust the track based on slack, rather than sag. It's simple, and works better.

Sag is measured between the front idler and the upper track roller. It's the difference between a straight line and the difference between a straight line and the actual track position.

Slack is the difference in length between the circumference of the track system and the actual length of the track. As the idler moves away from the drive sprocket, you get less slack. As it moves closer, you get more slack.

You *can* use sag as a quick guide to tell when to adjust the track. You need to adjust the track when sag is more than 2 inches.

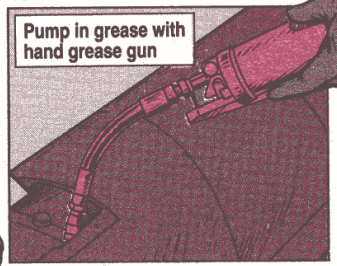


Adjust the track where the tractor's going to operate. And if the dirt you're working in tends to pack up in the track, leave it there while you adjust the track.

Make sure the tractor is on level ground. Run it forward at least twice the length of the tractor. Let it coast to a stop without applying the brakes.

Open the inspection plate over the hydraulic track adjuster and clean dirt and gunk off the fill valve fitting.

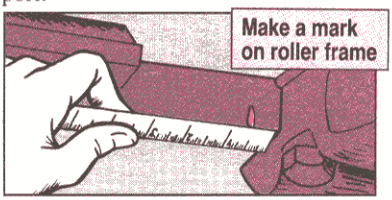
Make sure the relief valve is closed.



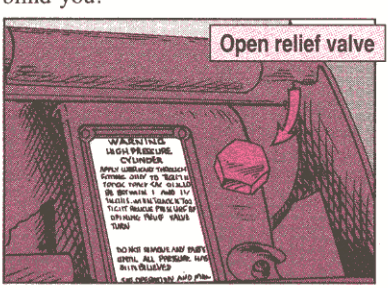
Connect a hand grease gun to the lube fitting and pump in grease. Pump until the idler moves forward and the track is tight. STOP when the idler stops moving! Do not use a compressed air grease gun. It will blow the seals.

The track will be almost straight between the front carrier and the idler. Remove the grease gun.

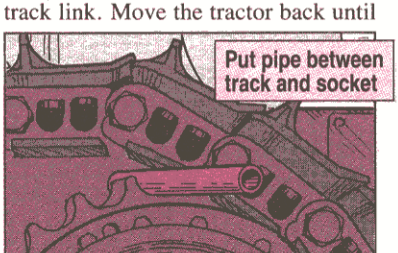
Make a mark on the roller frame ½ inch behind the idler bearing support.



Open the relief valve no more than 1 turn and let the idler move back. Don't look in the relief valve. Grease can be sprayed out under pressure and blind you.



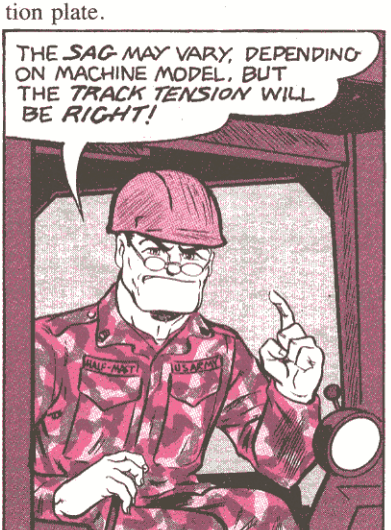
Put a track pin, drawbar pin or even a length of 2-in pipe between the top of the drive sprocket teeth near the track link. Move the tractor back until



the idler moves back past the mark you made. Move the tractor forward until the pin is free of the sprocket. Shut off the engine and remove the pin. Connect the grease gun to the lube fitting.

Close the relief valve. Pump in grease until the back edge of the idler bearing support lines up with the mark you made on the roller frame.

Clean up the grease that came out of the relief valve and close the inspection plate.

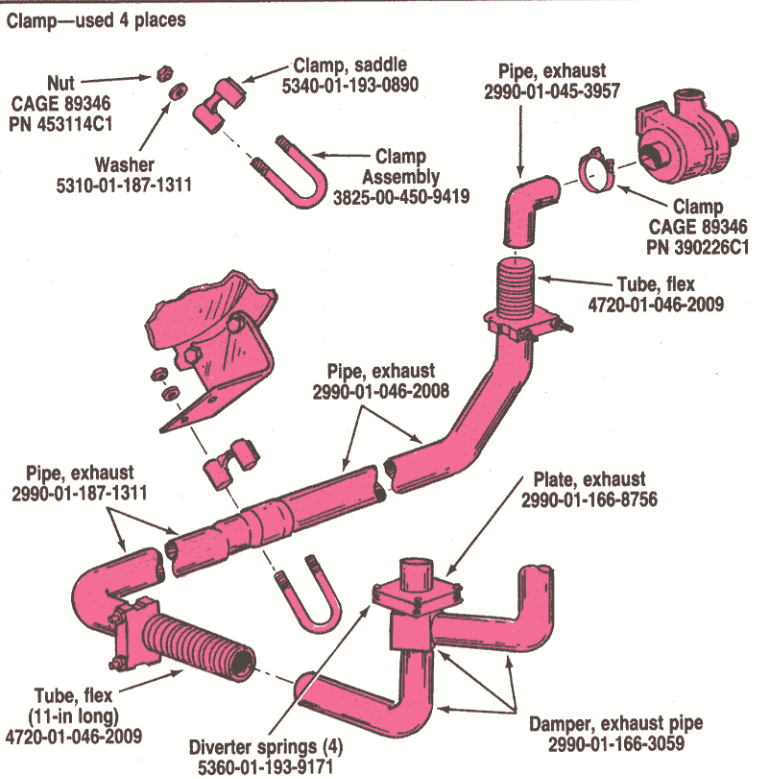


P.S END

It's a NEW Diverter

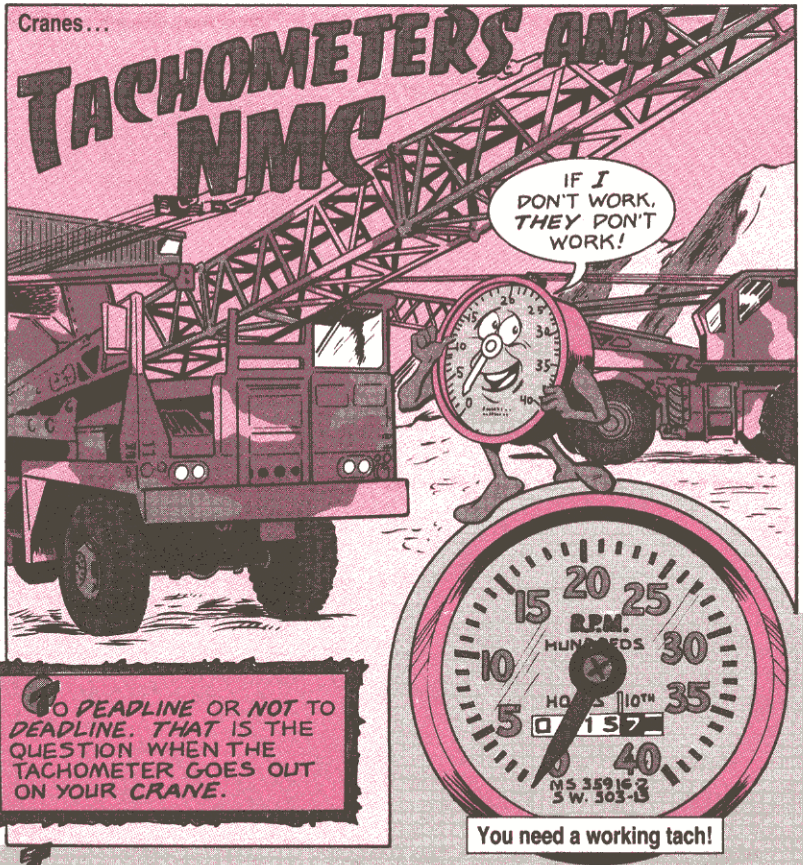
There's a new exhaust diverter for the F5070 dump truck. With it, you don't need the intermediate pipe section—which you can't get anyway!

Here's the new setup:



Cranes...

TACHOMETERS AND NMC



TO DEADLINE OR NOT TO DEADLINE. THAT IS THE QUESTION WHEN THE TACHOMETER GOES OUT ON YOUR CRANE.

You need a working tach!

The answer depends on the kind of crane you're operating, and which tach is bad. Crane systems are made up of two parts, the carrier and the crane (the upper portion). They can be powered by one engine, or two separate engines.

If the crane system has only one engine and one engine tachometer, it must have a functioning tach to be fully operational. If the tach won't work, the crane system is NMC.

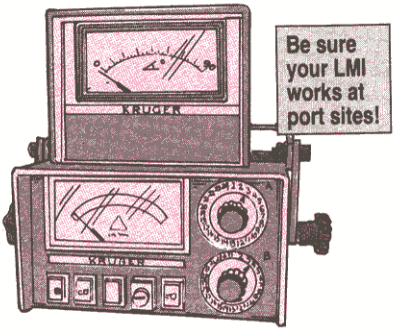
If the carrier and the crane have separate engines, the crane (upper portion) must have a tach that works. A bum crane tach means it's NMC.

The carrier can still be operated as long as you don't need the crane. The exceptions to this rule are the M320T and the M320T2 carriers. They have standard shift transmissions, and are NMC if the tach is bad.

Be sure to get a tach on order to replace a bad one.

Bum LMI = NMC

A defective load moment indicator (LMI) makes a crane "port site" NMC. Any time you're loading or unloading any watercraft—including the LACV-30—a ship or working around a dock, your crane will be NMC if the LMI is not working.

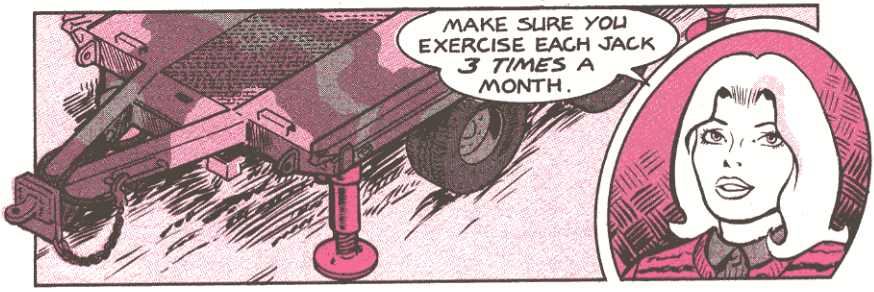


The Grove RT875CC container crane is NMC any time the LMI doesn't work since it doesn't have a boom angle indicator.

During clamshell or dragline water operations, you must have an operational boom angle indicator and load chart, but not an LMI.

XM 1034/XM 1048 Trailers...

Exercise Leveling Jacks



Leveling jacks on your 6-ton flatbed trailer need exercise.

If you don't exercise the leveling jack each month, the jack screw will rust. When you try to level your trailer, you can't move the jack. Rust holds it firmly in its grip. If you twist real hard, you'll snap off the shear pin.

Keep those jack screws turning smoothly. Fully extend and retract each jack every month. If you have used the jacks in a wet location, moisture can seep in through the bottom also rusting the jack screw. To remove the moisture, rotate the jack assembly to a vertical position to allow the moisture to escape.

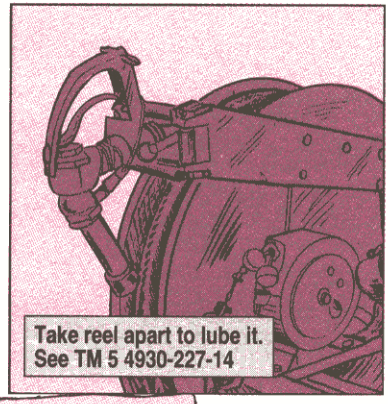
During annual service, remove, disassemble and clean each jack. After reassembly, smear a ⅛-in thick coating of GAA grease on the screw threads of each leveling jack.

A Slick Reel Tip

Dear Editor,

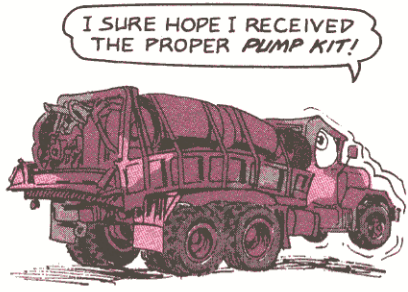
Our Highlands Model 2000 tank and pump unit's dispensing hose reels were stiff and wouldn't rewind without help. We found a bearing on the reel shaft that had nearly seized. There's no grease fitting, so the bearing must be removed and repacked. Now the reel works great!

SGT S.M. Hale
Berlin Bde



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

GED's are History



When the gasoline engine driven (GED) pumping assembly in your TPU stops pumping, you've got to replace it with an electric motor driven (EMD) pumping assembly. The GED's are no longer available.

There are two different electric pump kits, so make sure you order the kit that fits your model TPU.

Order pump kit, NSN 4930-01-187-1592, if you're replacing the gasoline engine pumping assemblies in these TPU's:

NSN 4930-00-078-4938
4930-00-078-4939
4930-00-542-2800
4930-00-987-8576
4930-00-926-3692
4930-00-926-3581
4930-00-877-8678
4930-00-070-1181

If you have Mil Design TPU, NSN 4930-00-426-9960, with a gasoline engine, NSN 2805-00-072-4871, order pump assembly, NSN 4320-01-047-1927. It's shown in Fig 3 of TM 5-4930-230-23P.

Installation instructions come with both kits.

Small Emplacement Excavators...

Backhoe Lubrication Plate

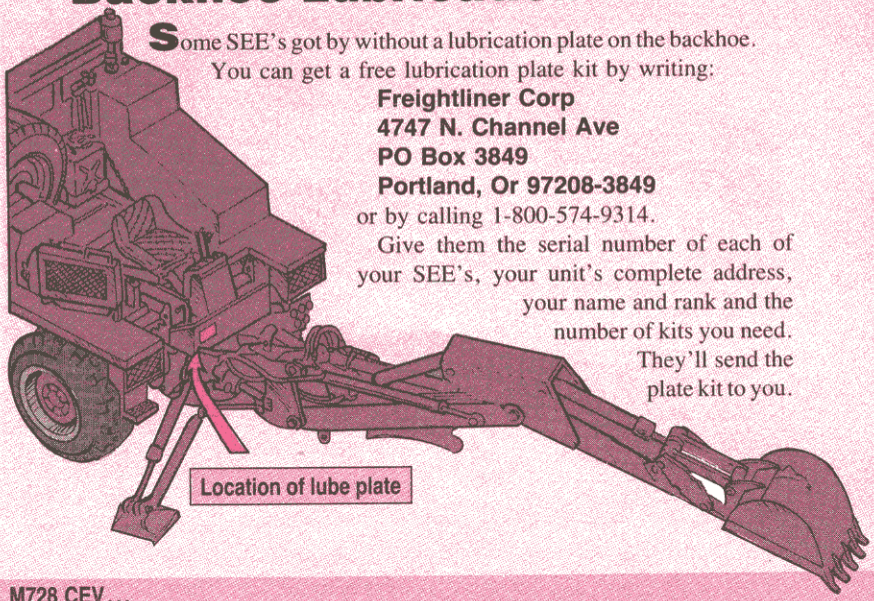
Some SEE's got by without a lubrication plate on the backhoe.

You can get a free lubrication plate kit by writing:

Freightliner Corp
4747 N. Channel Ave
PO Box 3849
Portland, Or 97208-3849

or by calling 1-800-574-9314.

Give them the serial number of each of your SEE's, your unit's complete address, your name and rank and the number of kits you need. They'll send the plate kit to you.



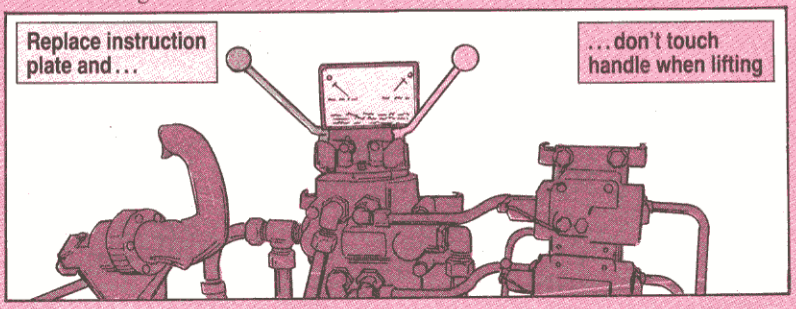
M728 CEV...

Lifting Operation Alert

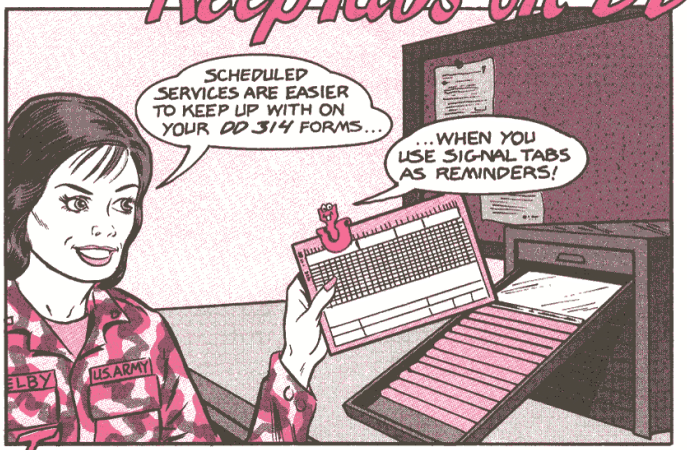
Moving the boom on your combat engineer vehicle (CEV) during a hoisting operation can get someone hurt or damage the CEV.

There's a new instruction plate for the winch and boom control valve that alerts operators not to move the boom handle when lifting loads.

Get the plate with NSN 9905-01-302-2641. It replaces the plate shown as Item 21 in Fig 171 of TM 9-2350-222-20P-2.

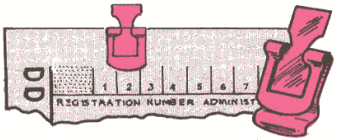


Keep Tabs on DD



The color of the tabs shows what type of service is due—green for scheduled lubrication; yellow for scheduled maintenance; and red for NMC equipment NOT READY/AVAILABLE.

You can use metal or plastic tabs, or embossing tape.

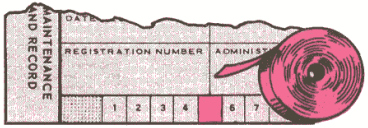


Metal tabs can be used whether you keep your 314's in a drawer, file or KARDEX file. Just clip them over the date of the next service.

The metal clip-on tabs come 100 per NSN.

Here are the NSN's:

Green	7510-00-285-5809
Yellow	7510-00-263-8843
Red	7510-00-263-8841

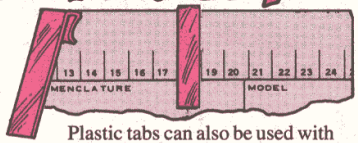


Embossing tape comes in ½-in by 12-ft rolls. Cut tabs in 3/16-in pieces for sliding in and out of the KARDEX plastic over the date block. Do not remove the adhesive from the back of the tape.

Get the tape with these NSN's:

Green	7510-00-849-1138
Yellow	7510-00-846-0133
Red	7510-00-849-1139

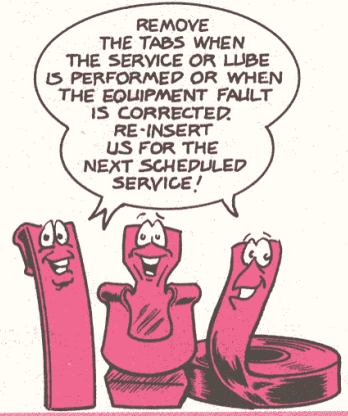
Form 314



Plastic tabs can also be used with the KARDEX files. They have a lip on one end which catches and holds onto the 314. These plastic tabs come 100 per box.

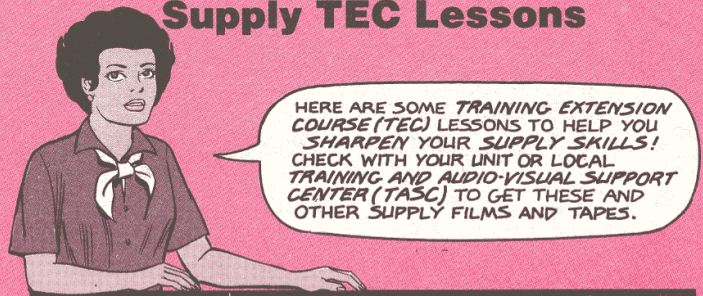
Here are the NSN's:

Green	7510-00-183-6472
Yellow	7510-00-183-6474
Red	7510-00-183-6473



Training...

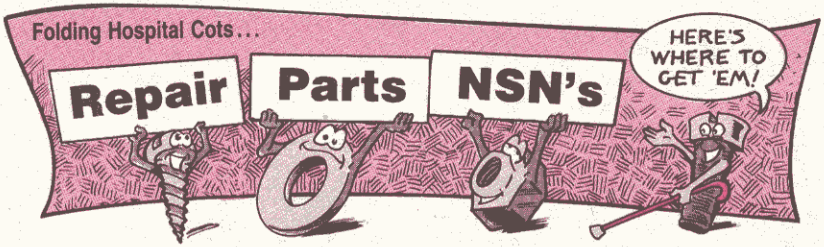
Supply TEC Lessons



TEC Lesson Number	Title
551-101-8227-A	Issue Supplies and Equipment to Hand Receipt Holders
551-101-8652-A	Request a Repair Part
551-101-8654-A	Initiate Follow-up, Document Modification Action and Cancellation Requests
551-101-8656-A	Perform Reconciliation of Due-ins
551-101-8663-A	Maintain a Demand Supported Shop Stock
551-101-8669-A	Maintain a Parts Request/Status Register for Status
551-101-8679-A	Maintain an MPL Record of Demands/Title Insert File

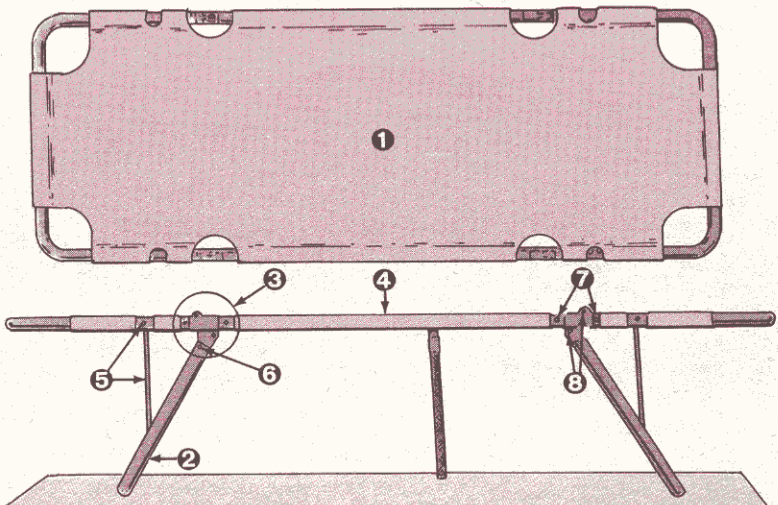
Folding Hospital Cots...

Repair Parts NSN's



Repair parts for the hospital folding cot, NSN 6530-00-299-8517, have not been available up to now. That's changed, though.

Here are the parts you can get:



Item	Description	NSN
1	Cover, Hospital Cot	6530-01-298-7448
2	Leg, Frame	6530-01-302-0219
3	End Frame, Cot, Hospital	6530-01-300-3526
4	Frame, Side, Cot, Hospital	6530-01-299-8088
5	Brace, Adjustable	6530-01-300-8693
5	Washer, Flat	5310-00-655-7219
5	Nut, Self Locking, Hex	5310-00-208-1919
6	Rivet, Tubular	5320-01-299-4174
7	Screw, Machine	5305-01-301-0812
7	Nut, Self Locking, Hex	5310-01-186-1245
8	Rivet, Solid	5320-01-299-4173

HMMWV Battery Terminal Cover NSN

Use NSN 2530-01-089-4992 to get a rubber terminal cover for single cable terminals on the battery for the HMMWV. Use NSN 4940-00-738-6272 for covers for dual cable terminals.

CUCV Seal NSN

A bum seal on the air bleed and water drain valve on the fuel filter will make a CUCV hard to start or stall after starting. You can get the seal with NSN 5330-01-236-1724. Use this NSN instead of the one for seal, Item 5 of Fig 18, in TM 9-2320-289-20P.

2½-Ton Truck Exhaust Pipe NSN

NSN 2990-00-968-6322, shown as Item 14.1 in Fig 43 of C1 of TM 9-2320-209-20P, gets the front exhaust pipe for the M292A1. All other 2½-ton trucks use pipe, NSN 2990-00-992-9278.

Fire Extinguisher Holder

NSN 4210-00-383-7127 is for a plastic and metal fire extinguisher bracket that holds the extinguisher in your M1010 truck. This bracket is stronger than the black plastic strap-type holder.

Outrigger Jack Pin NSN

The NSN has changed for roll pin used in the outrigger jack for all 5-ton wreckers. Now use NSN 5315-00-999-4238 for the pin.

HEMTT Calibrated Flow Valve

The NSN is wrong for the calibrated flow valve called out as Item 64, Fig 310 of TM 9-2320-279-20P. You don't get a complete valve. For now, order the flow valve on a DD Form 1348-6 using CAGE 17568 and PN 45A205 from S9C.

Bomag Speed Control Cable NSN

TM 5-3895-349-14&P for the K-300 high speed compactor shortchanges you on the PN for the speed control cable. Part number 3130 should be 31003130. The MCRL-1 crosses it to NSN 3040-01-227-1230. Make a note until the TM is updated.

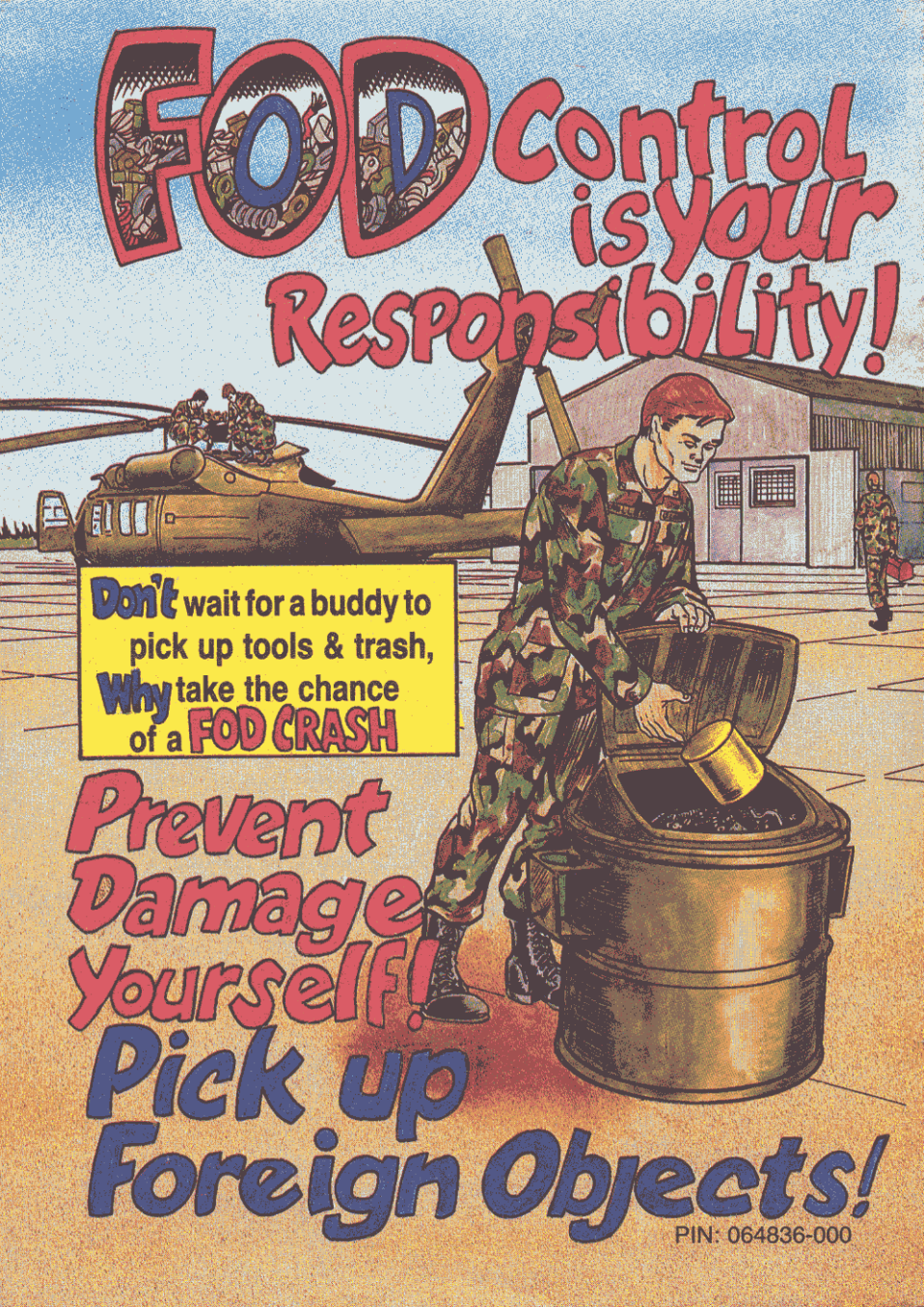
Welding Safety Blanket

Flying sparks from welding or cutting can damage nearby equipment. Protect it with a 6x6-ft fiberglass blanket, NSN 8340-01-284-6375. It's being added to the trailer-mounted welding shop, but can be used with other welding outfits. Use Appendix A of CTA 50-970 as your authority.

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

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1990—748-004/20004


FOD Control is your Responsibility!
Don't wait for a buddy to pick up tools & trash, Why take the chance of a FOD CRASH
Prevent Damage Yourself!
Pick up Foreign Objects!
PIN: 064836-000