

Issue 352

PS

March
1982

THE
PREVENTIVE
MAINTENANCE
MONTHLY

Has your
buddy
read this
issue?
Pass it
along!

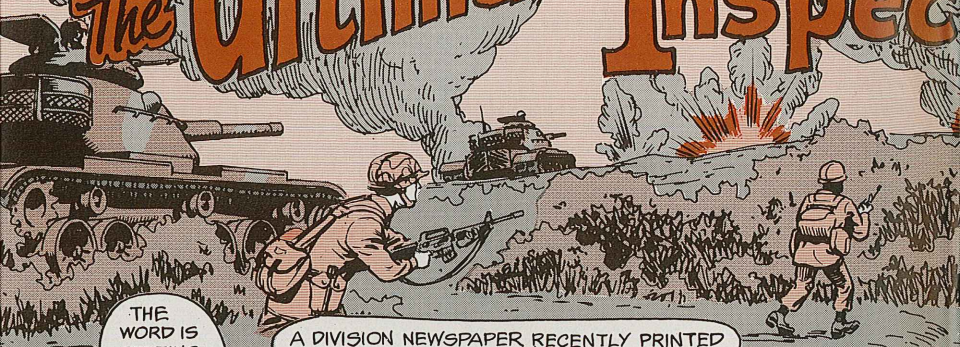


MURPHY
ANDERSON

Smoke Generators,
Chemical Agents
See pages 58-61

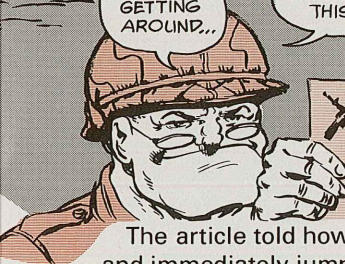
Is Your Equipment Ready for —

The "Ultimate Inspection"?



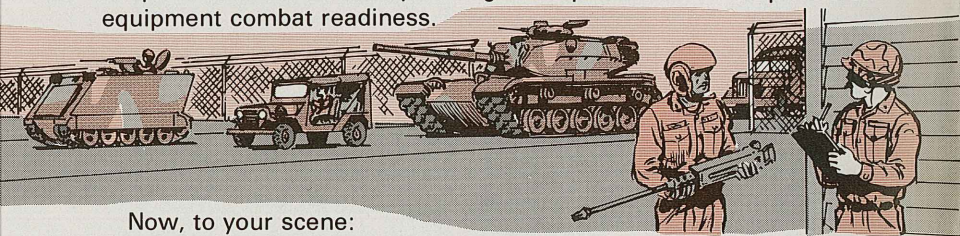
THE WORD IS GETTING AROUND...

A DIVISION NEWSPAPER RECENTLY PRINTED THIS BANNER HEADLINE ON PAGE 1...



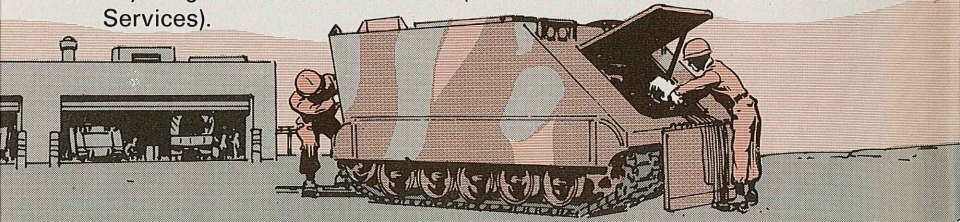
Division News
MAINTENANCE IS KEY TO READINESS

The article told how the Division's units return from field exercises and immediately jump into getting their much-used equipment in top shape. It told also of the upcoming IG inspections with emphasis on equipment combat readiness.



Now, to your scene:

Combat readiness is you—the operator/crew—making sure that your equipment is in the best condition. The equipment's tech manual is your guide. Follow the PMCS (Preventive Maintenance Checks and Services).



Then, if anything is wrong that you can't fix, report it to your sergeant. He'll get the unit mech on it.



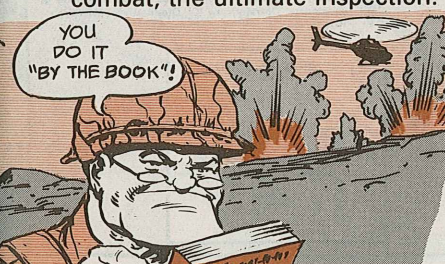
Everybody is an inspector. You inspect your equipment (PMCS). Your Sergeant inspects. The First Sergeant and CO inspect. Other



inspectors come from up the line, like from the Division IG.



If you keep your equipment in the best condition you can and then report anything else to your sergeant, you won't fear any inspection. The payoff is equipment that'll work for you in combat, the ultimate inspection.



PS THE PREVENTIVE MAINTENANCE MONTHLY

Published by the Department of the Army for the information of all soldiers assigned to combat and combat support units, and all soldiers with organizational maintenance and supply duties. Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Materiel Readiness Support Activity, Lexington, KY 40511.

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PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to: **MSG Half Mast PS Magazine Lexington, KY 40511**

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GROUND
MOBILITY

Lube
Orders...

What Do YOU Know About the LO?

WELL,
WHAPPA YA
SAY, JJ?

EASY,
LOIS
OXNAM,
MY GOIL!

NOW WE KNOW WHY
HE GETS DONE WITH A
LUBE SERVICE SO FAST!

YEAH--AN'
WITHOUT EVEN
GETTING HIS
HANDS DIRTY!

How'd you like to make an easy 5 bucks?

Just bet somebody that he or she can't answer a few simple questions on equipment lubrication.

You may not win the bet every time, but the odds are in your favor, according to a recent survey of 231 company-size units.

Everybody in those 231 units "hit a flat zero on lubrication questions," one person on the survey team said. "They did not understand lubrication requirements and intervals. No one referred to the appropriate LO."

So what are some "simple" questions? Here're a few that can be answered easily by anyone who's really interested in keeping equipment ready to go:

Q. What is a Lubrication Order (LO)?

A. It's a document that shows what needs to be lubricated—and, in some cases, what should not be lubricated. It tells how often lube points need service. It specifies the lubricant to be used at each point.

LUBRICATION ORDER

LO 9-2320-273-12

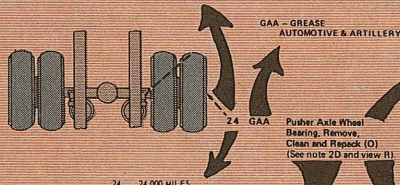
22 September 1980

Supersedes (Draft) LO 9-2320-273-12, 15 June 1979

TRUCK TRACTOR, LINE HAUL, 50,000 GVWR, 6x4,
M915 (2320-01-028-4395)

TRUCK TRACTOR, LIGHT EQUIPMENT TRANSPORTER (LET),
M915 (2320-01-028-4395)

Dotted arrow points indicate
lubrication on both sides of the equipment.



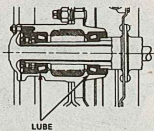
24 GAA Pusher Axle Wheel
Bearing. Remove,
Clean and Repack (O)
(See note 2D and view R).

24 24,000 MILES

Every 24,000 miles or annually, remove, clean, dry and repack bearings. Before installing wheel bearings onto spindle, coat bearing journals with a film of grease to defer fretting corrosion.

The lowest level of maintenance authorized to lubricate a point is indicated by one of the following symbols as appropriate: Operator/crew (C); Organizational Maintenance (O).

(R) DRIVE & PUSHER AXLE
HUB ASSEMBLY



Q. How do you know which LO is for your equipment?

A. It's usually mentioned several times in the -10 and -20 TM's for your equipment. See "Lubrication Instructions" in the Table of Contents in the front of your -10 operator's TM. In most cases, the number of the LO is the same as the number of the TM. It's also listed among other publications in the "References" section in the back of your TM.

TM 9-2300-257-10

Section II. LUBRICATION

SERVICE INTERVALS - NORMAL CONDITIONS
For safer, more trouble-free operation, see to it that your carrier is serviced when it needs it. For the proper lubricant and service intervals, see LO 9-2300-257-12.

CHAPTER 1

LUBRICATION ORDER

LO 9-2300-257-12

31 OCTOBER 1973

(Supersedes LO 9-2300-257-12, 11 February 1972)

2350-968-6321

Q. Where do you go to get your hands on your equipment's LO?

A. The LO is carried right on your equipment. The LO itself says that a copy

I BELIEVE
YOU!

YOU DO USE
YOUR LO
FAITHFULLY--
AND THAT'S
GREAT!...

... BUT I THINK WE'D BETTER GET YOU
A NEW COPY OF THE LO!

of the lubrication order will remain with the equipment at all times. If it's missing, your pubs clerk will get you one.

Q. Who's responsible for pulling lubrication services by the LO?

A. Usually the operator assists the mechanic. When he gets the hang of it, he may do the whole job—with the mechanic checking to make sure it's done right. Newer LO's give the maintenance level for each lube point—"C" for operator/crew, "O" for organizational maintenance.

YOU'RE
CATCHIN' ON,
ALL RIGHT.

NOW LET'S SEE IF YOU
CAN GET SOME OF THE
GREASE ON THE EQUIPMENT!



Q. Where are the NSN's for ordering the lubricants specified in the LO?

APPENDIX D
EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D-1. Scope. This appendix lists expendable supplies and materials you will need to operate and maintain M151 series vehicles.

D-2. Explanation of Columns

ITEM NUMBER	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
12	C	9150-00-311-6689	P1-S Lubricating Oil Lubricating Oil, Gear Multipurpose, GO 80-90 (M11-1-2105)	(3)
13	C	9150-00-754-2635	1 Qt Can	Qt
14	C	9150-00-577-5844	5 Gal Can	Gal

There're maintenance supplies other than grease and oil in your TM list, too!

A. See "Expendable Supplies and Materials List" in the back of your -10 tech manual.

IF MANY PEOPLE IN YOUR OUTFIT MISS THESE QUESTIONS, YOU CAN BE SURE THAT...

- Maintenance supervisors are not teaching the LO;
- Supervisors do not instruct operators and mechanics before they pull the lube services;
- They're not following up to see how the operators and mechanics do the job.

WHAT? YOU FILLED IT WITH OIL CLEAR TO THE TOP OF THE ROCKER ARM COVER?

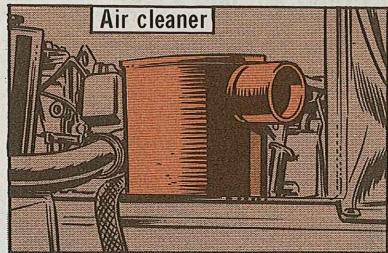
WELL, YOU SAID TO FILL 'ER UP!

HMMM, LOOKS LIKE WE NEED MORE TRAINING -- AT ALL LEVELS!

TM-242-Series 1/4-Ton Truck...

Goat Air

Need the wing nut, the metal washer and the rubber washer that help secure the air cleaner cover on your Gama Goat?



The wing nut and washers are not in Fig 12 of TM 9-2320-242-20P.

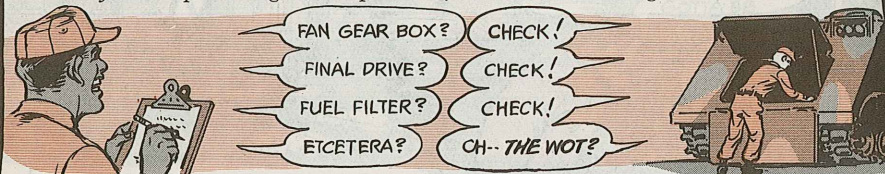
NSN 5310-00-080-8495 will get you a 1/4-in by 20 wing nut. Use washer NSN 5310-00-809-4058.

You can substitute a rubber grommet for the rubber washer. Pick a

Q. When do you grab the grease gun, lube bucket and oil can and head for the lube rack?

A. The interval (how often) for each lube point is shown in the LO.

Operator/crew lube checks and services are pulled when the equipment is dispatched to them. Watch it! Some of those operator/crew lube services are "daily"—simple enough to keep track of. But some have longer intervals—like



"weekly"—and they're not so easy to keep track of. It's up to maintenance supervisors to work out a system to make sure these lube points are serviced as the LO requires.

Mechanics are notified when to pull other lube services—those scheduled on the equipment's DD Form 314.

Some people think regular lube services take too much time—that it's easier and simpler to replace worn parts.

That's bum thinking. Take a look at the Maintenance Allocation Chart in your -20 TM. In one TM, for instance, U-joint "service" takes 0.2 hour (12 minutes). U-joint "replace" takes 1.4 hours (84 minutes)—and that's if the new U-joint is on the parts shelf waiting for you.

Worst of all, a part that's suffering from lack of lube is sure to fail—maybe right after you roll out of the gate, on your way to the "Big One".

Here's a good bet. Any Army outfit that doesn't keep up with periodic lubrication of their equipment is a bad bet.

Cleaner Secure?

grommet with a 1/4-in inside diameter, like NSN 5325-00-174-9312. In a pinch,



make a washer from an old inner tube. Be sure you get an airtight seal between the bolt and the cover.

Keep the wing nut snugged down. That'll keep dirty air from bypassing the filter and getting into your engine. It'll also keep your air cleaner cover in place. The only way to get a new cover is by cannibalization.

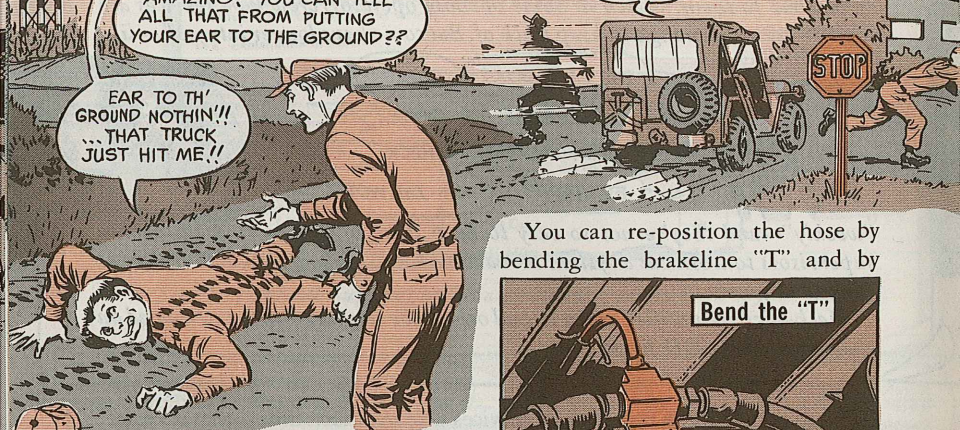
Make Space for Brake Hose

1/4-TON... GOING 35 MPH... 2 PASSENGERS... NEEDS BRAKE PM...

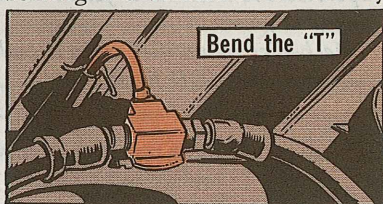
AMAZING! YOU CAN TELL ALL THAT FROM PUTTING YOUR EAR TO THE GROUND??

EAR TO TH' GROUND NOTHIN'!! ...THAT TRUCK JUST HIT ME!!

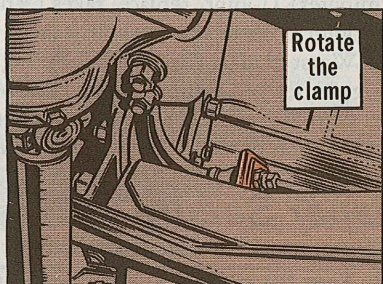
GANGWAY!! ...CAN'T STOP!



You can re-position the hose by bending the brakeline "T" and by



rotating the hose clamp on top of the rear suspension arm.



Careful! Just enough to do the job. When you've got it right...

...CHECK TO MAKE SURE YOUR BENDING 'N' TWISTING DIDN'T CAUSE ANY BRAKE LINE LEAKS!!



Brake failure can come from that improved rear differential mounting bracket on your 1/4-ton truck—if you don't leave space between the bracket and the brake hose. The bracket can rub a hole in the hose.

So get under there and take a look. There should be at least 1/8-in clearance between the hose and the top of the



bracket. And you need about 1/2-in space where the hose comes out at the bottom of the bracket.

No "After" PMCS Checks

HEY, JOE! YOU'VE BEEN BACK 3 HOURS!

AREN'T YOU DONE YET?

I CAN'T FIND THE 'AFTER-OPERATIONS' PMCS...

IT'S GOTTA BE HERE SOMEPLACE!



Dear Half-Mast, There're no after-operations PMCS checks on the 1/4-ton truck in TM 9-2320-218-10. Is this a goof?

MSG J.B.

Dear Sergeant J.B., That's no goof. There's nothing critical or required on the 1/4-ton truck that an operator should check after operations. Your commander can specify any additional checks or services, tho...

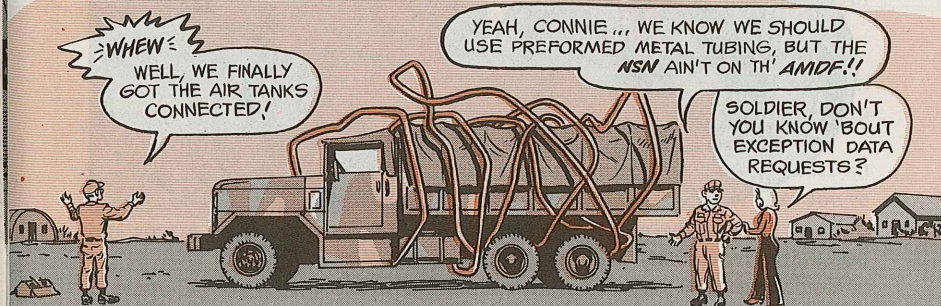


Air Tank Tubing

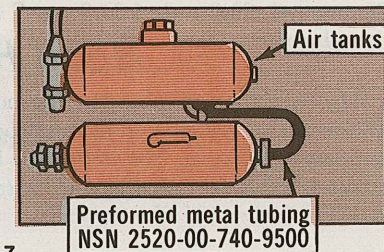
WHEW! WELL, WE FINALLY GOT THE AIR TANKS CONNECTED!

YEAH, CONNIE... WE KNOW WE SHOULD USE PREFORMED METAL TUBING, BUT THE NSN AIN'T ON TH' AMDF!!

SOLDIER, DON'T YOU KNOW 'BOUT EXCEPTION DATA REQUESTS?



To connect the air tanks on your M39-series 5-ton truck, you need preformed metal tubing, NSN 2520-00-740-9500. The NSN is good but it's not on the AMDF. Until it is, use an exception data request, DD Form 1348-6. Tell your support to use RIC AKZ.



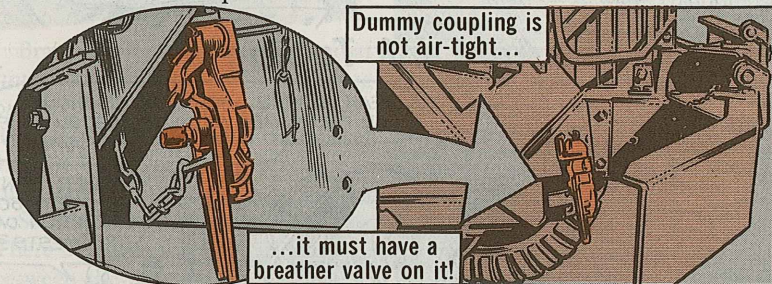
Brake Lockup?



You can scratch your head bald—and still miss a simple solution to your 5-ton truck's brake lockup problem.

If you've got the wrong dummy coupling on the front SERVICE air connection, your brakes won't release after you apply 'em. This's because air pressure in the air-hydraulic cylinder is not being relieved—and the cylinder piston can't release completely.

Dummy couplings on all other brake air hookups are air-tight, but not that one on the right-front of your 5-tonner. It's got to have a breather valve on it or a hole in it to relieve pressure.



If you know you've got the right dummy coupling on there, check to see if the breather valve or hole is plugged with paint or dirt.

You can get the vented dummy coupling with NSN 2530-00-740-9445.

Or you can get the same thing by drilling a 1/16-in hole in a non-vented dummy coupling.

Hood Holdup

Have you got a machine gun ring mount on your 5-ton or 2½-ton truck? And you've got no way to secure the hood in the raised position? Just ask your support to flip open TM 43-0143 to Pages 4-36 & 4-37—or C1 to that TM, Pages 4-36.2 & 4-37. There're the instructions for making a handy-dandy hood holdup.

Leaky Master Cylinder?



Are you finding dampness or moisture on the brake master cylinder or power booster on your M880-series truck? It may be a sign of a leak—or may not!



Dampness can come from spilled brake fluid when the master cylinder reservoirs are serviced.

Dampness can come from over-filling, too. The FULL level is ¼ inch

below the top, according to Para 2-77b of TM 9-2320-266-20. This leaves room for the cover gasket and for the brake fluid to expand when it gets hot.

You may also find a small amount of fluid between the master cylinder and the power booster. If there's no loss of fluid from the reservoirs, it's OK.

If you find fluid or dampness on the outside of the master cylinder, wipe it off with a clean rag dampened with cleaning solvent.

If dampness or fluid reappears on the outside of the cylinder after you've cleaned it, replace the master cylinder.

Now's a good time for another leak check on your master cylinder. Pull the internal leak check listed in Para 2-79, Pages 2-62.1 thru 2-63, in your -20 TM. If your master cylinder doesn't pass, replace it.

¼-Ton Trailer Wheel

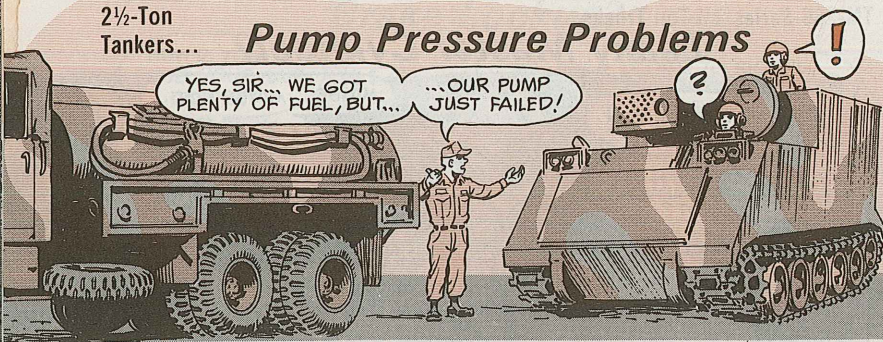
TM 9-2330-201-14 (Apr 72) doesn't list a wheel assembly for the Model M100, M115 or M367 ¼-ton trailer. NSN 2530-00-463-3648 will get you the one you need.

2½-Ton Tankers...

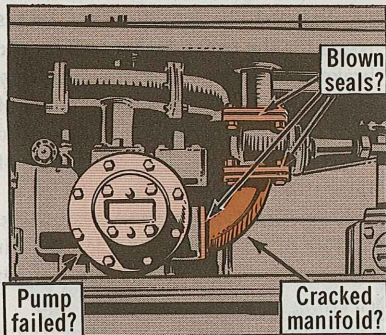
Pump Pressure Problems

YES, SIR... WE GOT PLENTY OF FUEL, BUT...

...OUR PUMP JUST FAILED!



Have you blown the seals or gaskets in the dispensing system of your M49-series fuel tanker or M50-series water tanker?



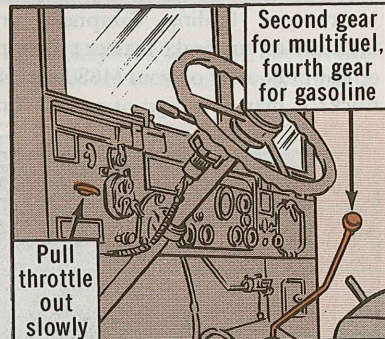
Or maybe the discharge manifold has cracked or the pump has failed?

Problems like these are caused by too much pressure in the discharge system. You get this when you operate the system in too high a gear or by running the engine too fast.

If you use a 1-in nozzle to pump gas into an M880-series 1¼-ton truck, you can add to the woes. The smaller nozzle restricts fuel flow and runs up the pressure in the system.

Solution? Slow down the pump! If your tanker has a multifuel engine, use

second gear—no higher! That's the word on Pages 4-132 and 4-187 of TM 9-2320-209-10-1.



If your tanker's got a gasoline engine, use 4th gear, like it says on Pages 101 and 103 of TM 9-2320-209-10.

Never overrev the engine. Use the hand throttle to set the speed. Pull it out all the way—slowly! Yanking it out could cause a pressure surge that'll do in your equipment.

Never try to increase the delivery from your system by upping the speed or running in a higher gear. You won't get that much more, and your equipment won't take it. Do it by the book and head off pump pressure problems.

Bolster Trailer PM Bits



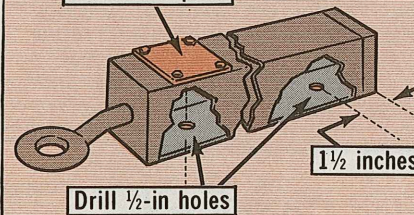
HERE'S HOW TO STOP EXTRA DOWNTIME AND PARTS REPLACEMENT COSTS ON YOUR M796 BOLSTER!

Reach Tube
Moisture inside the extendable tongue—reach tube—short-circuits the electrical cable.

Keep the reach tube dry, like so:

- Drill a ½-in hole in the bottom of the reach tube directly below the center of the top reach tube access plate.
- Drill another ½-in hole in the bottom center of the reach tube 1½ inches from the rear reach tube plate.

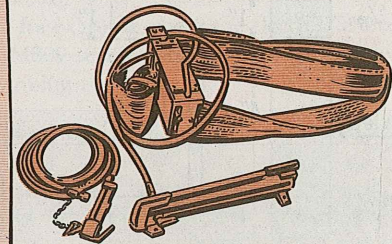
Center of top reach tube plate



Trailer Tires

Getting the tubeless tires to seat on the rims after changing or repairing tires is a hassle.

Use tire constrictor tool, NSN 2590-01-038-3865, to seat the tire



Tire constrictor tool

against the rim. Appendix A, CTA 50-970, is your authority to get the tool.

The tool has a 6-in wide strap that you wrap around the tire. As you inflate the tire, the strap squeezes it against the rim. It's safe; it's easy; it's timesaving.

The tool will work on any size tire on any Army vehicle.

Landing Wheel

Replace the pneumatic tire/tube wheel with a steel wheel, NSN 2430-00-088-4909. This wheel has a bonded rubber face that never goes flat.

Save Your M915 Differential Lock

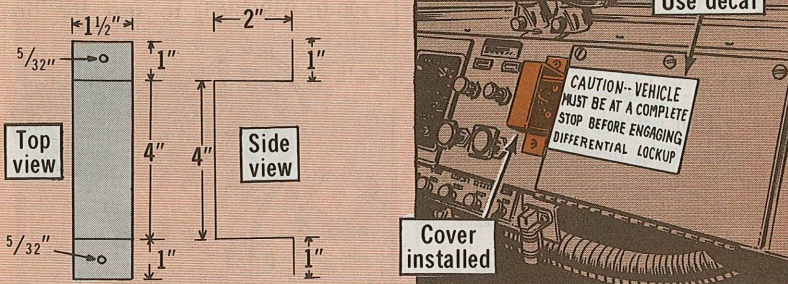
Dear Editor,

M915-series truck tractor drivers can really tear up the intermediate differential if they engage the differential lock while the truck is moving.

To prevent the lock/unlock control from being engaged accidentally, we made a cover from .125-in thick metal, NSN 9515-00-846-3347. Here's how to make one:

Cut a piece of metal 10 inches long by 1½ inches wide, and bend it as shown. Drill two 5/32-in holes in the cover. Place the cover over the lock/unlock control and mark the location of the holes. Drill two 1/8-in holes thru the dash. Be careful not to drill into air lines or electrical lines.

Fasten the cover in place with 2 No. 6 self-tapping screws, NSN 5305-00-883-0633.



We also made decals that said "Caution—Vehicle must be at a complete stop before engaging differential lockup." We put them on the dash next to the control.

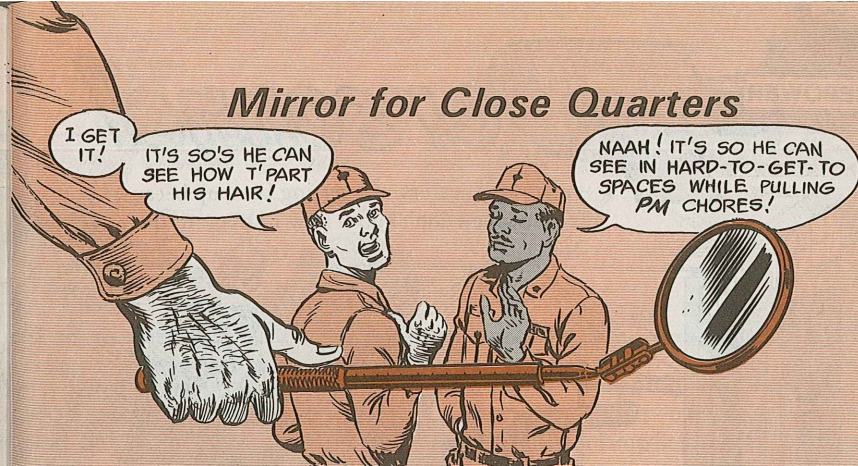
CW3 Carl E. Beckwith
Fort Bragg, NC

(Ed Note—Sounds super!)

M915-Series Codes

Ordering parts for the M915-series trucks? Make sure you use the right Weapons/Equipment System Designator Codes (W/ESDC). Use MZ for M915 parts and components; PE for the M916; MR for the M917; 7W for the M918; PA for the M919; and PD for the M920. The W/ESDC goes on all requests for those trucks' parts and components—no matter what priority you put on the request. Appendix C of AR 725-50 and Appendix E of DA Pam 710-2-1 list W/ESDC's.

Mirror for Close Quarters



If you mechanics are tired of standing on your head or craning your neck to see in those hard-to-get-to spaces, here's a way to make your life easier.

Get an inspection mirror, NSN 5120-00-892-5709, for pocket change. It's authorized by Appendix A of CTA 50-970.

With an inspection mirror, you can, for example, check the electrolyte level in the rear cells of the batteries on the M809-series trucks. Without the mirror, you can't see in the cells without removing the batteries.



Protect Your Winch

Dear Editor,

I made a cover to protect the winch on my truck from dust and flying rocks while on the road.

I cut out a piece from an unserviceable inner tube that would cover the winch and fastened it in place with a length of rope.

PFC Randy Czeponis
Ft. Bragg, NC

(ED Note—That's a good idea—but only while you're on the move. If you keep the winch covered all the time, moisture will be trapped under the cover and speed up rust and corrosion.)

Personnel

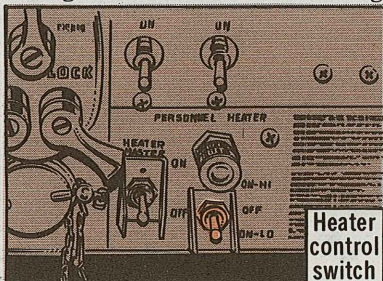
Personnel heaters are getting beat up because some crewmen don't know how to operate them.



Starting the Heater

Make sure the heater master switch is ON.

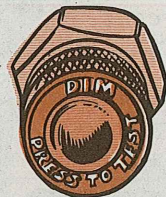
Turn the heater control switch to either ON-LO or ON-HI. The lamp will light when the heater is burning



steadily. Let the heater burn for at least 5 minutes before switching in either direction between ON-LO and ON-HI.

If the lamp won't light up within 4 minutes, your heater's not working. Turn the heater control switch to OFF for 10 seconds.

Now push on the lamp. It's PRESS-TO-TEST, so if it lights up, try again for 2 minutes to start the heater.



If the lamp stays dark, or the heater fails to start after the second try, turn the heater control switch to OFF for 10 seconds. Then press on the lamp again.

Now, if the lamp lights, make your third attempt (for 2 minutes) to start the heater.

On the third attempt, if the lamp will not light when you press it or the heater fails to start, have your mechanic check it out.

Heater Operation

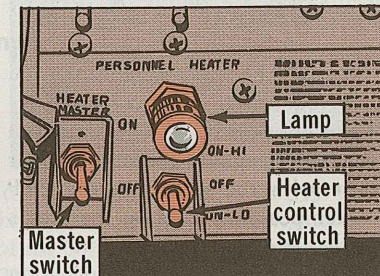
HERE'S THE WAY TO GO WHEN THE COLD WINDS BLOW!



Stopping the Heater

The heater must run with the indicator lamp lit for at least 5 minutes before you shut it OFF. If it doesn't run that long, the heater will flood and you won't be able to start it.

Turn it OFF by putting the control switch in the center OFF position.



Even after it has been turned to OFF, the heater will keep on running for 2-3 minutes. You can tell when the heater has finally stopped; the lamp will go out.

CAUTION

When you've turned the heater off and it's still in the purge cycle, never turn the master switch off until the lamp has gone out.

If the purge cycle lasts longer than 5 minutes, tell your organizational mechanic. Something is wrong.

Operating Tips

Before you refuel your vehicle, make sure the heater is off.

When you run the heater in a tent or building, vent the heater exhaust outside.

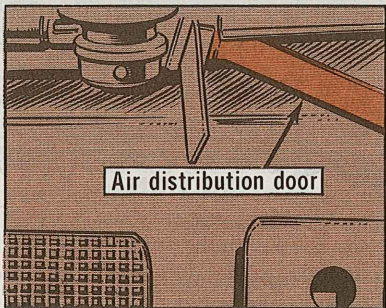
Make sure the air distribution door in front of the driver is in place. A missing door will cause overheating and it could set off your fire extinguisher bottles.

Check for the exhaust heater plug and stow it in the right-hand fender box before you start the heater.

Controls

When the heater's running, you have your choice of high heat (ON-HI) or low heat (ON-LO). When you switch from one to the other, never pause with the switch in the OFF (center position) because that shuts the heater off.

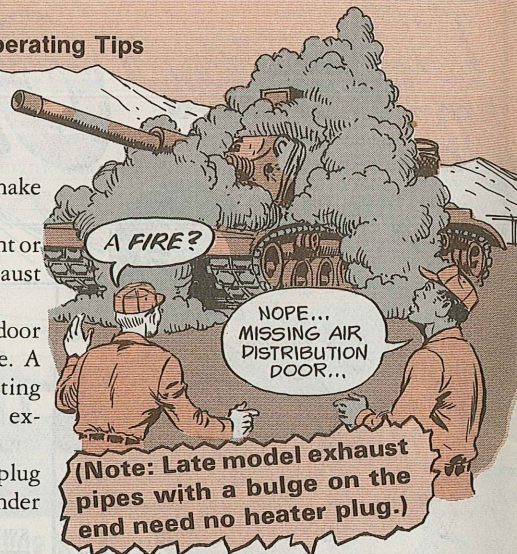
When you pull the air distribution



Air distribution door

door to the rear, you direct the heat toward the driver.

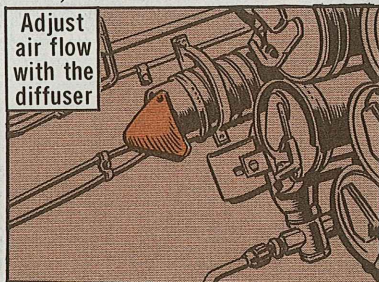
Pulling it forward just a little directs



(Note: Late model exhaust pipes with a bulge on the end need no heater plug.)

the heat to the right. Pulling it all the way forward shuts off the flow of heat.

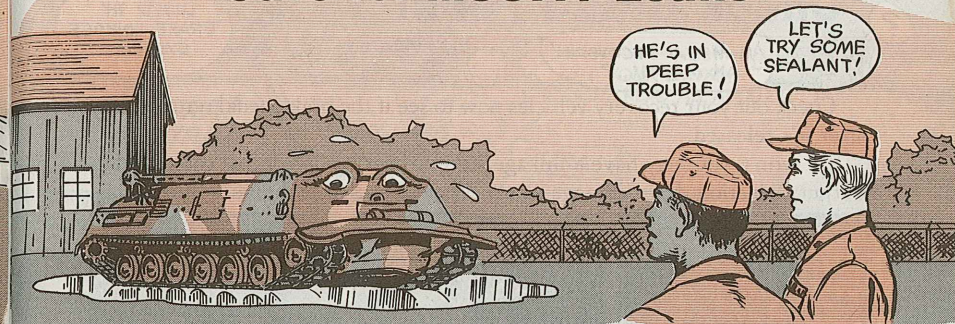
Adjust the diffuser located in the



hull left wall at the rear of the 105-MM ammo rack when you want to change the direction of heater air flow in the turret.

To protect against carbon monoxide, make sure either the engine air intakes are set to draw air from the engine compartment or the hatches are open.

Cure for M88A1 Leaks



The output reduction drive assemblies on some M88A1 recovery vehicles are leaking.

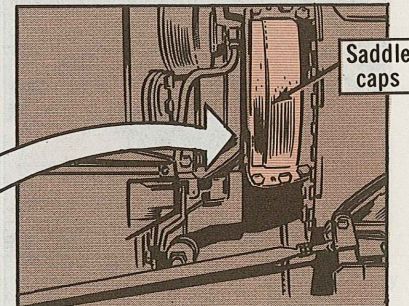
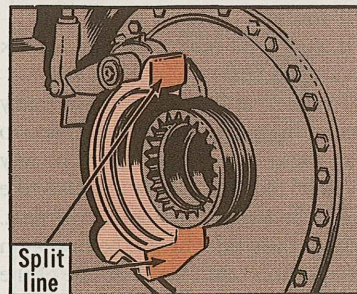
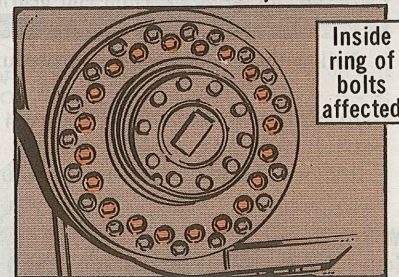
You mechanics can cure the problem with a thin coat of general purpose Sealant, Type 1.

First, find out whether the leaks are around the inside ring of the self-locking bolts of the reduction drive, or around the transmission saddle cap split line (inside the hull).

Then clean up the area with some solvent and apply the sealant. It comes in a 5-oz tube, NSN 8040-00-833-9563.

If the leak is around the self-locking bolts, you'll apply the sealant under the bolt heads and on the threads of each of the bolts. The inside ring of the self-locking bolts must be torqued to 215-250 lb-ft.

You also apply the sealant around the mating surfaces of the saddle caps whenever the reduction drives are removed and reinstalled.



Check Brake Pedal

AN M88A1 RECOVERIN' AN M88A1...?

TOLD YA WE SHOULD'VE LUBED TH' BRAKE LINKAGE SYSTEM!

Check out your recovery vehicles now to see if the brake pedal returns fully after it's released.

If it won't, you may have a linkage rod-end bearing defect that could lead to output reduction drive damage or an accident caused by brake failure.



Rod-end bearings...lube 'em!

Follow the troubleshooting procedures in TM 9-2350-256-20, Pages 2-33 to 2-34.

In addition, make sure the bearings, especially the rod-end, can be rotated by hand. If they can't, replace 'em.

Remove all the dirt and sludge around the brake linkage system and lubricate it according to the LO when you have the powerplant out.

M60-Series Tanks... No Storage on Heat Shroud

HMM... WELL, ANYWAYS I CAN'T FIND TH' KITCHEN SINK IN HERE...



What can you store on your M60-series tank's engine compartment heat shroud?



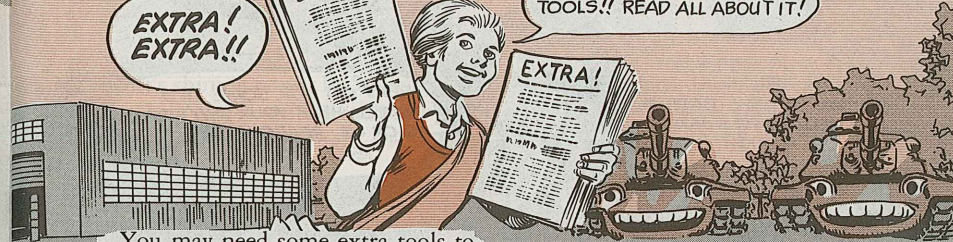
Do not place articles here

Tool Set Extras Needed

EXTRA! EXTRA!!

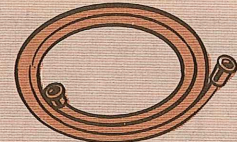
EXTRA!

GET YOUR EXTRA TOOLS!! READ ALL ABOUT IT!



You may need some extra tools to do organizational maintenance on your tanks.

- Cable assembly, NSN 6150-00-628-1160. You'll need this to service

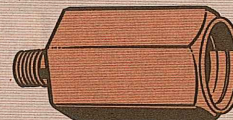


the M60A1 RISE, M60A3 or M60A3 TTS. Use it with Special Set B only.

THESE TOOLS ARE NOT PART OF THE SPECIAL TOOL KITS AND MUST BE ORDERED INDIVIDUALLY!

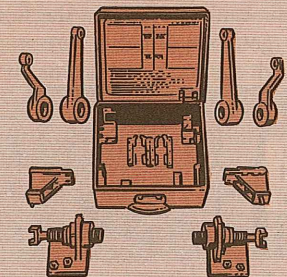


- Mechanical adapter, NSN 5120-00-322-5953, for torsion bars is used with puller, NSN 5120-00-557-3615. You'll need it if you



service any of these vehicles—M48A5 AVLB, M48A5, M60A1, M60A1 AVLB and M728 CEV. You would use it with either Special Set A or B.

- Stall check kit, NSN 4910-00-740-0064. Use this for the M60 tank



for stall checking the engine and/or transmission out of the vehicle. It goes with Set B.

All three tools are authorized by Appendix A of CTA 50-970.

Light Up

YOUR BIG CANDLE CAN TURN NIGHT INTO DAY ON THE BATTLEFIELD IF YOU HANDLE IT RIGHT!

READ ON FOR SOME TIPS THAT'LL HELP YOUR AN/VSS-1, -2 OR -3 SEARCHLIGHT LIGHT THE NIGHT!

Like, never turn off a tracked vehicle's power before the searchlight's blower stops blowing. It needs the extra time to get rid of the heat that builds up in the light's housing.

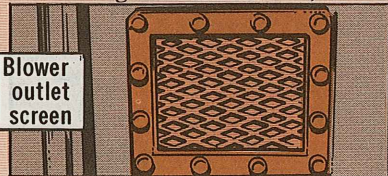
If you shut down too soon...POW!...it's goodnight searchlight, when the lamp assembly burns out and the refractor and filter get smoked up.

Screen Play

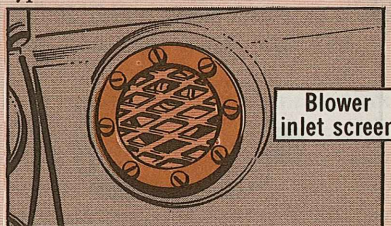
Clogged or banged-up heat exchanger blower screens and ducts cause your light to overheat, too. The cool air can't get in and the hot air can't get out. If the screen gets knocked against the resistor, it can

Operators can flush out the heat exchanger ducts in the AN/VSS-3 light with a low-pressure hose.

If necessary, you organizational types should remove the blower inlet



Blower outlet screen



Blower inlet screen

short it out. Protect it with careful handling and always rest it on a level surface.

Clean the bugs, dust and dirt off the screens with a damp, lint-free cloth and, if needed, a mild soap. Dry it well.

screen of the AN/VSS-1 or -2 and pour water into the port to flush out the air ducts. Course, make sure you turn the searchlight off and let it cool before you clean it.

the Night

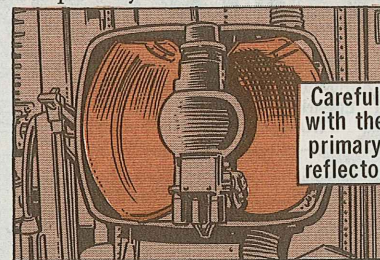
Overdriven?

Life in the fast lane can burn you out. The same goes for your AN/VSS-1 or -2 searchlight. So, lighten up on the overdrive. Overdrive hops up your light's shining power by 50 percent. If you kick into overdrive too much, tho, it can overheat your light and blow it up big time.

Never use overdrive unless it's against the enemy, in a PMCS or repair situation or your CO tells you to.

Unless you're shifting into overdrive, never pull up on the selector

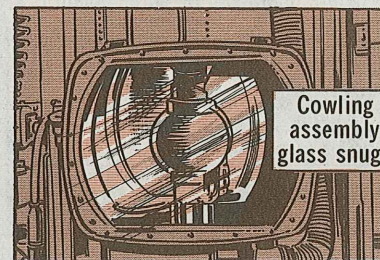
Fingerprints and scratches can dull the primary reflector and eventually



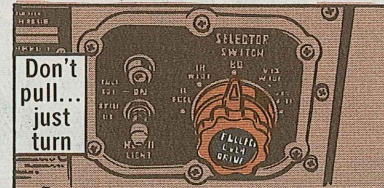
Careful with the primary reflector

make hot spots that damage the light.

After you clean the cowling assembly



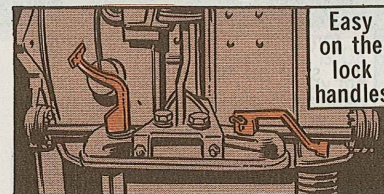
Cowling assembly glass snug?



Don't pull... just turn

switch. Just turn the selector switch.

Never get too strong with the lock



Easy on the lock handles

handles. If you break one, support must replace the whole coupler assembly.

ply glass on the AN/VSS-1 or -2, snug it to the searchlight before you lock the latches. This assures a watertight seal.

Watch the fit. When the latches are too tight, the cowling gaskets get damaged. Loose-fitting latches won't seal right.

If the latches need adjustment, get the light to support.

Blinding Flash

Never look directly into your searchlight when it's on. It could blind you in a flash.

If you want to see your light in action, look downfield. With good PM from you, your light will make it look like high noon at midnight.

M113A1/M113A2

MORE M113A1/M113A2 FOV ENGINES ARE RUINED BY OVERHEATING THAN BY ANYTHING ELSE!

DO THESE SIMPLE LITTLE THINGS AND...

Engine Insurance

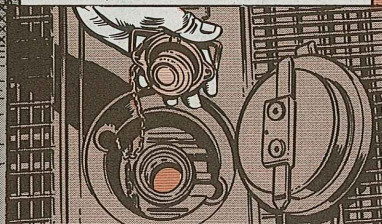
... YOU'VE GOT AN INSURANCE POLICY AGAINST ENGINE OVERHEATING!!

ENGINE WARMUP—This is often neglected, but your engine will last longer if you always warm it up before you move out. Oil drains out of bearings when the engine is at rest. You need to give the oil time to circulate before you move your carrier.

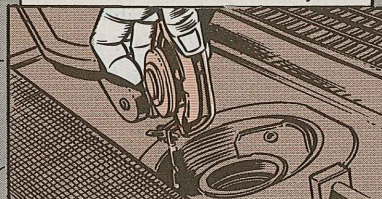
After you start the engine, set the

CORRECT COOLANT LEVEL—

Operate with low coolant levels and you can overheat and ruin your engine. Check coolant level daily before operation. Be sure coolant is



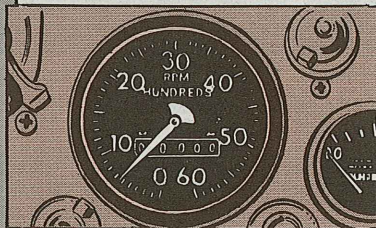
at the bottom of the radiator filler neck (for the M113A1 family) or within 1/2 inch of the auxiliary tank



filler neck (for the M113A2 family). Keep the level up at all times.

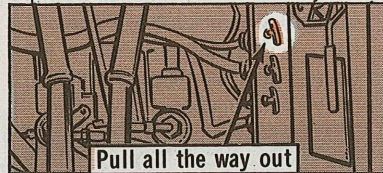
If you have to add more than 2 quarts of coolant at one time, have your mechanic give the system a complete inspection for leaks.

ENGINE SHUTDOWN—Before you shut off the engine, run it in neutral at about 1,000 RPM for 2 minutes or so. At the end of the 2



minutes, set the engine back to idle (650-700 RPM) and check the instrument panel for normal

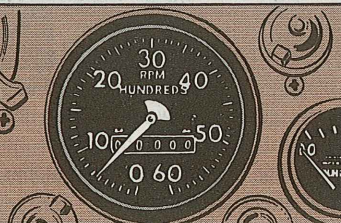
readings. Then, if everything is OK, pull the fuel cut-off all the way out.



Pull all the way out

The engine will stop a few seconds later when it has used all the fuel in its injectors.

But, before you cut the engine, turn off all electrical equipment that's been running. If the personnel heater is on, turn it off using the



hand throttle and run the engine at 650-700 RPM for at least 2 minutes to warm up the coolant and the engine oil.

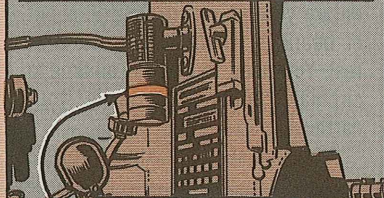


Turn the heater switch off

heater switch. Turning the master switch off will not turn off the heater. The only way to turn the heater off is with the heater switch. When everything else is off, turn off the master switch.

(Note: Always shut the engine off before you turn the master switch off.)

AIR CLEANER—Your engine will lose power and heat up if the air cleaner element is choked with dirt. If your carrier has an air cleaner

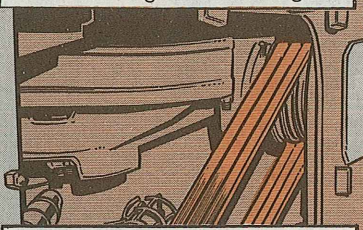


Clean the element if window shows red

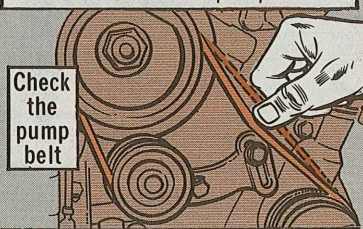
restriction indicator and it shows only red in the window, clean the element. If your vehicle has no indicator, open the container latches and check the filter often.

CLEAN THE ELEMENT WHEN AND HOW YOUR TM SAYS...

V-BELT CHECKS—The V-belts for fan drive and coolant pump are involved in engine overheating.



When the belts get too loose, the fan and the coolant pump are not



Check the pump belt

operated fast enough to keep the engine from overheating.

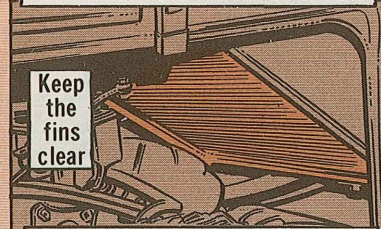
Check the coolant pump belt by pushing in on it halfway between the pulleys. If you can push it more than $\frac{3}{8}$ inch, get your mechanic to adjust it.

Check the fan drive belt at the idler. If the adjuster rod is not between the operating range marks, tell your mechanic.



Check the operating range marks

RADIATOR FINS—Your radiator will not do a good job of transferring heat from the coolant to the



Keep the fins clear

atmosphere if its fins are clogged with dirt, oil, leaves, grass, twigs, etc. Anything that restricts the air from moving through the radiator keeps the coolant hot and overheats the engine.

Keep your equipment—picks, water cans, poles, etc.—off both the air intake and the air exhaust grilles.

Keep equipment off the grilles

Make sure both are clean and free from dirt, twigs, leaves and other foreign matter.

If you use protective covers over the grilles, make sure they're rolled up and strapped in place before you operate your vehicle.

OFF WE GO INTO TH' WILD GREEN BONNIES! ♪

YEAH, MAN-- THANKS TO BONNIE'S TIPS!

6V53, 6V53T and 8V71T Engines...

Measure Oil Filter Gasket

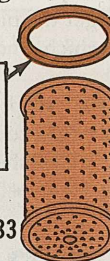
OK--NOW WE'LL FIND OUT WHO'S TH' IMPOSTER!



Some oil filter gaskets in the supply system for the M113-series vehicles and M109-series howitzers are not the right size.

These wrong-size gaskets cause oil leaks.

Use the correct gasket (non-metallic washer) NSN 5330-00-290-7860



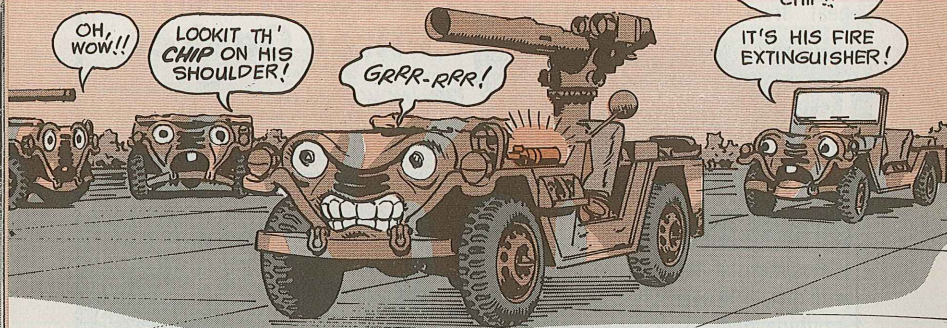
Filter assembly NSN 2940-00-580-6283

Check your stock right now. The gaskets are in oil filter kit assembly, NSN 2940-00-580-6283. The correct gaskets have an outside diameter of 5.12 to 5.13 inches.

Any other size gasket should not be used in these engines.

Order gasket, NSN 5330-00-290-7860, as needed until the defective kit assemblies are used up. Depot stocks have already been purged.

TOW Fender Mount



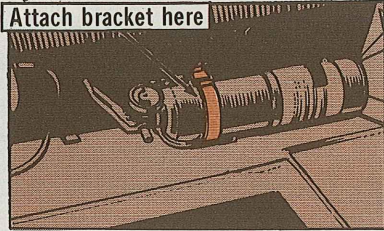
Fire extinguisher, NSN 4210-00-889-2221, mounts on top of the left front fender when used on the ¼-ton carriers and launchers of the TOW missile system.

Forget the picture on Page 27 of PS 346 which shows a side mounting place.

TOW adaption kits require the gasoline can to be on the side. So, the fire extinguisher goes on top of the fender...just behind the blackout light.

The mounting bracket comes with the extinguisher. Hardware for it is listed on Pages C-2 and C-3 of TM 9-2320-218-10.

Attach bracket here



Retaining Ring Roundup

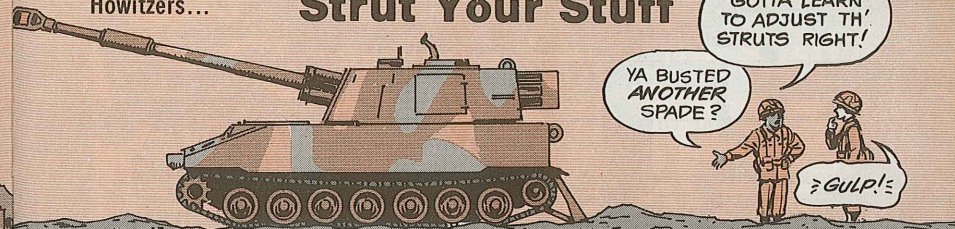
To get a retaining ring, cover, for the idler arm on your M113A2, M577A2, M106A2 or M125A2 carrier, use NSN 5365-00-009-7687.

TM 9-2300-257-20P shows the ring with P/N 11669368, FSCM 19207. That's right—but the NSN is wrong.

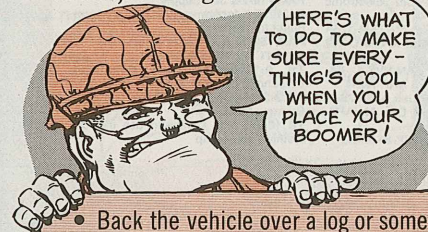
26

M109-Series
Howitzers...

Strut Your Stuff

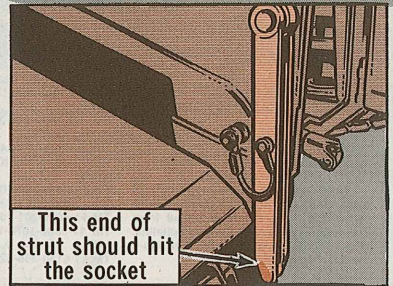


One of the most embarrassing things that can happen during an M109 emplacement is to have the spade break because the spade strut's not adjusted right.

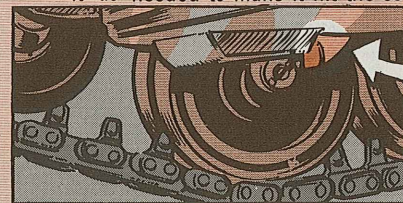


HERE'S WHAT TO DO TO MAKE SURE EVERYTHING'S COOL WHEN YOU PLACE YOUR BOOMER!

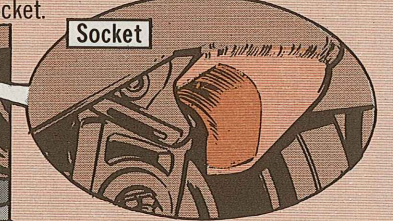
This end of strut should hit the socket



- Back the vehicle over a log or some other object that's at least 18 inches high. That'll let the spade drop without hitting the ground.
- When the spade is released, check where the strut goes in relation to the socket on the hull. If it goes in, fine.
- If the strut misses the mark, remove the screw that attaches the tension cable to the spade. Loosen the jam nut on the cable and shorten or lengthen it as needed to make it hit the socket.



Socket

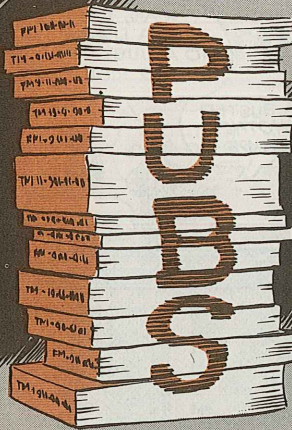


- Reconnect the cable, raise and lower the spade to make sure everything works, tighten the jam nut and you're set.

'Course, it'd be good if you can verify that it works in the firing position as soon as it's practical.

THAT WAY, YOUR TAIL WON'T DROOP WHEN YOUR SPADE IS LOWERED!

27

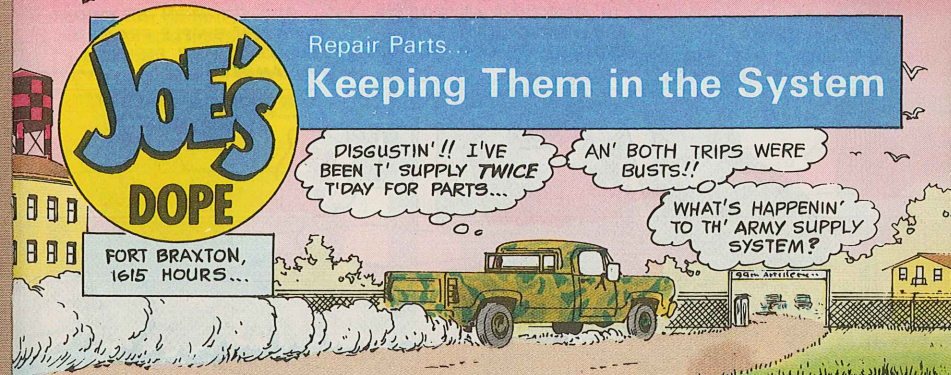


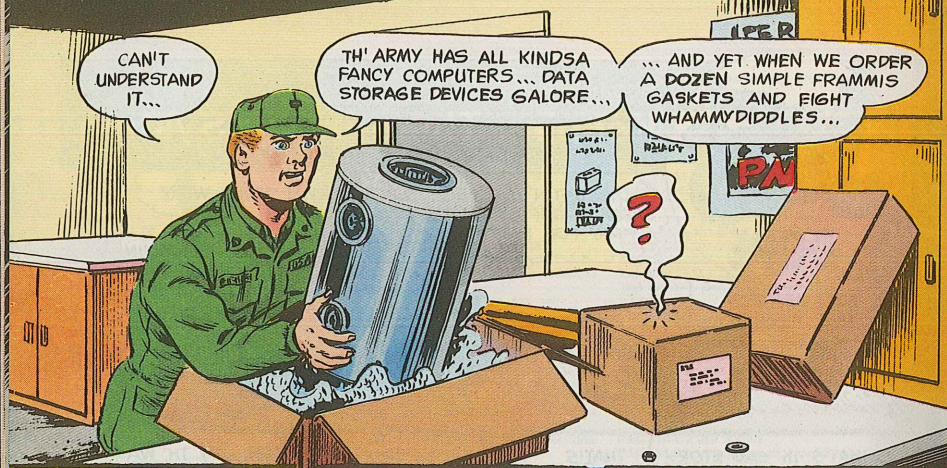
- TECHNICAL MANUALS**
- TM 5-1940-277-20 Nov Boat, bridge erection
 - TM 9-4310-370-24P Nov Compressor unit, recip, 5 CFM, 175 PSI
 - TM 5-5420-209-12-HR Jul Ribbon bridge transporter
 - C 5, TM 5-6115-590-12 Aug U-pack, (MUST) GTED
 - C 1, TM 9-1015-234-10 Sep M102 howitzer
 - TM 9-1090-207-13&P Oct Rocket XM138
 - TM 9-1095-206-13&P Jun Dispenser, aircraft M130
 - TM 9-1430-486-12 Oct LANCE
 - TM 9-1430-655-20-7-4 Aug AN/TSQ-73
 - TM 9-2350-255-CL Nov Crew Checklist for tank, M1
 - TM 9-2350-255-10-1 Nov M1 tank
 - TM 9-2350-255-10-2 Nov M1 tank
 - TM 9-2350-255-10-3 Nov M1 tank
 - TM 9-2350-255-10-HR Nov M1 tank hand receipt
 - TM 8-4935-544-24P Oct AN/TSM-106 (Shop I) 4935-00-880-4502 supplementary equipment, test station AN/TSM-120
 - TM 10-7360-204-13&P Sep M59 field range
 - TM 11-1520-236-20P Oct Electronic config AH-1S
 - TM 11-4940-475-24P Oct AN/TSM-126A
 - TM 11-5821-248-20P Oct AN/ARC-102 radio
 - TM 11-5855-238-10 Oct AN/PVS-5, -5A
 - TM 11-5855-261-23P Oct AN/PAQ-4
 - TM 11-5860-201-10-HR Dec AN/GVS-5
 - TM 11-5895-1078-10-HR Dec AN/APS-94F
 - TM 11-6130-356-12 Aug PP-6148/U
- MISCELLANEOUS**
- DA Form 2062 Jan Hand receipt/annex
 - FM 9-63B5 Jun Light wheel vehicle/power gen eqpt mech
 - FM 11-31V1/2 Oct Tactical comms sys operator/mech
 - PAM 310-1 Sep (fiche) Index to admin pubs
 - PAM 710-2-2 Jan Supply
 - PAM 750-5 Jul Army oil analysis program guide for leaders
 - PAM 750-10 Aug (fiche) MWO index SB 5-11 Nov Ribbon bridge
 - TB 9-1300-385-1 Aug munitions suspended or restricted
 - TB 9-2350-304-10 Dec Projectile, 8-in: Dummy; M845
 - TB 10-277 Nov Care and use ind CP clothing and equip

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 and DA Pam (C) 310-9

AUDIO-VISUAL STUFF
Available at battalion or post Learning Center

- TEC LESSONS**
- 221-301-7225-A Maint for AN/PVS-15A (V) 1
 - 221-301-7225-A Trouble-shoot AN/PVS-15A (V) 1
 - 231-906-3041-A AN/TLO-17 countermeasures Part I
 - 231-906-3042-A AN/TLO-17 countermeasures Part II
 - 231-906-3045-A AN/TLO-17 prepop checks, PU-654/U generator op
 - 231-906-3047-A AN/TLO-17 231-906-3061-A PU-684/GLQ-3B
 - 231-906-4052-A Install AN/PTRA-32 antenna
 - 412-061-7204-A Install BC periscope
 - 412-061-7214-J Op maint on sound ranging set AN/TNS-10
 - 420-081-8007-A Radiosonde
 - 420-061-8008-A Battery and radiosonde
 - 420-061-8013-A Radiosonde
 - 420-061-8070-A Assemble, disassemble Rawin set
 - 420-061-8071-A Cabling, grounding, leveling Rawin set
 - 431-093-7385-A Detanking LANCE
 - 551-101-8231-A Hand receipts at bn level
 - 551-101-8235-A Update DA Form 2062 hand receipt as shortage annex
 - 580-113-6582-A (FOUO) Install TSEC/KW-7
 - 580-113-6591-A Op maint on AN/MGC-17 TT (TT-4 (1)/TG)
 - 600-011-6607-F Stabilizer bar UH-1H
 - 600-011-6608-F Serviceability of main rotor hub and blade assembly (UH-1H)
 - 600-011-6615-F Remove stabilizer bar assy, main rotor hub and blade assy
 - 610-091-6153-J Recover mirrored tank
 - 612-051-9672-F Trouble-shoot diesel engine
 - 612-051-9673-F Trouble-shoot diesel engine
 - 612-051-9675-F Trouble-shoot cooling sys
 - 612-051-9676-F Lubricating and servicing unit controls
 - 612-051-9678-F 250-CFM air compressor
 - 612-051-9679-F Trouble-shoot 290M tractor airbrakes
 - 612-051-9681-F Trouble-shoot air brake sys of RT crane
 - 612-051-9684-F Trouble-shooting charging sys 645M loader
 - 621-113-6036-A PM on test set AN/PTM-7
 - 621-113-6037-A 26-pair cable CX-4566/G Part I
 - 621-113-6038-A 26-pair cable CX-4566/G, Part II
 - 621-113-6039-A 26-pair cable CX-4566/G
 - 621-113-6063-A Install generator PU-619/M
 - 621-113-6064-A Op generator PU-619/M
 - 621-113-6065-A PM on generator PU-619/M
 - 621-113-6092-A Operator PM on AN/MTC-1A
 - 621-113-6411-A PM on telephone set TA-1/PT
 - 621-113-6436-A Trouble-shoot, repair field wire, Part I
 - 621-113-6437-A Trouble-shoot, repair field wire, Part II
 - 621-113-6444-A SB-22/PT PMCS
 - 621-113-6446-A Disassemble switchboard, telephone manual SB-22 (1)/PT
 - 621-113-6450-A SB-86/P PMCS
 - 621-113-6452-A Disassemble SB-86/P
 - 621-113-6463-A Install radio AN/VRC-46
 - 621-113-6467-A PMCS on radio AN/VRC-46
 - 621-113-6470-A Install radio AN/VRC-49
 - 621-113-6473-A Operator PMCS on AN/VRC-49
 - 662-051-7651-F Soldering electrical connections
 - 712-051-8685-F Bending reinforcing rods
 - 712-051-8687-F Install reinforcing rods Part I
 - 811-551-7860-F Vehicle recovery anchors
 - 916-013-0009-A Safety hazards
 - 916-013-0010-A Safety hazards
 - 916-013-0011-A Safety hazard countermeasures
 - 916-013-0014-J Safety checklist for convoy (CONUS)
 - 920-777-0500-J Beseler Cue/See operation
 - 931-031-0001-A Automatic chemical agent alarm
 - 931-031-0002-J Auto chem alarm
 - 931-031-0003-J Auto chem alarm
 - 944-171-0206-F Goer PMCS, Part III
 - 944-171-0207-F Goer PMCS, Part IV
 - 945-171-0054-F During-op checks and services on M113/M577 carriers
 - 945-171-0055-F After-op checks and services on M113/M577 carriers
 - 945-171-0059-F Prep M113A1 and M577A1 for water op
 - 945-171-0060-F Swimming M113A1/M577A1 and lubrication
 - 948-071-0042-J Intercom on M901 ITV
 - 948-071-0045-J Daylight/tracker, TOW, nightst on M901 ITV
 - 948-071-0046-J Before op PM on M901 (turret)
 - 948-071-0047-J M901 TOW Part I
 - 948-071-0048-J M901 TOW Part II



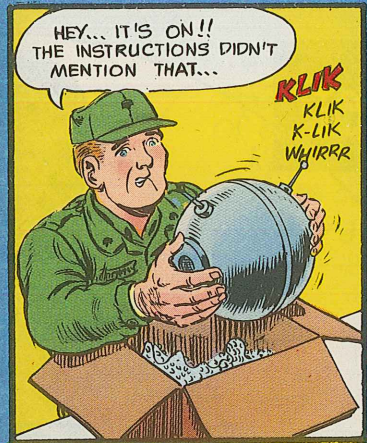


CAN'T UNDERSTAND IT...

TH' ARMY HAS ALL KINDSA FANCY COMPUTERS... DATA STORAGE DEVICES GALORE...

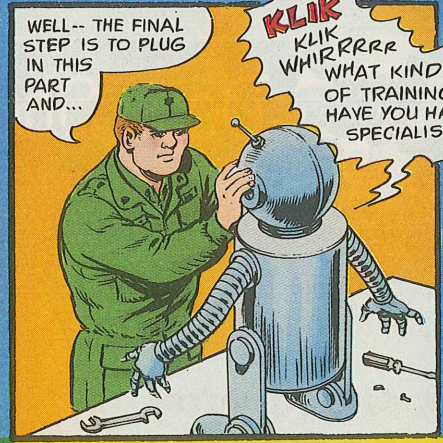
... AND YET WHEN WE ORDER A DOZEN SIMPLE FRAMMIS GASKETS AND FIGHT WHAMMYDIDDLES...

?



HEY... IT'S ON!! THE INSTRUCTIONS DIDN'T MENTION THAT...

KLIK
KLIK
K-LIK
WHIRRR



WELL-- THE FINAL STEP IS TO PLUG IN THIS PART AND...

KLIK
KLIK
WHIRRRRR
WHAT KIND OF TRAINING HAVE YOU HAD SPECIALIST?



... TH' SYSTEM FALLS ON ITS NOSE...

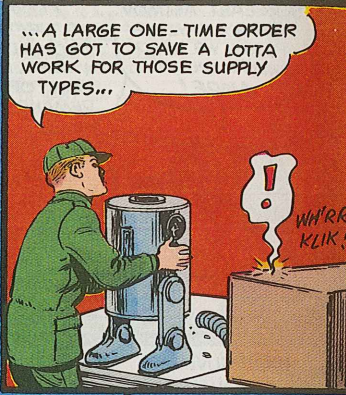
?



... IT DOESN'T EVEN HELP THAT WE WAIT UNTIL WE NEED SEVERAL OF A PART BEFORE WE ORDER...

?

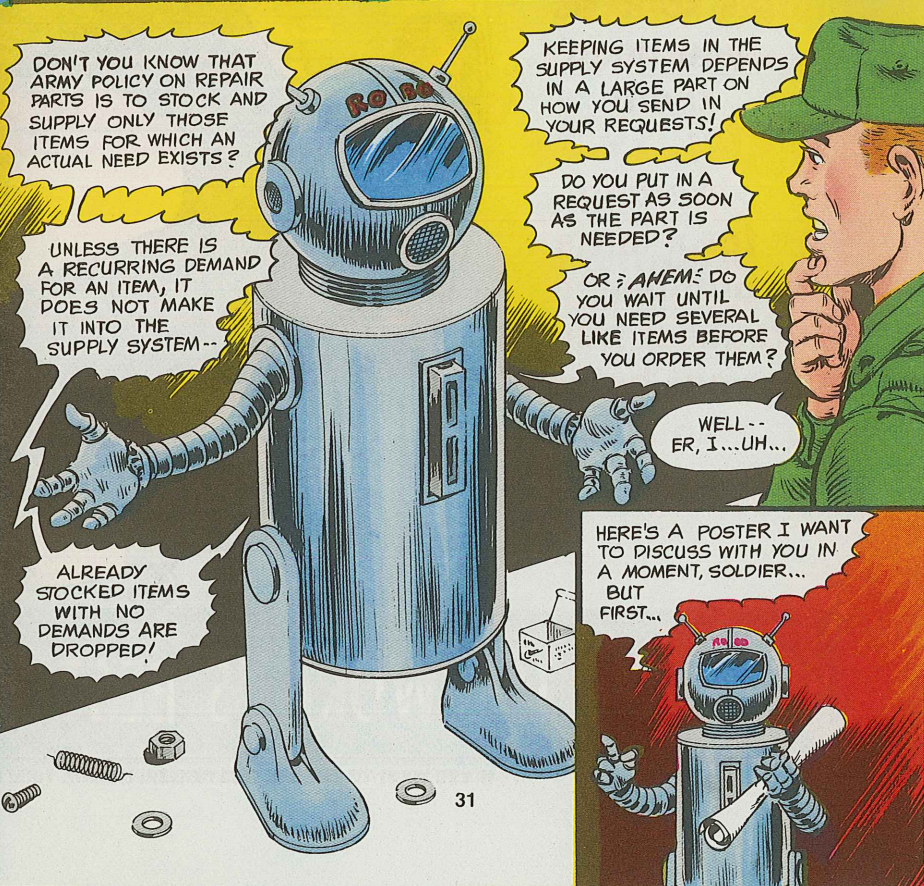
KLIK



... A LARGE ONE-TIME ORDER HAS GOT TO SAVE A LOTTA WORK FOR THOSE SUPPLY TYPES...

!

WHIRRR
KLIK!



DON'T YOU KNOW THAT ARMY POLICY ON REPAIR PARTS IS TO STOCK AND SUPPLY ONLY THOSE ITEMS FOR WHICH AN ACTUAL NEED EXISTS?

UNLESS THERE IS A RECURRING DEMAND FOR AN ITEM, IT DOES NOT MAKE IT INTO THE SUPPLY SYSTEM--

ALREADY STOCKED ITEMS WITH NO DEMANDS ARE DROPPED!

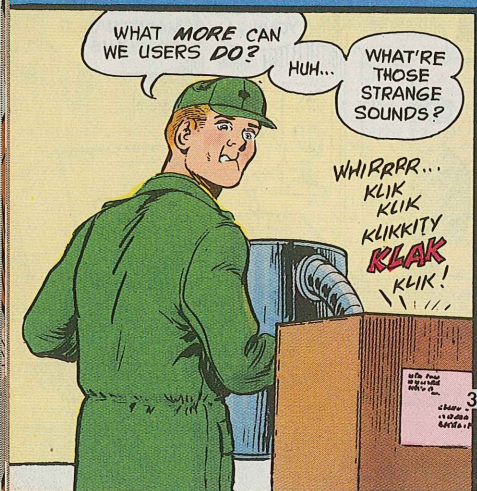
KEEPING ITEMS IN THE SUPPLY SYSTEM DEPENDS IN A LARGE PART ON HOW YOU SEND IN YOUR REQUESTS!

DO YOU PUT IN A REQUEST AS SOON AS THE PART IS NEEDED?

OR ? AHEM! DO YOU WAIT UNTIL YOU NEED SEVERAL LIKE ITEMS BEFORE YOU ORDER THEM?

WELL-- ER, I...UH...

HERE'S A POSTER I WANT TO DISCUSS WITH YOU IN A MOMENT, SOLDIER... BUT FIRST...



WHAT MORE CAN WE USERS DO?

HUH...

WHAT'RE THOSE STRANGE SOUNDS?

WHIRRRR...
KLIK
KLIK
KLUKKITY
KLAK
KLIK!

HMMM! THEY'RE COMING FROM TH' LAST CARTON...

... WHICH I'M READY TO OPEN NEXT ANYHOW... SO...

Joe's Dope Sheet



Make sure the supply system's aware
Of each item you use for repair!
Recording each need
Helps supply succeed
In assuring what's needed is there!

Order parts
as soon as
you need
them!

Waiting
for a large
number to
request hurts
—not helps!

Demands count!

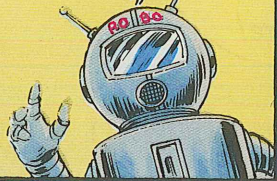
Always let the
supply system
know when you:

- Borrow parts
- Make a controlled exchange
- Improvise or make a part
(Use common stock whenever you can!)

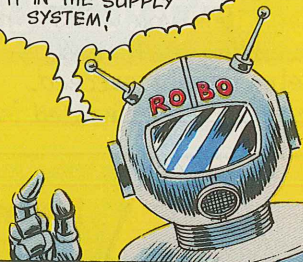
WE HAVE THE WORLD'S BEST EQUIPMENT ... *Take care of it*

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

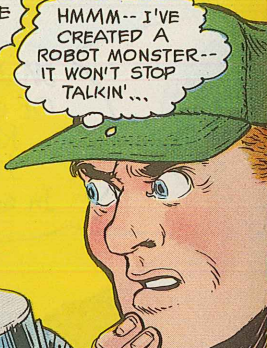
NOW, SPECIALIST BENDER, WHILE IT MAY BE TRUE THAT LARGE, ONE-TIME-ONLY REQUESTS SAVE WORK...



IT'S THE NUMBER OF SEPARATE DEMANDS... NOT QUANTITY... THAT MAKES AN ITEM AVAILABLE OR KEEPS IT IN THE SUPPLY SYSTEM!



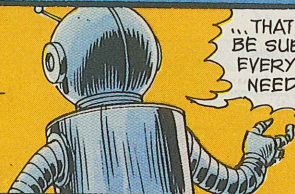
HMMM-- I'VE CREATED A ROBOT MONSTER-- IT WON'T STOP TALKIN'...



SO IT IS CRITICAL TO THE SUCCESS OF THE SUPPLY SYSTEM...

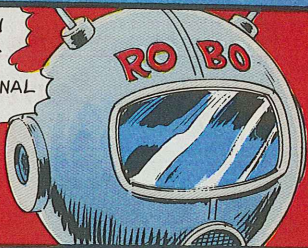


HMMM... THIS ROBOT HAS A FAMILIAR SOUNDING VOICE!

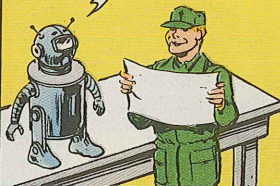


... THAT A SUPPLY REQUEST BE SUBMITTED EACH AND EVERY TIME THERE IS A NEED FOR AN ITEM!

'COURSE, CERTAIN ITEMS LIKE GEAR FOR SPECIAL EXERCISES, SEASONAL NEEDS OR WAR ARE STOCKED REGARDLESS OF DEMAND!

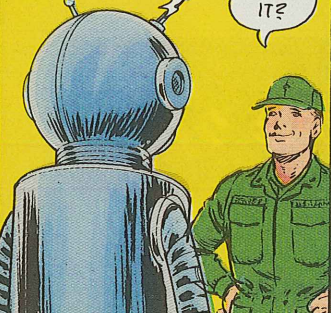


NOW... TAKE A LOOK AT THAT POSTER...



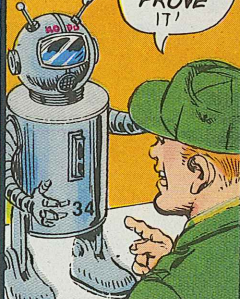
MANY UNIT SUPPLY PEOPLE AND MECHANICS THINK SUPPLY PAPERWORK IS A MEANINGLESS HASSLE.

AIN'T IT?

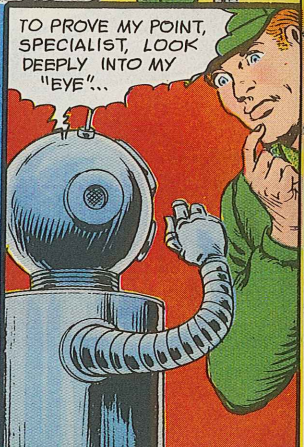


... SO THEY "TRY TO BEAT THE SYSTEM" AND END UP BEATING THEMSELVES!

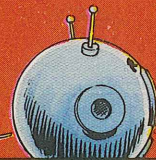
HAH! PROVE IT!



TO PROVE MY POINT, SPECIALIST, LOOK DEEPLY INTO MY "EYE"...

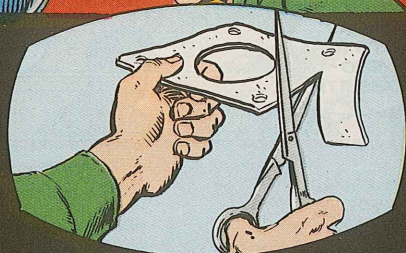


...THE ACTIVITIES YOU SEE MAY SOLVE A UNIT'S IMMEDIATE PROBLEMS... BUT THEY DIRECTLY CONTRIBUTE TO A SYSTEM BREAKDOWN!



1

Improvising gaskets, hoses and such from items other than common stock when the finished item is available



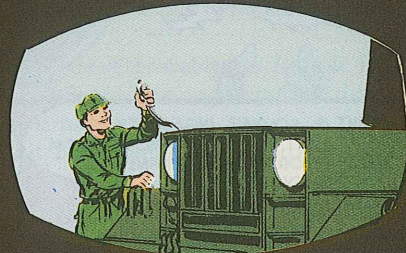
2

Scrounging or "moonlighting" parts from other units. Need is satisfied, but no demand is recorded



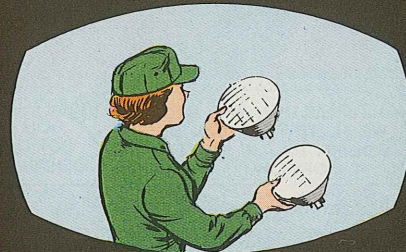
3

Cannibalization of parts with no demand record.



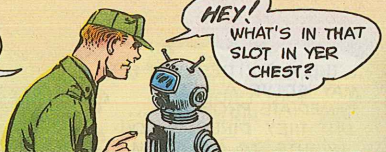
4

Substitution of another type gear's hardware or parts so the demands show up against another end item.



LISSEN, ROBOT...
WHAT YOU SAY
MAKES SENSE...

... BUT I DON'T WANT
NO ROBOT TELLIN' ME
WHAT TO DO!!



HEY!
WHAT'S IN THAT
SLOT IN YER
CHEST?

WHY...
IT'S A-A
VIDEO-
CASSETTE!



HA, HA!! WE HAD
YOU GOIN', DIDN'T
WE, BENDER?

FORGIVE US, SPECIALIST,
BUT WE COULDN'T
RESIST THE OPPORTUNITY...

S-SERGEANT
ASIMOV AN'
BONNIE!

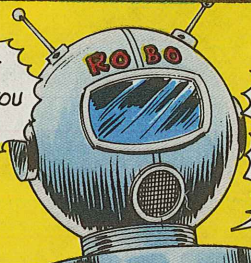


SIMPLE, OTTO... MY
UNCLE OWNS THE MAIL ORDER
HOUSE FROM WHICH YOU
ORDERED YOUR ROBOT!...

YES! WHEN HIS UNCLE
MENTIONED YOUR ORDER, WE
COOKED UP THIS VIDEO TAPE
SCHEME TO IMPRESS GOOD
SUPPLY TECHNIQUES ON YOU!

NOW, PLEASE PUT
THE TAPE BACK IN
ROBO'S PLAYER SO HE
CAN CONTINUE!

?CLICK? IF YOU HAVE TO
BORROW PARTS OR CANNI-
BALIZE ITEMS, RECORD THE
DEMANDS IN THE SAME WAY YOU
WOULD FOR THOSE OBTAINED
THROUGH NORMAL SUPPLY
CHANNELS!



USE THE RECORDS
OF DEMAND SECTION OF
YOUR DA FORM 3318, UNDER
DLOGS, USE A "DMA" DOCU-
MENT TO RECORD DEMANDS
FOR ITEMS OBTAINED
OUTSIDE NORMAL
SUPPLY CHANNELS!

END OF
TAPE...
?CLICK?

POINT IS, SOLDIER, INGENUITY IS
GREAT-- BUT IT CAN DO MORE HARM
THAN GOOD IF IT UNDERMINES
THE SYSTEM!

RIGHT, OTTO! YOU GOTTA MAKE
SURE THERE'S A RECORDED SUPPLY
ACTION FOR ALL THE ITEMS YOU
NEED AND USE!



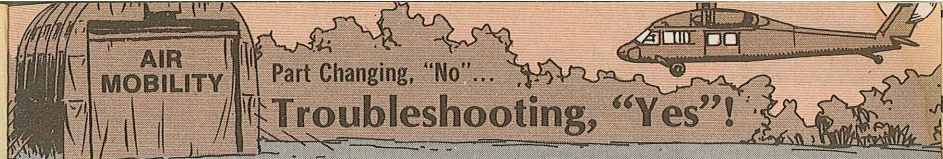
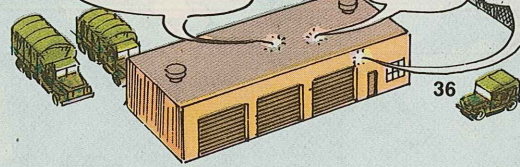
I DIG! THEN THE PROBLEM
WE SOLVE T'DAY CAN BE
SOLVED BY TH' SYSTEM
T'MORROW!

YOU
GOT IT,
BENDER!

WAY TO GO,
SPECIALIST!

OK, C'MON, ROBO--
I STILL WANT T'
PROGRAM YOU TO
DO MY PM CHORES!

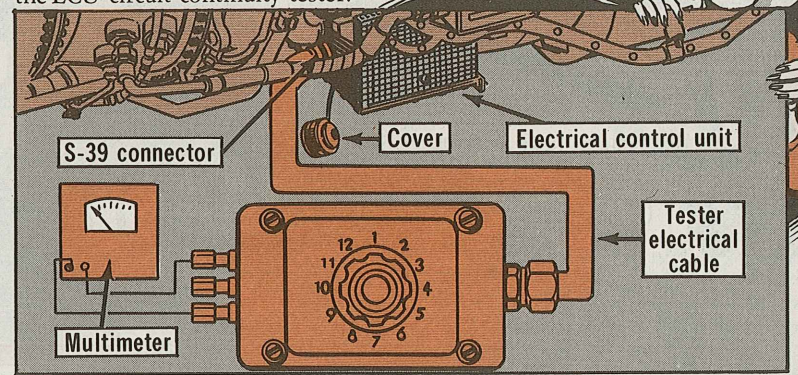
HA HA



When you Black Hawk types have an engine electrical problem, don't blame the electrical control unit (ECU) right off. Most removed ECU's check out OK.

Instead, eyeball Para 1-46 in TM 55-2840-248-23 on the T700 engine. There you'll find the troubleshooting poop to pinpoint the problem by using the ECU circuit continuity tester.

JUST CONNECT TEST SET TO THE S-39 DIAGNOSTIC CONNECTOR ON THE ECU!



Then, follow the step-by-step procedures in the pub to isolate the problem either to the engine or aircraft.

Take the corrective action listed and you've probably got it made in the shade. If not, then focus on the ECU. Para 7-13 in the engine pub has the word on inspecting and correcting the problem.

You may not have to replace the unit. For example, you can straighten bent socket pins in electrical connectors.

Never short circuit the supply system, bird mechs, by replacing a good ECU.

Aviation Messages

If your unit has not received a message in which you have an interest check with your next higher headquarters.
AH-1-81-34 SOF Maint mandatory msg Re-Torquing of main pressure regulator valve hold-down screws DRSTS-MEA 041800Z Nov 81
AH-1-81-35 SOF Maint mandatory msg AH-1 main rotor blade P/N 540-011-001-5 NSN 1615-00-847-7461 DRSTS-MEA 051445Z Nov 81
AH-1-81-36 SOF Maint mandatory msg RCS-CSGLD-1860, T53 engine cleaning procedures DRSTS-MEA 241830Z Nov 81

UH-1-81-11 SOF Maint mandatory msg Re-Torquing of main pressure regulator valve hold-down screws DRSTS-MEA 041800Z Nov 81
OV-1-81-04 SOF Maint mandatory msg Re-Torquing of main pressure regulator valve hold-down screws DRSTS-MEA 041800Z Nov 81
U-21-81-02 Change to SOF msg, Emergency inspection of U-21, RU-21, U-8 and other non-standard aircraft lower forward wing attachment bolt DRSTS-MEC 062110Z Nov 81
U-8-81-01 SOF, Emergency, inspection of U-21, RU-21, U-8 and other non-

standard aircraft lower forward wing attachment bolt DRSTS-MEC 040195Z Nov 81
CH-47-81-15 SOF Maint mandatory msg notifying maint personnel to perform a recurring inspection on T55-L-11ASA engine variable inlet guide vanes DRSTS-MEA 061600Z Nov 81
CH-47-81-16 SOF Maint mandatory msg notifying maint personnel to not remove pilot and copilot jettisonable doors on CH-47A/B/C DRSTS-MEC 242145Z Nov 81
Cat 1 EIR Phone: AUTOVON 693-2066 (24-hr)

Engine Change?

Never rush into changing a leaky T55 engine in your Chinook, knuckle-busters. You can fix it yourself and save Uncle a bundle.

Those babies have a history of static oil leaks after they're shut down. Most of them are the result of oil seeping past the No. 1 bearing seals.

When the engine is running, the seals are pressurized by compressor

HOLD ONE!

bleed air—no leaks.

When the engine is shut down, only seal contact pressure remains. So the seals give way if the No. 1 bearing packing becomes filled with oil. The result is an oil streak at the inlet housing, which ends up in a puddle on the ground.

HEY, LET'S SEE WHAT CONNIE SAYS!

GLAD SHE'S HERE-- 'FRAID WE'VE GOT A PROBLEM TOO BIG T'HANDLE HERE IN TH' FIELD!

YOU HAVE A PROBLEM, BUT NOT A CANDIDATE FOR OVERHAUL!

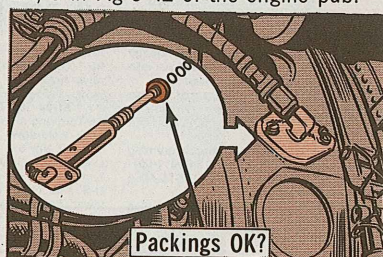
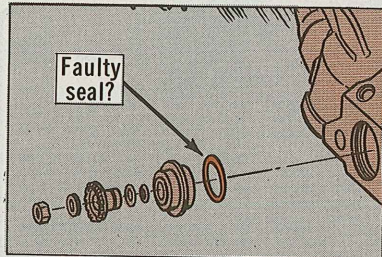
OH, WOW!

WHAT HAPPENED?

Problem...

The No. 1 bearing seals can't be replaced in the field. More than likely, tho, the oil leak is caused by one of the following:

- Oil will leak past the main oil pump pressure ball check valve if dirt or other deposits prevent the ball from seating.
- Oil may leak past the N2 overspeed control outer bevel-driven gear liner seal, Item 45, Fig 6-3, TM 55-2840-234-24/2.
- Oil may leak past the output shaft seal air inlet adapter packings, Item 4, 5, 5A, 6 in Fig 5-42 of the engine pub.



- Remove the chip detector from the accessory drive gear box and let the oil drain for one hour. After that, if dripping does not stop, the N2 overspeed control outer bevel-drive gear liner seal is leaking. Replace the accessory drive gear box.

- Remove the scavenge oil line at the T-fitting, lower right-hand side of the air inlet housing, Item 4, Fig 3-7 in the

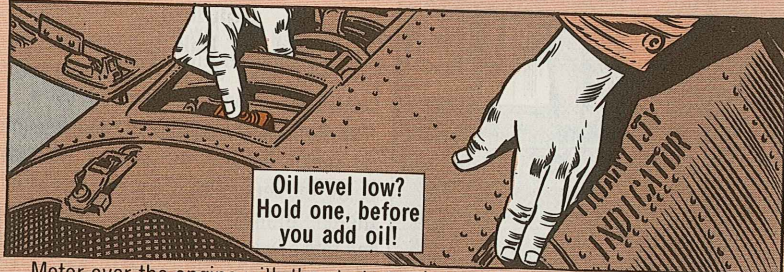


Remove line here

engine pub. Again, let the line drain for one hour. If dripping continues, one or more of the output shaft seal air inlet adapter packings are leaking. Replace the packings.

Never Overfill the Tank

When you spot what looks like a low oil level in an engine, never make a dash for the oil cans.



Oil level low?
Hold one, before
you add oil!

Motor over the engine with the starter and then check the oil level. The oil pump moves residual oil in the system back to the tank, giving you a true reading of the oil level.

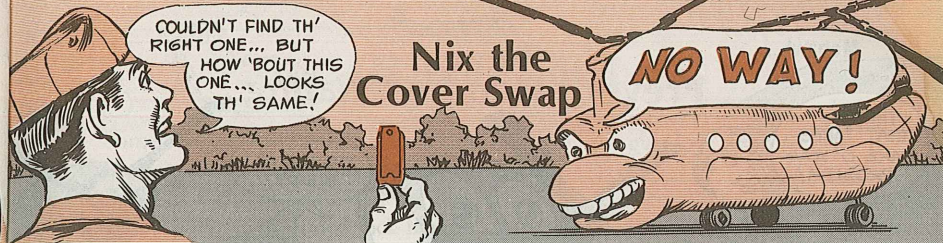
If you add oil to a full tank, the excess will be pumped right out the overflow... what a mess!! That's why it's a good idea to check the oil level just after the bird comes in to roost.



HOW WUZ I T'KNOW TH' OIL TANK WUZ FULL?

FLOYD FAILED T' MOTOR OVER TH' ENGINE B'FORE HE CHECKED TH' OIL LEVEL...

MAYBE NEXT TIME HE WON'T RUN FOR THE OIL CANS SO FAST!

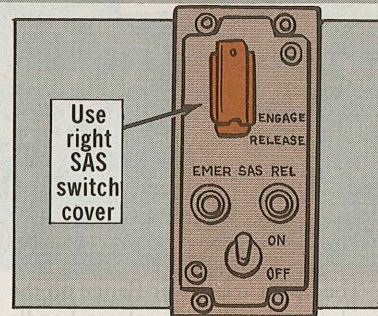


COULDN'T FIND TH' RIGHT ONE... BUT HOW 'BOUT THIS ONE... LOOKS TH' SAME!

Nix the Cover Swap

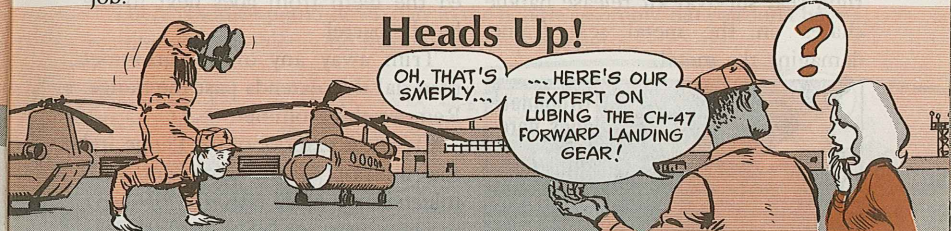
NO WAY!

Is your CH-47's stabilization augmentation system (SAS) acting up? Check the SAS switch cover. The wrong safety cover on the toggle test switch can cause test signal bleed and make the SAS go on the blink. The right cover for the SAS switch is NSN 5930-00-835-6197. Accept no substitutes. Other look-a-like switch covers may fit, but they won't do the job.



Use right SAS switch cover

Heads Up!



OH, THAT'S SMEPLY...

... HERE'S OUR EXPERT ON LUBING THE CH-47 FORWARD LANDING GEAR!

Are you tired of standing on your head while trying to lube the CH-47 forward landing gear? Well, here's help: Replace the bottom straight grease fitting with a 45° zerk fitting, NSN 4730-00-050-4205.

Keep 'em Clear



WHAT'S THAT CRASHING SOUND?

ER... DID YOU SECURE THAT HEAVY STUFF TO TH' FLOOR O' TH' SHELTER?

Before you transport your AVUM Shop Set No. 2 shelter, remove drill presses and other heavy items from the work table and secure them to the floor.

The table wall mounts are not designed to take a heavy load. Loaded tables will pull loose from the wall, damaging the shelter and its contents.

Mohawk...

Prevent Handle Chafing



The upper triangular flange on the rigid seat survival kit release handle chafes on the metal seat frame, damaging the metal.



To prevent this, get some grommet material, nonmetallic, NSN 5325-00-027-0322. You'll need 5 inches for each seat.

Take a 2½-in piece of grommet and cut off 6 "teeth" from the center of the grommet. Do this for both sides of the grommet.

Check the fit by placing the modified grommet over the upper

triangular flange. The area you removed the teeth from goes next to the handle barrel.

Trim away any of the grommet material that extends past the flange. Remove the grommet.

Clean the exterior of the flange and the interior of the grommet with toluene. Use NSN 6810-00-579-8431 to get a quart, or NSN 6810-00-711-2185 for 3 ounces.

Apply adhesive, NSN 8040-00-273-8717, carefully to the outside edge of the upper triangular flange and to the inside surface of the grommet material. Let it dry for about 5 minutes, or until the adhesive gets tacky.

Press the grommet over the flange and let it dry for half an hour. Repeat the process for the flange on the other side of the seat, and for the flanges on the other seat in the aircraft.

That'll take care of the chafing problem.

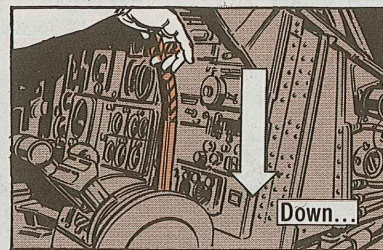
"Get a Handle" on Lock!

Some Mohawk pilots have a hard time engaging the gust lock to protect the flight control surfaces from wind.

There is a detent feature in the lock.

If you pull the extended lock handle straight back, it won't lock.

After you extend the handle, use downward pressure to engage the detent.



Then, pull the handle back to lock the control surfaces.

There is some up-and-down play in the handle assembly, but you don't have a maintenance problem...no logbook writeup needed.

IF ONLY AVIM
COULD FIX THAT
SWITCH
PROBLEM...

Kiowa Switch Fix



HEY, WINDY,
CAN YOU
HELP?



SURE
THING!

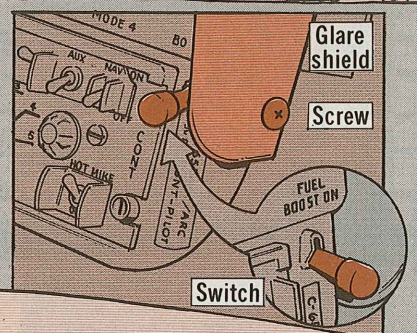
Dear Windy,

We have a problem with the fuel boost pump switch on an OH-58A with a crashworthy fuel system.

The switch housing rubs against the screw that holds the glare shield to the instrument panel.

Any ideas for a fix, Windy?

SP5 J. M. G.



Dear Specialist J. M. G.,

Sounds like the switch was installed a bit too far to the right.

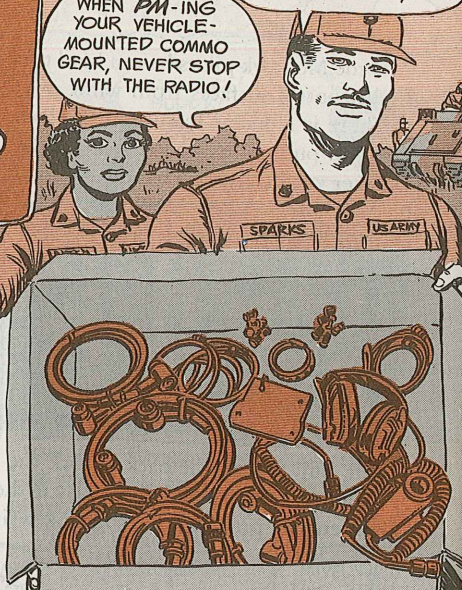
Remove the screw and re-install it with the head on the inside of the glare shield and the nut on the outside. This will give the added clearance you need.

Windy

Got Your KIT Together?

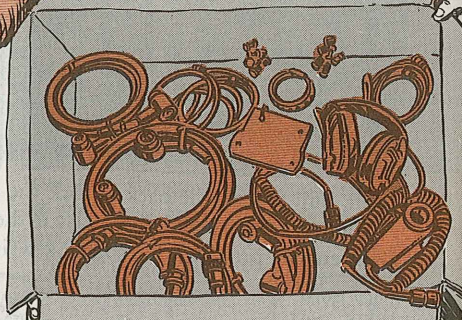
WHEN PM-ING YOUR VEHICLE-MOUNTED COMMO GEAR, NEVER STOP WITH THE RADIO!

CABLES, BRACES, STRAPS, NUTS AND BOLTS NEED LOOKING AFTER, TOO!



Keeping all these pieces together can be a chore. Through use and abuse, hardware and bracing come up missing.

If you're short, go to the installation kit pub. Those available are in the TM 11-2300-series. See DA Pamphlet 310-4 for a list.



11-2300-350-15-1	29 APR 65	OPERATION	RECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE AMPHIBIOUS, M116	CERCOM
11-2300-350-15-3	20 NOV 70	INSTALLATION OF RADIO SET AN/GRC-106 IN CARRIER, COMMAND POST, M577	CERCOM	
11-2300-350-15-1	7 SEP 65	INSTALLATION OF RADIO TELETYPEWRITER SET AN/VSC-3 INSTALLATION HARNESS, IN CARRIER, COMMAND POST, M577A1	CERCOM	
11-2300-351-10-3	33 SEP 70	INSTRUCTIONS FOR INSTALLING RADIO SET AN/VRC-12, AN/VRC-46, AN/VRC-47, OR AN/VRC-53 AND INTERCOMMUNICATION SET AN/VIC-1 (V) INSTALLATION UNITS IN ARMORED RECONNAISSANCE AIRBORNE ASSAULT VEHICLE, XM551	CERCOM	
11-2300-351-15-1	6 SEP 65	INSTALLATION OF HARNESS, ELECTRONIC EQUIPMENT FOR RADIO SETS AN/VRC-12, AN/VRC-46, AN/VRC-47, AN/VRC-53, AN/VRC-64, AN/GRC-125 AND AN/GRC-160 AND INTERCOMMUNICATION SET AN/VIC1 (V) IN TANK, COMBAT, FULL TRACKED, 105-MM GUN, M60A1	CERCOM	
11-2300-351-15-2	9 MAR 67	INSTRUCTIONS FOR INSTALLING RADIO SET AN/VRC-46, AN/VRC-52, OR AN/VRC-125 AND INTERCOMMUNICATION SET AN/VIC-1(V) INSTALLATION UNITS IN ARMORED VEHICLE LAUNCHER BRIDGE (M60A1 CHASSIS)	CERCOM	
11-2300-351-15-4	15 JAN 68	INSTALLATION OF RADIO SET AN/VRC-24 FOR COMBINATION INSTALLATION WITH RADIO SETS, AN/VRC-12, AN/VRC-46, AN/VRC-47, AN/VRC-53 OR AN/VRC-125 AND INTERCOMMUNICATION SET, AN/VIC-1(V) IN TANK, COMBAT, FULL TRACKED, 105-MM GUN, M60A1	CERCOM	
11-2300-351-15-1	23 APR 65	INSTALLATION OF RADIO SET AN/VRC-12, AN/VRC-46, AN/VRC-47, AN/VRC-53, OR AN/GRC-125 AND INTERCOMMUNICATION SET AN/VIC-1(V) IN TANK, COMBAT, FULL TRACKED, 105-MM GUN, M60A1	CERCOM	

DA PAM 310-4

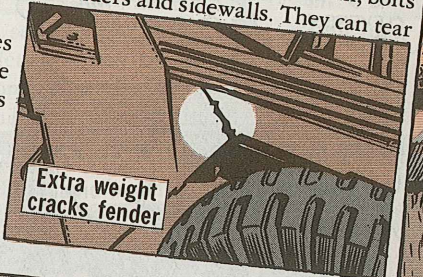
Bust Rust

Rust is a big killer. To head it off, use a coating. A quart of protection comes with NSN 8030-00-145-0151. Use NSN 8030-00-290-5141 for a gallon. 'Course, you'll want to keep the kit (including all hardware) together when it's removed from the vehicle. That saves the trouble of finding replacements.

Brace Yourself
Make especially sure you've got all the braces you need. Without 'em, bolts and nuts put a big strain on your vehicle's fenders and sidewalls. They can tear right through.

Another metal killer is to use braces for things they weren't made for. The antenna brace on your M151 truck is an example.

Some troops strap duffle bags to these "posts". They make a convenient place, sure. But the extra 50-75 pounds can crack the fender.



Extra weight cracks fender

Cable Care

Protect your cables. They run the show.

If they're strung across cargo beds or areas where they can get stepped on, use cable shields. Grommets protect the rubber insulation when it goes through metal. Both items are in kit manuals. Be sure you use 'em.

Another way to keep cables out of the way is to strap 'em to sidewalls. Get strapping in bulk with NSN 5820-00-783-9035.

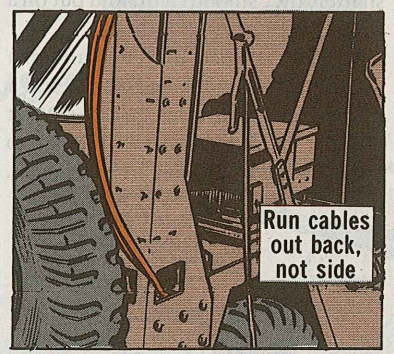
Protect your commo gear by connecting cables to your battery correctly. Reversed polarity kills commo.

You can save your M151's matching unit cables by running them through the antenna brace. Going around the brace leaves them open to branches, posts or other stationary objects your vehicle buzzes by.

Another protection you can offer cables is to keep paint away. Paint KO's rubber insulation. Remove or mask cables before sending your vehicle to the paint shop. If the cables come back painted, tho, leave 'em that way. Solvents used to remove the paint can do more harm than the paint.



Grommets, shields and strapping protect cables



Run cables out back, not side

Antenna Mismatch...

MIRROR, MIRROR ON THE WALL-- WHO'S THE CLEVEREST ONE OF ALL?

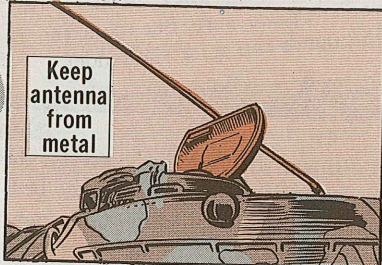
SURE AIN'T HIM!... GLAD I'M JUST TH' OPPOSITE O' TH' BIG YO-YO!!



It Reflects on You

In the long run, you'll save money by replacing damaged antenna sections.

You get another mismatch when the antenna is grounded to the vehicle. Like the M151 truck's windshield or a tank turret.



The metal shortstops the signal and sends it right back to the RT's amp.

A proper tiedown per your antenna and radio TM's will keep the antenna, and you, out of trouble.

Your signal takes another beating if you let your RT's AS-1729 antenna cross your R-442 receiver antenna.



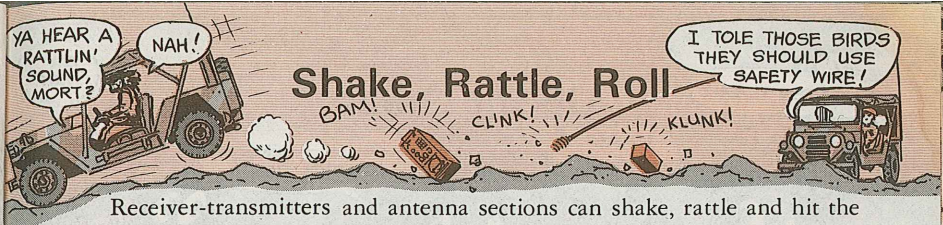
If they cross, each time you key the RT you're keying the receiver, too. Even if receiver circuits can stand the blast, your reception will suffer.

YA HEAR A RATTLIN' SOUND, MORT?

NAH!

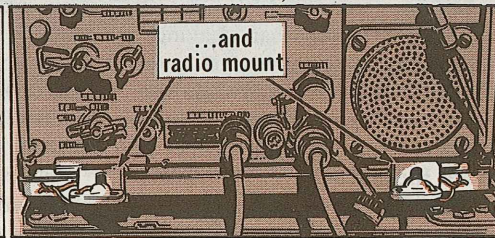
Shake, Rattle, Roll

I TOLD THOSE BIRDS THEY SHOULD USE SAFETY WIRE!



Receiver-transmitters and antenna sections can shake, rattle and hit the ground rolling if you forget to use safety wire.

Just a little wire on the bottom section of your AS-1729 antenna or MT-1029 mount's thumbscrews will head off this musical scene, tho.



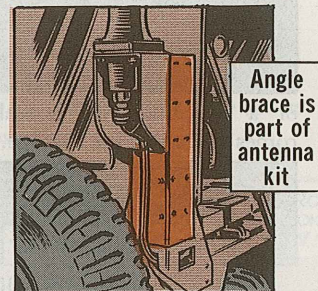
Without the wire, vehicle vibration can loosen your gear and send it flying. Loss or damage is likely.

If you can't find suitable wire, order some by the pound with NSN 9505-00-293-4208.

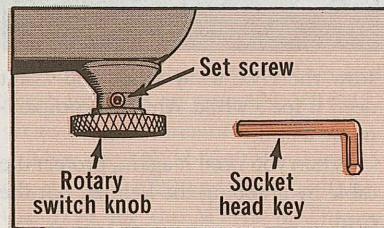
M151 Angle Brace

When you need a new angle brace for your M151-series truck antenna kit, ask for PN SC-C-446429, with FSCM 80063.

The brace, part of the MK-1234 installation kit, is Item 3 in Fig B-1 of TM 11-2300-351-14&P-22. It has no NSN.



Tighten PVS-5 Knob

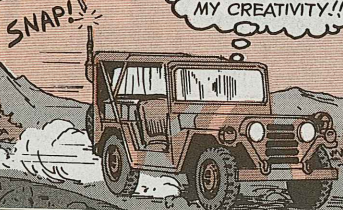


The rotary switch knob on your AN/PVS-5 night vision goggles can work loose and fall off if you don't keep it tight.

Tighten the setscrews before you use the goggles. The socket-head screw key you need for the tightening job is stored in the case.

Trouble is, this shortened antenna is mismatched with the RT. Even if a signal goes out, it won't go as far. Most likely, a lot of the signal will return to the RT's final amplifier and damage it.

AHA! ANOTHER CHANCE TO SHOW MY CREATIVITY!!



CHEEE!
WHA' HOPPEN T' YOU?

I WAS
HUNG UP...

...ON TH' INTERCOM
CONTROL BOX!

TSK
TSK!

Up for Grabs

Nothing puts your CVC helmet in the shop quicker than leaving it hanging from the intercom control box when you're through with it.

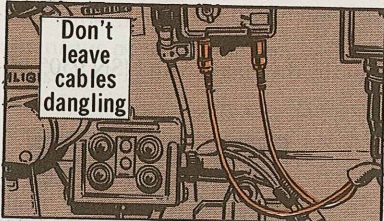
The inside of your tank is full of grabbers. Your hanging helmet becomes the grabbee.

When the turret moves, anything hanging from the hull—your helmet

away connector. Second, the helmet can catch in ammo rack handles, driver guards or other snaggers.

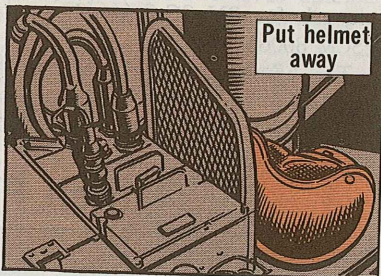
Unhooking the helmet from the breakaway and leaving only the retractile cord is another no-no.

Besides the grabbers, moisture or corrosion will kill your commo. A dangling cord can also get caught in exposed slip ring gears.



or a retractile cord assembly—becomes fair game for damage.

Your best bet is to disconnect the helmet and cord from the box and



Leaving your helmet dangling hurts 2 ways. First, it weakens the break-



stow the CVC away when you won't need it for a while. Any safe compartment will do.

When you need it again, protect the cable by grabbing the helmet, not the cord.

Stop—Look—Listen

SERGEANT, WE
GOT JUST THE GUY
T' CHECK OUT OUR
RADIO T' SEE IF IT'S
SET FOR X-MODE.



You operators aren't supposed to open up your AN/VRC-12-series receiver-transmitters (RT). So how can you be sure they're set for X-mode operation?

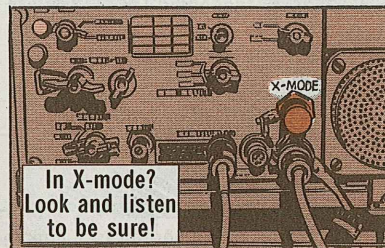
No sweat! Just look or listen.

To look, start by turning on your RT. Switch the light ON and the squelch to OLD ON. Remove the X-mode cap. If the call lamp lights, you're OK.

If the light doesn't shine, tho, it could just be a bad lamp.

To be sure—listen! First, turn the RT off. Replace the X-mode cap. Set squelch to NEW OFF. Turn the RT on. You should hear a rushing sound.

Now, remove the cap. The rushing sound should stop. If it does, you're in X-mode. If it doesn't, turn the set in for adjustment.

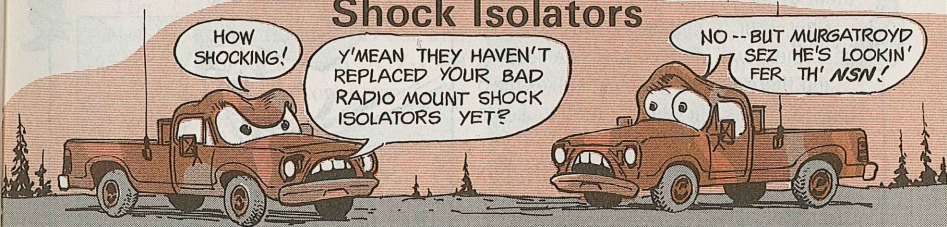


Shock Isolators

HOW
SHOCKING!

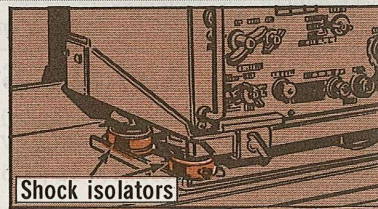
Y'MEAN THEY HAVEN'T
REPLACED YOUR BAD
RADIO MOUNT SHOCK
ISOLATORS YET?

NO-- BUT MURGATROYD
SEZ HE'S LOOKIN'
FER TH' NSN!



Your org shop can replace bad shock isolators on your AN/VRC-12-series radio set mounts.

They need NSN 5340-01-012-3713 for the MT-1029 and NSN 5340-01-012-3714 for the MT-1898. They're both in TM 11-5820-401-20P.



Dosimeter Shortfall

IN TODAY'S NEWS... A FAST DEVELOPING SHORTAGE OF POSIMETERS THREATENS UNITS OF THE U.S. ARMY!



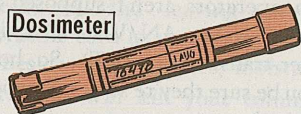
NUTZ!! AN' I JUST ORDERED A BATCH!!

Look for it. There's a shortage forecast for the IM-93-series and IM-147/PD radiac-meters (dosimeters).

How you handle your unit's dosimeters during their annual check and leakage tests determines whether your unit will have enough.

The big pitfall is the charge you give them immediately before they go to support for testing. Naturally, if they fail a leakage test, they're scrapped.

Dosimeter

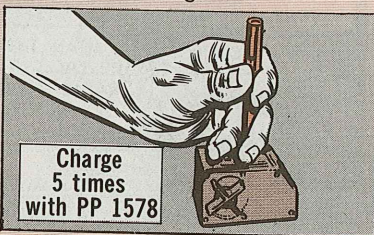


HERE'S WHAT TO DO, AS NOTED IN TM 11-6665-214-10...

Charge them once a month in storage. Before they go to support for test, charge them every day for 5 days. Then, they're ready for the leakage test.

Only 1 or 2 charges before support gets them will mean excessive leaking...and there go your meters. It takes the 5 daily charges for the meters to settle down.

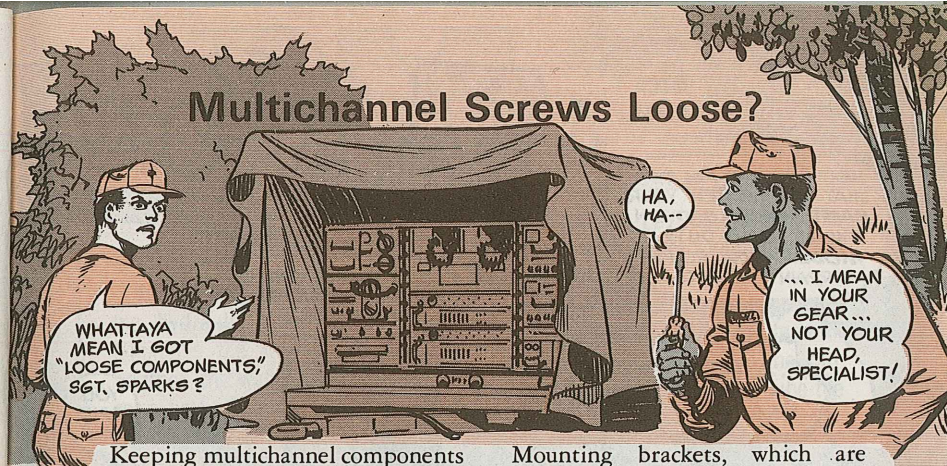
Even so, you may still have bad meters headed for the scrap pile. If so, your unit can request the bad ones from your Property Disposal Office for use as training aids.



Airfield Status Bulbs

The 3 incandescent lamps (bulbs) you air-traffic types need for the field status indicator in the AN/FSW-8 (V) communications control set come with NSN 6240-00-143-3052. TM 11-5895-241-20P lists the lamps by part number only on Page 6.

Multichannel Screws Loose?



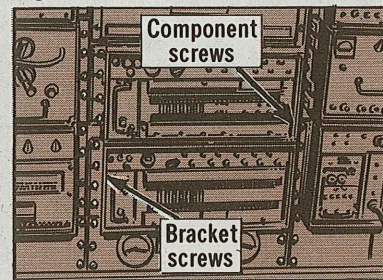
WHATTAYA MEAN I GOT "LOOSE COMPONENTS," SGT. SPARKS?

HA, HA--

... I MEAN IN YOUR GEAR... NOT YOUR HEAD, SPECIALIST!

Keeping multichannel components secure in their racks gets tricky when hold-down hardware turns up missing.

Mounting brackets, which are replaced by support, are:



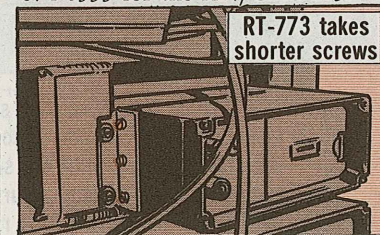
AN/GRC-103	SC-C-627139 (2)
CV-1548/TD-754	5410-00-183-7704 (2)
RT-773	SC-B-693952 (2)
TD-660	SC-C-626736 (2)

The Federal Supply Code for Manufacturer (FSCM) is 80063.

The captive screws which hold components in their cases are NSN 5306-00-351-6962 for the CV-1548, TD-660 and -754, and NSN 5305-01-074-6333 for the AN/GRC-103.

The brackets which hold your AN/GRC-103 radio sets, TD-660 and -754 multiplexers and CV-1548 telephone signal converters are fastened to the racks with:

	NSN
Screws (8)	5305-00-993-1848
Washer, flat (8)	5305-00-167-0801
Washer, lock (8)	5310-00-045-3296



One exception is the screw for the L-bracket holding the RT-773. The normal screw is too long and will reach the circuit cards inside. Order a shorter screw with NSN 5305-00-989-7435.

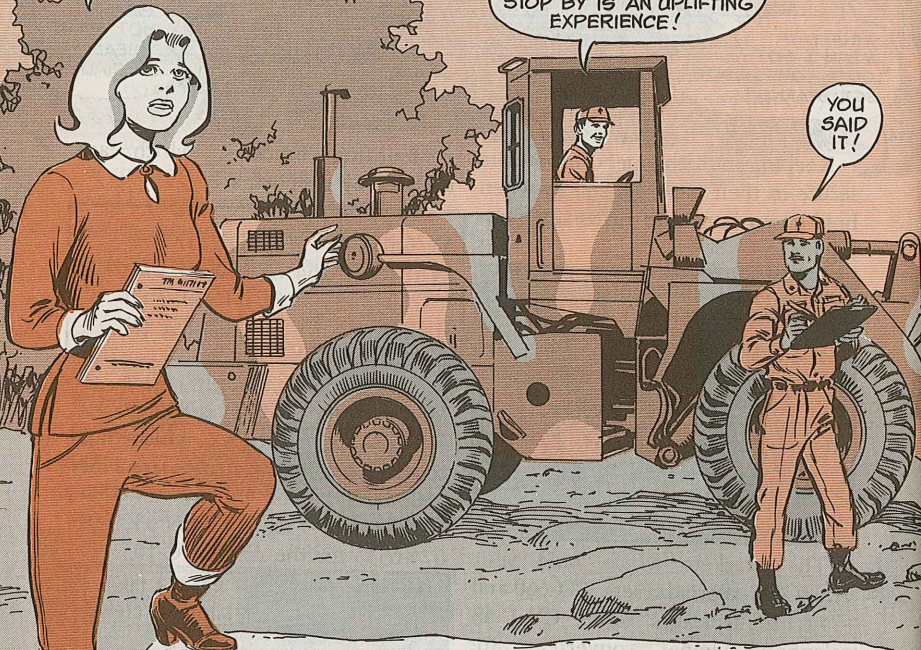
For the RT-773 orderwire, you need the same washers, but only 4 of each. You also need 4 screws, NSN 5305-00-990-6444.

A Fork Load of PM

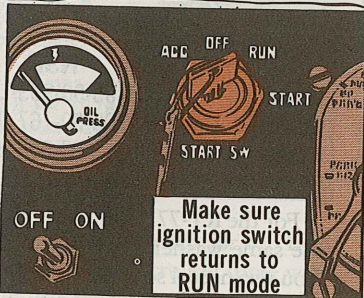
HERE'RE SOME *PM* TIPS THAT WILL LIGHTEN YOUR MAINTENANCE LOAD ON THOSE HEAVY DUTY MODEL M10A ROUGH TERRAIN FORKLIFTS...

JUST HAVING CONNIE STOP BY IS AN UPLIFTING EXPERIENCE!

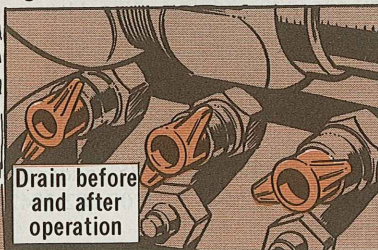
YOU SAID IT!



IGNITION SWITCH: The starter lock-out relays will not disconnect the starter circuit until the spring-loaded ignition switch returns to RUN mode. Moisture—from rain or hosing down operations—can get into the switch and cause it to stick. Spray the switch with CLP—cleaner, lubricant, preservative. NSN 9150-01-054-6453 gets a pint spray can.



BRAKES: Water in the air assist of the hydraulic brake system contaminates the air system. In cold weather, the water freezes and you get a brake failure.

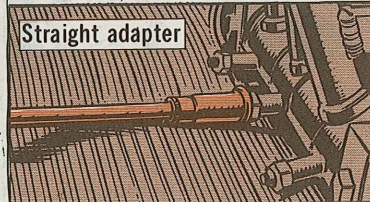


Be sure you drain the air tank valves before and after each day's operation.

CONTROL LEVERS: Lubing the control levers takes 2 kinds of grease gun adapters.

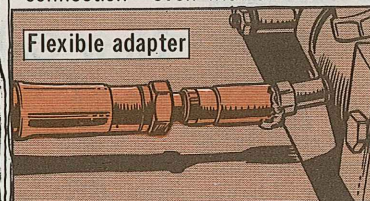
Take a straight grease gun adapter and a flexible adapter with you when you climb into the cab. Use the straight adapter to lube the fork control and tilt control levers.

Straight adapter



The lube fitting to the lift control lever is canted downward and it takes some extra care to make a good grease gun/lube fitting connection—even with the flexible

Flexible adapter



adapter. You will have to pull back the floor mat for the best fit.

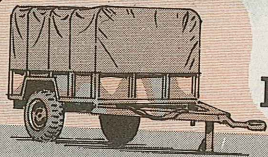
BATTERIES: The fill cap legend says FILL TO RING ONLY. Trouble is, you can't see the ring!

Keeping the right amount of water in the batteries while they're installed calls for the best PM care.

Use an inspection mirror, NSN 5120-00-892-5709, to see the ring inside the battery filler neck. Appendix A, CTA 50-970, authorizes the mirror.

If the battery terminals keep you from taking off some of the fill caps, loosen the terminals and turn 'em away from the caps.

A LITTLE EXTRA *PM* CAN PROVIDE THE *LIFT* YOUR RTFL NEEDS!



Power Unit Power Cables



You're in for a long wait if you order the short or long power cables for PU-617/M, PU-625/G, PU-626/G or PU-628/G power units. Save time and money by making the cables yourself.

YOU'LL NEED CABLE,
NSN 6145-00-643-0030
IN THE FOLLOWING
LENGTHS...



	Short Cable	Long Cable
PU-617/M	6-ft	12-ft
PU-625/G	6-ft	11-ft
PU-626/G	5-ft	14-ft
PU-628/G	5-ft	12-ft

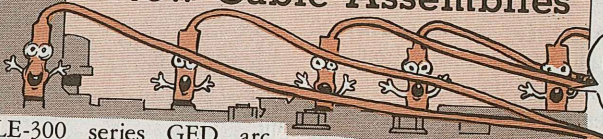
You'll also need 3 terminal lugs, NSN 5940-00-143-4794, and 1 terminal lug, NSN 5940-00-143-4777, for each cable.

Use a 1-in strip of insulation sleeving, NSN 5970-00-822-2775, to identify each cable when you're done. One-in strip of sleeving, NSN 5970-00-082-3942, on the ends of each wire help you tell them apart.

TM 5-6115-365-15 is being changed to show the cables as do-it-yourself jobs. Till the change appears, better pencil the numbers in your TM so you'll have 'em.

300-AMP Welders... New Cable Assemblies

H'RAY!
FEEL
LIKE
NEW!

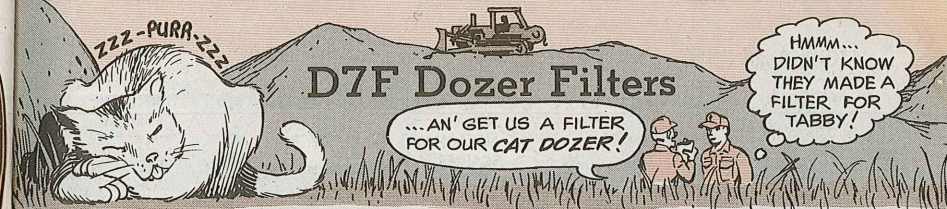
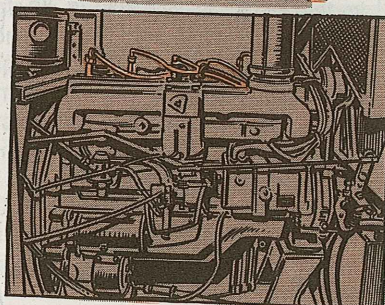


YEAH--
NEW CABLE
ASSEMBLY
IS GREAT!

Libby LE-300 series GED arc welders need these new RW-300-series spark plug cable assemblies for better operation:

NSN 2920-00-	Length	Qty
887-1289	26 inches	2
941-6108	34 inches	2
924-2042	42 inches	2

Note these new numbers for Items 3-8, Fig 29, TM 5-3431-205-20P.



D7F Dozer Filters

...AN' GET US A FILTER
FOR OUR CAT DOZER!

HMMM...
DIDN'T KNOW
THEY MADE A
FILTER FOR
TABBY!

Here are the fuel filter and preformed packing numbers for your D7F Cat dozer. Note 'em for TM 5-2410-233-20P.



Nomenclature	Item/Fig	Number
Filter element	26 50	2910-00-287-1912
Preformed packing	27 50	5330-00-431-7138

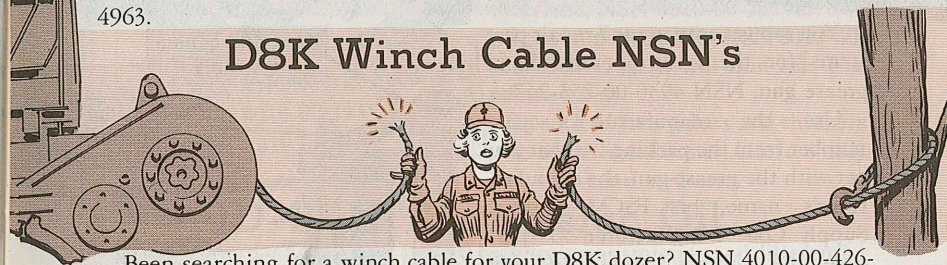
Filter element 9 55 557645 (11083)

Filter bowl packing* 10 55 9H2770 (11083)



*This item is also a component of gasket and seal set, NSN 5330-00-404-4963.

D8K Winch Cable NSN's



Been searching for a winch cable for your D8K dozer? NSN 4010-00-426-7332 gets you a new one. The number is in an amendment to the dozer's commercial manual.

IF YOU NEED A PART TO REPAIR YOUR OLD CABLE,
CHECK OUT THIS LIST OF COMPONENT NSN'S...

Wire rope, 1½-in dia (1,000 ft)	NSN 4010-00-272-8855
Wire rope thimble	4030-00-270-8709
Wire rope ferrule	4030-00-248-1640
Wire rope clamp	4030-00-243-4445
Hoist hook	4030-00-163-0805



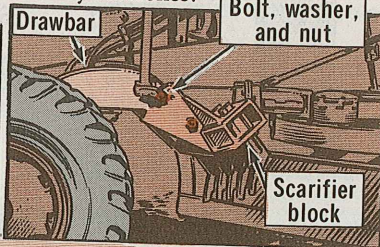
440HA Road Grader...

Hang on to Your Drawbar

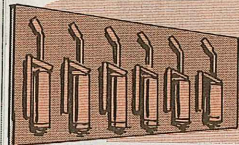


Your road grader needs just the right bolt, nut 'n' washer combination to keep the drawbar attached to the scarifier block. The NSN's in TM 5-3805-237-20P are a bum steer. Jot these down for handy reference:

Item	NSN
Bolt, 5-in x 1½-in (MS-90725-262)	5305-00-959-7072
Washer, 1½-in (MS 35338-54)	5310-00-850-1611
Nut, 1½-in (MS 51967-32)	5310-00-762-6242



Grease Gun Parts



6 GOOD GREASE GUNS?
HOW CAN THAT BE? WE
HAD FUNDS FOR ONLY 2!



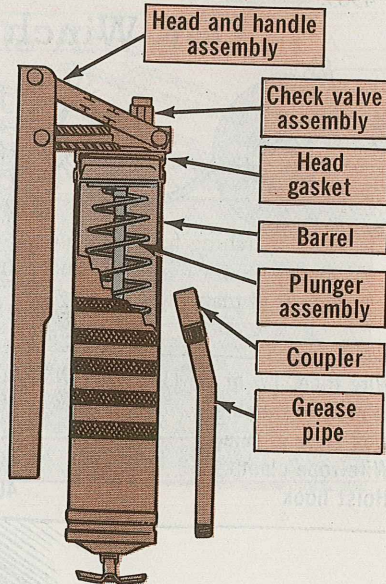
SIMPLE--
I REPAIRED
TH' OLD ONES!

You can get as many as 7 repair part items for the lever operated hand grease gun, NSN 4930-00-253-2478.

Use the manufacturer's part number from the packing list that you get with the grease gun, the manufacturer's name, his FSCM—Federal Supply Code Manufacturer—5 digit code, the contract number and any other info you think will help your supply support.

True, the gun costs less than \$4, but if you have several busted grease guns, you could repair 'em all for the price of 2 or 3 guns.

Put in your requests for all the parts you'll need to repair all your damaged grease guns. Manufacturers have a minimum order they will accept.



Corrugated Cans...

TENSHUN!

Use Lead-Free Paint



The outsides of corrugated cans used with immersion heaters must be camouflaged—FM 10-23 says so. Not just any paint will do, tho. You need lead-free paint to protect you and your buddies from lead poisoning.

You can get lead-free forest green paint from GSA, but only if you specify MIL-E-52798A, Type 2.

No need to worry if these paints have a warning label. They do contain a small amount of lead but not enough to hurt you. Just make sure you don't get any paint on the inside of the cans.

Use clear epoxy-polymide lacquer, NSN 8010-00-896-1980, to coat the can before you paint. Never use a standard primer. It's as hazardous as leaded paint.

Xylene, NSN 6810-00-584-4070 (5 gal), or mineral spirits, NSN 8010-00-558-7026 (5 gal), will thin lead-free paint—safely.

Even lead-free paints and thinners give off harmful fumes. Use 'em only in a well-ventilated area.

HERE
ARE THE
PAINTS
TO USE...



Earth Red NSN 8010-00-111-8003 (gal)
Earth Brown NSN 8010-00-111-7998 (gal)
Black NSN 8010-00-111-8005 (gal)

JD-410 Transmission Oil

You can now get oil for your JD-410 backhoe's transmission and differential thru the supply system. Use NSN 9150-01-090-5753 (5-gal); NSN 9150-01-090-5754 (55-gal) for MIL-L-2104 oil.

Cat ID Plates

Replacement identification plates are available for ROPS kits installed on Caterpillar D7E tractors. Use PN 1905-29 and FSCM 57804 on a DD Form 1348-6 exception data supply request.

Gasket NSN

Use NSN 5330-00-663-4773 for the fuel filter housing gasket on the 15- and 30-KW DED generator sets. The gasket is Item 9, Fig 45 in TM 5-6115-464-24P and -465-24P.

Blowing Smoke



A good smokescreen can keep the enemy from zeroing in on you. So, use PM knowhow to keep your M3A3 smoke generator belching smoke instead of sitting in the non-smoking section of some DS repair shop.

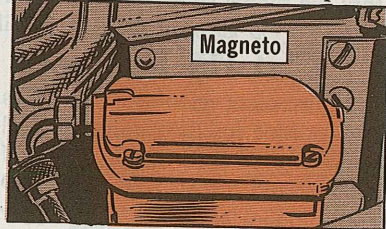
For instance, when you're starting the M3A3, never manhandle the magneto air pump handle. Jamming the rack in all the way or yanking it back until it clicks can damage the rack and the magneto air pump clamp. When you grab the handle to pump, remember to stop short both coming and going. Use short quick strokes (about 8 inches long). That saves the handle and starts the engine better.

After each 8-hour period of operation, burn the carbon from the engine tube by starting the engine and letting the smoke generator run without fog oil up to 2 minutes.

Never let Smokey go without fog oil for longer than 2 minutes, tho. Fog oil cools and lubes the engine. If you run the M3A3 longer than 2 minutes without fog oil, it's like running your car without any oil. It'll burn up the engine quick!

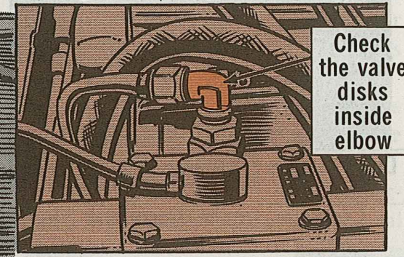


When you smoke generator operators inspect the magneto or you organizational types service it, put the



To prevent damage, remove the magneto cable outlet when you put on the lid. Or, let it stick out from the cover at least 1/4 inch.

If the M3A3's rocker arms stop rocking, most likely the valve disk in



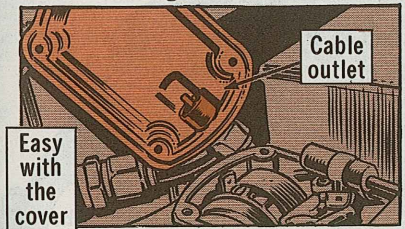
the fog oil pump check valve is stuck with carbon deposits.

Organizational maintenance gets the rocker arms going and the M3A3 rolling again by cleaning the disk on a lapping board.

You mechanics should check the fog oil pump valve disk at least once a month to make sure that the disk moves freely...more often when the M3A3's working overtime blowing smoke.

TM 3-1040-202-12 is the book for your smoke generator. Keep one handy.

cover back on easy. Getting strong with the cover or pressing the cover flat on the magneto can crack the tan



magneto cable outlet. That makes a DS replacement job.

Chemical Agent Alarm Buzz Biz



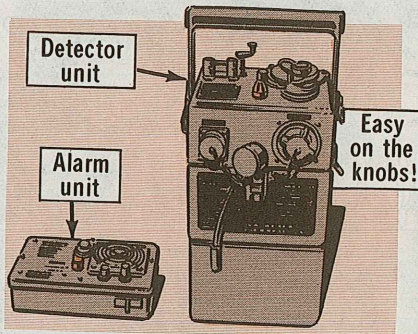
Be good to your M8-series chemical agent alarm system and it'll give you a buzz when chemical agents are coming at you.

For instance, never blow smoke in its face to test the M43 detector unit. That's not polite. Besides, too much smoke's not healthy for the detector's air filter.

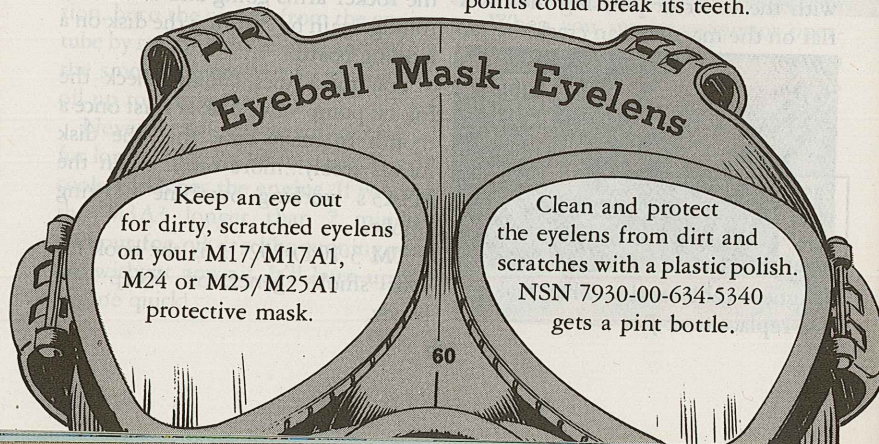


Cigarette smoke hurts the filter's capability to clean the air sample and to detect the dangerous nerve agent VX. Use the sensitivity check bottle in the M229 refill kit to check the detector.

Getting strong with knobs and switches is another way to give your chemical agent alarm system heartburn. Take it easy on the zero adjust



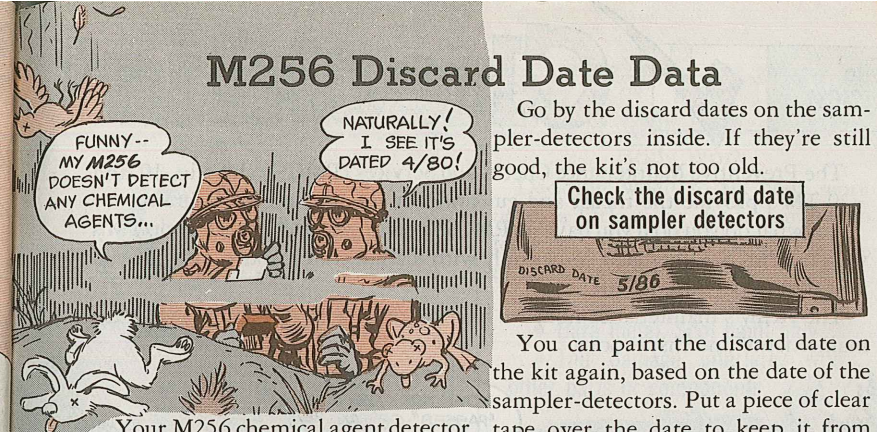
knob on the detector and the selector switch on the M42 alarm unit. Turning the zero adjust knob past its stop points could break its teeth.



Keep an eye out for dirty, scratched eyelens on your M17/M17A1, M24 or M25/M25A1 protective mask.

Clean and protect the eyelens from dirt and scratches with a plastic polish. NSN 7930-00-634-5340 gets a pint bottle.

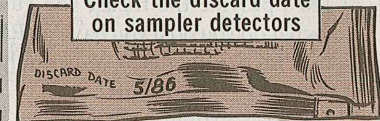
M256 Discard Date Data



Your M256 chemical agent detector kit doesn't automatically go to the

Go by the discard dates on the sampler-detectors inside. If they're still good, the kit's not too old.

Check the discard date on sampler detectors

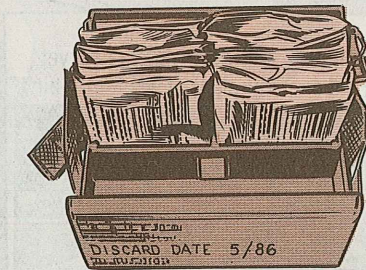


You can paint the discard date on the kit again, based on the date of the sampler-detectors. Put a piece of clear tape over the date to keep it from rubbing off.

Doublecheck the discard date on the sampler-detectors, tho, in case they're not in their original kit.

It takes 5 sampler-detectors to make a serviceable kit. You can put leftover sampler-detectors with your buddy's to make a complete kit.

Remember, tho, the discard date then is the date on the bag—not on the case.



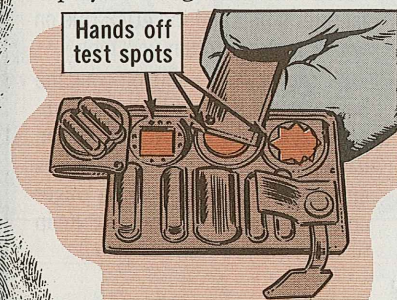
boneyard or to the classroom if the discard date rubs off.

The discard date is no joke. An outdated M256 might not detect chemical agents.

Hands Off Test Spots!

Hey, you chemical detection types! Keep your fingers off the M256

chemical agent detector kit's test spots, will ya?



Holding onto the test spots can mess up the tests for blood, blister and nerve agents. Contamination on your CP gloves could give you a wrong reading. Also, the test spots fall out real easy if you touch them.

When you handle the M256 kit's sampler-detector, hold onto the hinged protective strip.

No
PMCS?...

✓ Checklist for Inspections

The Preventive Maintenance Checks and Services (PMCS) tables in -10 and -20 TM's provide the thrust and guidance for the whole PM program.

But what do you do if you have no PMCS? Lots of gear still has old-style TM's with no PMCS. Other gear comes only with manufacturer's pubs. How do you rate that gear ready to go?

The Army's maintenance honchos have come up with a set of standards for maintenance and inspections.

YOUR NON-PMCS GEAR
"PASSES" OR CAN BE
TRANSFERRED WHEN...

- All parts and components are on the way the TM says they should be.

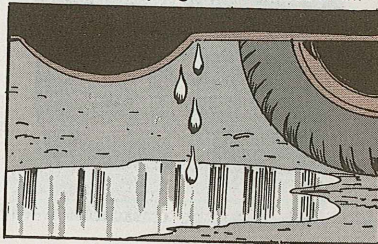
- Everything's secure. No parts can be moved by hand. If the TM gives torque specifications, they must be met.



- The gear's serviceable. No deadlining faults exist and you expect the equipment to work at least until the next scheduled service.

- No leaks show. Your gear leaks when you see drops falling while the equipment's at normal operating temperature. Some PMCS tables call this a Class III leak. Signs of wetness or color left by wetness need

watching, but no maintenance yet. Hold one! Any signs of wetness or air

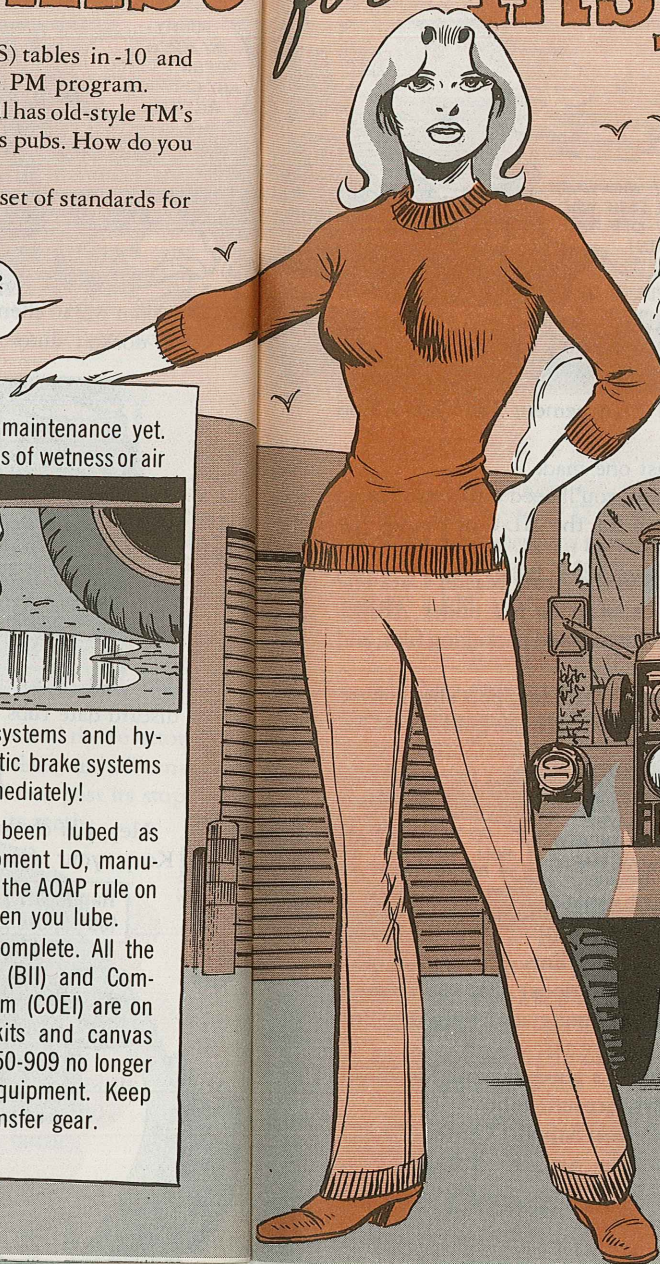


leaking in fuel systems and hydraulic or pneumatic brake systems must be fixed immediately!

- The gear's been lubed as needed. The equipment LO, manufacturer's pub and the AOAP rule on where and how often you lube.

- Your gear's complete. All the Basic Issue Items (BI) and Components of End Item (COEI) are on hand. Accessory kits and canvas authorized by CTA 50-909 no longer come with new equipment. Keep them when you transfer gear.

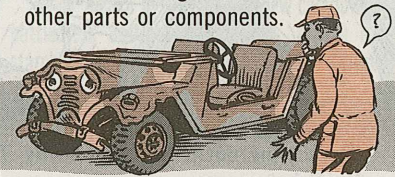
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Body Work

Deciding when to fix body work needs a little savvy. Body damage on fenders, cabs, hoods, tailgates, etc., need fixing only when you find:

- Breaks in sheet metal.
- Bare metal. Spot paint only.
- The damage interferes with other parts or components.



- Holes larger than $\frac{3}{8}$ inch. Plug 'em with hardware or weld 'em.
- Dents around 8 inches in length or diameter or $\frac{1}{2}$ -inch deep.
- Rusted areas.

More Before Transfer

Transferring gear takes a little more work. After you've checked all the maintenance points, go to the gear's DD Form 314. If half or more of the time to the next scheduled service has passed, pull it.

Is the equipment under the AOAP? Unless you took a sample within the last 30 days, take a new one and mail it in.

Pack up copies of the pubs on the equipment. Add copies of the DA Forms 2404 showing the inspection results. Send the pubs and forms with the other records that go with transferred gear.

These standards cover all non-PMCS Army equipment except aircraft.

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Microfiche Pub Switch-Off

Ye
Olde
Micro-
fiche
Pub

AWRIGHT! WHO WASH
THE WISE FISH WHO
SWITCHED-OFF TH'
LIGHTS!

Does your outfit get the Army Tailored Management List (ML-A) on microfiche?

Forget it. The December 81 list was the last one made.

If you work with items supplied by all services, you'll need the Consolidated Management List (ML-C). Get on distribution for the ML-C or change the number you need with a DA Form 12-21.

If you just need a tailored Army list, switch to the Army Master Data File Retrieval Microform System (ARMS). A lot of pubs fall under ARMS, including the Army Master Data File (AMDF), history and packaging files, and interchangeability and substitute files.

AR 708-1, Cataloging and Supply Management Data (support should have it), and the CDA Pam 18-series give you the lowdown on those pubs.

Proper Count Film

IS IT UP
FOR AN
OSCAR?

MAYBE
IT'S TH' NEW
'STAR WARS'
SEQUEL!

DO THEY
SELL POPCORN
IN BUCKET SIZE?

Add "At the Silver Bars" to your list of must-see films. The 25-min color film—TF 10-6255—shows the problems (and solutions) that can crop up when unit property is transferred between incoming and outgoing unit commanders.

The film was produced for commanders, but it's good viewing for all you supply folks who need to brush up on property accountability.

Get the film from your Training and Audiovisual Support Center (TASC).

Connie's
Mini Minis

CONNIE, I GOT A
MAINTENANCE PROBLEM!

SMOKE FROM MY
M9A3 FOLLOWS ME
EVERYWHERE!

M915 Horn Update

The electric horn on your M915-series truck was to have been disconnected because of a steering safety hazard. Page 65, PS 348 had the word. But now there's a fix to put the horn back into operation. The poop's in TACOM Msg DRSTAM 021700Z Nov 81.

Cannon Tube TM Update

Take out 2, not 12 pages after you read the "Remove Pages" column of C2 to TM 9-1000-202-14. The change should say remove pages "3-49/ (3-50 blank)." Forget "3-39/ (3-50 blank)." That was a typo.

Grease It!

Some Cobra mechs are not lubricating their bird's collective hub bearing. Check the lube chart in your Cobra's -23 manual, make with the grease and never neglect a single lube point! Safety-of-Flight Msg AH-1-81-25 is a strong reminder about this.

5-Ton Torque Note

If your 5-ton truck's got a prop shaft center bearing, you need to know the torque for installing the shaft nut at the bearing. The torque is 100-125 lb-ft. Make a note in TM 9-2320-260-20-3-2, Page 10-32. Or, if you've got the M55A2, jot that torque figure in TM 9-2320-211-20-3-1, Page 10-31 and Page 10-38.

* U.S. GOVERNMENT PRINTING OFFICE: 1982-559-009/4

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

BDU Caution

Never bleach or starch your new camouflage battledress uniform (BDU) items. Bleach and starch degrade the uniform's visual and infrared camouflage protection.

Pub for 5-Gal Cans

Need help repairing your 5-gal cans? Check TM 10-7200-200-13. It has repair parts and maintenance information for fuel cans and steel, aluminum and plastic water cans.

175B Loader Transmission

All you need to know about removing/installing the Clark Model 175B loader transmission is in the EIR Digest, TB 43-0001-41-2 (Jul 81).

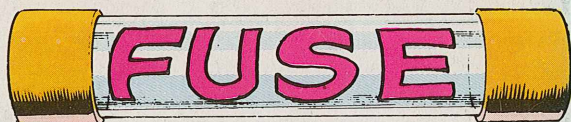
Cockpit Light NSN

To get a cockpit light for your CH-47 A or B model helicopter, use NSN 6220-00-299-6048. The number listed in TM 55-1520-209-23P for Item 89, Fig 185 is wrong.

AR 710-2 Start Date

AR 710-2 (Oct 81) and PS 350 on Page 65 tell you to put the new reg and its procedures pams to work on 1 Jan 82. Hold off on that! Printing problems held up the procedures pams. Use your old AR 710-2 with C6 until 1 Apr.

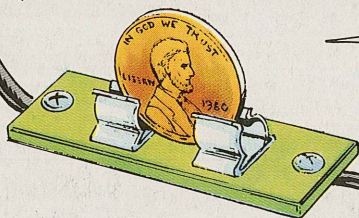
NEVER OVER-



(or substitute)

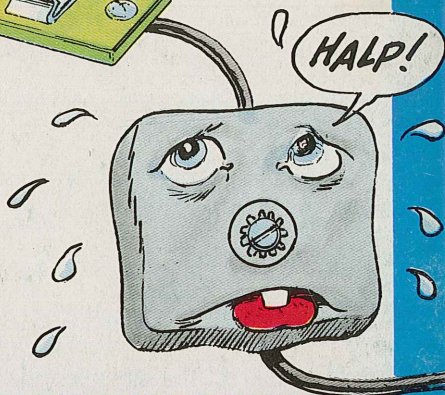
HAH!
YOU CAN'T
STOP ME,
ABE!

I WOULDN'T
EVEN TRY!



HALP!

A
**BLOWN
CIRCUIT**
is your cue
to



TROUBLESHOOT!