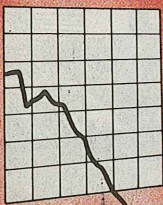


Issue 423

PSFebruary
1988

THE PREVENTIVE MAINTENANCE MONTHLY

**OPERATIONAL
READINESS
RATE**

IT JUST
DOESN'T MAKE
SENSE???

Approved For
Public Release;
Distribution is
Unlimited

Ground Support Equipment Grounded?
See Page 27



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-423. The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

ISSUE 423 FEBRUARY 1988

GROUND MOBILITY

HMMWV	2-5	Tunnel Covers	9
CUCV	6,7	Diesel Engines	10
Multifuel Vehicles	8-9	M172-Series Semitrailers	11

FIREPOWER

M1-Series Tanks	12,13	M110A2 SP Howitzers	18,19
Hydraulic Fluids	13	M109-Series SP Howitzers	19
Turret Seal Pumps	14	M60 MG	20-21
Fire Control	15	M2/M2A2 Aiming Circle	22
M88A1 RV	16	M16-Series Rifle	22
M113-Series FOV	17	Patriot Missile	23-25

AIR MOBILITY

UH/60A	35,36-37	AH-1	38-39
Aviation Messages	35	Free Air Temp Gage	40
Ground Support		OH-58	41
Equipment	27-34,43	Electrical Connections	42-43
UH-1	36-37,40		

COMMUNICATIONS

AN/VRC-12-Series	44	PP-1578A	47
1.5-KW Gen	45	Night Vision Sights	48
AN/GRC-106	45	RL-39	48
TA-838	46,47	Generator Sets	49

TROOP SUPPORT

Pubs, SOU's		Chain Saw Pubs	54
Audio-Visual Stuff	26	Sink Unit	55
JD410 Backhoes	50	7.5-KW Gen	55
130G Road Grader	51	Food Containers	56-57
MW24C Scoop Loader	51	M24, M25/M25A1	
25-Ton Crane	52	Masks	58,59,60
10-Ton Dolly Jack	52	M17 Masks	59,60
WD6S Distributors	53		

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

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

By Order of the Secretary of the Army:

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

Official:

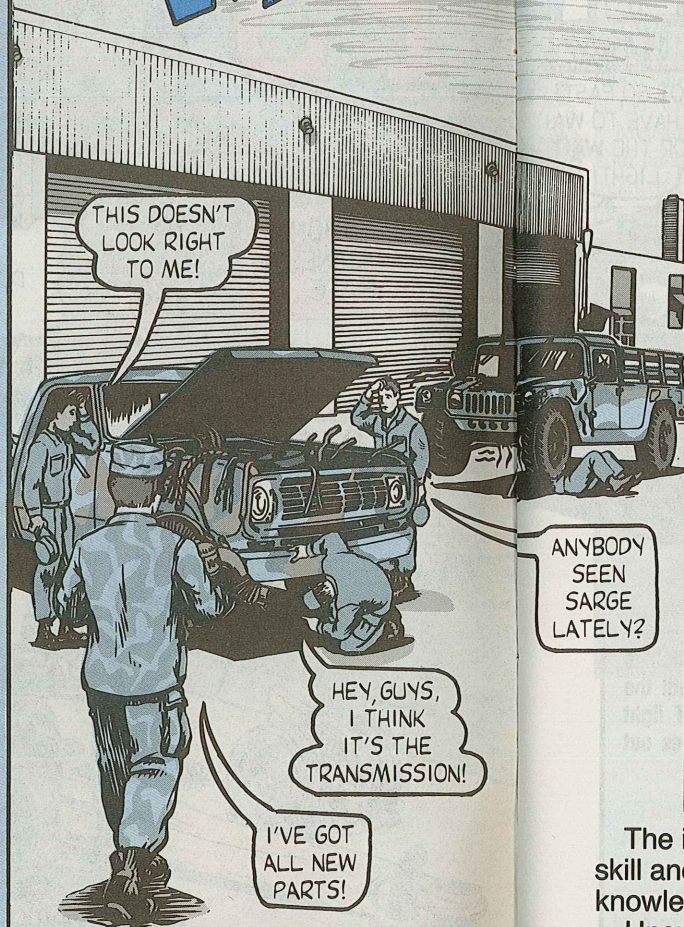
R.L. DILWORTH

Brigadier General, United States Army
The Adjutant General

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Washington, DC. Second Class Postage is paid at the Lexington, KY post office and at additional mailing offices.

Postmaster: Send address changes to Cdr. US Army Pubs Ctr, 2800 Eastern Blvd, Baltimore, MD 21220-2896.

What's Going On Here?



The idea behind on-the-job training is that those lacking in skill and experience will always have somebody with skill and knowledge looking over their shoulders.

Unsupervised trainees may be able to get a job done, but they may "learn" to do it the wrong way.

Jobs do not teach people; people teach people.

You can call unsupervised, unevaluated activity anything you want—but please don't call it TRAINING!

Keep on Truckin'

OK, SMITTY! LET'S
GET ROLLIN'!

NOT SO FAST!
WE HAVE TO WAIT
FOR THE WAIT
LIGHT!

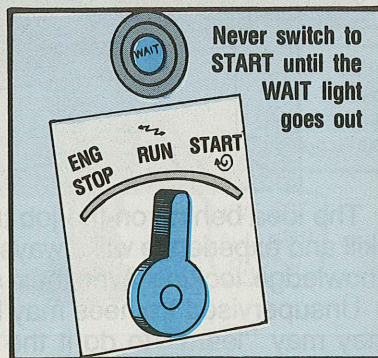
HERE'RE A FEW TIPS THAT'LL KEEP
YOUR HMMWV READY-TO-ROLL.

After you turn the ignition switch to RUN, wait. The WAIT light means just that. Wait!

If you get in a hurry when starting your vehicle, you'll burn up the glow plugs or blow the innards of the protective control box under the dashboard. Your mechanic can replace a bum control box with NSN 5975-01-196-4855.

If you hear a clicking sound and the WAIT light flickers ON and OFF during start-up, stop! The control for the glow plugs is not kicking completely off. If you drive your truck that way, you'll ruin the glow plugs.

If you're not into hoofing it, never leave the engine STOP-RUN-START switch set at RUN without starting the engine. This discharges the battery. Then you walk.



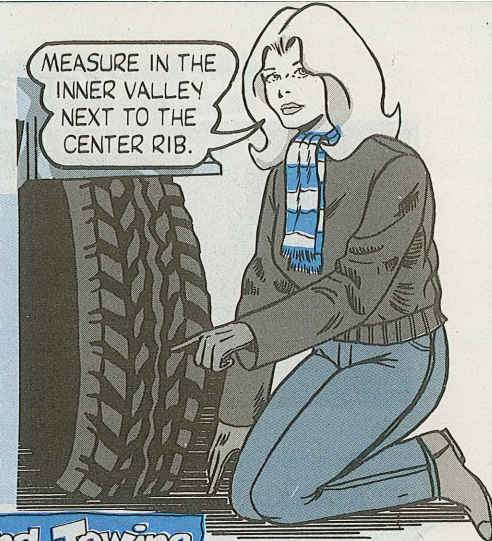
Tread Wear Indicator Moves

The tire tread wear indicator bar called out in Table 2-2 of your -10 TM is wrong.

Instead, measure tread wear in the inner valley next to the tire's center rib at the TWI marking on the sidewall.

Measure by eyeballing and running your hand over the wear bar and the tire tread. If the tire tread and wear bar are the same height, it's time to replace the tire.

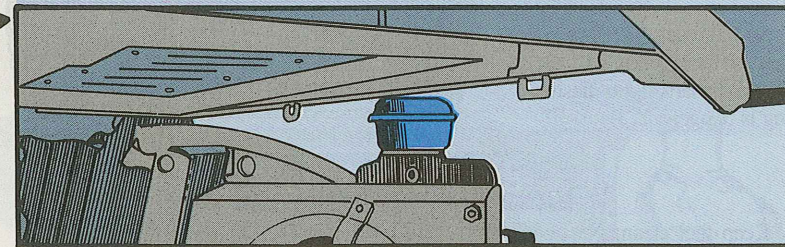
MEASURE IN THE
INNER VALLEY
NEXT TO THE
CENTER RIB.



Tailgate and Towing

Always put your vehicle's tailgate up before you move out when towing a trailer.

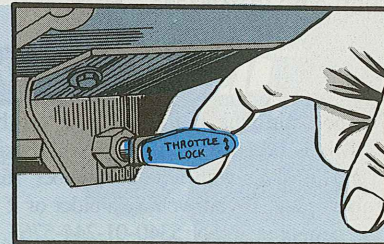
If the tailgate is down, it'll knock the top off the master cylinder on the M101A2 trailer when you turn or back up.



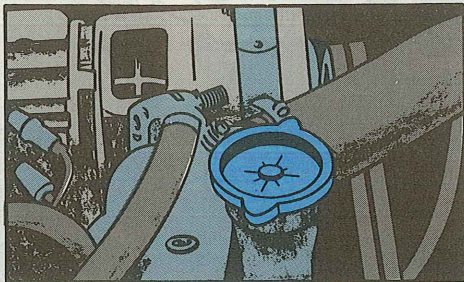
No Cruise Control

The hand throttle is not a cruise control. Use the throttle only like your -10 says—to increase RPM's, to power electronic equipment, to operate the winch, to ford or to start up in cold weather.

If you have the throttle pulled open when you step on the brakes, it takes longer to stop. You could get hurt, or hurt somebody.



Oil Cap Exchange



Grabbing just any old cap that fits the engine's oil filler neck can cause you a heap of problems.

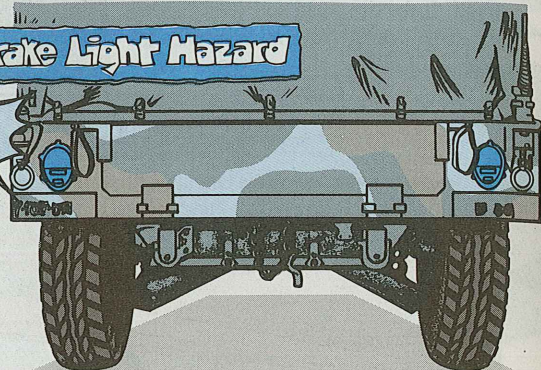
The HMMWV's cap is flat and sealed to keep water out when you ford your vehicle. Using a vented cap leaves the engine wide open to water damage during fording.

Brake Light Hazard

Drivers, beware!

Hazard lights and brake lights do not work at the same time.

So following too close to one of these vehicles that has its hazard lights flashing is dangerous. Backoff!



Clean's the Scheme

Keep fuel clean. Never jab the nozzle too far into the filler neck. The nozzle will punch a hole in the screen or pull it away from the side of the tank. Then you'll get sand, dirt and other junk in the fuel. Dirt will ruin a fuel injector pump real fast.

If you see a damaged screen, report it. Your mech can get a new one with NSN 2910-01-187-1326.

Plug the Leaks

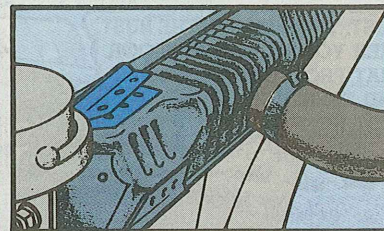
The drain plug in the fuel tank can be a real drip! This is because the rubber on the original plug breaks down. Then it leaks. HMMWV's with a serial number 16527 and higher come with an improved rubber plug. If your vehicle's older or if the plug leaks, have your mechanic order the new plug, NSN 5340-01-244-5765.

Cross-Country Bug-a-boo

Your HMMWV takes a beating when you drive cross-country. Vibration can break the top support mounts on the radiator.

Then the radiator bounces against the cooling fan. This damages both the radiator and fan blades.

If you find loose or broken mounts get them repaired, pronto!



Fly-away Fan

It's true, drivers. Fan blades can break off and hit the radiator or hood.

So every time you do your after operation PMCS, eyeball the cooling fan and blades.

Look for cracked or chipped blades. Make sure all bolts are tight. If you find any damage or loose bolts, have your mechanic tighten the bolts or replace the fan, now!

Window Cleaning Made Easy

Cream hand cleaner and detergent make cleaning the plastic windows easier.

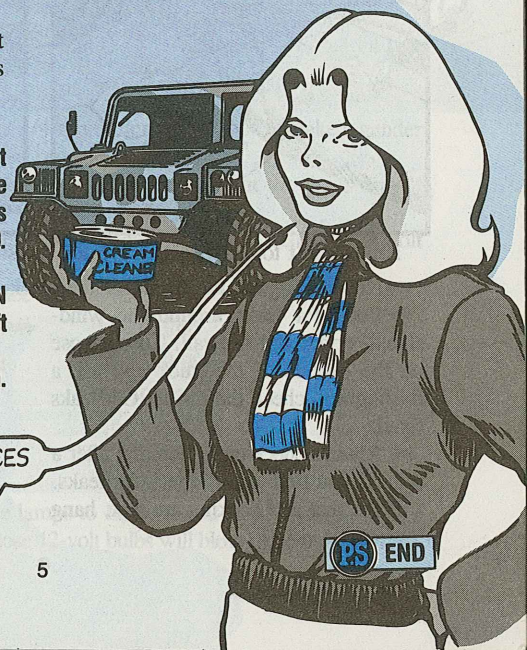
Here's how:

Wash the windows with detergent and water, using a soft, clean cloth. Use detergent, NSN 7930-00-282-9699. It's Item 6 on Page D-2 of TM 9-2320-280-10.

Rinse with clean water.

Apply cream hand cleaner, NSN 8520-00-082-2146, with a clean, soft cloth or sponge.

Wipe the cleaner off with a dry cloth.

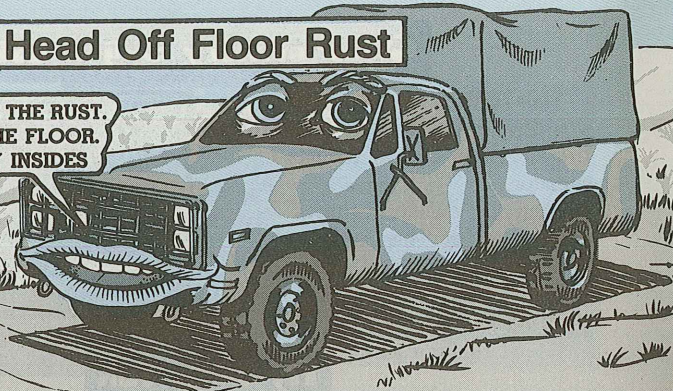


THE CREAM CLEANER REPLACES
ITEM 12 ON PAGE D-3
OF THE -10 TM.

PS END

Head Off Floor Rust

FIRST, YOU REMOVE THE RUST. THEN YOU PAINT THE FLOOR. THAT PROTECTS MY INSIDES AND THEN THEY RUST NO MORE!

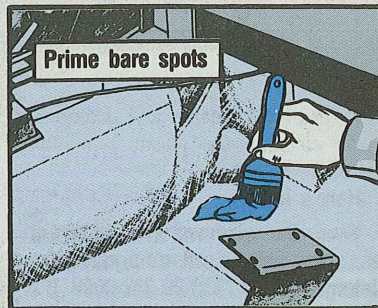
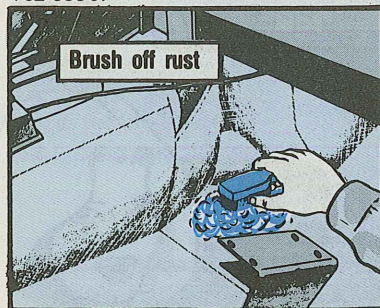


The floor mat's fiber backing in CUCV's can hold water—leading to the floor rusting.

If your command OK's it, get rid of the mat and backing. Follow the info on rerouting the uncovered wires in TB 43-0001-39-4 (Oct 87).

When the floor is dry, remove any rust with a wire brush. Paint bare spots with primer, NSN 8010-00-082-1714.

Paint the entire floor with OD nonskid walkway compound, NSN 5610-00-782-5556.



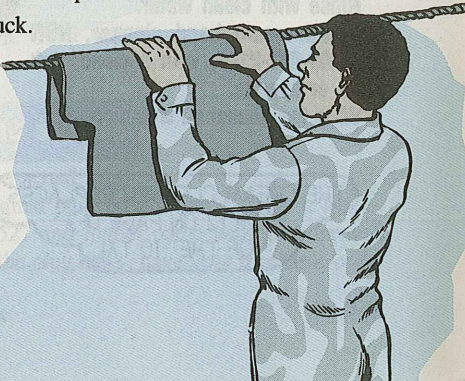
If you can't toss the mat, solve the moisture problem before it starts like so:

🚚 Never hose out the inside of the truck.

🚚 Look for leaks around the windshield, doors and firewall. Turn a hose on the outside of the truck and use a flashlight to check the inside. Get leaks fixed.

🚚 Always check under the mat after a rain. If you find water, check for leaks.

If the mat and backing are wet, hang 'em out to dry.



Make Your Little Lights Shine

HEY, BUDDY! WHERE WERE YOUR LIGHTS?



If you're gonna tow an M101-series 3/4-ton trailer with a CUCV, take a gander at the taillight lamps before you move out.

Step on the brakes and have a buddy look to see how bright the lights are. If the lights are dim, the trailer has 24-volt bulbs.

The CUCV's 12-volt electrical system doesn't have the juice to make the 24-volt lamps light up.

The problem is an easy fix. Replace the 24-volt lamps like this:

Instead of 24-Volt	Use 12-Volt
NSN 6240-00-	NSN 6240-00-
044-6914	617-0991
019-0877	155-8717
019-3093	143-3159

Watch it, tho. After you change the lamps to 12-volt, you can't hook the trailer up to a truck with a 24-volt system. Those 12-volt bulbs will blow like the 4th of July!

Oil Check Revisited

CHECK IT HOT!

CHECK IT COLD!

I DON'T THINK THERE'S ANY DIFFERENCE.

You may hear conflicting tales about when to check a multifuel's engine oil and how much oil is right. It's like campfire stories—everyone has a different version.

This applies to multifuelers like the M39-series 5-ton's LDS 465-1, LDS 465-1A and LD 465-1C engines and the M35-series 2½-ton's LDS 427-2, LD 465-1, LD 465-1C, LDT 465-1 and LDT 465-1C and D engines.

Here's what you need to know:

Hot Check

Wait one minute after engine shutdown to check the oil level. (That's when an engine has reached at least normal operating temperature—140°F or above).

The oil should be at the FULL mark. Add oil if it's lower.

No problem if the oil level's just a hair under the FULL mark. You'd be wasting Uncle Sam's oil (and money) by adding a dab here, then draining some there, and slopping it all over the engine compartment.

Hot check—between
ADD and FULL

ADD 4 2 FULL

Cold Check

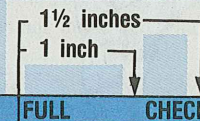
Wait at least 3-5 minutes after engine shutdown before you make a cold check.

The oil should be between 1 inch and 1½ inches above the FULL mark. IF it's lower, add enough oil to bring the level up to at least 1 inch above the FULL mark.

Starting at the FULL mark, a quart of oil equals ¼ inch on the dipstick. If the oil is a little above the 1½ inch level, don't add any more.

Here's a guide to help you with your cold check:

Cold check—
1" to 1½" over FULL



ADD	4	2	FULL	CHECK
-----	---	---	------	-------

The "K" in CHECK on your dipstick is at 1½ inches above the FULL mark. One inch above FULL comes just below the "C" in CHECK.

During operation, an oil level between FULL and ADD is safe.

2½-Ton Trucks...

Tunnel Cover Parts List

No matter how you twist 'em or turn 'em, tunnel covers designed for 5-ton trucks will not fit the 2½-ton.

Until TM 9-2320-209-20P picks up the info, here are the right parts:

Cab floor plug
NSN 5340-00-205-5244

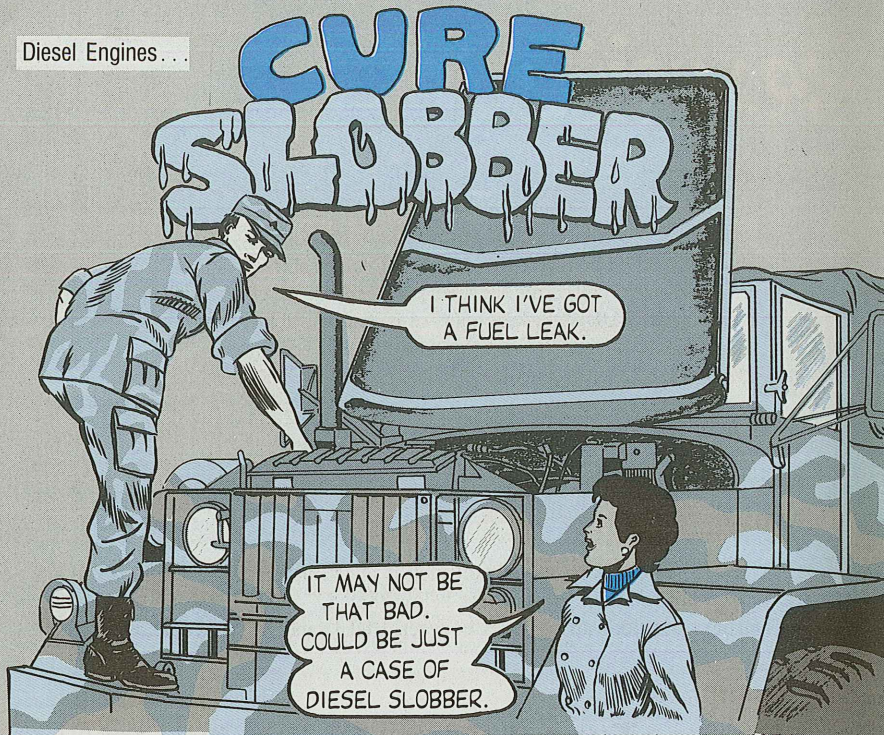
Cab floor plugs
NSN 5340-00-329-4420

Rear cab tunnel cover
NSN 2510-00-176-3457

Cab toeboard
NSN 2540-01-183-8327

Machine screw (28)
NSN 5306-00-018-6493

Front cab tunnel cover
NSN 2510-00-176-3458

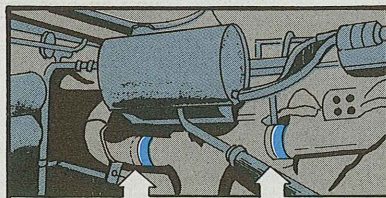


If you spot some wetness like fuel or oil seepage around the exhaust manifold on your diesel-powered vehicle, don't panic. Could be your engine is suffering from "diesel slobber"—a chronic but not fatal condition. The wetness is unburned fuel and condensation.

Diesel slobber is fairly common under certain conditions—high humidity and low temperature, and long idling without reaching operating temperatures.

Before calling for help, try giving your truck a good run. Then check to see if the wetness is gone. If it's still leaking, get your mechanic to check it out.

You can help prevent slobber by idling your truck no longer than 10 minutes.



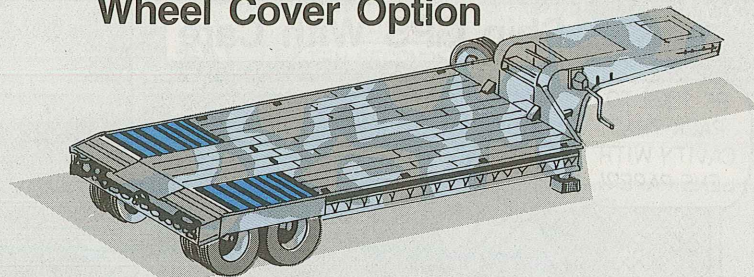
Wetness here? Don't panic!

If you're going to be idle longer than that, shut off the engine.

Of course, you can't always prevent slobber. If you're taking short trips on a day when the temperature's low and the humidity's high, your vehicle will slobber.

No problem, tho. Just drive your truck a few miles, or idle it at fast idle for 5 minutes or so and you'll likely dry up the mess. If not, report it.

Wheel Cover Option

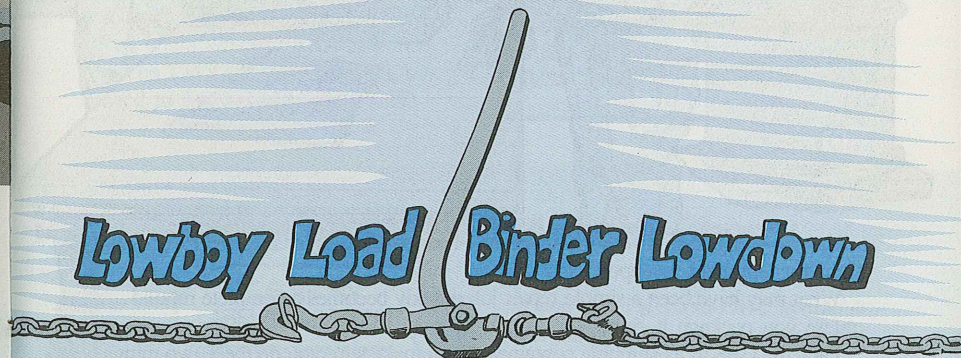


Take 'em or leave 'em—it's your call. That's the word on replacing the M172/A1's wheel cutout covers—Item 1, Page 2-18, of TM 9-2330-211-14&P.

Early M172's have wheel covers over the four wheel openings in the bed. But, the covers were not put on later models or the A1's.

The NSN is not in the TM, but you can order wheel covers with NSN 2540-00-201-8757. The covers will fit all M172-series semitrailers. Covers are used for loading and unloading only. Store with ramps when traveling.

Lowboy Load Binder Lowdown



You can't get load binder, NSN 3990-00-274-6746, listed in TM 9-2330-211-14&P. And the substitute listed on the AMDF gets a binder that has hooks too small to fit over the chain links.

So order binder, NSN 3990-00-171-9775. It fits 3/8- to 1/2-in chain.



Wheels

Get a wheel and ring for the M172/A1's lowbed semitrailer with NSN 2530-01-125-4084. Figure 20 of TM 9-2330-211-14&P is wrong when it says that NSN gets the ring only. The wheel NSN is wrong, too. You can't get wheels and rings separately.

Ship GPS With Care

BE SURE TO
PACK THAT
CAVITY WITH
LENS PAPER!



You do yourself no favors when you half-heartedly package the gunner's primary sight for shipment to depot.

What may have been a simple repair job quickly becomes a complete rebuild... unless you package it right.

Pack the GPS in its shipping container. Then make sure you do these two things:

1. Pack lens tissue paper, NSN 6640-00-285-4694, inside the thermal imaging system cavity. This prevents vibration damage to the optics inside the GPS.

2. Make sure some cover is put over the thermal imaging system opening before you put the GPS in its container. Masking or duct tape will do. Just make sure the opening is completely covered.

Without a cover, moisture, dust and dirt will cause damage to the optics and electronic circuits.

Do the job right. Keep shipping damage to a minimum.

YOU TANKERS
HAVE SOME
MAINTENANCE
OR SUPPLY
PROBLEMS?
JUST WRITE
US AT PS:
LEXINGTON, KY.
40511-5101!



Stall Test Shortened



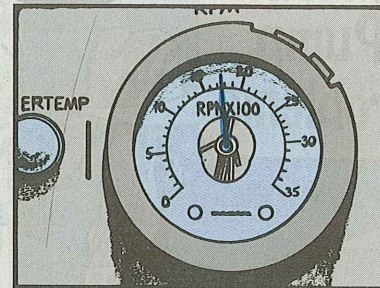
TEN SECONDS IS ALL
YOU NEED TO RUN A
STALL TEST ON
YOUR M1'S!

M1-series tank mechanics, you've got just 10 seconds to run the stall test, not 20 seconds as shown in TM 9-2350-255-20-1-1 and TM 9-2350-264-20-1-1.

Go by what's shown in Change 4 to TM's 9-2350-255-20-1-3-1 and 9-2350-264-20-1-3-1. It's not a lot of time, but all you're looking for is between 1,600 and 1,875 RPM with the service brake depressed and the transmission in drive.

Once you get the RPM reading, turn the throttle back to idle. If you take 20 seconds as advised in some of the TM's, you could wreck a transmission.

The TM's are being changed, but you need to use the new info NOW!

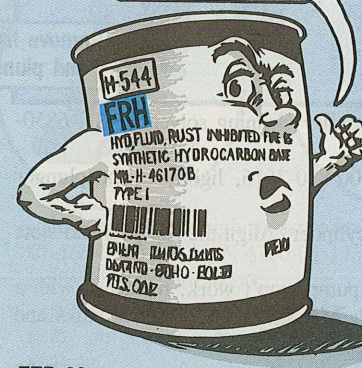


With the service brake depressed and the transmission in drive, rev up to 1,600-1,875 RPM. Once you get that RPM, throttle back to idle.

Tanks...

Cherry Juice Isn't Always Cherry

BE SURE MY
LABEL READS FRH!



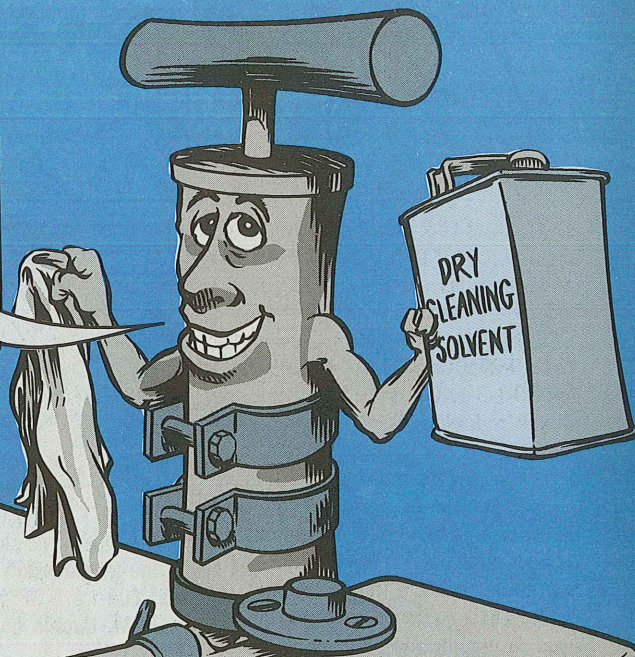
If you mix FRH and OHT hydraulic fluids in your tanks, the flash point drops... and so does safety.

You're supposed to use FRH fluid. It has twice as high a flash point as the old OHT. That makes it twice as safe.

Trouble is, FRH comes in two colors, honey and cherry red. Cherry red is the same color as OHT. That's why you must keep FRH and OHT separate and clearly labeled. Always check the name on the can—not the color—when you add hydraulic fluid.

Make sure it's FRH. Just because it's red doesn't mean it's right.

PM Prevents Pump Problems



Your tank's turret seal pump depends on a little preventive maintenance to keep it on the job. There are no repair parts.

Although some vehicle TM's have the word on how to keep the pump in good working order, some don't. Here are the ins and outs of it:

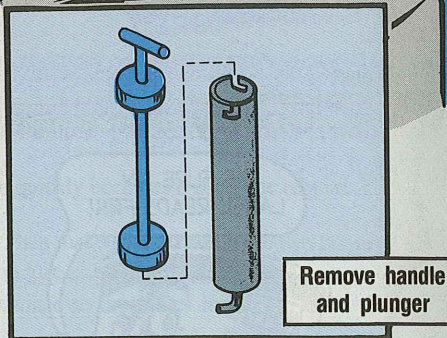
Every 6 months or so, remove the handle and plunger. Turn the cap counter-clockwise and pull it out.

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 the plunger clockwise to attach.

If any pump parts are damaged or if the pump won't work, replace it with a new pump. Use NSN 4320-00-825-6934 for M48A5 and M60-series tanks and NSN 4320-01-156-0453 for M1-series tanks.



Fire Control...

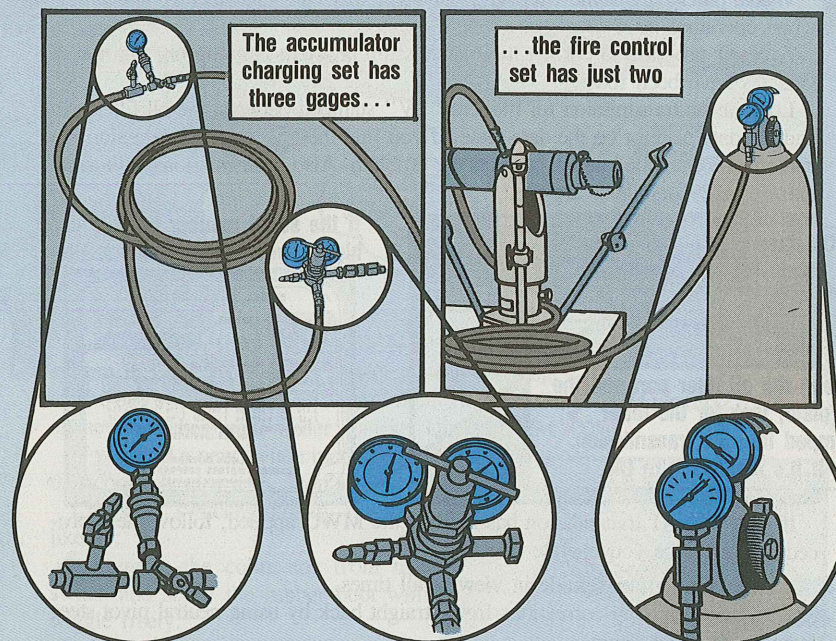
Purging and Charging CAUTION

Just a reminder, mechs, that there is a difference between the purging and charging systems for use with combat vehicles.

Charging set, NSN 4931-01-046-7109, is for turret accumulator recharging only! Use it on fire control components and you'll blow component seals and maybe even cause some components to explode.

Use purging and charging set, NSN 4931-00-065-1110, only with fire control components.

You can identify the sets by the number of gages that make up the sets. The accumulator charging set has three gages, the fire control purging kit just two.



In addition, the high pressure hoses used with the charging set are NSN 4720-01-166-0263 and NSN 4720-01-175-3880. The purging kit uses low pressure hose, NSN 4720-00-561-0713.

As a precaution when purging or charging components, stay clear of items being purged or charged.

Reverse Operation Hazardous

SMASH

LOOK OUT! HE'S
OUT OF CONTROL!

Whoa! There are some M88A1's out there that can lose steering and power when operating in reverse gear.

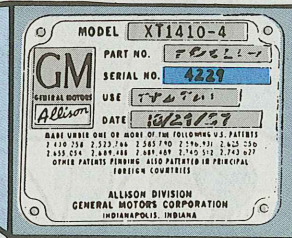
A repair program to correct the transmission problem is going on, but not all vehicles have been fixed.

Look at the transmission for the letter "V" stamped between the oil filler port and the data plate or on the data plate. If you find the "V", the transmission has had an MWO applied which corrects the problem. Also, transmissions with serial number 4229 or higher are OK.






Oil filler
port

Between the oil filler port and the
data plate, look for the letter "V"
stamped into the transmission.
If it's there, you're OK

If the serial number is 4229 or
higher, your transmission is OK



If your M88A1 transmission has not had the MWO applied, follow these procedures any time you operate in reverse gear:

-  Keep your ground guide in view at all times.
-  Make all steering corrections from straight back by using neutral pivot steer from a complete stop.
-  Limit operations in reverse gear to very slow speeds.
-  Do not allow anyone near the vehicle when it is being backed up.
-  If you lose steering and propulsion when in reverse, apply the brakes, shift to neutral and increase engine idle to 1,400-1,600 RPM for 30 to 40 seconds before attempting to operate in reverse again.

Switch May Be Defective

THE CHARGING
SYSTEM IN MY M113
WON'T WORK. WHAT'S
THE PROBLEM?


COULD BE A BUM
GENERATOR FIELD
SWITCH!


Bum generator field switches, NSN 5930-00-771-8119, may cause the charging system in your M113-series carrier to stop working.

The bad switches were made by Faria. Their CAGE (FSCM) is 09527. Check all new switches made under contract DLA900-86-C-0054.

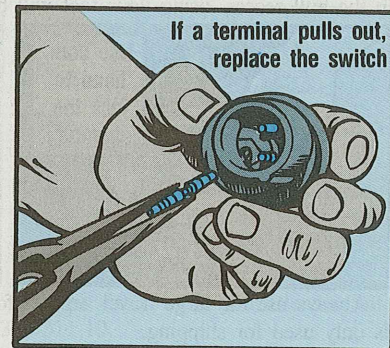
If you find a new switch made under that contract, turn it in. Don't use it.

Check all switches already installed like so:

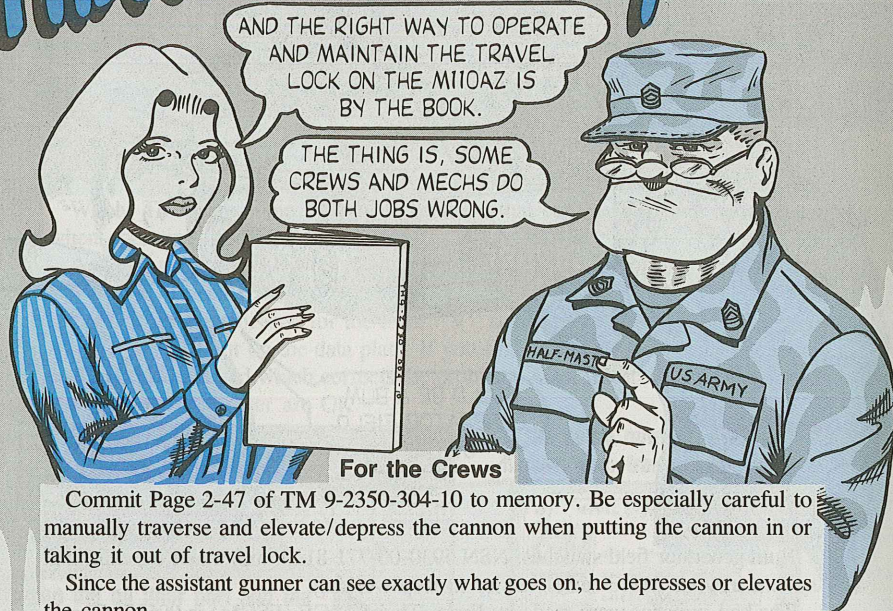
 Remove the connector from the switch and see if the rubber boot will wiggle freely.

 Try to pull the terminals free of the switch with a pair of pliers. Don't use too much force—just pull firmly.

If the boot is loose or a terminal will pull out, replace the switch with one that's OK.



There's a Right Way for

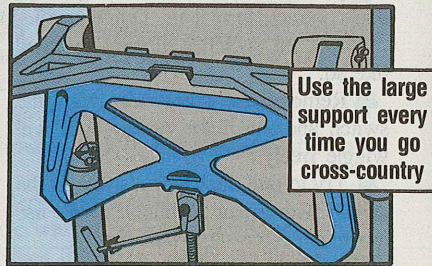
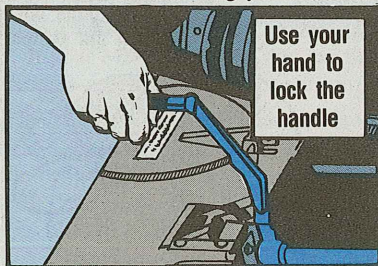


For the Crews

Commit Page 2-47 of TM 9-2350-304-10 to memory. Be especially careful to manually traverse and elevate/depress the cannon when putting the cannon in or taking it out of travel lock.

Since the assistant gunner can see exactly what goes on, he depresses or elevates the cannon.

Use your hand to lock the handle, not your foot. If the travel lock is not aligned in the hull recess, using your foot will bend the hollow bar it's attached to.



Always use the large travel support for bracing the cannon. The smaller one is only used for shipping.

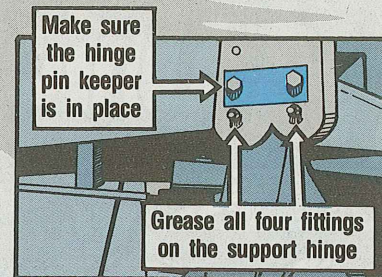
Everything

For the Mechs

Cast your eyes on Card 27 of LO 9-2350-304-12. Note 46 says that you lube all 4 grease fittings on the support hinge pins with GAA at least quarterly.

Without grease, the support hinge sticks. When you lube it, make sure the support is free.

Be sure the hinge pin keeper is in place so the pin supports can't come out. The travel lock support could collapse if the pin supports fell out. If parts are worn or missing, replace 'em.



M109-Series SP Howitzers...

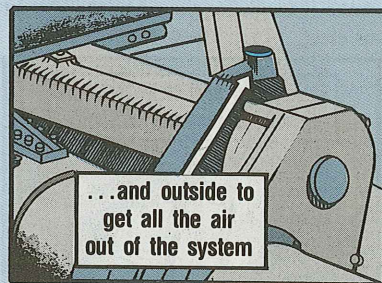
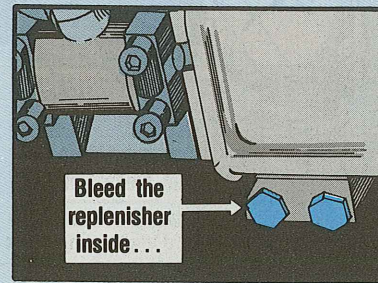
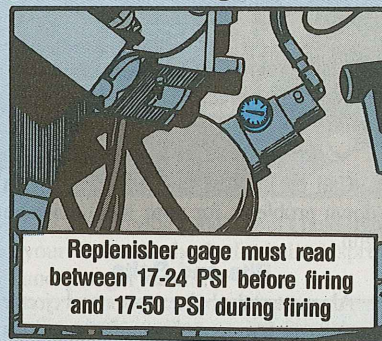
Bleeding Stops Breaking

It just won't work, crews.

You think you can live with jerky recoil.

Wrong! Every time that cannon recoils hard and counter-recoils too fast, something is damaged. If it counter-recoils fast enough, rollers on the crank assembly break, the breech-block rotates too far, or an oil line might break and give you a hot hydraulic oil bath.

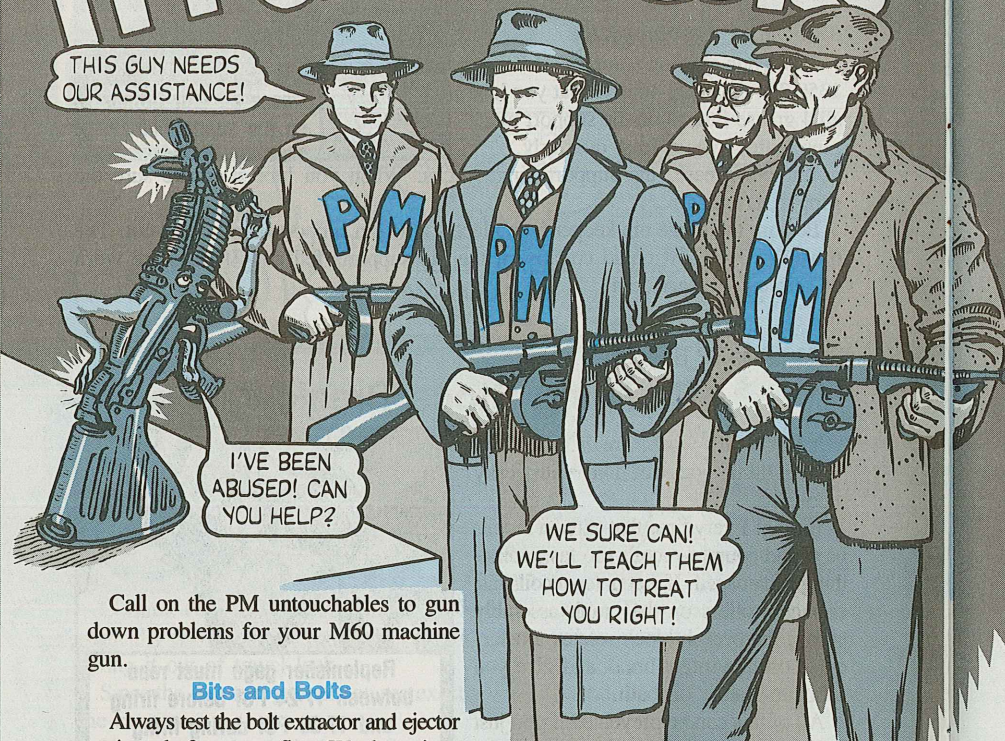
All of this can be prevented if you just pull your before-firing PMCS on the



replenisher system and bleed the system like your -10 TM tells you. Bleeding info is on Pages 3-41 and 3-42 in TM 9-2350-311-10.

PM Untouchables

THIS GUY NEEDS OUR ASSISTANCE!



I'VE BEEN ABUSED! CAN YOU HELP?

WE SURE CAN! WE'LL TEACH THEM HOW TO TREAT YOU RIGHT!

Call on the PM untouchables to gun down problems for your M60 machine gun.

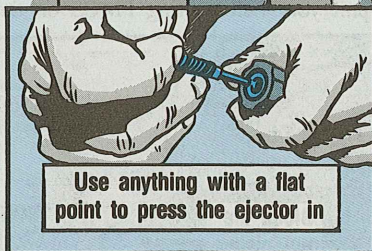
Bits and Bolts

Always test the bolt extractor and ejector springs before you fire. Weak springs make it tough for your M60 to extract or eject.

Press up and in with your thumb to test the extractor



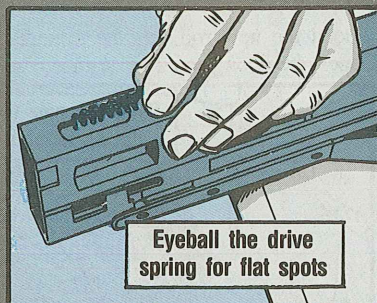
It should depress hard and spring back eye-blink quick.



Use anything with a flat point to press the ejector in

It should depress hard and spring back quick.

If either spring is weak, have your armorer replace it.



Eyeball the drive spring for flat spots

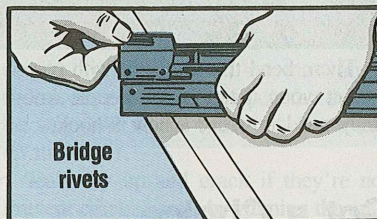
They cause poor recoil. Tell your armorer.

Tighten Up on Looseness

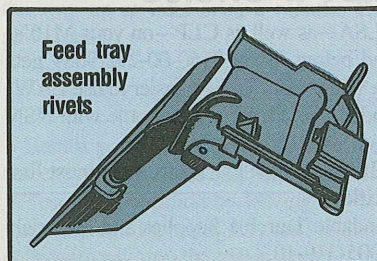
Firing your M60 gives it quite a shaking. Over time, rivets and pins work loose. Feel for looseness at the:



Key holding the socket to the barrel



Bridge rivets



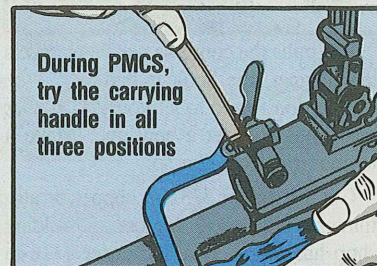
Feed tray assembly rivets



Feel for gas cylinder looseness. If it moves, let your armorer know, pronto!

Odds and Ends

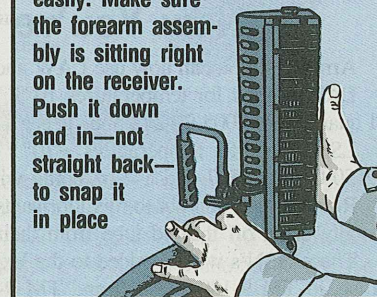
Pull the trigger straight back to fire... and keep it back. If you squeeze the trigger again and again in short bursts, you wear out the sear and sear notch. Release the trigger quickly when you're through firing, too.



During PMCS, try the carrying handle in all three positions

If the carrying handle won't hold, have your armorer check the helical spring and plunger detent.

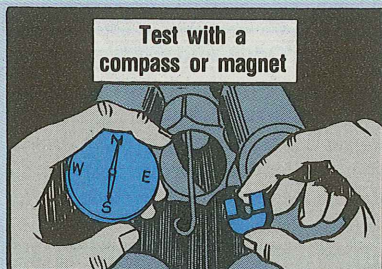
Be gentle putting on the forearm assembly. Its ribs catch and break easily. Make sure the forearm assembly is sitting right on the receiver. Push it down and in—not straight back—to snap it in place



Unhook Magnetic Problems

The wrong S-hooks on your M24 tripods will mess up the M2's accuracy. They're wrong if they're the magnetic kind.

Put 'em to the test by putting a compass or magnet next to the S-hook.



If it pulls the compass needle or repels the magnet, the hook is bad.

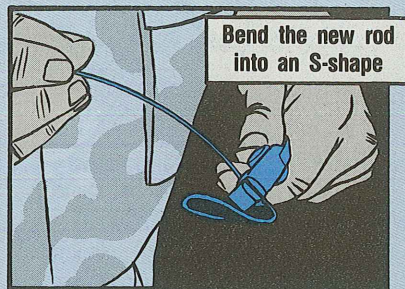
You don't need to let your M2 gather dust until you get a new one. Make a temporary hook like so:

Get a 1/16- or 3/32-in copper or aluminum welding rod. Almost any welding shop has them. You can order 1/16-in rod with NSN 3439-00-246-0575 and 3/32-in rod with NSN 3439-00-246-0576.

Cut off a 3 1/2-in piece.

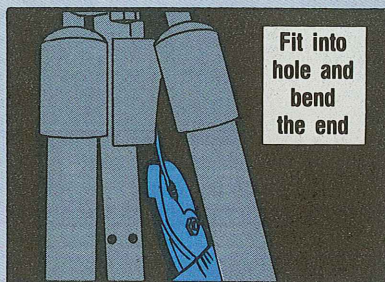
Use pliers to bend and pull out the old hook.

Bend the new rod into the same S-shape—the hook should be 1/4-in across



at the ends.

Fit one end of the new hook in the screw hole in the tripod.



Then, bend that end shut with pliers. Let your maintenance people know they need to order a new S-hook.

M16-Series Rifle...

Now You've Got a Choice

Armorers, you can now use LAW and LSA—as well as CLP—on your M16's. LAW's good for temperatures 10°F and below. NSN 9150-00-292-9689 gets 1 quart. NSN 1005-00-242-5687 gets a 1-oz bottle that makes it easier to use LAW.

LSA's good for temperatures -10°F and above. Order a 2-oz bottle with NSN 9150-00-935-6597 and a 4-oz bottle with NSN 9150-00-889-3522.

Remind your unit not to mix lubricants. If they switch lubricants, they must first totally clean off the old lube from their rifles.

These NSN's will be added to the Expendable/Durable Supplies and Materials Lists in TM 9-1005-249-10 and TM 9-1005-319-10.



Filter Facts

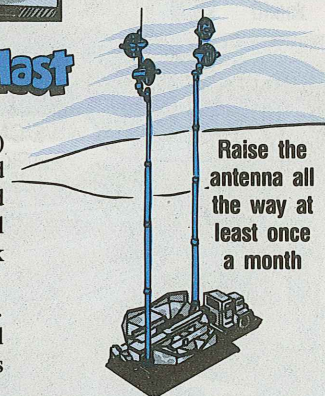


The AN/MPQ-53 radar needs fresh air, especially in hot, sandy areas. If its air filters clog up, electronic components overheat and blow circuit cards. Eyeball the filters at least monthly. If they're dirty, clean 'em. Check the radio frequency (RF) honeycomb filter, too. It also gets clogged.

Antenna Mast

In hot weather, the antenna mast group (AMG) needs relief. Condensation forms inside it and causes corrosion. Drain the mast air tank and in-line filter unit daily. Open the drain cock all the way to let all the water out. Use a rag to soak up the water.

Seals dry up and crack if they're not lubed. Prevent cracked seals by running the antennas all the way up at least once a month. That keeps seals lubed.



Connection Detection

Before you drive off, make sure the radar station or launching station semi-trailer's kingpin is locked into your tractor truck's 5th wheel.

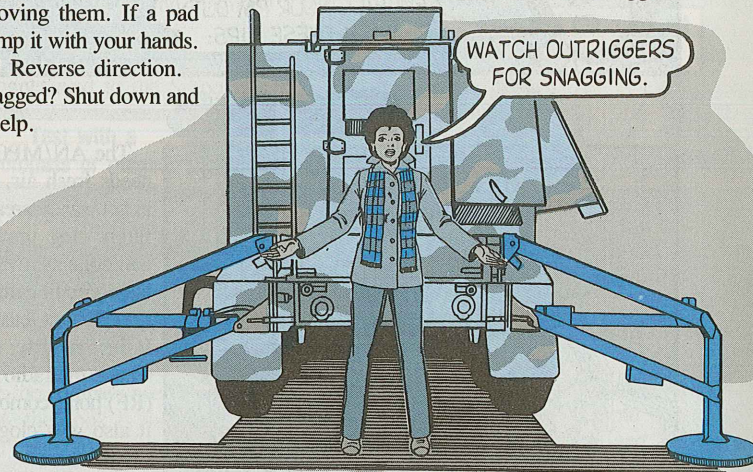
Test the connection by leaving the two front outriggers slightly off the ground.

Slowly pull the truck forward. If the kingpin's not locked in the 5th wheel, the outriggers will stop the trailer from pitching forward and causing big league damage.

Outrigger Hang-up

Pay attention to the outriggers when you raise or lower them. Outrigger pads snag and break the strut welds. Clean off any mud or ice from the outriggers before moving them. If a pad snags, bump it with your hands. Not free? Reverse direction.

Still snagged? Shut down and call for help.



GIVE CABLES SOME SLACK ON RACKS.

Cable Keepers

Tight's not right when you wrap the electric power plant cables around their racks. If the cables are tightly wound, they kink when you lock the racks in STOW.

Leave a little slack in the cable as you wrap.

When you unwrap the cables, carry them to where you plug them in. If you drag or throw cables, you break wires and damage the connectors. No cables mean no power from the power station.

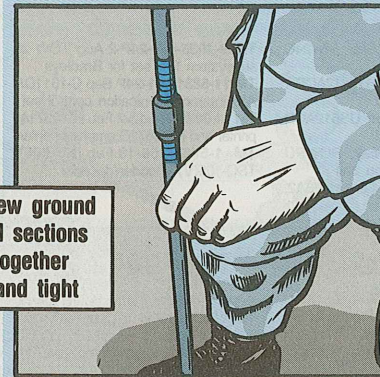
FEB 88

Don't Spare the Rod

As you drive each section of the ground rod into the ground, be sure to screw the sections together hand-tight. Otherwise, you ruin the sections' threads.

If you're having a lot of trouble getting ground rods in and out of hard ground, get a handle on the problem with a slip hammer, NSN 5120-01-013-1676.

Screw ground rod sections together hand tight



Pin Poop

Keep quick release and locking pins in their holes. Dangling pins catch in camouflage netting. When you jerk the netting off, the pins come with it or the netting's torn.

Don't leave pins dangling



FEB 88

Stop Rack Racket

Before you hit the road, make sure all the screws holding the Patriot's racks and the components in the racks are tight and the racks' doors are tightly shut. If a component rattles around or a door swings open during transport, sensitive equipment is knocked around and damaged.

Check rack screws and doors



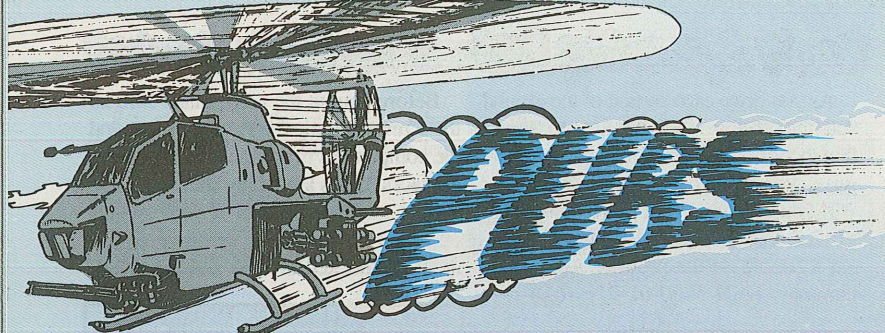
KG30-124 Tips

If your Patriot system will be down more than 72 hours, flick the KG30-124's ZERO-OFF switch to OFF. The KG30-124's batteries will save the operational code only 72 hours. If you leave the switch on, the batteries will discharge and you'll lose the code anyway.

MECHS, IF THE KG30-124 IS LOSING THE OPERATIONAL CODES, REPLACE THE BATTERIES. IF YOU STILL LOSE THE CODES, YELL FOR DIRECT SUPPORT.



25



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

TM 9-1430-1533-24P Dec HAWK missile
TM 5-3805-258-24-1 Sep 950 BNS scoop loader

TM 5-3805-262-24P Sep MW24C scoop loader
TM 5-4320-305-24 Jun US612ACD-1 pump unit, centrifugal
TM 5-4320-306-24 Jun US612ACD pump unit, centrifugal
TM 5-4610-215-10 May ROWPU 600-1 water purification unit
TM 9-2350-310-20-2 Sep M163A2, air defense artillery gun

TM 9-4935-474-24P-2 Aug TOW 2 subsystem test set for Bradleys
TM 11-5831-201-24P Sep C-1611D/AIC intercommunication control set
TM 11-5835-256-13-2 Feb HP 2671A printer and HP 2671G graphics printer
TM 1-5865-258-13 Feb KY-906/TSQ-105(V) encoder/decoder

Maintenance & Safety-of-Use Messages

AMCCOM MSG-87-11— Maintenance Advisory, Authorizes replacing leaking shut-off valves, NSN 4820-00-541-7567, on the M3A4 smoke generator, NSN 1040-01-143-9506 with plug cock, NSN 4820-01-251-8680, AMSMC-MAR-EC (A), 121400Z Nov 87.

AMCCOM SOU-MSG— Operational, Discontinues the use of all fabricated blank firing attachments for the 7.62-MM, M60 machine gun, AMSMC-MA, 121415Z Nov 87.

AMCCOM MSG-87-13— Maintenance Advisory, Authorizes limited repair of protective mask carrier M15A1, NSN 4240-00-933-2533. Provides repair part NSN's, AMSMC-MAR-EC (A), 231400Z Nov 87.

TACMIS SOU-MSG— Warns of safety hazard when using the 3-KW, MFP 026A generator as the TACCS (AN/TYQ-33) power source. Provides checks of the generator's convenience outlet polarity and grounding, ASB-TPSH, 191956Z, Aug 87.

TACOM SOU-MSG-87-66— One-time inspection of trailer mounted 250-CFM Ingersoll-Rand compressor, NSN 4310-01-158-3262, drawbar/lunette mounting bolts, AMSTA-M, 121715Z Nov 87.

TACOM SOU-MSG-87-86— Advisory, Technical/Maintenance, Message emphasizes PMCS procedures for M1009 CUCV Tires, AMSTA-M, 241400Z Nov 87.

TROSCOM MSG-87-36— Maintenance

Advisory, Flame Safety Lamp, NSN 6665-01-038-3763, doesn't meet OSHA standards, replace it with UL or FM approved safety lamp, AMSTR-MES, 231130Z Nov 87.

TROSCOM SOU-MSG-19-87— One time inspection of M812A1 Ribbon Bridge Transporter, NSN 4520-00-071-5321, for fire hazard, AMSTR-MES, 171030Z Nov 87.

TROSCOM SOU-MSG-20-87— Emergency, Deadline of MC-1 survival knife, NSN 5110-00-526-8740, MFG by Logan-Smith Co., Venice, FL, AMCSF-E, 021515Z Nov 87.

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

AUDIO-VISUAL STUFF

Available at battalion or Post Learning Center

Films, TV Tapes

TVT 3-24 NBC Defense
TVT 5-12 M128 Mine Dispenser
TVT 7-4 AT-4 Lightweight Antitank Weapon
TVT 9-48 AH-64 Apache

TEC Lessons

010-071-6756-F M23 Mortar Ballistic Computer
010-171-6060-F Gas Particulate Filter System on M1 Tank
040-061-7010-A TACFIRE
043-061-6676-A Loader-Transporter
010-113-7622-A A1A5 Power Supply

010-113-7730-A Amplifier Repair
010-113-7633-A AM-3349 RF Amplifier
104-093-7692-F DA Form 2416
104-301-7516-A Alignment of Radar Set AN/PPS-5, Part 1
104-301-7517-A Alignment of Radar Set AN/PPS-5, Part 2
121-441-6156-F Replace Electronic Equipment on Launcher
121-144-6160-F Radio Frequency Leakage Detection Test on HIPIR, Part I
121-144-6161-F Radio Frequency

Leakage Detection Test on HIPIR, Part II
121-144-6162-F Replace RF Transmitter on HIPIR
121-144-6163-F Replace Liquid Cooler on HIPIR
491-091-2277-A Ground Laser Locator Designator (GLLD) Dust Cover Switch, M981 FISTV
491-091-2278-A Ground Laser Locator Designator (GLLD) Lock Switch, M981 FISTV
821-101-8123-F Maintain and Operate Tank and Pump Unit, Part II

Neglect is a Killer



"Keep 'em flying" is the unspoken motto of every aviation maintenance unit in the Army. It's the name of the game... the bottom line... the determining factor in measuring your success or failure.

But any good PM program is built from the ground up. There's no better place to start than with your ground support equipment. You can't ignore it and still get the job done.

IT MAY NOT FLY BUT YOU CAN'T SOAR WITHOUT IT!



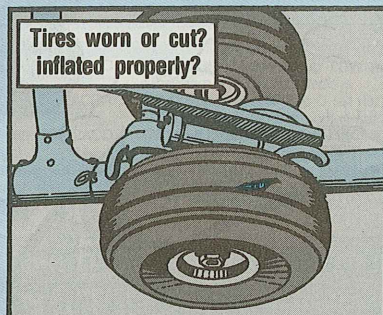
Ground Handling Wheels

Check out your ground handling wheels once a month. Make sure the hydraulic pump clamp is tight. Tighten any loose nuts. If the rubber padding under the clamps has deteriorated to the point they no longer hold the pump, replace the clamps.

Eyeball the tires for cuts and wear. Replace 'em if the damage or wear exceeds the limits spelled out in Table 3-3 of the tire manual, TM 55-2620-200-24.



Clamps tight?

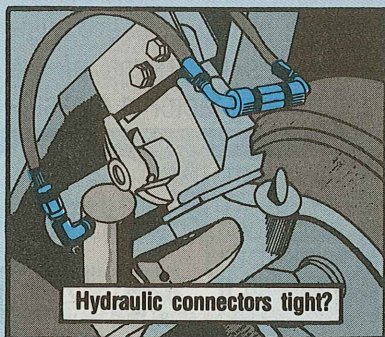


Tires worn or cut?
inflated properly?

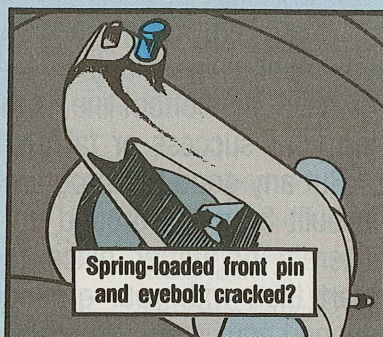
'Course, always make sure the tires are inflated properly. Moving your bird with underinflated tires could cause one to work its way off a rim during a turn. Check your maintenance manual for the right tire pressure and stencil it on the tire rims.

Make sure the hydraulic hose connections are tight and not leaking. Replace wheel-mounting pins that are cracked, chipped, broken or bent.

On a Huey or Cobra, eyeball the spring-loaded front pin and the eyebolt. If they're rusted, cracked or bent out of shape, replace 'em pronto.



Hydraulic connectors tight?



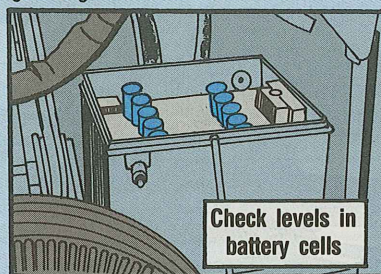
Spring-loaded front pin
and eyebolt cracked?

And don't forget to lube the wheels with general purpose aircraft grease every 6 months. Follow the lube chart in your bird's -23 TM.

Ground Power Units

Give your GPU's this weekly check-up to make sure they will deliver the juice when you need it.

Tighten loose battery cables and tiedown bolts. Clean off any corrosion. Make sure vent holes in filler caps are open. Check the fluid level in each cell. If it's below the plates, add distilled water until it's 3/8 inch above the plates. NSN 6810-00-682-6867 gets a gallon of distilled water.



Check levels in
battery cells

Look for leaks around the fuel tank and fuel lines. Tighten loose connections.

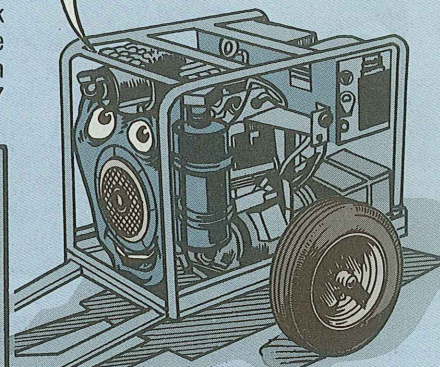
Remove and clean the fuel strainer screen and bowl.



Check oil in
air cleaner bowl

Check the oil in the air cleaner bowl. If it's dirty, clean the bowl and replace the oil with fresh engine oil. Inspect and clean the lower screen and center tube.

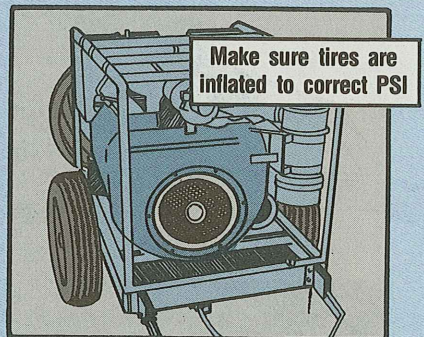
A WEEKLY CHECKUP IS ALL I NEED,
TO START YOUR BIRD FOR FLYIN'.
IF YOU KEEP ME WELL-MAINTAINED,
IT'S AIR TIME YOU'LL BE BUYIN'!



Pull the engine oil level dipstick and make sure oil level is between the ADD and FULL mark on the dipstick.

Check crankcase oil. Add oil, if the level is below ADD.

Make sure tire pressure does not exceed the maximum PSI listed on the sidewalls. Add air if the tires are underinflated.



Make sure tires are
inflated to correct PSI

Look over the control box assembly for worn or frayed wiring and loose mounts or connections.

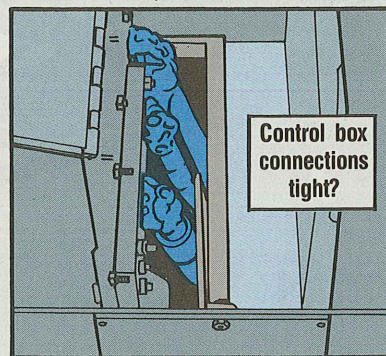
GIVE THEM ALL THE SERVICES THEY'RE DUE:
A LICK AND A PROMISE WON'T DO!
YOU CAN'T REACH THE SKY—
YOU'LL SURELY NOT FLY—
IF YOUR PM STROKES ARE TOO FEW!

WE HAVE THE WORLD'S BEST EQUIPMENT ... *Take care of it*

Look for worn, frayed or cracked drive belts. Make sure they're tight. Press hard



with a thumb midway between the pulleys. If the belt gives more than a half-inch, tighten it. Tighten any loose connections on the back of the control box.



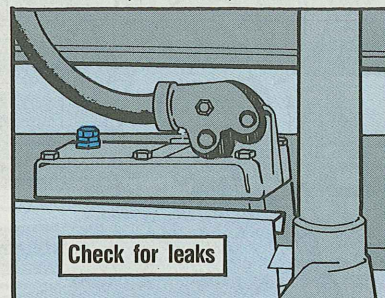
Use a clean cloth or compressed air to clean the cylinder fins.



Maintenance Platforms

All platforms need maintenance from time to time, especially your hydraulic stands, the B-1 and B4-A.

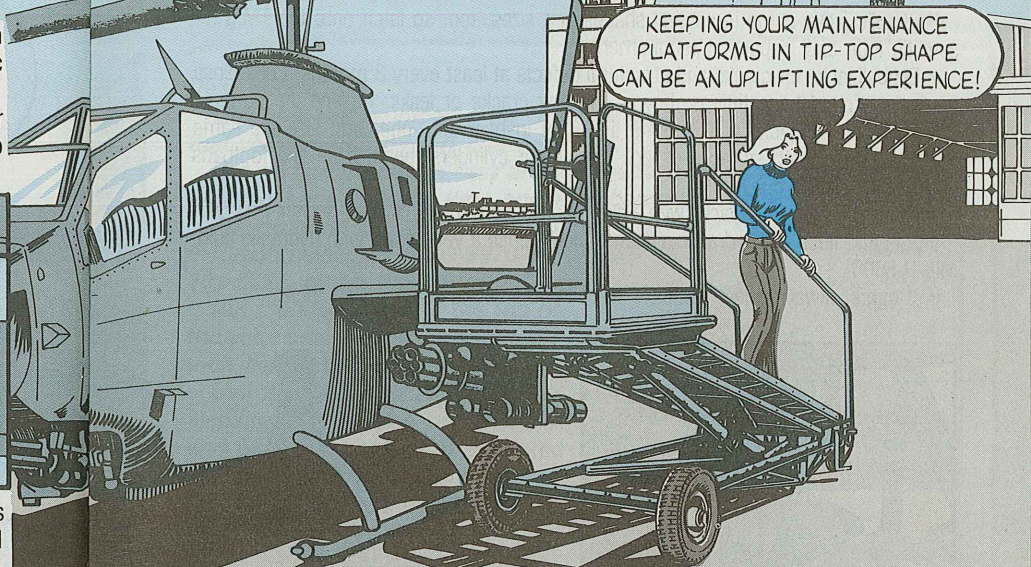
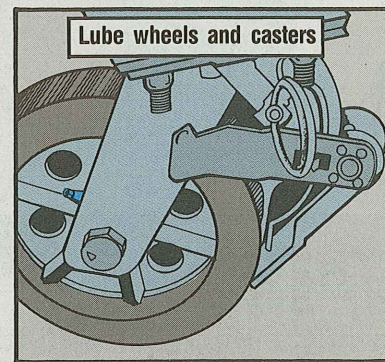
Eyeball the hydraulic lines and fittings for leaks. If tightening the fittings won't stop the leaks, replace or repair the lines.



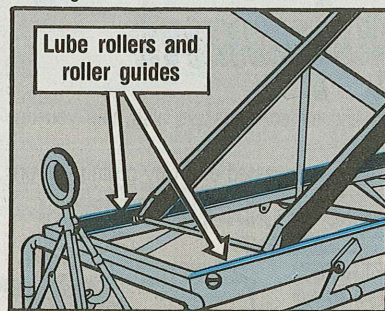
Make sure the hydraulic fluid level is within an inch of the filler neck. The B-1 gets MIL-H-5606 while the B4-A takes MIL-H-83282 or MIL-H-5606 hydraulic fluid.

The B-1 platform moves on two tires and two casters. Make sure the tires are inflated to 40 PSI and have some tread left. If the tread's gone, replace the tires.

Lube platform wheels and casters every 2 to 3 months.



Lube the scissors rollers, roller guides and hinge pins of the B4-A with oil, MIL-L-15016B, and the ladder guides with GAA at the same time you lube the caster bearings.

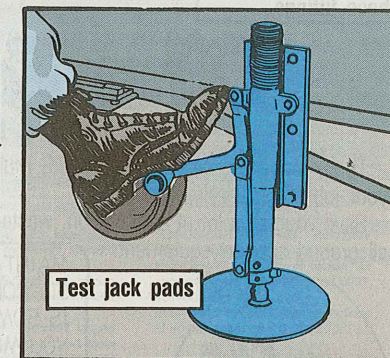


Lube the B-1's wheel bearings and casters with grease, MIL-G-3278. The immobilizing jack pads get a dose of grease, MIL-L-6032.

Give your B-1's jack pads and your

B4-A's brakes a close look.

If foot pressure won't easily set the B-1's jack pads, grease the pivot points on the

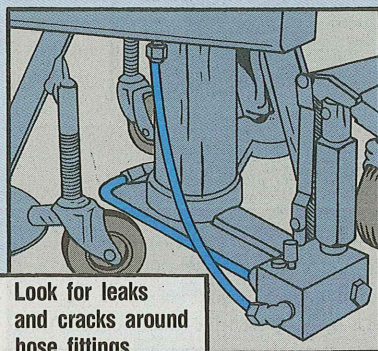


mechanical jack. Set the brakes on the B4-A and make sure it won't move. If it does move, replace the rear swivel casters, NSN 5340-00-205-5608.

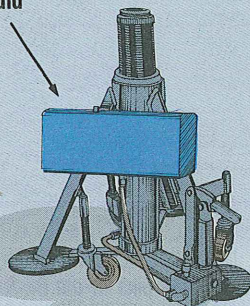
Hydraulic Jacks

Hydraulic jacks come in several shapes and sizes, too, so latch onto the TM's for specific lube and inspection requirements.

- Eyeball jacks for cracks and structural defects at least every 3 months. Look close for leaks around hose fittings. If you find any cracks or leaks, replace the parts.
- Clean up the jacks at the same time you inspect and lube 'em. Use the same detergent on painted surfaces of jack legs, outer cylinders, head, base and footpads you use to clean your birds.
- Clean non-painted surfaces with a cloth moistened with dry cleaning solvent P-D-680. Purge and flush the hydraulic system at least once a year. Refill with hydraulic fluid, MIL-H-5606.
- 'Course, always check the fluid level in your jacks before using them.



Check fluid levels in jacks

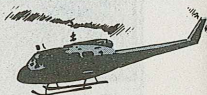


Other Equipment

Tugs, tow bars, hoists, test stands, mules and air compressors also help you do your job faster, easier and better.

Save yourself a lot of aggravation, wasted time and wasted effort by pulling PM on all ground support equipment.

MAINTAINING GROUND SUPPORT EQUIPMENT IS SOMETHING YOU MUST BEAR, BUT IT'S OH SO VITAL IN KEEPING YOUR BIRDS IN THE AIR!



UH-60A Tail Wheel Yoke...

Seal of Approval

Dear Editor,

Our unit has replaced a lot of bearings inside the tail wheel yoke that were ruined by dirt and moisture.

But we figured out an easy and inexpensive solution to the problem. It saves a lot of down time and replacement costs.

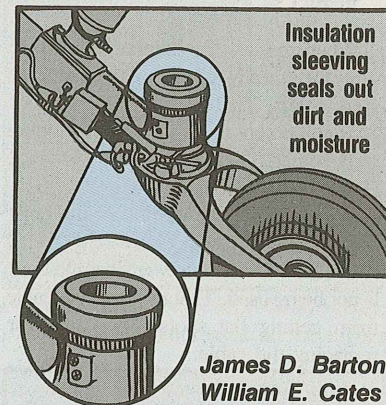
All you need is a 2½-in piece of insulation sleeving, NSN 5970-00-781-6832, and a heat gun.

Put the sleeving over the top of the yoke until it extends about 1/8 inch below the shoulder.

Use the heat gun to shrink the sleeving around the upper body and over the top end of the fork.

This seals the gap between the fork and the yoke where the moisture and dirt get in.

No more early bearing failures!



James D. Barton
William E. Cates
Ft Bragg, NC

(Editor's note: You get the seal of approval for good maintenance!)

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.

AH-64-87-23, SOF, Technical, Inspection of tail rotor blades for debonding, 071230Z Oct 87.
AH-64-87-24, SOF, Technical, Inspec-

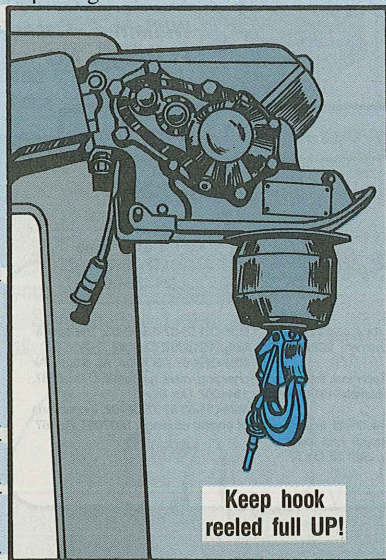
tion of tail rotor/tail rotor swashplate control forces and movement, 222100Z Oct 87.
UH-60-87-10, SOF, Technical, Inspection of input flange assembly, 131430Z Oct 87.
UH-60-87-11, SOF, Technical, Inspection of cargo door upper and lower roller support assembly, 292300Z Oct 87.

MIM-OH-58-87-XSOF-05, Transportability, 021830Z Oct 87.
MIM-GEN-87-XSOF-05, All aircraft, Air charging valve (pneumatic) on 6287, 151400Z Oct 87.
MIM-UH-60-87-XSOF-02, Inspections of engine cowlings, 301700Z Oct 87.

Hints for

When the cry for help comes, make sure you're ready to lend a hand, medevac crew chiefs. That means keeping all of your equipment in good shape, including rescue gear, like the High Performance Hoist (HPH), NSN 1680-01-058-3671.

You can increase the life of the hoist cable by keeping the hook assembly reeled to the full UP position whenever the hoist is not being used. That prevents the cable from getting flat spots, one cause for replacing the cable.



36

Never drag cable across concrete when you're doing an inspection. You'll abrade the cable.

Rough handling can damage the disconnects on the upper and lower ends of the boom support assembly and on the reaction arm. So use extra care when moving or installing the HPH.

Cleaning & Lubing

The high performance hoist is life support equipment, so keep it clean and in good condition. Wipe all external surfaces with a lint-free cloth moistened with P-D-680 solvent, NSN 6850-00-274-5421. Dry surfaces with a soft, lint-free cloth or with dry compressed air no higher than 20 PSI.

Clean the hoist cable from one end to the other with a heavy lint-free cloth held firmly around the cable. Wear heavy leather gloves to work on wire cable.

Keep an eye on your boom head and winch oil level indicators. Refill with Dexron II automatic transmission fluid, NSN 9150-00-698-2382.

Inspections

Inspect the hoist cable for broken wires, kinks, and other damage.

Make sure pulleys and rollers are in good shape and move freely.

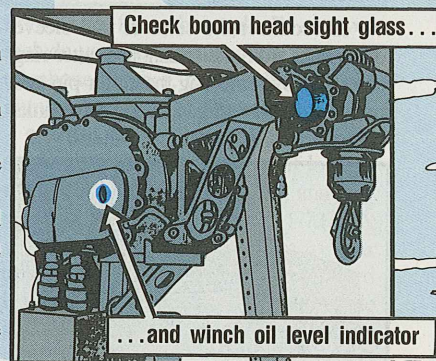
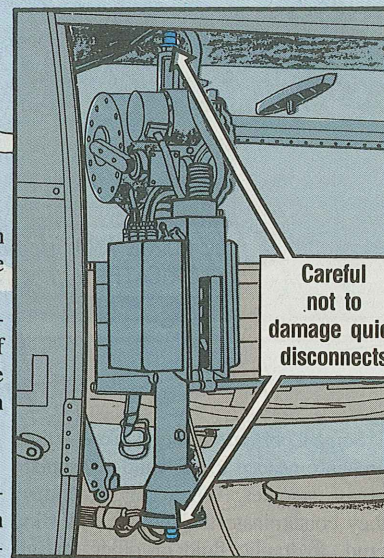
Eyeball the cable cutter to make sure it's tight.

Check the oil level in the boom head and winch sight glasses with the hoist in normal operating position. Otherwise, you won't get a good reading.

Make sure all hardware and lockwire are tight.

If you have a Black Hawk with a high performance hoist, use the maintenance procedures in Chap 14 of TM 55-1520-210-23-2.

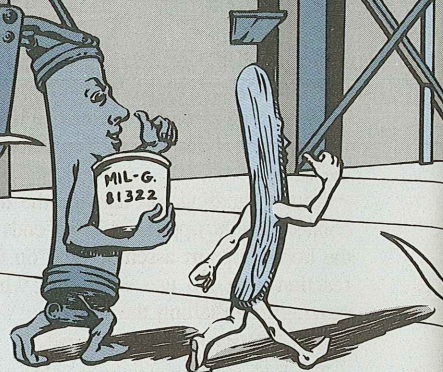
FEB 88



37

Swashplate Grease Sampling

I'LL PURGE AND LUBRICATE!

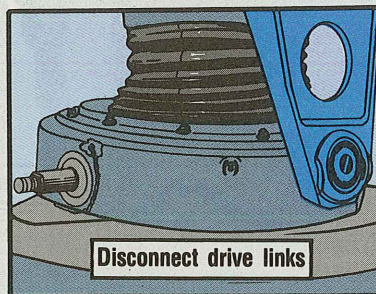


Some Cobra mechs don't take the time and care needed to get valid swashplate grease samples. When they're sloppy, they contaminate the sample with dirt, crud, hydraulic fluid or other foreign stuff.

When they contaminate a sample, they must take another one. Doing it right the first time saves valuable manhours—at the AOAP lab and in the maintenance hangar.

Here's the right way:

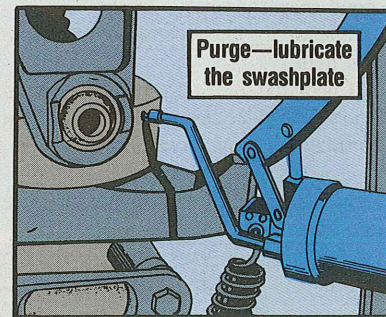
- Disconnect the scissors and sleeve drive links from the swashplate outer ring assembly by removing the cotter pin and nut on the inner ring. Lift the drive links out of the way and secure them.



- Do the rotation and play check according to your Cobra model's TM before collecting a grease sample. It's not necessary to sample grease from swashplates that fail the play check. Just replace 'em.

- If the swashplate passes the play check, grab a soft, clean, lint-free cloth dampened with solvent P-D-680 and clean both the inner ring and outer ring assemblies. Make sure all surface grit, sand and other junk is removed or you could contaminate the sample.

- Use a grease gun with flexible hose to purge-lubricate the swashplate with wide



AND I'LL COLLECT THE GREASE!

temperature aircraft grease, MIL-G-81322, at approximate 30° intervals until it's lubed through one full turn (360°).

- Immediately collect the purged grease using a wooden tongue depressor, NSN 6515-00-324-5500. Collect enough of the

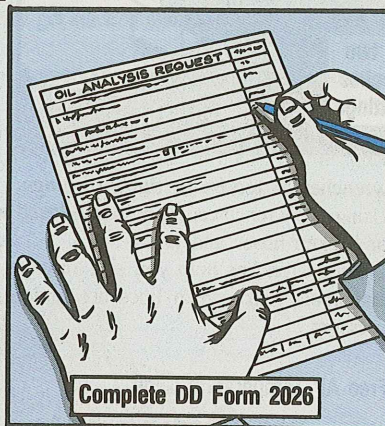
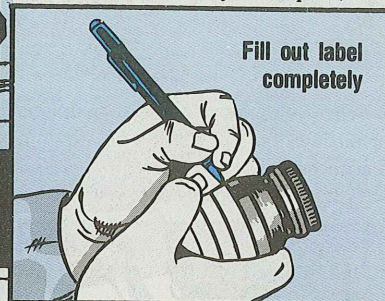


purged grease to at least half-fill a 3-oz plastic bottle, NSN 8125-01-082-9697.

Make sure all the old grease is purged, then collect and dispose of it. Failure of a swashplate to accept new grease requires investigation.

FEB 88

- Fill out the label on the bottle and complete an Oil Analysis Request, DD



Form 2026, for each sample. Be sure you include your unit, your unit's POC and telephone number, the swashplate serial number and date of the sample.

- When you reconnect the scissors and sleeve drive links, use new self-locking nuts, NSN 5310-00-871-8758, and new cotter pins, NSN 5315-00-241-7330.

- Submit the grease samples to your designated AOAP lab with a completed DD Form 2026 the same day the sample is taken. MIM-AH-1-ME-85-05 designates the laboratory to which you submit your grease samples.

Do it right the first time, crew chiefs. It's worth the effort.

39

A Wrenching Problem

or

(It Takes Two to Tango)

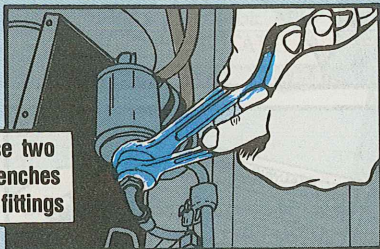
When you remove or install hydraulic or oil lines on Huey's, it's OK to do a double take.

That is, make doubly sure you use two

With two wrenches, you can hold the hose away from other hardware that can rub it the wrong way.

If you find hose or tube that rubs or chafes against other components, wrap

Use two wrenches on fittings



wrenches to loosen or tighten fittings. Using one wrench causes twisted, kinked or broken hoses and tubes.

Two wrenches help you seat fittings and avoid leaks when lines are under pressure.



If hose rubs, use spiral wrap

it with spiral wrap, NSN 7510-00-923-0591, to protect it.

Free Air Temperature Gage...

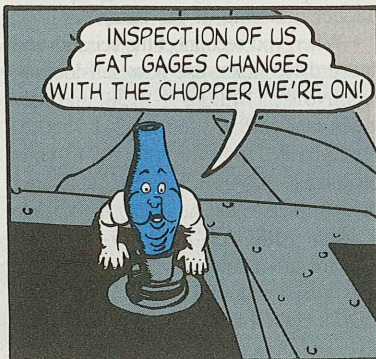
Inspection Interval Standardized

The Free Air Temperature (FAT) gage is the same in UH-1 series, AH-1 series and OH-58 series birds.

But the inspection interval is different for all three.

On the OH-58, it's 300 hours. For the UH-1, it's 150 hours (every Phase). For the AH-1 series, it's every 100 hours AND every Phase (150 hours).

The bird headshed has changed all applicable inspection checklists to specify that inspections be conducted during the Phase inspection closest to the 12-month interval, or at least every 12 months.



Rack Saves Doors, Windows

I WISH THEY'D LEAVE MY DOORS ON 'TIL THEY BUILD A STORAGE RACK!



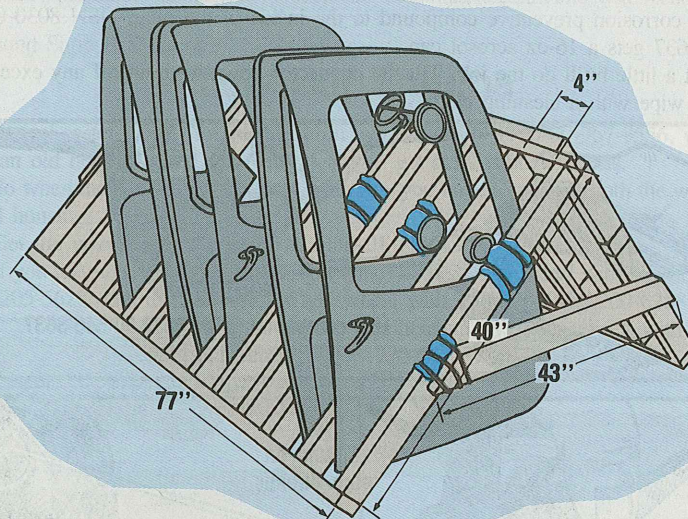
Storing Kiowa doors is a problem. They get stacked against a wall or piled into a bin.

Then they're knocked on the floor or somebody throws other components in the same bin.

The results are scratched windows and damaged doors.

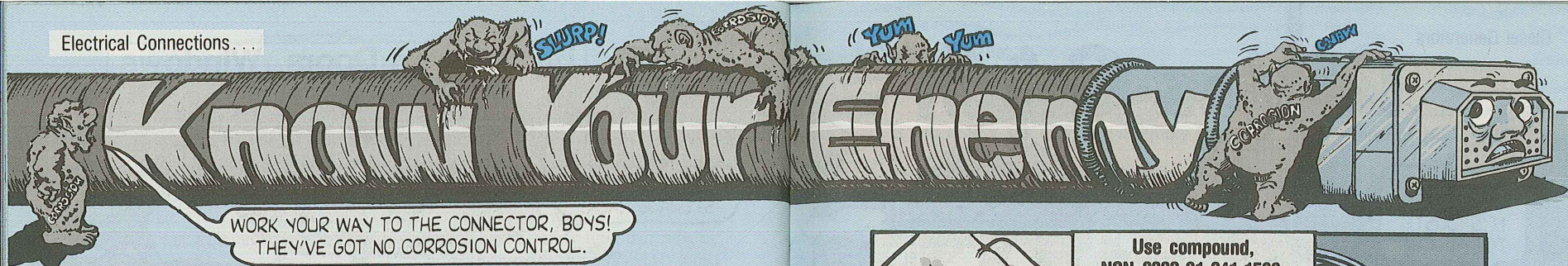
SGT Troy Peterson of Hunter Army Airfield solved the problem. He designed and built a door rack using 2x4's.

Here are the dimensions:



Pad each slot with strips of scrap padding. Secure the padding with plastic electrical ties, NSN 5975-00-074-2072.

No more scratched windows or banged up doors!



Corrosion is the arch enemy of electrical connectors. Just when you think you've got it whipped, it creeps right back into your equipment and WHAM!... out goes another system.

But you can control corrosion.

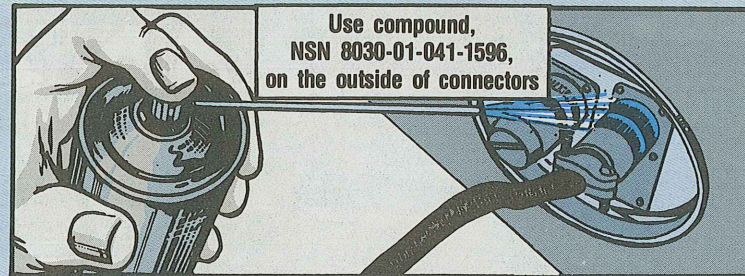
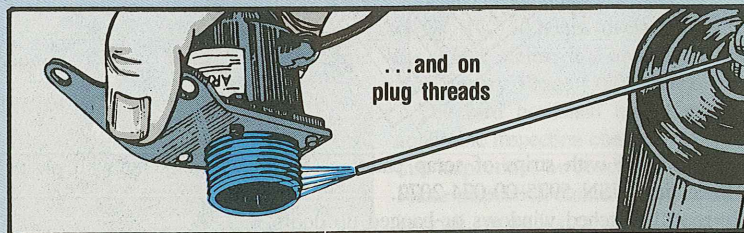
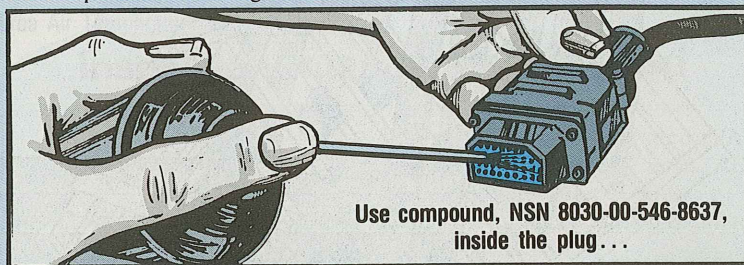
Look for a dull white or gray powder inside connectors, receptacles and plugs. Healthy connections have a shiny finish.

So if the metal appears dull, look closer. When you find corrosion, take action to get rid of it and prevent it from recurring.

Table 3-4 of TM 55-1500-343-23, Avionic Cleaning and Corrosion Prevention/Control, lists and describes cleaning materials you'll need and Chapter 3 has the cleaning instructions.

After you've thoroughly cleaned an electrical connector, such as a cannon plug, apply corrosion preventive compound to the inside of the plug. NSN 8030-00-546-8637 gets a 16-oz aerosol can.

Just a little bit'll do the job. Tilt the connector down to drain off any excess. Then wipe with a cleaning cloth.



After you've screwed connectors together, apply a light coat of compound, NSN 8030-01-041-1596 (16-oz aerosol can) to the outside of the shell. Wipe off any excess.

Clean, preserved connectors will keep corrosion under control and systems on line.

Ground Support Equipment...

Tow Bar Trauma

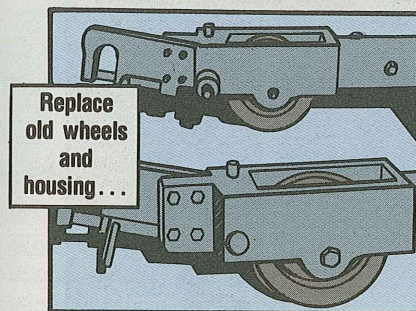
Swivel caster wheels for your aircraft tow bar, NSN 1730-00-967-9556, won't fit an old housing. And you can no longer get solid rubber wheels.

So when the solid rubber wheels wear out, you have to replace both the wheels and housings.

Get the whole works with NSN 1730-01-111-4305.

If you just need casters, get the right hand caster swivel wheel with NSN 5340-00-205-5628. Get the left hand swivel wheel with NSN 5340-01-260-6258. Get

the housing for caster wheels with NSN 1730-01-087-4231.



David vs. Goliath

I CAN'T TAKE THIS! IT'S JUST TOO MUCH!

I CAN'T EVEN BREAK A SWEAT WITH ONE RADIO SET!

When it comes to generators and the jobs they do, you don't want any David-vs-Goliath situations. You'll damage either your generator or the equipment you're trying to power if you use the wrong size generator.

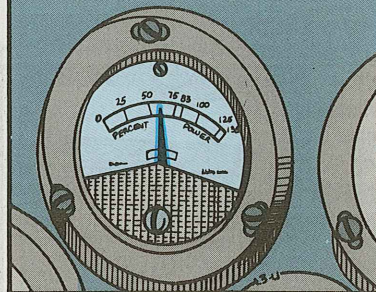
Common sense tells you a little generator like a 1.5-KW can't do a big job like powering a communications center. It's just not up to the task. Commo gear overheats trying to draw enough current.

Well, it's just as bad to use a big diesel generator to power something like an electric typewriter or radio. A diesel must run at least at 60-percent load to reach operating temperature.

If it runs with too light a load, the engine won't get up to operating temperature. You'll get wetstacking—a partly burned oil and fuel mix belching from the exhaust.

Use little generators for little jobs and big generators for big jobs. Chap 3, FM 20-31, tells what generator to use for the job.

Make sure your diesel generator runs at least at 60-percent load



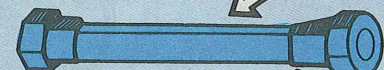
Make Your Own Hose

If you need a 1-ft fuel hose assembly for your 1.5-KW generator set, you've got to make your own.

The hose show as Item 11 in Fig 3 of TM 5-6115-323-24P won't do the job. NSN 4720-00-814-0321 is for a 12-ft hose only.

Here are the parts you need:

Hose 1-ft
NSN 4720-00-540-1962



You'll need two adapters

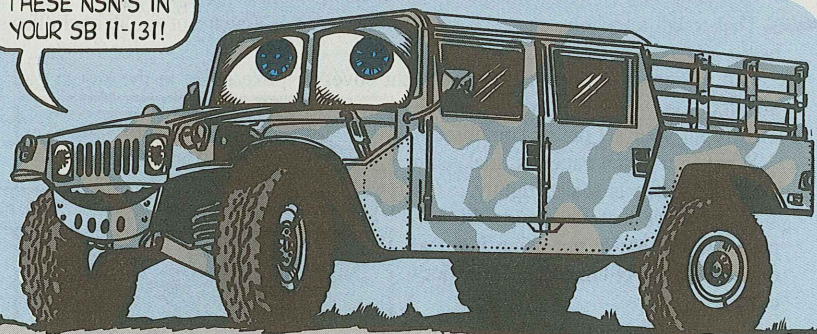
Adapter
NSN 4730-00-497-4281

Angry-106 Radio for HMMWV

Use the MK-2506 installation kit, NSN 5820-01-208-1905, to install the AN/GRC-106() radio set in the High Mobility Multi-Purpose Wheeled Vehicle (HMMWV).

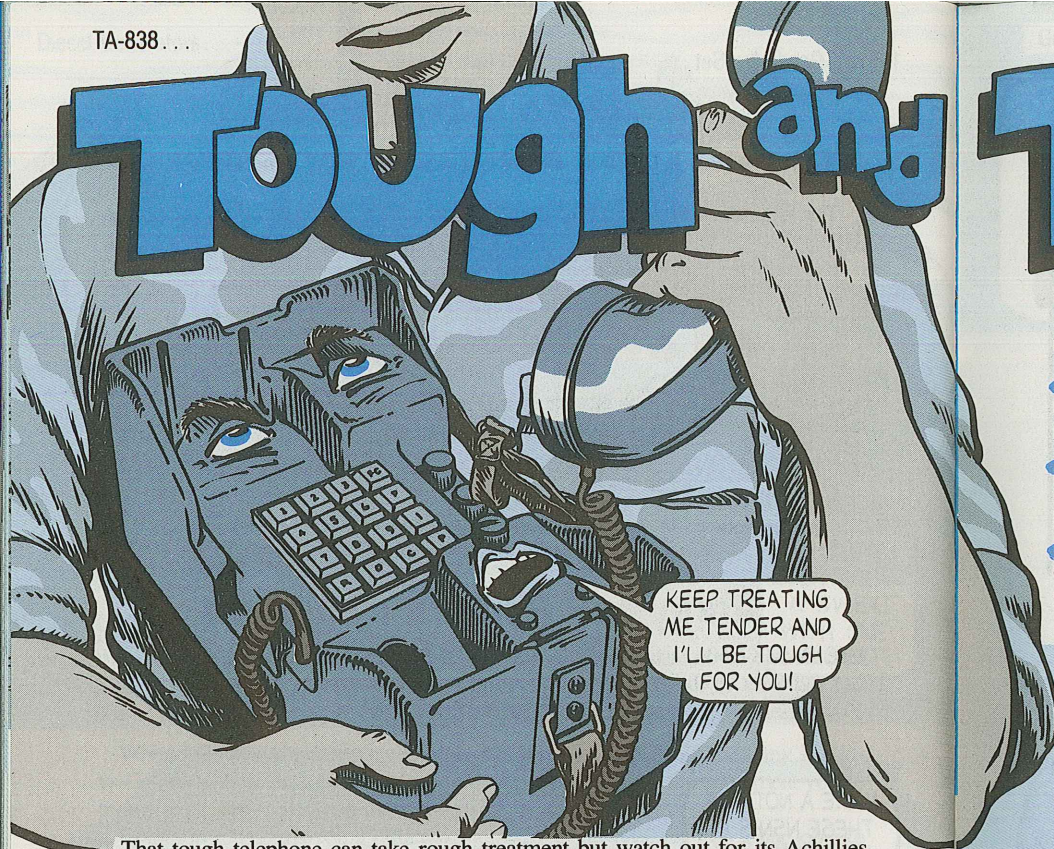
You'll need a 100-amp kit, NSN 2920-01-199-2393, to power your Angry-106.

MAKE A NOTE OF THESE NSN'S IN YOUR SB 11-131!



Tough and

Tender



That tough telephone can take rough treatment but watch out for its Achilles heel—YOU!

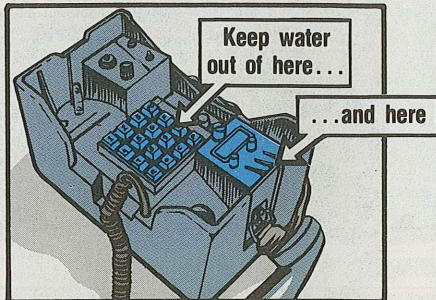
Fail to tighten the battery compartment cover or poke holes in the keyset pad and you open your set to water damage. This'll put your set out of commission.

When you install batteries, make sure the battery box is sealed tightly.

Never leave batteries inside the telephone when you're not using it for an extended period of time. Those batteries'll corrode.

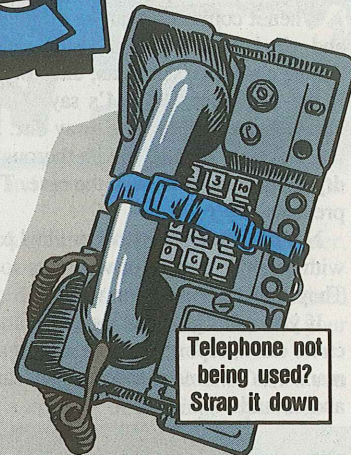
Use a light finger touch each time you press on the numbers and letter. This'll lengthen the life of the keyset pad.

Never use a pencil, pen or other sharp object that'll put a hole or gash in the pad. The pad can also be easily torn away from the case.



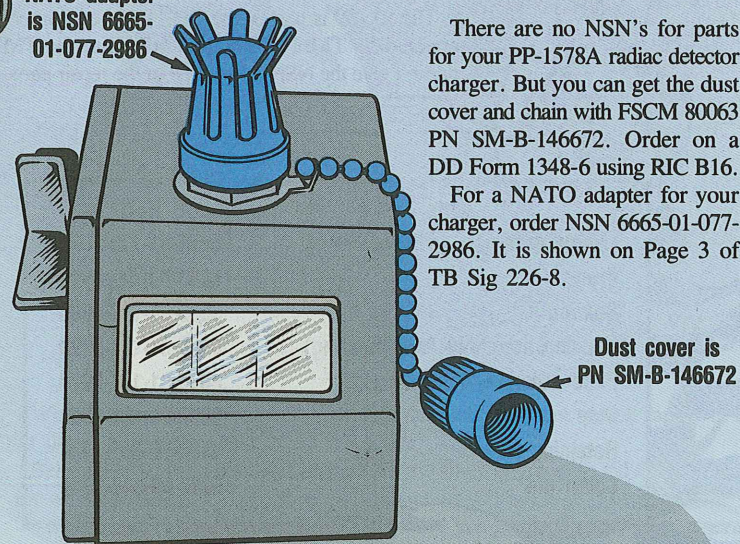
A few other tips that'll extend the telephone's life are:

- ✓ Keep the strap snapped down and snug when the telephone is idle. This'll help protect the handset and controls.
- ✓ Stack telephones right. Rough handling leaves phones with bent or broken switches and knobs.
- ✓ Use a sponge and soapy water to clean your set. And, follow TM 11-5805-650-12.



Get PP-1578A Parts

NATO adapter
is NSN 6665-
01-077-2986



There are no NSN's for parts for your PP-1578A radiac detector charger. But you can get the dust cover and chain with FSCM 80063 PN SM-B-146672. Order on a DD Form 1348-6 using RIC B16.

For a NATO adapter for your charger, order NSN 6665-01-077-2986. It is shown on Page 3 of TB Sig 226-8.

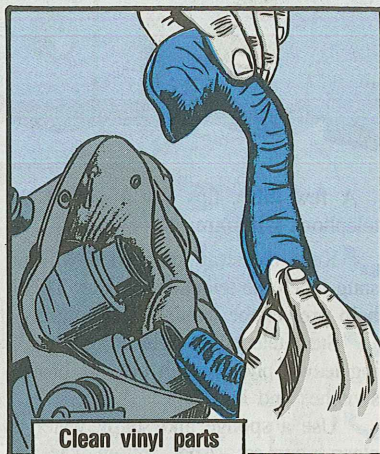
Cleaning Parts

Sometimes too much of a good thing is bad for your equipment.

When it comes to cleaning the rubber and vinyl parts on night vision sights, aiming circles, or sightunits, the best way is the way your -10 TM's say: Use a clean, damp cloth to wipe away dirt. Let the sight or aiming circle thoroughly dry before you store it in the case. That prevents dry rot.

Never try to clean rubber or vinyl parts with harsh detergents or waterless soap. They damage rubber or vinyl.

If you can't get your sight or aiming circle clean, report it to your unit repairman. You've done as much as you can—and should—do.



Clean vinyl parts with a damp cloth

Reeling Machine...

RL-39 Repair Parts

The RL-39 is part of the CE-11 reel equipment covered by TM 11-3895-203-24P. But, the TM doesn't give the NSN's for some of the repair parts.

HERE THEY ARE:

Item	NSN
Handle assembly (without crank)	3895-01-135-2538
Crank	3895-00-127-0999
Bearing	3895-01-133-9995
Housing assembly (with bearing)	5805-01-151-9929
Plate assembly (with stop)	5805-01-151-9928
Stop	3895-01-134-0308
Retaining ring	5365-00-803-7306
Cotter pin	5315-00-842-3044

IT'S IMPORTANT TO REMEMBER TO...

KEEP YOUR FUEL CLEAN

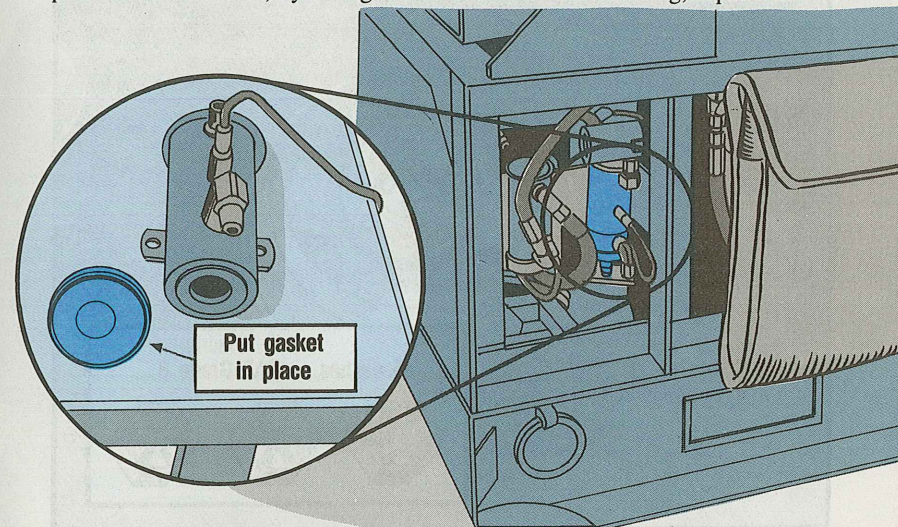


When your generator set sputters, coughs and quits, you can just about bet the fuel is not getting to the engine.

You can quickly find out, too. Pull out the fuel filter. If it's clogged with water, dirt or sand, clean or replace the filter.

If you get dirt or water from a filter, keep draining until you get it all drained out. Hold a glass container under the drain to make sure the fuel's clean. If your generator has more than one fuel filter, drain them, too.

Be sure to drain the fuel transfer pumps like it says in your -12 TM. When you put the cover back on, eye the gasket. If it's cracked or missing, replace it.

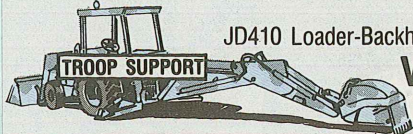


Put gasket in place

While your generator is shut down, fill the tank with fuel. A full tank will help cut down on condensation.

Before you start your power unit, drain the filter or filters to rid them of water, dirt or other debris.

You'll be way ahead if you're choosier where you get the fuel for your generator. Make sure the fuel's clean. Then keep it clean.



JD410 Loader-Backhoes...

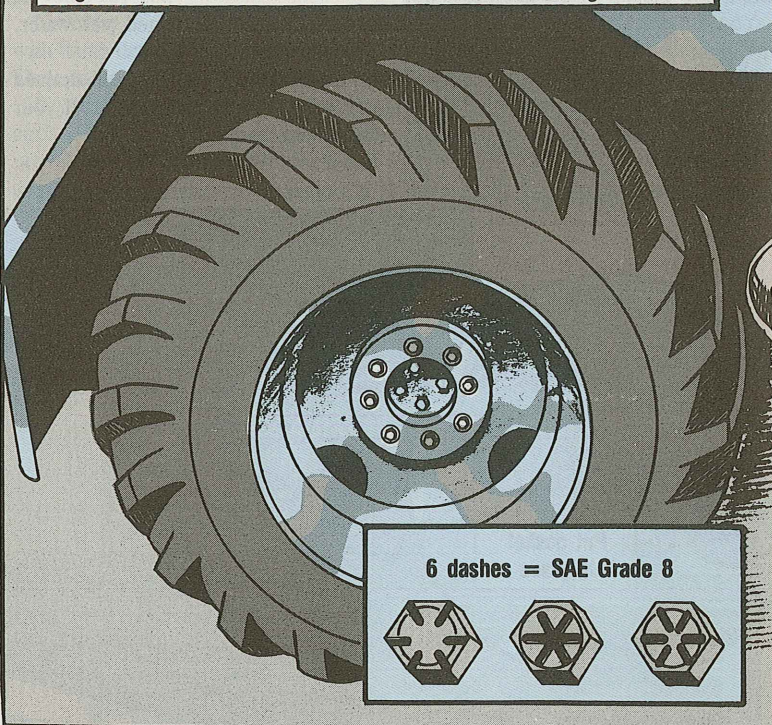
Wheel Bolt Torque Talk

Loose bolts on the rear wheels of a JD410 can wallow out the bolt holes. You might even lose a wheel.

All tractors use Grade 8 bolts. These have 6 dashes on the head. Other bolts won't take the torque. But not all tractors get the same torque amount.

That's because tractors with serial numbers ranging from 235786 thru 235999 have 9/16-in bolts. Tractors with numbers ranging from 319995 thru 342573 have 3/4-in bolts.

Tighten the 9/16-in bolts to 175 lb-ft. The 3/4-in bolts get 425 lb-ft.



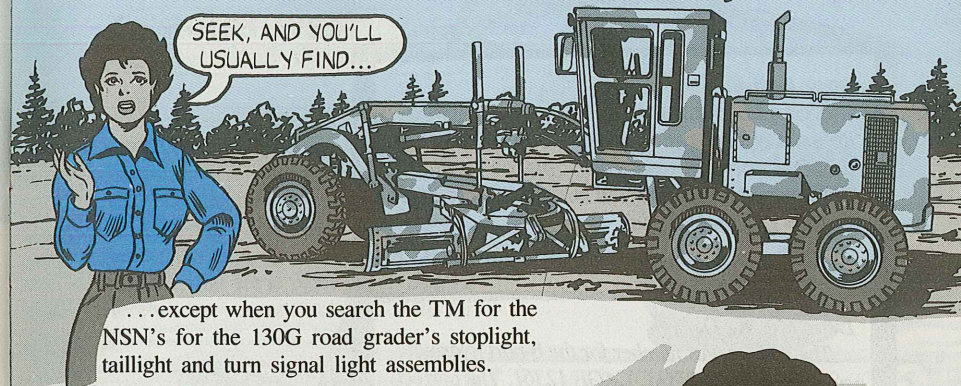
If your tractor has different bolts—like 5/8-in, for example—chances are the original bolts were stripped out. Then the holes were drilled out and retapped for larger bolts. If you have non-standard bolts, use the torque table listed in App E of TM 5-2420-222-20-3.

Before you tighten bolts, clean off any rust, dirt or paint around the bolt hole area.

Retorque the bolts after the first day of operation and every 200 hours of operation to make sure they stay tight.

130G Road Grader...

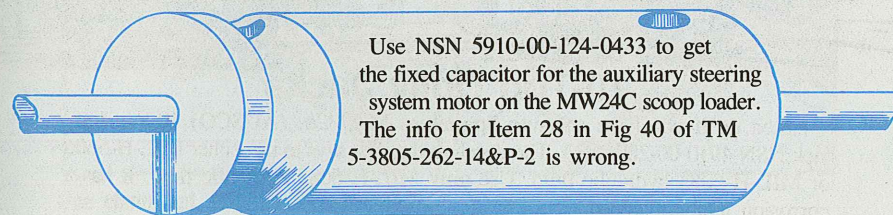
NSN's For Grader Lights



THEY'RE NOT IN THE TM, SO MAKE A NOTE 'TIL THEY'RE ADDED!

ITEM	NSN
Stop and taillight assembly (red)	6220-01-150-0648
Lamp	6240-00-877-3405
Lens kit (red)	6220-00-533-3933
Turn signal light assembly (amber)	6220-01-151-7037
Lamp	6240-00-044-6914
Lens kit (amber)	6220-00-088-3521

MW24C Capacitor NSN



Use NSN 5910-00-124-0433 to get the fixed capacitor for the auxiliary steering system motor on the MW24C scoop loader. The info for Item 28 in Fig 40 of TM 5-3805-262-14&P-2 is wrong.

New Part Numbers, New Pubs

Dear Half-Mast,

When I order parts for the 8-port hydraulic swivel and the shuttle valve on the air throttle control, my order gets cancelled. I'm using the numbers in the 25-ton crane's -24&P-1. What gives?

Mr. K. D.

Dear Mr. K. D.,

The correct part number for the 8-port hydraulic swivel is 6-364-000823, CAGE 12361. The correct part number for the shuttle valve is 7-926-001228, CAGE 12361, NSN 4820-01-159-0741.

Keep an eye out for the crane's new TM's—TM 5-3810-300-20P (Mar 87) and TM 5-3810-300-34P (Apr 87).

KEEP THE OLD MANUALS, THO! You still need the maintenance sections of the -24&P-1, -24&P-2, -24&P-3 and the -10 to keep your crane running trouble free.

Half-Mast

10-Ton Dolly Jacks

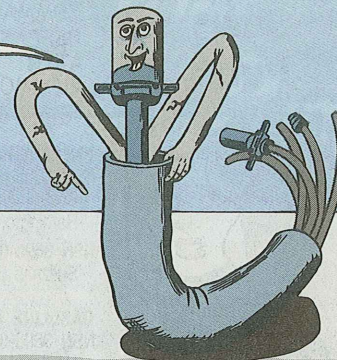
Listen up if you have an Auto Specialties Mfg. Co. (AUSCO) 10-ton dolly jack, NSN 4910-00-289-7233. The decal on the jack says to use either MIL-H-5606 or MIL-H-6083 hydraulic fluid. Use **only** MIL-H-6083 hydraulic fluid. It has a corrosion inhibitor added.

Power Harness Hose Fix

DON'T TOSS ME, JUST 'CAUSE MY AIR HOSES ARE CRACKED!!

There's no need to replace a complete power harness on the WD6S water distributor just because the plastic air hoses inside are cracked or rotten.

TM 5-3825-225-14&P does not list repair parts for the power harness, Item 1 in Fig 9, but some parts are available. Here's what you need to replace the air hoses:

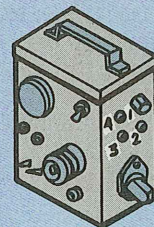


HERE'S WHAT YOU NEED TO REPLACE THE AIR HOSES:

Parts	NSN
Adapters, 6 ea.	4730-00-278-4575
Reducers, 2 ea.	4730-00-726-1103
Hose Assembly, 4 ea.	4720-00-356-8557
Tie Straps, 4 ea.	5975-00-433-5339

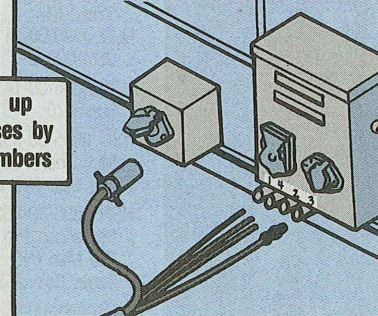
The plastic hoses on the semitrailer are yellow, blue, gray and clear. The replacement hose is black.

As you remove each hose, stamp the control box near the fitting like so:



Hook up the hoses by the numbers

Do the same thing as you remove the old hoses from the trailer's bulk-head. They should line up like this:



Use stamp set, NSN 5110-00-289-0007.

Chain Saw Pubs

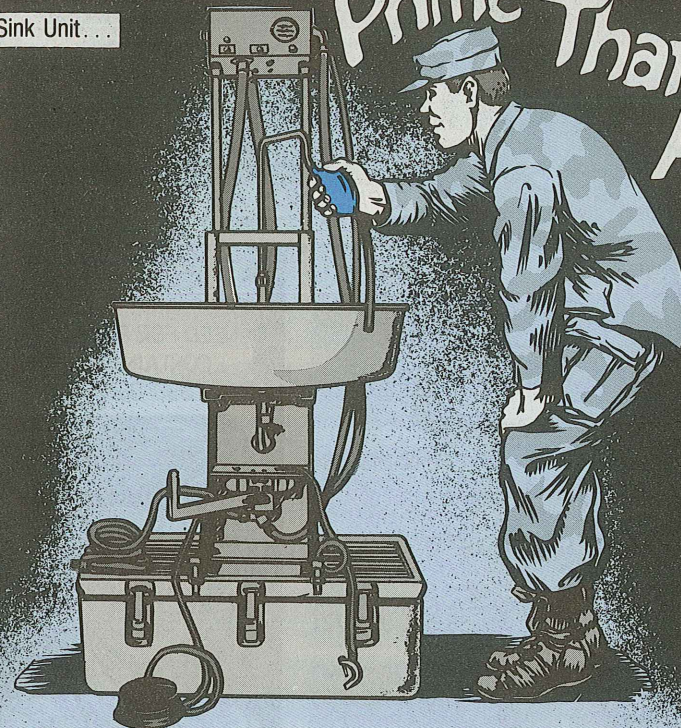
THERE ARE ONLY A LIMITED NUMBER OF MANUALS
AVAILABLE FOR SOME COMMERCIAL CHAIN SAWS.
SO, ONLY ASK FOR ONE COPY BY WRITING TO:
COMMANDER
DEFENSE GENERAL SUPPLY CENTER
ATTN: DGSC-SDA
RICHMOND, VA 23297-5000.



SAW	PUB
PNEUMATIC SAWS:	TM DGSC-3695-
NSN 3695-01-071-7532	
Boston Pneumatics SC-1-24	2
Remington 6P	3
NSN 3695-01-232-7540, 24-in	
Spitznas 5-1005-0050	30
GASOLINE SAWS:	TM DGSC-3695-
NSN 3695-00-679-6914, 18-in cut	
Homelite EZ, XL & XL Mini	7
Pioneer 1200A	11
Poulan 306A, 306SA & 245A	4
Poulan 3400	14
NSN 3695-00-452-2244, 20-in cut	
Homelite 450, 450W, 450HG, 450SL	15
* NSN 3695-00-554-4438, 24-in cut	
Homelite XL-12, Super XL-12 & XL-15	13
McCulloch Mac 10-10-A	9
Partner S55,S65	17
Poulan 361	1
Stihl 032 AV	16
NSN 3695-00-141-8291, 36-in cut	
Homelite 1130G	10
McCulloch 895	5
Poulan 72	6
NSN 3695-00-679-6914, 18-in cut	
Solo 611 AK	22
NSN 3695-00-679-6914, 18-in cut	
Solo 610	23
NSN 3695-00-141-8291, 36-in cut	
Stihl 090 G	25
NSN 3695-00-141-8291, 36-in cut	
Solo 670	31
NSN 3695-00-452-2244, 20-in cut	
McCulloch Pro Mac 700,	
Pro Mac 805 & 10-10-S	24
NSN 3695-00-452-2244, 20-in cut	
McCulloch Pro Mac 605,	
Pro Mac 610, Pro Mac 650 &	
Eager Beaver 3.7	32
* NSN 3695-00-554-4438, 24-in cut	
Solo 655 AV	27
* Order these chain saws on a DD Form 1348-6. Use CAGE	
81348, RIC S9G.	

Sink Unit...

Prime That Pump!



Operators, before you start your water supply sink, there's something you need to know.

Your manual skips an important step...priming the pump.

Otherwise the pump pumps air, not water. The pump will not prime itself. It soon burns out. Then you're down.

So-o-o-o, after Step d, Para 3-2, of your sink manual, jump to Para 3-3g. That tells you now to fill the lines with the aspirator, NSN 6640-00-494-3726, using gravity feed instead of the pump.

If the aspirator's gone, prime the pump by hand.

Hold the inlet hose above your head. Suck-up the water by covering and uncovering the hose opening with your thumb while you raise and lower the hose. When the water reaches your thumb the pump is primed.

7.5-KW Battery Hold-Down Rod NSN's

Make a note of the NSN's and sizes for the battery hold-down rods on your 7.5-KW generator set on Page 7 of TM 5-6115-440-24P. Item 5 is the 8 5/8-in rod, NSN 6140-01-150-0760, and Item 6 is the 11-in rod, NSN 6140-01-147-0278.

FEB 88

55

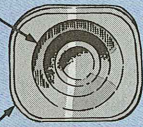
Hard-to-Find Parts

REPAIR PARTS ARE NOT LISTED IN ANY TM FOR YOUR INSULATED FOOD CONTAINER AND VACUUM JUG. HERE'S WHAT YOU NEED FOR FOOD CONTAINER, NSN 7330-00-238-2411.

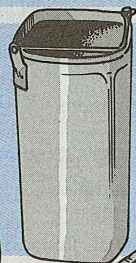
ITEM	NSN
Outer cover gasket	5330-00-032-2722



Insert cover	7330-00-243-3254
--------------	------------------



Insert cover gasket	5330-00-032-2721
---------------------	------------------












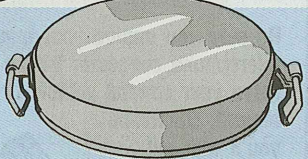

Insert	7330-00-243-3253
--------	------------------

YOU CAN ALSO REPLACE CONTAINER DECALS. ORDER ON DD FORM 1348-6. THE CAGE (FCSM) IS 66745. THE RIC IS S96. HERE'S WHAT'S AVAILABLE...

DECAL	Part Number
Insulated Food Container with Inserts	8450
Instructions for Use	8449
Nomenclature of Parts	8448

HARD-TO-FIND PARTS SHELF

HERE'S WHAT YOU NEED FOR THE 3-GAL, NSN 7330-00-721-8499; 5-GAL, NSN 7330-00-781-3859; AND 10-GAL, NSN 7330-00-819-7738, VACUUM JUGS.

ITEM	NSN
 Faucet bonnet	7330-00-051-1493
 Faucet stem	7330-00-051-1494
 Faucet spring	7330-00-051-1492
 Faucet washer	7330-00-051-1497
 Faucet tube	7330-00-051-1499
 Faucet handle pin	7330-00-051-1496
 Handle	7330-00-965-4685
 Air vent closure	7330-00-051-1501
 Seat cup	7330-00-051-1495
 Cover (3 & 5-gal)	7330-00-051-1498
Cover (10-gal)	7330-01-071-7680
Cover gasket (3 & 5-gal)	7330-00-051-1502
Cover gasket (10 gal)	7330-01-071-7679
 Faucet assembly	4510-00-961-7571

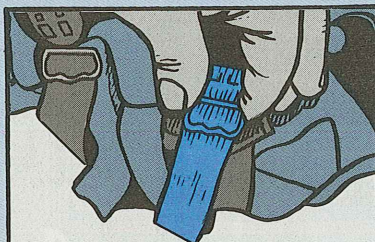
YOUR AUTHORITY IS CTA 50-909.

BUCKLE DOWN ON PROBLEMS

M24 and M25/M25A1 masks are going to early graves because operators are acting without thinking. Plug into these cautions to give your mask a longer life.

Be careful when you buckle the head harness on the facepiece. You can tear the harness and facepiece and bend the buckle. Do it this way:

1. Insert the straps in the buckle.

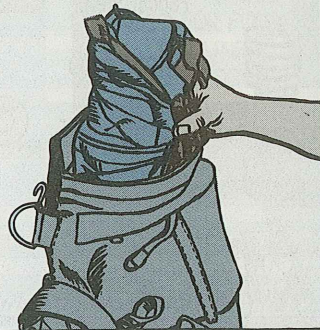


2. Hold the metal part of each buckle between your fingers



3. With your other hand, pull each strap through the buckles until the straps are snug

Stow your mask in its carrier...and nowhere else



Masks get crunched when you hang them inside a turret. When the turret turns, the mask gets hung...and ripped...up.

Be sure you unplug your mask's microphone connector before you leave your combat vehicle or aircraft. Otherwise, you'll tear out the microphone jack or ruin your mask



By the Numbers

Dear Half-Mast,

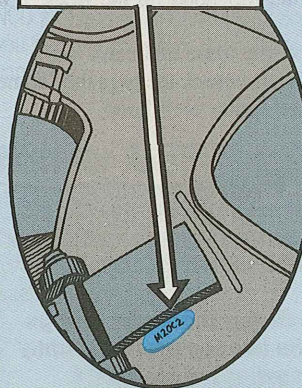
There are numbers all over the M17, M24 and M25 masks. Which number do NBC NCO's use to keep track of masks on the mask status chart and on DA Form 3328-1 in the property book?

SGT J. C. S.

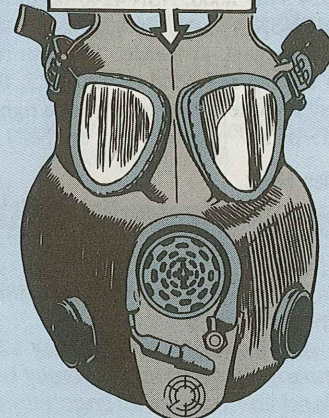
Dear Sergeant J. C. S.,

For all three masks, use the five-digit number branded either below the temple harness pod or on the forehead of the faceblank.

Use the five-digit number here below the temple harness...



...or on faceblank forehead



If the mask has more than one number either below the harness pod or on the faceblank forehead (M5C02 and P6A01 for example), use the number whose second digit is the highest, P6A01.

Some of the older M17, M24 and M25 masks may not have numbers on the temple harness pod or on the faceblank forehead. In that case, use the number stamped on the cheek. If you can't read either of those numbers, use the number on the medallion, which is the circle just below the temple harness pod.

Half-Mast

M24, M25/M25A1 Masks...

No Mix and Match

Mixing M24 and M25/M25A1 hoods won't solve your supply problems, NBC NCO's, it'll make them worse.

M7 aircraft
mask hood
for NBC
M24 mask



NBC M5
tank mask
hood for
M25/M25A1
mask

Never mix masks and hoods

The M24's M7 hood, NSN 4240-00-021-8695, is slightly larger than the M25's M5 hood, NSN 4240-00-860-8987. If you use the M5 hood on the M24, it'll cause the faceblank to buckle. That can ruin the mask.

If you use the M7 hood on the M25, the hood fits loose and can't seal.

It's easy to make sure you've got the right hoods. Just check the bags they come in for M5 or M7 markings and the NSN stamped inside each hood.

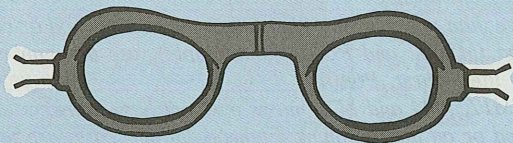
M17-Series Mask...

Inserts With a Flare

Dear Editor,

Many soldiers have trouble getting optical inserts to stay in their M17-series masks.

We've solved that problem by slightly flaring the insert prongs. With needle nose pliers, carefully bend the two top prongs slightly up. Bend the bottom prongs slightly down.



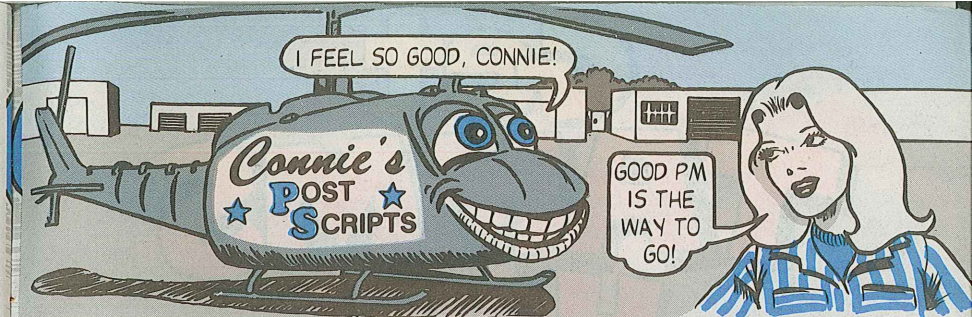
Flare prongs
slightly up
and down

Push each set of prongs together so that they fit in the mask holes.

The optical insert should be in to stay.

CPT Theodore Felton
Ft Hood, TX

(Editor's note: Sounds like an idea with flair.
We're glad you inserted it.)



Cannon Barrel Caps

You can now get protective caps with NSN 5340-00-813-8062 to keep dirt and moisture out of your Cobra's M197 20-MM cannon barrels. Make a note until your TM's updated.

M109 Idler Arm Seal NSN

Change 5 to TM 9-2350-217-24P/1 gives you a part number for the idler arm seal. The NSN you need for Item 25 of Fig 97 is 5330-01-202-8208.

Mask NSN Changed

The NSN for the M24 and M25/M25A1 masks' hose clamp (item 3 on page B-7 in TM 3-4240-280-23&P) has been changed to 4730-00-269-3760 in Change 2 (May 87). Be sure to make a note in your TM's, NBC NCO's, if you haven't gotten Change 2. If you use the old NSN, your order will be cancelled.

NSN for AN/PVS-4 Screw

NSN 5305-01-044-2227 is for the screw that holds the mounting adapter on the battery housing assembly of your individual weapon night sight.

621B Scraper Sight Glass

The sight glass for the transmission on the 621B scraper is not listed in the parts manual. If you need one, order PN 5T5204. Get a gasket with PN 5T7100. The sight gage assembly costs \$81.57 and the gasket 82 cents. Order both on a DD Form 1348-6, using CAGE 11083, RIC S9C.

Bayonet Grips

Armors, the headshed has decided that since you're already authorized to remove the grips on M6 and M7 bayonets, you can also replace them when necessary.

Installation and supply info's in TM 9-1005-237-23&P. A change to the TM will authorize the grips at unit level.

GAA on M102 Handwheel

TM 9-1015-234-20 is wrong on Page 2-29 when it prescribes OE/HDO for lubricating the elevating handwheel. It's sorta hard to put oil in a grease fitting. Use GAA instead.

Distribution: To be distributed in accordance with DA Form 12-5-R, for TB-43-series.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1988 — 548-004/80002

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

Get TAMMS Help!

GOT A QUESTION ON THE
ARMY MAINTENANCE
MANAGEMENT SYSTEM
IN DA PAM 738-750?

FOR RECOMMENDED CHANGES
AND ROUTINE QUESTIONS
WRITE:

**Commander
US Army Logistics Center
ATTN: ATCL-SAB
FT Lee, VA 23801-6000**

OR GIVE THE US ARMY
LOGISTICS CENTER A CALL.

AUTOVON

687-1559/4413

COMMERCIAL (804) 734-1559/4413