

Issue 364

PS

March
1983

THE PREVENTIVE MAINTENANCE MONTHLY

Make sure
your buddy
reads this
copy!!

THANK YOU FOR
GRANTING OUR
GALACTIC FLEET
REFUGE, O
EARTHLINGS...

UNFORTUNATELY, WE
DID NOT HAVE THE RIGHT
PARTS ON OUR **PLL** TO
REPAIR OUR BATTLE
DAMAGE!!

OBVIOUSLY,
YOU HAVEN'T
HEARD ABOUT
STANDARDIZED
COMBAT **PLL**!

MURPHY
ANDERSON

See Page 1
"Standardized Combat PLL"



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.

ISSUE NO. 364 MARCH 1983

FIREPOWER

Stinger Missile	4	M203 GL	10
Chaparral Carrier	5	M60 MG	11
Vulcan Lube	6	M1 Tank	12
M901 ITV Launcher	7	M113 FOV	16
I-HAWK	8	Woodruff Key	16
		Track Pads	17

GROUND MOBILITY

2½-Ton Truck		M151-Series Belts	24
Brakes	18	M880-Series	24
2½, 5-Ton Truck		M796 Trailer Brakes	25
Exhaust	21	Gama Goat Bumper	25
Steel Brake Lines	21	Gama Goat Heater	26
M809-Series Filters	22	M915-Series	26
5-Ton Truck Fender	22	Equipment Seals	27

COMMUNICATIONS

Junction Box	37	RL-35 Reel	43
AN/PRC-68 Radio	38	AN/VKC-12 RT	44
AN/PRC-90 Antenna	41	Battery Bulletin	44
Camouflage Tip	41	Radio Covers	45
Commo Lube	42	30-Volt Bulb	45

AIR MOBILITY

Tail Skid Fix	46	Aircraft Cov. rs	50
Aviation Messages	46	DA Form 1352	50
Altitude Check	47	T-63 Engine Cover	51
Prevent FOD	47	OH-58A/C Tail Rotor	51
UH-1	48	Black Hawk	51

TROOP SUPPORT

PLL's	1	AN-M4 Flamethrower	59
New Publications	28	M887 Contact Truck	59
You and the PMCS	29	Generators	60, 61
Scheduling Services	52	Reflective Tape	61
NSN Changes	56	Shipping	
Tank and Pump Units	57	Containers	62
Torque Wrench Tips	58	Safety Signs	64

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

Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 10 September 1982 in accordance with AR 310-1.

DISTRIBUTION: In accordance with requirements submitted on DA Form 12-5. **Private subscriptions:** Order from US Govt Printing Office, Supt of Documents, Washington, DC 20402. \$24. per year to US and APO; \$30. to foreign address.

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

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

More Heed to the Need...

Standardized Combat PLL

MEN -- THESE ARE STARSHIP TROOPERS... HERE TO STUDY YOUR PLL METHODS!

ER -- HAPPY TO ASSIST...

?GULP!?

YES -- WE'RE PREPARING OUR FORCES FOR COMBAT CONDITIONS!... AND NEED TO UPGRADE OUR PLL SYSTEM!

PARTS(PLL)

INTRODUCING

THE
ARMY STANDARDIZED
COMBAT PLL
AND
COMBAT ASL
PROGRAM

DA PAMPHLET 710-3
OCTOBER 1981

DEPARTMENT OF THE ARMY PAMPHLET

710-2-1

USING UNIT SUPPLY SYSTEM
Manual Procedures



HEADQUARTERS, DEPARTMENT OF THE ARMY JANUARY 1982

A Prescribed Load List based on peacetime demands just won't hack it under combat conditions, right? Right!

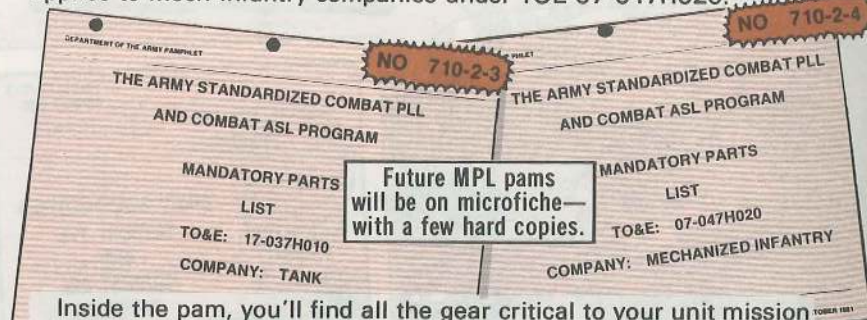
Combat has a rather explosive impact on equipment and creates demands not experienced in peacetime.

So, the ideal PLL would be one based on anticipated demands for your gear under combat, right? Right! And that's just what you're going to get under the Army Standardized Combat PLL and Combat ASL program. DA Pam 710-3 and DA Pam 710-2-1 have the scoop.

Units and TOE's in an armored or mechanized infantry division have or will get the first combat PLL's. You'll find the selected end items in Appendix J of DA Pam 710-2-1, Using Unit Supply System Manual Procedures.

Mandatory Parts Lists

When it's your unit's turn, you'll get a DA 710-2-series pamphlet, Mandatory Parts List (MPL), based on your TOE. DA Pam 710-2-3 is the MPL for TOE 17-037H010, tank company. DA Pam 710-2-4 applies to mech infantry companies under TOE 07-047H020.



Inside the pam, you'll find all the gear critical to your unit mission and the essential PLL items for each.

Parts on an MPL are mandatory. You must stock at least the quantity in the MPL.

MPL stockage levels are independent of your demands. You can stock as many more—than the MPL level—as your demands allow. But the MPL number is the least you can have on hand or on order at all times.

Putting It All Together

So what happens when you get your MPL?

You and your CO compare the end items on the MPL and in Appendix J of DA Pam 710-2-1 with the ones on your unit hand receipt or property book.

If you have an end item that is in Appendix J but not on your MPL, ask for an MPL for it. Para 8-6b (2) of DA Pam 710-2-1 tells you how.

Now pull out your PLL printout or forms. Look at the stockage for each part in the MPL and on your PLL.

For repair parts that apply to 2 or more types of gear, your stockage level is based on the total number of those end items together—not separately by type.

Just change the stockage code to CS (combat stockage) and go to the next item. CS applies only to parts on the MPL or an Essential Repair Parts Stockage List (ERPSL)

HERE'RE SOME ANSWERS TO COMMON QUESTIONS ABOUT MPL...

● Stockage the same on the MPL and your PLL?

HMMM

INGENIOUS!

DIG!

● Your stockage less than the MPL's?

AH HAH!

I SEE!

● Your stockage level more than the MPL's?

GOT IT, TROOPS?

CLEVER!

● Find an item on the MPL that's not on your PLL?

IF THE MPL PUSHES YOU OVER 300 LINES, SEE PARA 8-8b(4)(9) NOTE IN DA PAM 710-2-1.

● Find an item on your PLL that's not on the MPL?

Change the stockage code to CS. Order the number you need to bring your stocks up to the MPL level.

All normal requests for parts on an MPL go on your unit's Urgency of Need Designator (UND) B priority.

Change the stockage code to CS and leave your stockage level alone. The MPL gives you a minimum level. You can stock as much above that level as you can support by demands.

Order the number that's listed in the MPL. Add it to your PLL with a CS stockage code.

The CS stockage code is now a red flag when you're reviewing your PLL. Always check the MPL before dropping the stockage level for items with that code. You cannot drop below the MPL quantity even if you have no demands to support it.

Those MPL items may not be needed now—or at least not as often as the MPL level shows—but in combat you better believe you'll need 'em!

It stays on your PLL as long as your demands keep it there and the number of items on your PLL is below 300. The stockage code will stay DS.

When you've checked everything on your PLL, make sure all your records and printouts show the new info, too.

FIREPOWER

Stinger Cleanup

Para 3-4, TM 9-1425-429-12, tells you to clean your Stinger weapon-round and field handling trainer "as necessary."

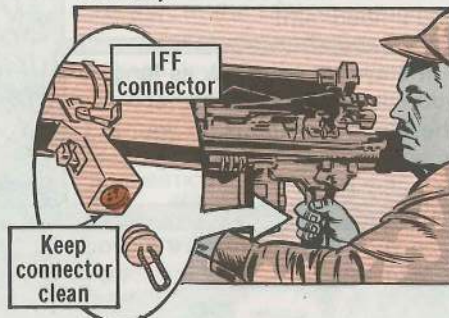
You and operating conditions determine the "necessary."

For instance, if you let dirt build up in the antenna slots of your trainer, the antenna will stick when it slides up



or down. That affects operation.

Another dirt grabber is the IFF cable/gripstock connector. Dirt and grit keep it from mating. So, clean as necessary.



LOOK! AN EARTH SOLDIER TRAINS!

LET'S WARN HIM ABOUT DIRT BUILDUP!

M730 Parts OK'd for 'O'

13?... AIN'T THAT UNLUCKY?

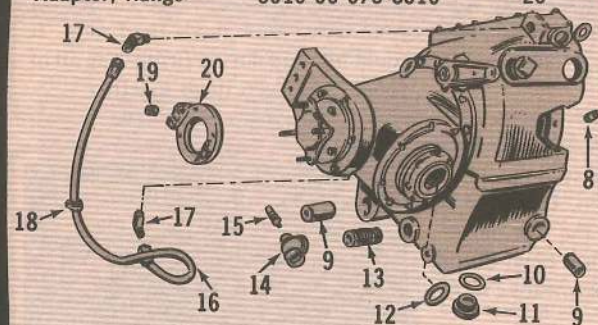
NOPE... NOT WHEN IT COMES TO OUR DIFFERENTIAL MAINTENANCE!

Thirteen parts for the differential of your M730 Chaparral missile carrier have been added to organizational level (PAOZZ) in TM-9-1450-585-20P (Dec 73).

NSN's, PN's, FSCM's and full descriptions are in TB 43-0001-39-8 (Jan 82). All are called out by item number in Fig 81, C2, Page 173 of the -20P.

IF YOU NEED 'EM QUICK, HERE'S A LISTING...

Part	NSN	Item No.
Pipe plug	4730-00-221-2139	8
Mount	5340-00-679-7998	9
Gasket, drain plug	5330-00-514-3289	10
Oil drain plug	5330-00-514-6357	11
Preformed packing	5330-00-576-9732	12
Pipe nipple	4730-00-277-9684	13
Pipe tee	4730-00-051-4516	14
Thermo switch	5930-00-688-9881	15
Hose	4720-00-055-5982	16
Elbow	4730-00-803-6195	17
Clamp	5340-00-340-1052	18
Nut, self-locking	5310-00-877-5795	19
Adapter, flange	3010-00-678-8310	20



Gripstock Lock

Note: The intent of the forward hinge latch on the gripstock is to hold the gripstock to the launch tube after the two are mated.



So, the idea is not to force the latch into place in order to mate the tube and gripstock. They should mate fully...then be latched.

If you have to force the latch closed, you'll probably break it. Instead of force, use eyepower. See what's keeping the gripstock and launch tube from mating...and correct the problem. If the gripstock's broken, turn it in for repair.

Vulcan Lube Tips

When you pull any of the periodic lubes on your Vulcan system, go easy with the lube... whether it be GAA, GIA, CLP or LSA.

GOBS OF GREASE COLLECT SAND, DIRT AND GRIT!

...AND THAT WEARS AND JAMS PARTS!

YES, KEEP THE COAT THIN...

Cleaning & Lubing

Feeder elements need only a light film of lube to protect them. Too much lube collects grit, and that makes for malfunctions. Again, follow the LO.



Lube elements lightly



Tag and remove barrels for cleaning

If your unit cleans its weapons in groups, be extra careful with your barrels. Tag them so they won't get mixed up with those of another system.

The big reason for that is round interval maintenance. You could get somebody else's worn barrel instead of your own low-rounds-fired one. It could blow up during firing. Tag all of yours...and keep them together.

Timing Pin

After you time the system, eyeball the feeder timing pin. It should be fully disengaged...all the way out.

If the pin sticks, it'll bend during cycling. That, of course, means a repair job.



Disengage pin



SAID THEY'RE TE'S* CONNIE...

...AN' THEY REALLY KNOW THEIR PM!

...LIKE THE LO SAYS...

...AND WIPE OFF WHAT YOU DON'T NEED!

*Technical Experts

D-Boxes

Heavy feet and distribution boxes mix well only when you keep them apart.

If you use D-Boxes as steps or props, you'll damage the inner components. Look for something sturdier to step on.



D-Box no step

M901 ITV Update

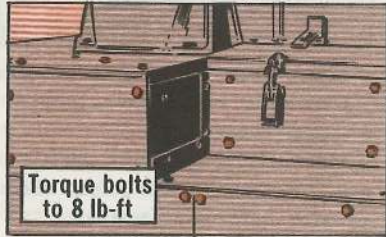


BUT TH' LO SAYS OHA!

YES-- BUT OHT OR FRH CAN NOW BE USED!

The latest word on torquing the small (1/4 x 20) armor plate bolts on

armor covers of the M901 ITV launcher is 8 lb-ft. Torque to 8 lb-ft, stop, and you'll have fewer sheared or stripped bolts. Forget any other word you have on the bolt torque.



Torque bolts to 8 lb-ft

Make a note also that OHT or FRH hydraulic oil can now be used in the M901. The LO calls for OHA, but the newer fluids are OK. Just don't mix one with another.

WHY AREN'T
YOU FIRING?

I-HAWK Reminders

NO WORD
FROM THE
CP!

Dirt.
Dirt?

Right. Just plain old dirt, dust and debris! It can put you out of business as sure as any electrical, electronic or mechanical glitch.

Example 1: Dirt on the floor of your IPCP is a killer. Air flow through the vents will pull the crud in and deposit it on the circuitry of the ADP, IFF and TDECC. It can set up arcing, short circuits and such, and your CP won't be one anymore.

Keep dust,
dirt away
from vents

Keep floor clean

You decide when the floor needs cleaning, since different sites need cleaning less or more often. Then, get your battery's vacuum cleaner and go to work.

Example 2: In dusty, sandy areas, air filters on your generators get clogged up fast.

Air cleaner

Check them the way your TM tells you to, but at least twice as often.

Hydraulics

Operate your hydraulics when your equipment is idle. Do it at least once a week, or more often if you can.

Cable Reels

Handle inter-unit cables and reels carefully. Lift them on and off vehicles—never toss 'em! If you need help, get it. The reels are rugged, but even a tank takes a dent!

They're
easily damaged

Use
tiedown
on
connector

Protect cables by securing the connector inside the reel. There's a ready-made tiedown. That way the cable doesn't unwind and get damaged by the reel rim or whatever.

M514 Jacks

M514 trailer jacks (those on the IROR and ICWAR, for instance) need an extra step when you lube them...to prevent jamming in use.

First, prepare the trailer for lubing like your TM tells you. Then, after you lube the jacks at the gear boxes, run the jack all the way up and down several times. That spreads the grease over the gear worm shaft and prevents rusting and binding when you later use the jack.

Run shaft
up and
down after
greasing

M203 GL

Reminders



MURCHISON SOLVED HIS HANDGUARD REMOVAL PROBLEMS, CONNIE!...



YEAH-- SARGE SAID Y'NEED 4 HANDS FER TH' JOB...



...SO I MADE A DEAL WITH THIS ET TYPE!

When you open the barrel of your M203 grenade launcher for cleaning, repair or whatever, close it when the job's done.

That keeps out dirt and other crud that fouls up operation.



Another time you've gotta keep it closed is when you're firing the M16A1 rifle section. A closed barrel means you're less likely to clog it when you hit the dirt, fire in prone position and so forth.

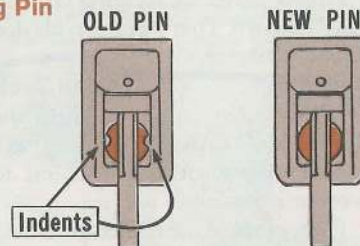
You won't like what happens if you fire the M203 with a clogged barrel. Neither will the M203.

Firing Pin

Old-style firing pins still are being used and still are puncturing primers.

They should be replaced with the new pin, NSN 1010-00-348-8433.

A quick look tells you the difference. The old pin has 2 indents on the sides. The new one is round.



Dry-Firing

Firing pins create another problem, often repeated. Grenadiers seem to ignore the cure.

Dry-firing the M203 for kicks is bad news for the breech insert. It damages the threads and requires support level repair. The cure again: Do Not Dry-Fire.

Handguard Removal

Another memory jogger: When you remove the handguard for cleaning or whatever, get a buddy.

Have your buddy push down on the slipring while you pull up and out on the handguard.



Sometimes you can remove it yourself that way. But, when the slipring gets balky, get a buddy.

Forget about prying the handguard off with a screwdriver or makeshift tool. That'll crack it and probably mean a replacement.



SO USE SOME TLC, HUH?

Need An M60 MG BFA?

SIMPLE, SIRE-- THAT EARTHLING NEEDS A BFA!



Looking for M13A1 blank firing attachments (BFA's) for your M60 machine guns?

You need
NSN 1005-00-140-3515



The BFA is authorized as an expendable item in CTA 50-970 (Jan 82), Page II-79. Allowance is 1 BFA for each authorized M60 machine gun.

The BFA and NSN are shown on Page 61, TM 9-1005-224-10 (Mar 81).

M1 Tank...

A good tank crew is worth its weight in gold.

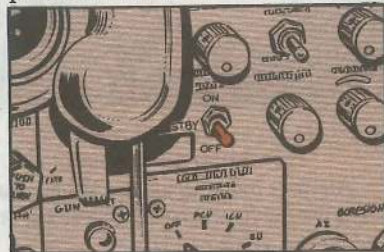
Good tankers do their jobs by the book every time, all the time. They have to do it right, or they won't be around very long.

Which makes it tough when you hear about all those electrical components damaged during engine starting.

Seems a bunch of thermal imaging systems (TIS) are biting the dust. If

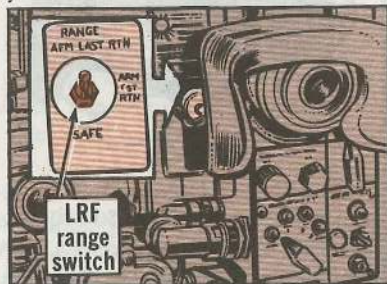
When You're Hot,

the TIS switch is in the ON or STANDBY position and the turret power switch is on when the driver



Laser Firing Hazard

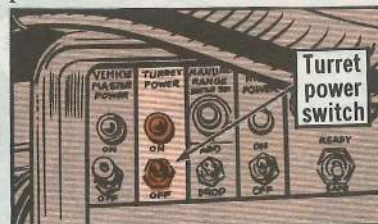
The laser rangefinder can be "loaded" for an accidental firing if you gunners don't power-down according to your -10 TM.



Say you leave the LRF range switch in the ARMED position during

gunner's station power-down, and the turret power switch is turned off. The laser may fire, and that could be dangerous.

Just remember that during gunner's station power-down, the LRF switch must be set to SAFE before the turret power switch is turned off.



You're Hot

starts the engine, bye-bye TIS.

It takes 2 people to head off this damage.

The driver must make sure the turret power switch is off before he starts the engine. It's in the book (the -10 TM).

Which means, he has to ask the tank commander if that switch is off.

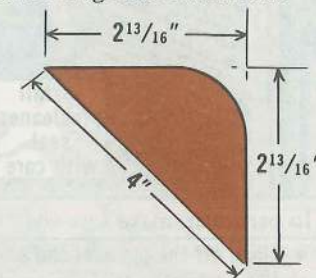
Good tankers always talk to each other and always do things by the book.

Cutting a Corner

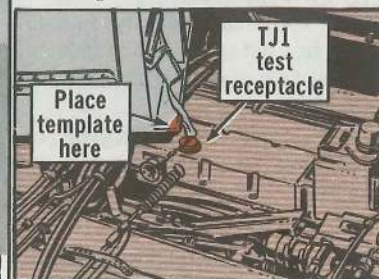
Having a hard time hooking up the STE-M1 test cable to the TJ1 test receptacle behind the driver's seat?

Could be you need to cut a corner off the night vision stowage box ledge.

Make a template out of stiff cardboard using these dimensions.



Place it on the box ledge corner near the receptacle and scribe a line.



Back Issues

Need any of the last 3 1/2 years worth of PS to complete your set?

They're available. Just write.

Connie
PS Magazine
Lexington, KY
40511

Make sure the protective cap is on the receptacle and then cut along the scribed line with a hacksaw.

Remove any burrs or sharp edges with a flat file and then paint. Use primer, NSN 8010-00-899-0931, and white enamel, NSN 8010-00-515-1596.

M1 Tank...

Seal Rip-Off

If you've had trouble with the bottom precleaner seal sticking to the airbox frame, pay close attention to how it's installed.

Pages 3-9 and 3-10 of TM 9-2350-255-20-1-3-1 give you the word.



In particular, make sure you:

- Clean off the old seal and adhesive completely. The new seal won't stick right if there's dirt and grit left behind.
- Use enough adhesive to hold the seal, but not enough to squeeze around the seal and stick to the airbox frame.
- Let the new seal dry before you put the precleaner back in place.

Also, take extra care not to twist the seal as you put the rounded side of the seal in the mounting groove. The seal won't be airtight if it's twisted. That'll let dirt get into the pacs and clog 'em up fast.



M240 MG Accessory Storage

Give a listen, you M1 tank turret mechanics!

Before you turn in your M240 machine guns to support, you've got to remove and keep some accessories. If you leave them on the gun, you won't get 'em back. Reason: The supply system is drained of these accessories.

The word's in TB 43-0001-36-7 (Oct 82).

Before turn-in, remove the loader's mount accessory assembly (Fig 85, TM 9-2350-255-20P-2), PN 12273961; the coax accessory assembly (Fig 7, Item 26, same TM), PN 12274063; and the grips and charger cable guide bracket.

After you remove them, you 45E's need to tag and turn the accessories in to your PLL clerk or armorer depending on how your unit's set up. They stay in locked storage.



WHEN YOU RECEIVE YOUR NEW M240'S, YOU DRAW OUT THOSE ITEMS AND INSTALL THEM ON THE REPLACEMENT WEAPONS!



Air Cleaner 'Do' for the Crew

Take care, M1 crews, that you do only the air cleaner maintenance described in your -10 TM.

Seems some crews are removing the precleaners to get to the air cleaner pacs. That's an organizational maintenance job, except in an emergency when the crew can't return to organizational maintenance.

The crew's job stops at removing debris from the precleaner and check-

ing it for dents, cracks and loose or broken latches.



Aline Per Design!



Why should you keep an exhaust pipe with flexible joints lined up right?

Simple—it'll leak if it's not lined up right.

Keeping the exhaust pipe lined up doesn't take a lot of work.

Check out Para 2-85c on Page 2-154.3 of C7 to TM 9-2300-257-20.

Before you tighten the clamp holding the last ball joint to the flange, turn the upper section to line up the other sections.

Installation is easier if you line up the exhaust pipe guides first.

All of this will help keep carbon monoxide where it belongs—in the pipe and not in the carrier.

Remember, too, that engine access panel seals must be in good condition to help keep carbon monoxide out of the crew compartment.

Check 'em regularly and replace 'em when needed.

Before you tighten the clamp...



...line up the exhaust pipe guides

Longer Woodruff Key Needed

Fastening the groove pulley to the fan tower shaft on your M113A2-series vehicle? Use a longer woodruff key, NSN 5315-00-682-1811, and save yourself some damage. It'll help keep the pulley from spinning loose and ruining the bearing housing. For best results, torque the pulley bolt to 25-30 lb-ft after installing the longer key.

Track Pad Wear, Replacement



How do you know when your track pads are worn out?

It depends on which type of track you've got.

- A replaceable pad is worn out and must be replaced when the grouser begins to damage the road.

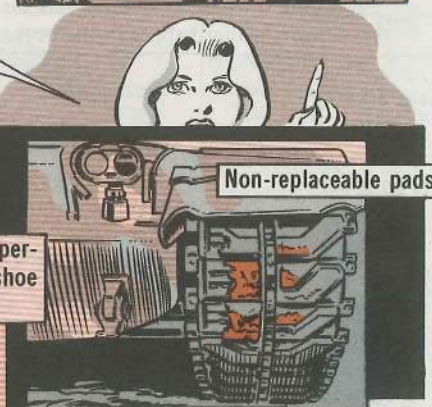


IF YOUR TRACK DOESN'T HAVE REPLACEABLE PADS...

- A T-97E2 or T-107 track shoe that has a grouser height of less than $\frac{1}{2}$ inch or that has exposed metal must be replaced. For T-156 track, the criteria is less than $\frac{15}{32}$ inch.

- If chunking exceeds 20 percent of the rubber area, the shoe must be replaced.

- A shoe must be replaced if the roadwheel side is cracked enough to expose a binocular tube.



These shoes are worn out!

GROUND
MOBILITY

2½-Ton
Trucks...

Head Off Brake Hazard

THIS JOB
SHOULD BE
DONE AS
SOON AS
PRACTICAL!

?
YOU GUYS
TWINS?

NOT QUITE! I'M AN
M44A2-SERIES AND HE'S
AN M44A1-SERIES...

...BUT WE BOTH
HAVE THE SAME
PROBLEM!

Fuel vapors in your deuce-and-a-half's brake hydraulic system may cause you a heap o' trouble—starting with contaminated brake fluid.

This contamination leads to swelling of seals in the brake air/hydraulic cylinder—and that may result in serious brake failure!

Vapors from the fuel tank get into the brake system by way of the fuel tank vent line and the brake system vent line. On early multifuel engine trucks (M44A1-series), they vent separately into the engine road draft tube—but this is too close together. It's even worse on the M44A2-series trucks. The vent lines join under the truck and become a single vent line to the engine road draft tube.

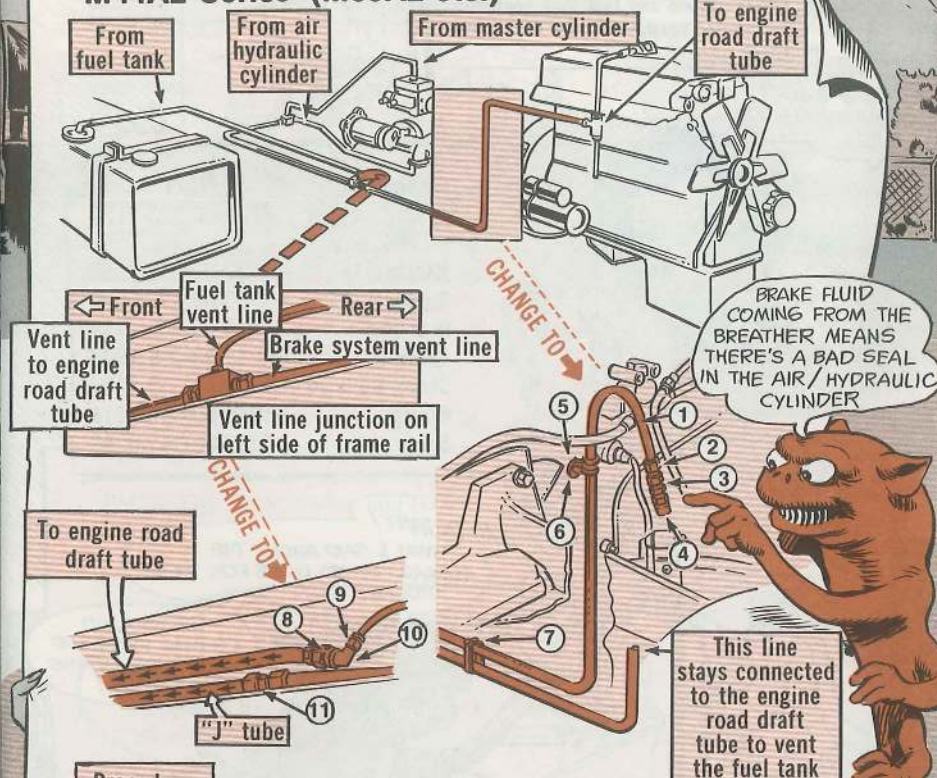
Keeping the fuel tank vent a safe distance from the brake system vent beats the danger of fuel vapors in the brake system.

FOR THE
M44A2-SERIES
YOU NEED
THESE
MATERIALS.

Key	Description	NSN
1	Tubing, copper (72 inches)	4710-00-203-3172
2	Adapter	4730-00-336-9558
3	Bushing	4730-00-196-0930
4	Breather	4820-00-726-4719
5	Screw	5305-00-145-8368
6	Clamp	5340-00-833-8476
7	Strap, tiedown	5975-00-133-8687
8	Adapter	4730-00-289-1930
9	Adapter	4730-00-289-1254
10	Elbow, reducing	4730-00-278-4694
11	Nipple, tube	4730-00-278-3213

...AND HERE'S THE
FIX... SIMILAR TO
WHAT YOU'LL FIND
IN TB-43-0001-39-4
(Jan 83)...

M44A2-Series (M35A2 etc.)



Procedure:

- Disconnect 3 vent lines from "T" junction on left side of frame rail. Discard all fittings except the one on the fuel tank vent line.
- Connect the fuel tank vent line to the vent-line-to-engine-road-draft-tube, using adapter 8, elbow 10 and adapter 9.
- Cut 2 inches from brake system vent line.
- Form "J" hook at end of new tubing to go in engine compartment. Install adapter 2, bushing 3 and breather 4.
- Make 90° bend in tubing 36 inches from top of "J" hook.
- Route tubing to brake system vent line and connect with nipple 11. If needed, shorten tubing to make connection.
- Drill 0.250-in hole 4 inches from top of fire wall. Secure tubing to fire wall with clamp and screw.
- Secure brake and fuel tank vent lines together with tiedown strap.

M44A1-Series

M44A1-series trucks (M35A1, etc.) have brake system and fuel tank vent lines connected separately to the engine road draft tube.

HERE'S A LIST OF MATERIALS YOU'LL NEED...

Key	Description	NSN
1	Tubing, copper (48 inches)	4710-00-203-3172
2	Adapter	4730-00-336-9558
3	Bushing	4730-00-196-0930
4	Breather	4820-00-726-4719
5	Elbow	4730-00-460-3907
6	Strap, tiedown	5975-00-133-8687
7	Clamp	5340-00-954-6014
8	Screw	5305-00-145-8368

...AND HERE'S THE FIX!

IMPORTANT!

WHAT I SAID ABOUT THE M44A2-SERIES GOES FOR THESE TRUCKS, TOO...

BRAKE FLUID COMING FROM THE BREATHER MEANS TROUBLE!

The fuel tank vent line stays connected to the engine road draft tube

Procedure:

- Disconnect brake vent line from engine road draft tube. Cut off line at bottom edge of fire wall. Discard.
- Form "J" hook at top of new tubing. Connect bottom end to brake vent line with elbow.
- Drill 0.250-in hole 4 inches from top of fire wall. Secure "J" line with clamp and screw.
- Install adapter, bushing and breather on "J" line.
- Secure brake and fuel tank vent lines together with tiedown strap.

2 1/2- &
5-Ton Trucks...

**Exhaust Leak Is
NMC!**

WE SHOULD
CHECKED FOR
EXHAUST LEAKS!

IN HIS CASE,
NMC MEANS
NO MORE
CHARLIE...

HUH,
BONNIE?

THE
BOTTOM
LINE IS...

Your PMCS has a big hole in it if it's not updated according to TB 43-0001-39-1 (Apr 82), Page 3-24, Para 3-22, or Page 3-26, Para 3-25.

Both TM 9-2320-209-10-2 and TM 9-2320-211-10-2 now call for a weekly exhaust system inspection under the PMCS. The TB tells what and how to check.

Any cracked, broken, missing components, or obvious exhaust leaks after the system has thoroughly warmed up rates your truck Not Mission Capable!

Stick with Steel

Never replace steel brake lines on your vehicle with copper tubing. Copper is too weak and may crack or split at flared ends. Stick to what's specified in your equipment's parts manual.

NOW
YOU TELL
ME?

Fuel Filter Parts



Some M809-series 5-ton trucks are running around with parts missing from the fuel filter.

For instance, the preformed packing (O-ring) that's supposed to be replaced every time you remove/replace the filter element—like it says in TM 9-2320-260-20-3-1, Pages 4-80 & 4-81.

Or maybe it's the square washer that goes under the bolt head. Or the snap ring that goes on the bolt after the bolt's inserted thru the filter cover. They're bound to get lost or broken.

These 3 parts are not listed with the filter element in TM 9-2320-260-20P, Page 48, Fig 03-21.

You don't need to get a whole new fuel filter assembly to get those simple parts. Here they are:

Item	NSN
Washer (square) →	5310-00-420-8044
O-ring →	5330-00-248-3174
Snap ring →	5365-01-108-9251

Fender

Missing fender access panels on your 5-ton truck can make the engine overheat!

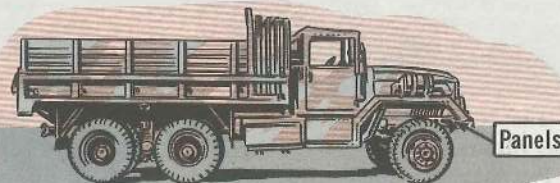
THAT'S BECAUSE COOLING AIR DOES NOT FLOW AROUND THE ENGINE LIKE IT'S SUPPOSED TO...

HEY--TERRIF!! WE CAN USE THOSE PANELS ON OUR 10,000-TON HAULERS!



Access Panel NSN's

HERE'S AN UPDATED LIST OF THE ACCESS PANELS IN THE FRONT FENDERS OF M39-Series AND 809-Series TRUCKS...



M39-Series, Multifuel/Diesel

Panel, lower front, right side
Panel, upper rear, right side
Panel, rear complete, right side
Panel, fender, right side
Panel, fender rear assembly, left side
Panel, left front splash
Plate louver assembly, left side

NSN
2510-00-420-5050
2540-01-119-8709
2510-00-104-4501
2510-01-128-4418
2510-00-880-4655
2510-00-880-4657
2510-00-107-4237

M39-Series Gasoline

Panel, rear splash, right side
Panel, splash, right side
Panel, fender, right rear
Panel, fender, left rear
Panel, splash, left front

2540-01-117-7948
2540-01-117-7945
2540-01-117-7956
2510-00-177-7799
2510-01-128-4419

M809-Series

Panel, front end, right fender
Panel, upper, right side
Panel, louver, right side with studs
Panel, left, front splash
Plate, louver assembly, left side
Panel, Front louver, left side
Louver, panel, fender, left side without studs
Louver, panel, complete, right side

2510-01-117-7946
2540-01-119-8709
5340-01-075-2619
2510-00-880-4657
2510-00-107-4237
5340-01-075-2625
2510-01-128-4772
2510-01-125-0529

YOU MAY ALSO NEED SOME OF THESE ITEMS TO REPAIR THE TURN-LOCK FASTENERS USED ON SOME OF THE DOORS!



NSN
Turn-lock stud 5325-00-290-8240
Stud receptacle 5325-00-637-2369
Turn-lock eyelet 5325-00-449-2797
Receptacle rivet 5320-00-994-7075

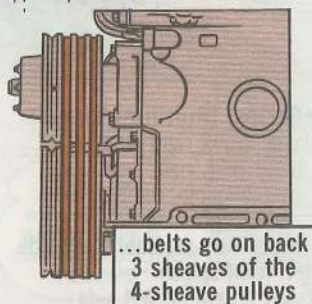
M151-Series Trucks... Belts for 100- & 180-Amp Systems



The NSN's OK—it's the picture that throws you.

Pay no mind to the 4-belt set shown in Fig 131, TM 9-2320-218-20P, for the 100-amp alternator on some M151-series ¼-tonners. NSN 3030-00-832-5671, Page 281, is right. This 3-belt set is used on the 60-amp, 100-amp and 180-amp systems.

As explained in TB 43-0001-39-4 (Jan 80), Para 2-11d,...



M880-Series Trucks...

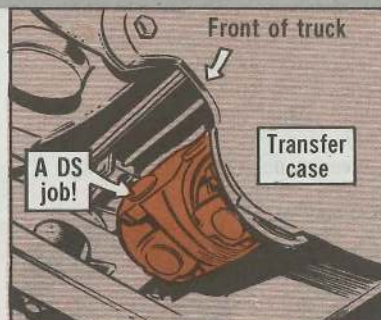
Who Works on U-Joints?



The maintenance allocation chart in TM 9-2320-266-20 goofs on U-joints. It shows all U-joints are organization-level.

That's wrong. The constant velocity U-joints in the front prop shaft are DS-level repair.

That's why the repair parts are listed in the -34P. The repair procedure is covered in Para 6-7 of the -34 TM.



If you need to order brake lines for your M796 bolster trailer, TM 9-2330-287-14 is not much help.

The brake lines, along with the flexible hose that runs from the axle to the frame, are shown in Fig 36 of the TM but not listed.

UNTIL THE TM IS UPDATED, JOT DOWN THESE NSN'S TO GO ALONG WITH Fig 36...

Item 32
Hose Assembly, Axle to Frame
NSN 4720-00-618-4318

Item 33
Tube Assembly Preformed, LH
NSN 4710-01-115-0648

Item 34
Tube Assembly Preformed, RH
NSN 4710-01-115-0647

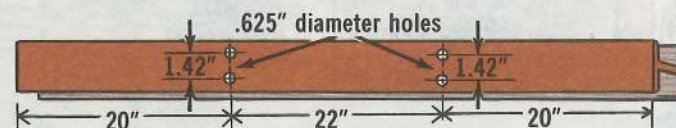
M561/792...

Gama Goat Front Bumper



Need a front bumper for your M561/792 Gama Goat? You can't order one because there're none in the supply system. But you can make one from a 62-in piece of structural steel I-beam, NSN 9520-00-277-4457. It'll take awhile to get this.

Use the bumper on another Goat as your pattern, or use this drawing.



Gama Goat...

DS Repairs Heater

BRRR-RRRR!!

ORGANIZATIONAL!

YER NUTZ!! DS!

I H-H-HOPE THEY G-G-GET THIS SETTLED PRETTY S-S-SOON B'FORE I F-F-FREEZE T'DEATH!



Dear Half-Mast,
Our support says repair of Gama Goat heaters, NSN 2540-00-113-4180, is a job for organizational maintenance—because the MAC in TM 9-2320-242-20 says so.

Yet the SMR code for the heater in the -20P TM is PAOFF.
If it's our job, why can't we get the repair parts in the -20P TM?

CPT K.S.W.

Dear Captain K. S. W.,

Repair of that heater is a DS job—regardless of conflicting info in the -20 and -20P TM's—and even in the -34P TM.

Repair parts listed on Pages 428 thru 430 in TM 9-2320-242-34P are coded for DS.



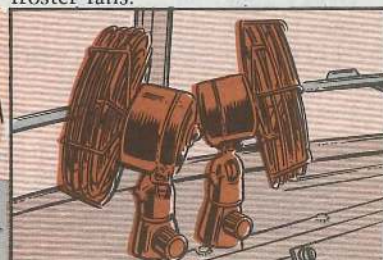
THE HEADSHED SAYS THE MAC IS BEING CHANGED TO AUTHORIZE HEATER REPAIR AT DS LEVEL!

M915-Series Trucks...

Defroster Fans

SOB!

Jot down NSN 2540-01-104-8948 for Page 441 of your TM 9-2320-273-20P. That NSN gets windshield defroster fans.



SORRY-- WE CAN'T TAKE YOU ALONG...

YES-- YOUR DEFROSTER FANS ARE BROKEN!



Exercise Helps Seals

You don't have to be an Eskimo to know that seals like to be wet.

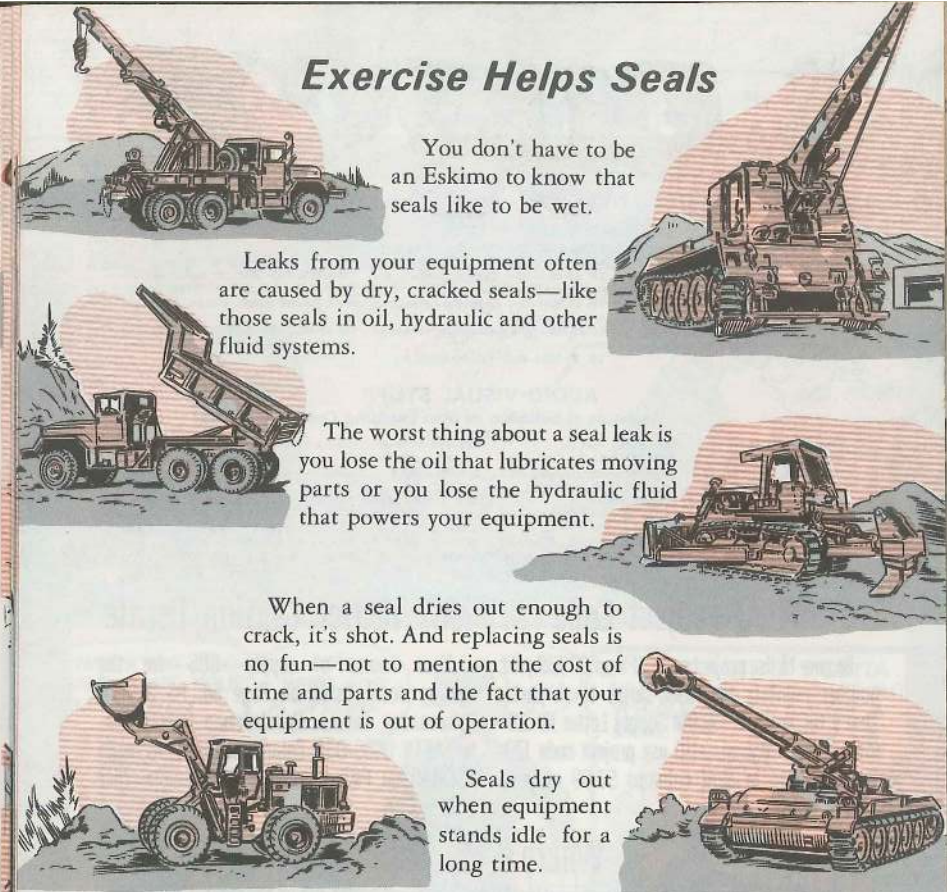
Leaks from your equipment often are caused by dry, cracked seals—like those seals in oil, hydraulic and other fluid systems.

The worst thing about a seal leak is you lose the oil that lubricates moving parts or you lose the hydraulic fluid that powers your equipment.

When a seal dries out enough to crack, it's shot. And replacing seals is no fun—not to mention the cost of time and parts and the fact that your equipment is out of operation.

Seals dry out when equipment stands idle for a long time.

Get the message? Seals do not dry out when the equipment gets exercise—because operation keeps the seals wet.



SO EXERCISE YOUR EQUIPMENT REGULARLY!

ARF ARF!

ARRGHH!

THIS EARTHLING IS TOO SWIFT, RC2!





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

EIR Digests

TB 43-0001-17-3 Chaparral air defense guided missile system

TB 43-0001-23-2 Pershing 1A field-artillery missile system.
TB 43-0001-30-3 Dragon medium antitank/assault weapon system.
TB 43-0001-32-3 Calibration standards and accessories.
TB 43-0001-39-3 Tank automotive equipment.
TB 43-0001-41-3 Construction equipment.

Technical Manuals
TM 9-2590-209-114P Jan Bulldozer, M9
TM 9-4935-1541-24P Jan Shop equipment, guided missile system, AN/TSM-107.
TM 11-6625-291-14 Jan Output meters, TS-585A/U, TS-585B/U, TS-585C/U and TS-585D/U.

AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

Films, TV Tapes

TVT 6-111 Howitzer backlay method
TF (VT) 7-6230 How to Fight, Part I

TEC Lessons

030-051-6440-F Assault Boal

Operation, Part II
030-051-6461-F Assemble Medium Girder Bridge, Part II
030-051-6560-F Slaving an inoperable AVLB
102-113-5509-A Test operate AN/APN-209
202-113-5160-A Cabling radio repeater op

202-113-5175-A Trouble-shooting radio terminal
222-011-6233-F Assemble AN/TSC-70A
222-011-6234-F Install cables, IFF antenna and power unit
202-011-6237-F Round Shelter

231-906-4100-A Constructing double-doublt antenna
412-061-9014-A Transfer pads OH-58
610-091-6163-F M578 PMCS
590-113-6983-A (FOUO)
953-071-0278-A Zero AN/PVS-2 on M16A1

M880 Project Code

Be sure to use project code XFK on CONUS part number requests for M880-series truck parts. That's the word in TACOM Supply Letter No. 20-82. OCONUS requests still use project code J20. Put the code in card columns 57-59 of your request form.

M67 Heater Caution Decals

Your source of supply—SOS—for the caution decal listed on Page 58, PS 359 is: Commander, Defense Construction Supply Center, ATTN: DCSC-OSR, Columbus, OH 43215 using FSCM 93084, PN 5-13-2685-5-29. Minimum order is \$25.

Where's My Cap?

You M60A3 tankers looking for a number for the electrical outlet cap on the searchlight receptacle? NSN 5935-00-998-5598 will get you a 2-in inner diameter cap with chain.

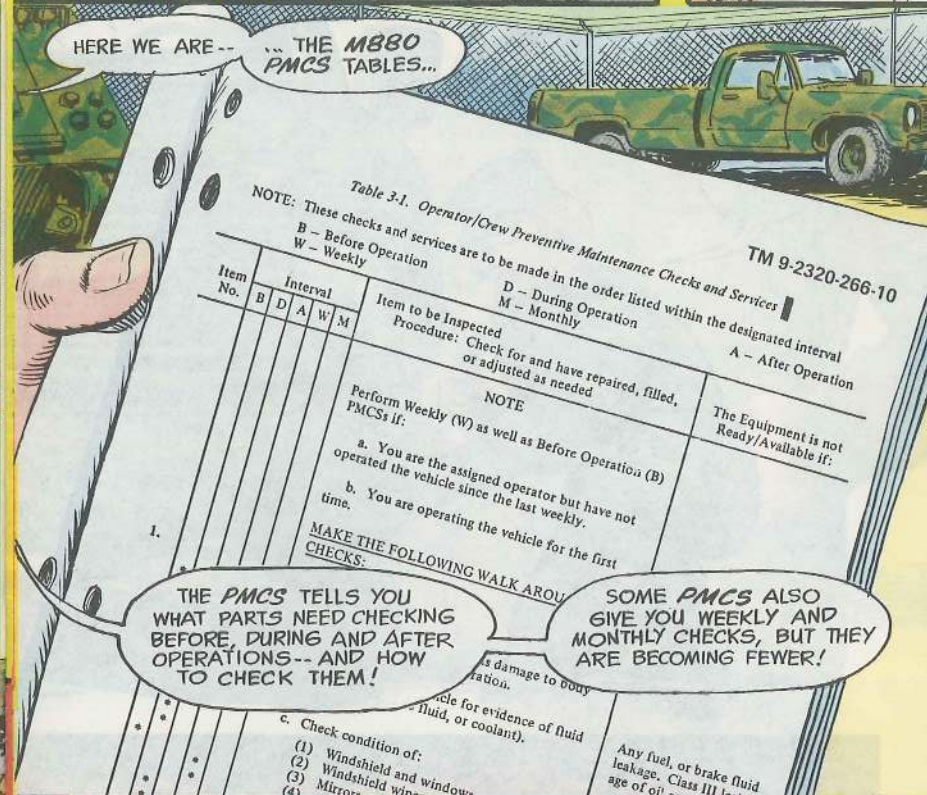
SMART! MESSAGES

Here are the latest SMART! messages:
SMART! Msg #13—Change to AR 700-120. HQDA DALO-PLO 231243Z Aug 82.
SMART! Msg #14—TAMMS and PLL certification Program. HQDA DALO-PLO 101245Z Sep 82 (Info Exchange).
SMART! Msg #15—AOAP—Milk-Run Service between motor, pool and lab. HQDA DALO-PLO 041851Z Oct 82 (Info Exchange).
SMART! Msg #16—Free Turn-In Points/No Questions Asked Days. HQDA

DALO-PLO 051939Z Oct 82 (Info Exchange).
SMART! Msg #17—Using Supply Advice Code 2A. HQDA DALO-PLO 191206Z Oct 82 (Info Exchange).
SMART! Msg #18—Interim Change 3 to TM 38-750. HQDA DALO-PLO 251416Z Oct 82.
SMART! Msg #19—Binders for Hand Receipt Holders. HQDA DALO-PLO 041326Z Nov 82 (Info Exchange).
SMART! Msg #20—Change to CDA Pam

18-1. HQDA DALO-PLO 121933Z Nov 82.
SMART! Msg #21—Automating Installation TDA Property Books. HQDA DALO-PLO 122123Z Nov 82 (Info Exchange).
SMART! Msg #22—Use of Supply Status Listings Instead of Status Cards. HQDA DALO-PLO 021436Z Dec 82 (Info Exchange).
SMART! Msg #23—Implementing Modular Training Program Techniques (TAMMS, PLL, etc.). HQDA DALO-PLO 301557Z Dec 82 (Info Exchange).





Joe's

Dope Sheet

The services you pull help shed light
On your unit's mobility and might!
The info you pass
Will let the top brass
Improve your ability to Fight!

TIRES
ARE ALL
OK!



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.



FOR GEAR REPORTED ON DA FORM 2406, THE MATERIEL CONDITION STATUS REPORT, THERE'S ANOTHER COLUMN:

The Equipment is not Ready/Available if:

Any fuel leakage or broken tank support.

Any loose or leaking lines, hoses, or connectors.

Any obvious cracked, loose, or broken side rail, crossmember, welds, bolts, or rivets.

Class III leak.



THIS "EQUIPMENT IS NOT READY/AVAILABLE IF:" COLUMN POINTS OUT THE PROBLEMS THAT KEEP GEAR FROM DOING ITS JOB!



THAT'S THE "HARD-ROCK" COLUMN, HUH?

RIGHT! IF YOUR GEAR HAS A FAULT IN THIS COLUMN, YOU'VE GOT A PERSONAL STAKE IN REPORTING AND GETTING IT FIXED!



THE PMCS IS IN YOUR MANUAL BECAUSE YOU'RE THE EXPERT!

YOU'RE THE ONE WHO WORKS WITH AND KNOWS THE GEAR!

AND WHEN THE BALLOON GOES UP, YOU BET YOUR LIFE ON ITS OPERATION!



HEY! I GET IT...

MY PMCS REALLY STARTS EVERYTHING!



IF YOU IGNORE CHECKS, MAINTENANCE WON'T KNOW WHEN YOUR GEAR NEEDS WORK!



AND THE PENTAGON HEAVY-WEIGHTS COULD FIGURE YOU'RE READY-- AND SEND YOU OUT-- WHEN YOU'RE NOT!



THIS PMCS DIDN'T TAKE TOO LONG... EVEN INCLUDING THE WEEKLY CHECKS!



YOU GOT IT! EVERYBODY DEPENDS ON YOU TO PULL YOUR PMCS AND REPORT ANY PROBLEMS YOU FIND!

OK... JUST WATCH MY SMOKE!



SUPPLY WON'T KEEP THE PARTS IN THE SYSTEM TO GET YOUR GEAR IN SHAPE!



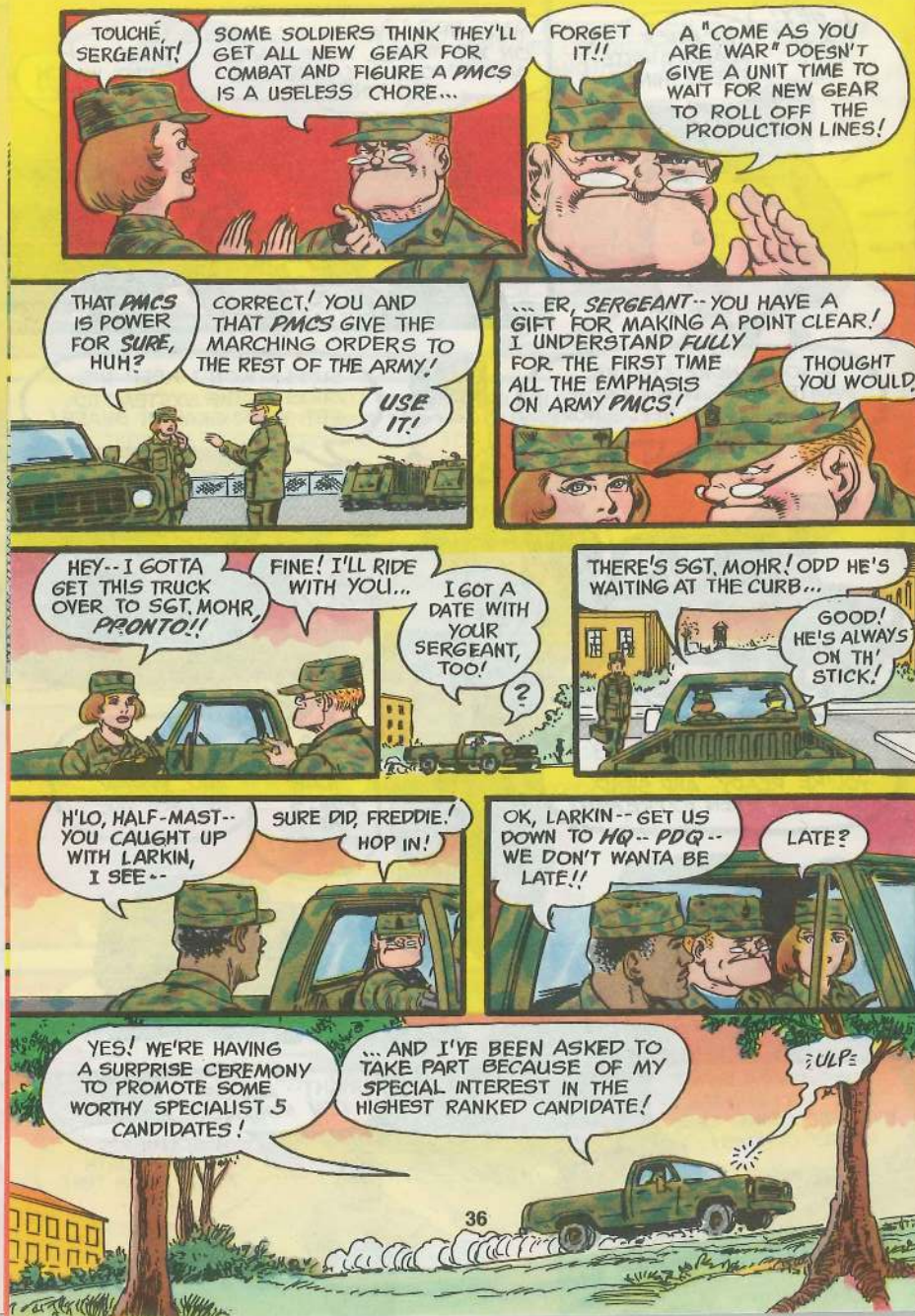
SO... TREAT YOUR PMCS WITH RESPECT!

PULL ALL THE CHECKS... AND WHEN THEY'RE DUE!



RIGHT-- ALL OF TEN MINUTES!

A SOLDIER'S LIFE IS WORTH THAT MUCH TIME, EH?



Head Off Corrosion...

Keep Your Caps On!

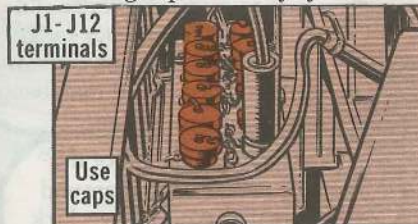


Give it a chance and corrosion will eat up the inside of your M880-series truck's power junction box.

Once moisture gets inside and does its corroding worst, your box is off to support for repair.

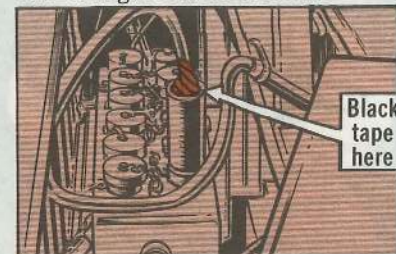
You can head off much of this damage just by keeping things covered.

Using caps on the J1-J12 connec-



tors when no cable is hooked up, first. This also heads off dust and dirt damage to connectors.

Water gets in even when a cable's hooked up, tho. It slides down the cable, gets into the Bendix connector and then goes inside the box.



You can stop it with black electrical tape. Start an inch or so up the cable

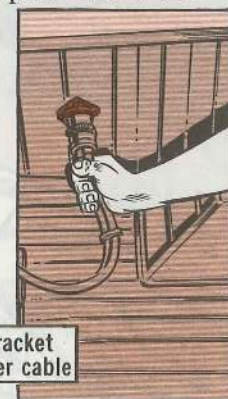
and wrap toward the connector. Wrap over the connector and you'll keep corrosion from KO'ing your commo.

Another corrosion stopper is to replace the cap on the junction box



power cable receptacle when the cable's not in use.

Protect the cable connector, too. Fasten it to the bracket mounted on the truck's sidewall. That keeps the cable from being knocked around the cargo box.



Bad PM Leaves You With A...

Transmission Impossible

Good morning, Sergeant Helps.

This is an AN/PRC-68, the radio Uncle Sam has picked to replace your squad's AN/PRR-9 receivers and AN/PRT-4 transmitters.

Your mission—and you'd better accept it, believe-you-me—is to memorize these PM tips that'll keep your radio on the job. Then, pass them along to your squad members.

First, take good care of the outside. Don't bang it around any more than is necessary. Pick the radio up by the case, not the handset cable. That can bust the cable, the front panel, or both.

When fastening the case, always snap the latches



Fasten latches together

at the same time. Hooking one and then pulling the set together with the other can break the latch or case.

38

During operation, keep an eye on—and your thumb off—the speaker/microphone screen. It's just opposite the push-to-talk button on the other side. If you're not careful when you operate the button, your thumb is rubbing the screen.



Screen can be "rubbed" off

Too much of that and the screen can come off. That leaves your set open to both moisture and dust. Your support has to fix 'em, too.

If you use the AS-3575 antenna to extend your radio's range, be careful folding it. Always bend it towards the concave side. Folding it backward can break it.



Damaged AS-3575 antenna

Don't go 'way, soldier! Flip this page!

39

Now, Sergeant Helps, inside the set, your biggest worry is the BA-1588 battery.

Be sure it has the strength to do the job. A weak battery won't operate your squelch circuit, frinstance.

Before you go to the field, be sure the power packs you carry can do the job. You can expect up to 24 hours of life from each one.

Need batteries for your set? Order 'em with NSN 6135-01-094-6536.

When working inside, watch those spring clips that hold the shorting plug and alignment tool.

They can swing loose and sit right over the battery connectors.

Battery connectors

Closing the set with a clip in that position can short out your battery.

This starts gassing and can lead to an explosion.

Watch clips

Antenna coupler module

Finally, warn your organizational repair to watch out when adjusting L1 tuning slug on the antenna coupler module. If it's screwed in too far, the slug can fall right into the set. That means a support repair job.

Okay, Sergeant Helps, that's it. Now on your way out, put the tape recorder and radio back where you found 'em....

BUT DOESN'T EVERYTHING SELF-DESTRUCT? IT ALWAYS DOES ON TV!

Yeah, right. But their budget is bigger than ours. However, we'll consider it if YOU are willing to accept a Statement of Charges!!

Antenna Survival

A dead AN/PRC-90 radio set can't bring you back alive—simple as that.

A lot of heavy-handed treatment is causing a rash of cracked whip antennas. The breaks will usually show up just above the half-wave loading coil.

You protect your antenna a couple of ways. First, any time you remove the whip, grab it at the base. Twisting

Hold here when turning

smaller pocket puts the pinch on a bigger PRC-90, especially the folding whip.

SRU-21 survival vest

Your support switches pockets for you. Tell 'em to order the bigger one with NSN 8415-00-442-3616.

Inspect the antenna frequently and replace it when necessary. Be sure the antenna sealing washer is on hand. If you need one, order it with NSN 5330-00-928-7079. C 4 to TM 11-5820-800-12 has the wrong number.

Size-Wise Camouflage

We were caught thinking too big in our "Pattern Painting Particulars" article on Pages 50-51 of PS 357.

As a rough rule of thumb, items smaller than 4 cubic feet, not 4 feet x 4 feet x 4 feet, need no camouflage.

There'll be exceptions, of course, and then common sense—and your CO's decision—will apply.

Silicone's the One

When it comes to picking the right grease for commo lubrication, the choice is easy.

Silicone grease, NSN 6850-00-880-7616, is the one. It lubes, preserves and, contrary to popular opinion, does not insulate.

Unless you lay it on too thick, of course. Just a little dab'll do it.

So, you can use it to smooth commo accessory hookup by lubing an O-ring. Or, for waterproofing gaskets and pre-formed packings.



You can also use it on antenna threads and between mast sections to make disassembly easier. Left ungreased, those sections "freeze" together.



You can use it on cables to head off dry rot. A light coat every now and then keeps the rubber insulation flexible.



'Course, you need no grease between the bottom of your AS-1729 antenna and its matching unit. The



grease could short out the button contact. Besides, you remove the antenna so often, chances of a freeze are slim.

Watch out for that non-seizing compound in your AN/VRC-12 series radio set pubs. Graphite grease, NSN 9150-00-190-0918, is corrosive. The commo top shop says don't use it. They'll drop it from the pubs first chance they get. In the meantime, never daub it on antenna threads.



Other greases are commo killers, too. You can spot some with your nose. F'rinstance, if it smells like oil, keep it away from commo gear. It's a lube for moving parts, like engines and bearings.

Same goes for any black grease. Some say use it when you need a con-

ductor-type lube. Forget it. It's a lube for ball-bearings and such.

Silicone is a milky-white grease, with no smell at all.



RL-39 Repair Parts

Your RL-39 reel is repairable again. You can now get a handle assembly with NSN 3895-01-135-2538. That

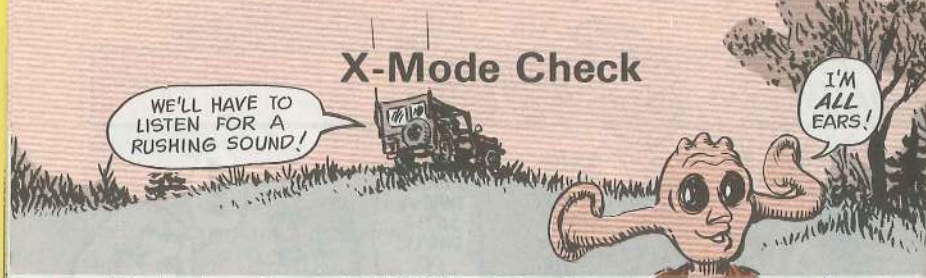
brings you everything but the crank. The crank is NSN 3895-00-127-0999.

Other parts are also available, but at the DS level. You might let your support in on the numbers, tho: bearing,

NSN 3895-01-133-9995; housing, NSN 3895-01-133-9996; plate, NSN 3895-01-134-7147; and stop, NSN 3895-01-134-0308.



X-Mode Check



Need to know if your AN/VRC-12-series receiver-transmitters are ready to operate in secure circuits?

Your eyes and ears can tell you in a heartbeat.

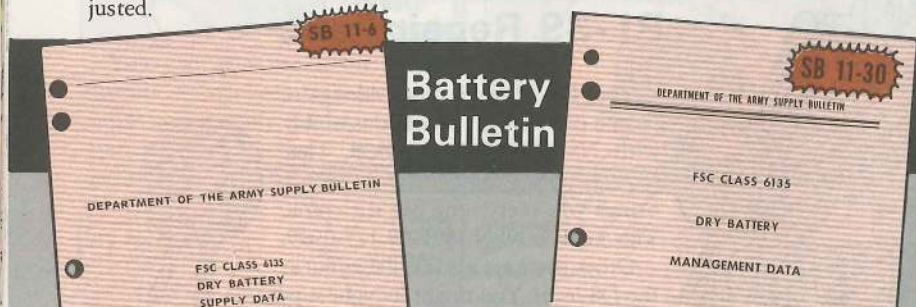
Switch on your RT. Turn the light switch ON and squelch to OLD ON. Remove the X-mode cap. If the call lamp lights, you're in business.

No light could mean a bad lamp, tho. So, listen up. Turn the RT off. Replace the X-mode cap. Set squelch to NEW OFF, and turn the RT on. You should hear a rushing sound.

Remove the cap and the rushing should stop. If it does, you're in X-mode. If it doesn't, have your set adjusted.



Battery Bulletin



Everything you always wanted to know about dry-cell batteries but didn't know who to ask. That's what you find in SB's 11-6 and 11-30.

The -6 pub has one list showing which batteries go in what equipment. Another list has the opposite. Finally, the SB matches battery nomenclature and NSN.

SB 11-30 gives info on storing, ordering and shelf-life. It also has a rundown of dry-cell technical characteristics.

Your pubs clerk can order them for you.

Off the Canvas



Canvas covers carry the KO punch to your radios.

Way back when, the top shop OK'd the CW-653 and -649 canvas covers to protect your vehicle-mounted FM radios.

Now they're a no-no. The heavy material keeps out the cooling air the sets need to stay on the job.

If you've still got some, leave 'em off. If you don't have 'em, don't ask for any. They're being dropped from the system, anyway.

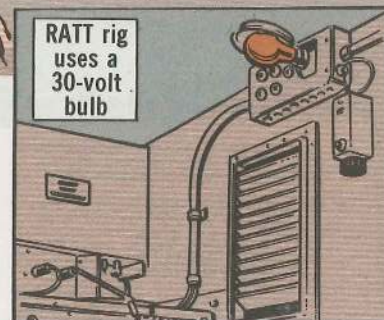


AN/GRC-122, -142 Light Bulb



You RATT riggers can now put away your drop cords and order the light bulbs called for by your operator's pub.

The AMDF used to code that 30-volt bulb NSN for use by overseas customers only. No more. Everybody can get it now. Order it with NSN 6240-00-155-8651.





Skin Saver



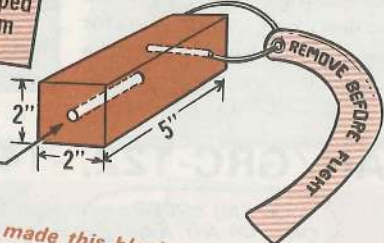
Dear Editor,

A mech can wind up with cuts and bruises when working in the close quarters

The tail skid on an AH-1 and UH-1 sticks out like a sore thumb.

Yellow and black striped styrofoam block

Cut 1/2" x 3" deep hole



To cut down on bruises, we made this block from styrofoam and added streamer, NSN 8345-00-195-1101. Just insert the block over the stinger...no more injuries.

Alfred Morgan
USATSCH, Ft. Eustis, Va

(Ed Note—Good thinking! When you can't eliminate a problem, neutralize it!)

Aviation Messages

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

UH-60A-82-28 Establish inspect intervals for engine output shaft 041316Z Nov 82

UH-60A-82-21 One-time inspect drag bean/axle assy 101440Z Nov 82

AH-1-82-13 One-time inspect collective

sleeve bearings 101435Z Nov 82
UH-1-82-07 One-time inspect collective sleeve bearing 101435Z Nov 82
CH-47-82-15 Night Op Restriction CH-47C 011700Z Nov 82
CH-54-82-04 One-time inspect tail rotor pitch link rod ends 022100Z Nov 82
CH-54-82-05 One-time inspect rotor brake disc 152108Z Nov 82

Cat 1 EIR Phone:
AUTOVON 693-2066
(24 hours)

Check Altimeters Installed



The word in TSARCOM Msg DRSTS-MEA 212015Z Sep 82 is that the requirement to remove aircraft altimeters for inspection and test every 24 months is deleted from AH-1, UH-1, OH-6, CH-47, CH-54, OH-58 and UH-60A aircraft.

So, you no longer have to pull the

Altimeter can be checked without removing it



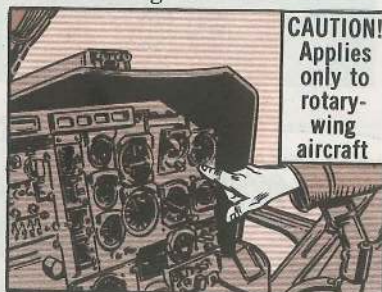
instrument out of the aircraft for a test by support.

Not only do you head off a time-consuming search of the supply system for a replacement, you also save a lot of maintenance time and elbow grease. On the Cobra, for example, it

takes about 3 hours of maintenance time to jockey those altimeters in and out of the Snake...quite a savings!

A functional check of the pitot static system and instruments (including the altimeter) is required, tho, per the special inspection section of each aircraft maintenance manual.

The check of installed instruments applies only to rotary-wing aircraft—not fixed-wing.



To Fight FOD...

Maintain the Perimeter!

If you think you're maintaining your aircraft from a clean landing pad, dad, make this check:



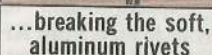
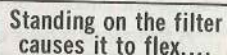
Walk around the perimeter of the pad. You'll soon pick up a handful of shell casings, cans, nuts, bolts and other debris.

If an arriving chopper scattered that stuff into open birds undergoing maintenance, foreign object damage (FOD) would result for sure!

Fight FOD! Do a pad walkaround, regularly.



The rivets are on the engine side of the filter and can end up in the engine inlet.



Then, when the engine is cranked up, it swallows the rivets. That'll cause foreign object damage.

So watch your step, OK?

Actuator Action



BEATS ME!...

LET'S
WRITE TO
WINDY!

Dear Windy.

Dear Windy,
I just replaced the engine linear actuator on our UH-1H.
TM 55-1500-328-25, Para 3-2c (4), says a test flight is required when flight
control surfaces are replaced. We have a big dispute going about whether a test
flight is required. What say you, Windy?

SFC D. F.

SFC D. F.

Dear Sergeant D.F.,

The linear actuator is not a primary flight control item, so no test flight is required.

A Maintenance Operational Check (MOC) is needed, tho, according to Para 3-6 of that TM. Make the check according to the info in Para 4-122 of TM 55-1520-210-23.



STARFLEET
DEPOT DIDN'T
SEND BACK A
2408-5...

DO WE
RE-INSPECT
THE GYRO-
PLATES?

DUNNO!
ASK
WINDY!

Dear Windy,

We made a one-time inspection of the outer ring on UH-1 swashplate assemblies some time ago and recorded it on the component DA Form 2408-5. Now, when we receive a swashplate back from overhaul, the DA Form 2408-5 is no longer included.

We have quite a discussion going in our TI shop, Windy. Do we have to re-inspect and make up another form?

SSG R. L. S.

Dear Sergeant R. L. S.,

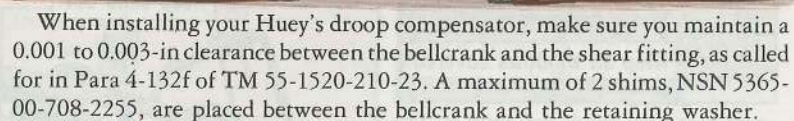
No, a new form is not needed.

Special inspections, and other current directives affecting the component, are incorporated into the depot maintenance work requirements.

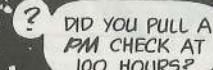
The head hangar (TSARCOM) has a quality control section at Corpus Christi Army Depot to make sure that all aircraft components are up-to-date.

Windy

Shim for Clearance



Another Phase



NOPE! THE NEW
PM MANUAL SAYS
THE CHECKS ARE
CHANGED TO 200
HOURS!

Phase Maintenance checks have been changed from 100 to 150 hours for the UH-1H/V and from 100 to 200 hours for the CH-47B/C. Eyeball the latest PM manuals.

Use Your Covers...

Head Off Sandblasting!



Wind-blown sand can scratch windows on your bird real quick when you operate in the desert.

Sand damage can lead to a lot of work polishing out the scratches on a plexiglass window or replacing a glass one.

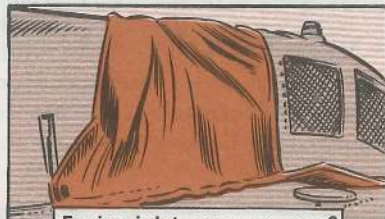
You can head off damage, tho, by keeping your windows covered when you're on the ground. Make sure the



covers are on good and snug so the wind can't get under the edges.

Your engine can be a victim, too! If you don't get the engine inlet cover on

snug, it can blow off and the engine will fill up with sand. The engine then has to be removed to get all the sand out.



Pitot covers are also a must. Sand blown in a tube can plug it and give a false reading.



Last Day Counts

You know you have to send in a DA Form 1352, Army Aircraft Inventory, Status and Flying Time Report, right? But are you reporting all your birds—even if they came in on the last day of the reporting period? Even that one day's info tells the headshed who had the bird and its status. Safety margins are figured from your report, too. So make sure everything's covered!

Choose the Right Cover



If you OH-58A/C mechs need a replacement cover for the T-63 engine inlet, there are 2 listed in Item 45, Fig 2 of TM 55-1520-228-23P. If your bird doesn't have the reverse air flow fairing, you need cover, NSN 1730-00-157-5476. If it does, you want cover, NSN 1730-00-175-6638.

Use New Grease

When you hand-lube the tail rotor spline couplings on your OH-58A/C aircraft every 150 hours, use Molub-Alloy Grease, NSN 9150-01-044-4587—Item 69, Table 1-2 in TM 55-1520-228-23. The new grease does a better job on the splines than Wide-Temperature-Range (WTR) Grease, MIL-G-81322.

A Better Way to Go

If you Black Hawk types have a faulty gunner's seat inertia reel removed from your bird for field repair, listen in! No need to order the whole restraint system listed as Item 10, Fig 69 in TM 55-1520-237-23P. Fig 69 is being expanded to let you ask for only the part you need. Watch for the change.

Black Hawk Battery

If the spark has permanently gone out of the BB-716A nickel-cadmium battery, Item 18, Fig 187 in TM 55-1520-237-23P, you want battery, NSN 6140-01-089-8134.



Scheduling

WHEN IT COMES TO SETTING UP AND SCHEDULING YOUR SERVICES ON THE DD FORM 314, THE PUBS THE THING THAT SETS YOUR SCHEME!

Your periodic services and inspections come from the equipment's -20 TM or (sometimes) a TB—like your Army Oil Analysis Program (AOAP) samples. Lubrication actions come from the lubrication order (LO).

Each of those pubs lists services you schedule—by particular symbols.

Make sure you use the symbol that matches the service—not the time interval between services. The type of service tells you which symbol to use. The interval between services tells you where to put that symbol on the DD Form 314.

IF YOUR TM CALLS FOR A SEMI-ANNUAL (S) SERVICE ONLY, THAT'S WHAT YOU SCHEDULE!

Your DD Form 314 will show an S every 6 months. The second S you pull each year is not an A. Schedule annual services, A's, only when the TM has a separate service called an annual.

SEMIANNUALLY (S). Every 6 months or 6,000 miles.
ANNUALLY (A). Every 12 months or 12,000 miles.
BIANNUALLY (B). Every 24 months or 24,000 miles.

Major services come from the equipment TM-20. But schedule only the services specifically listed. For example, you pull an "A" service only when the TM requires a separate "A". The second "S" is not an "A".



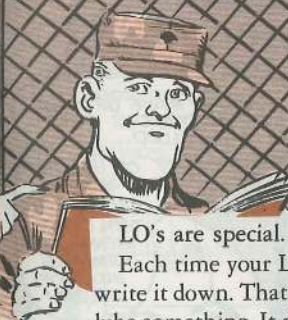
DD FORM 314

REGISTRATION NUMBER ADMIN

JAN									
FEB									
MAR									
APR									
MAY									
JUN									
JUL									
AUG									
SEP									
OCT									
NOV									
DEC									

REMARKS

SAVVY



LO's are special. Only 1 type service, L, comes from an LO.

Each time your LO mentions a periodic lube action—even a filter change—write it down. That's an L. The interval block in the LO tells you only when you lube something. It does not tell you the type of service to pull. The 3-month or 3,000-mile lube required on most trucks is an L. It is not a Q service.

ALL SERVICES REQUIRED BY AN LO ARE L'S!

THE INTERNAL BLOCK TELLS YOU WHEN TO LUBE!

LUBRIC LO 9-2320-218-12

10 SEPTEMBER 1982 (Supersedes LO 9-2320-218-12, 20 JULY 1978)

TRUCK, UTILITY: 1/4 TON, 4X4, M151, M151A1, AND M151A2
TRUCK, AMBULANCE: FRONTLINE, 1/4 TON, 4X4, M718 and 718A1

Reference: TM 9-2320-218-10 and TM 9-2320-218-20 Series

Intervals (in condition or hard time) and the related man-hour time specified in the time you need to do it, condition (C) or sample intervals shall be applied (AOAP) laboratory. Change the hard time interval of your lubricants only. Contaminated oil or 200 are hours. The hard time interval may be extended during periods of low activity. If extended, adequate intervals will be applied in the event AOAP laboratory support is not available.

Clean before lubricating. Clean parts with degreasing solvent. (D) type 8-10 services indicate lubrication on both sides of the equipment.

Lubricate after firing.

INTERVALS See NOTE 6

D-Daily (Operator)
1-1,000 Miles
6-6,000 Miles or 6 Months
12-12,000 Miles or 12 Months
24-24,000 Miles or 24 Months
Which ever comes first

LUBRICANTS	EXPECTED TEMPERATURE			LUBRICANT
	Above 100°F (38°C)	100°F (38°C) to 150°F (66°C)	Below 100°F (38°C)	
GE/INDU-LUBRICATING OIL WITHIN COILS (MIL-2150)	GE/INDU 25	GE/INDU 30	GE/INDU 35	GE/INDU 35
GE-LUBRICATING OIL (MIL-2150)	GE/INDU 25	GE/INDU 30	GE/INDU 35	GE/INDU 35
GAA-GRASS, AUTOMATIC DIE AND ARTILLERY (MIL-2150)	GAA 25	GAA 30	GAA 35	GAA 35
HB-HYDRAULIC FLUID (MIL-2150)	HB 25	HB 30	HB 35	HB 35
HB-HYDRAULIC FLUID (MIL-2150)	HB 25	HB 30	HB 35	HB 35

STEERING GEAR ONLY

TOTAL MILES		TOTAL MILES	
AMALIE	INTERVAL	AMALIE	INTERVAL
1	12	1	12
1.5	18	1.5	18
2.5	30	2.5	30

LO 9-2320-218-12 1 of 4

IT DOES NOT TELL YOU THE TYPE OF SERVICE!

Keeping up with a bunch of different L's can be a headache. Then, too, when you start pulling services together, some symbols may cover more than others. So Para 3-3c(3) of TM 38-750 says you can adopt subsymbols if you need 'em. Those subsymbols are used with the regular symbol, not instead of it.

The LO usually codes the intervals between lube. You can make up your own subsymbols for L's or adopt the ones the LO uses. A lube pulled every 1,000 miles or monthly can be an L₁, a 3,000-mile or 3-month lube becomes an L₃, and so on.

Set up a system that suits you and makes sense to your mechanics. Then cover it in your SOP or the Remarks Block of the DD Form 314—if there's room!

If the LO calls for lubes by miles or hours only, you may not be able to schedule them in advance. Unless you have a good feel (experience mostly!) for when those miles or hours will be up, you'll have to wait until the miles or hours roll around before you put the service symbol in a date block.

List those services—their symbols and miles or hours needed—in the Remarks Block of the DD 314.

The DD Form 1970 or other record of miles or hours is your key here.

Remind your operators, mechanics, TAMMS clerk and dispatcher to keep an eye on the gear's usage. When it reaches those miles/hours, pull the service.

Then ink in the symbols and the miles/hours in the date block of the DD Form 314.

Use a pencil when you schedule services...

...ink, when you pull them!

Hold one! There's a twist for equipment under the AOAP. You still schedule and pull lubes the way your LO says. But you change the oil and the oil filter only when the AOAP lab tells you.

LO 9-2320-218-12

YOU CAN MAKE UP YOUR OWN SUBSYMBOLS FOR L'S PULLED...

OR USE THE LO'S INTERVAL CODES, AND THEN ENTER THEM IN THE REMARKS BLOCK OF DD 314!

INTERVALS
See NOTE 6

D-Daily
(Operator)

1-1,000 Miles

6-6,000 Miles
or 6 Months*

12-12,000 Miles
or 12 Months*

24-24,000 Miles
or 24 Months*

REMARKS

L₁ - 1,000 miles

L₆ - 6,000 miles or 6 months

L₁₂ - 12,000 miles or 12 months

L₂₄ - 24,000 miles or 24 months

When Services Are Due

Just as you use the TM and LO to schedule your services, make sure you use them when you pull those services. Both pubs tell you what to check or lube, how and where. They give you a list of the tools and materials you need, parts and supplies you'll use.

But there's more! Check the records on the gear. Other forms tell you about any deferred maintenance or clue you in on possible trouble spots.

The date you mark in pencil for a service is when the service is due. But sometimes you just can't pull a service on the exact day or miles/hours.

So you get 10 percent leeway—of the miles or hours or days between services. For a semiannual, that means you have an extra 36 days in which to pull a service: 18 days before or 18 days after the scheduled date.

DD FORM 314

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

REGISTRATION NUMBER ADMINISTERED TO

Use your 10 percent variance to stretch your schedule to fit!

JAN FEB MAR APR MAY JUN JUL

As long as you pull the service within 10 percent of when you planned it, just ink in the originally scheduled date with the actual miles of hours beside it.

That 10 percent is a real help. You can use it to avoid holidays, rush times, training periods or whatever messes up your schedule. Best of all, you use it to pull services together.

If you pull a service outside the 10 percent, no real sweat. Erase the original schedule, ink in the symbol on the day you actually pulled it and add the miles or hours. Then...

... RESCHEDULE ANY FOLLOWING SERVICES FROM THE NEW DATE!

GOTCHA, CONNIE!

Got a Maintenance Problem?

Write: MSG Half-Mast
PS Magazine
Lexington, KY
40511

Or call: Autovon 745-3503

On the
AMDF...

NSN's Changing Partners



If you look at the Army Master Data File (AMDF), you'll find some NSN's changing partners and do-si-do-ing.

The Army's passing management of a heap of NSN's to other agencies. Those NSN's will switch to Source of Supply (SOS) codes in the S9-series: S9C, S9E, S9G, S9I or S9M.

So what? Your support worries about changes in SOS.

Right! But some items may do-si-do to new NSN's.

If the new manager finds an NSN that does the same job—or better job—than the Army item, the Army NSN will drop out.

Seven new NSN's replaced 8 NSN's for the M240 machine gun after S9I took over those parts, for example.

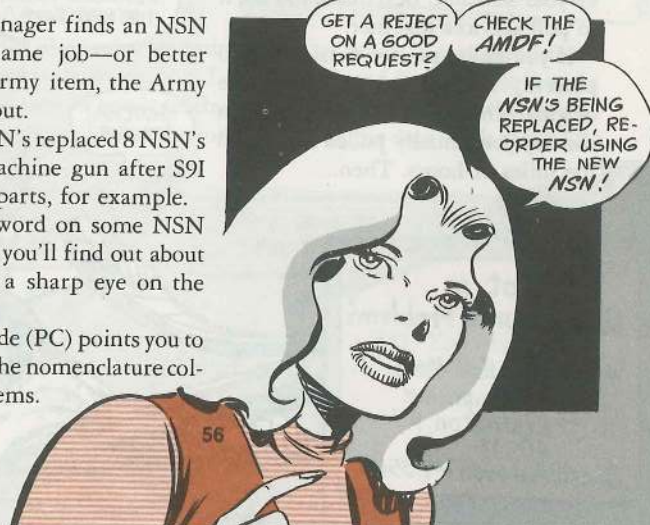
You may get word on some NSN changes. Others, you'll find out about only by keeping a sharp eye on the AMDF.

The Phrase Code (PC) points you to the new NSN in the nomenclature column for those items.

What happens if you order an NSN being dropped? Chances are, the manager will just substitute the new item and NSN. But watch for those subs, so you know what to order next time.

When you get word on NSN changes, mark all your forms and records with the new info.

Get a sub that won't work? Tell support, now! Could be the wrong item's dropped out.



Tank and Pump Units...

Oil Changing Made Easy

Changing engine oil in your tank and pump unit is a weekly (or 50-hour) service.

TM 5-4930-230-13
DOES NOT TELL HOW TO
CHANGE THE OIL, SO
DO IT THIS WAY...



- Remove the manifold-to-inlet fuel hose and the pump outlet fuel hose. Use the procedure in Para 4-17 of the -13 TM.



- Remove the 4 screws, nuts and washers that hold the pump and engine base in place.



- Slide the engine and pump assembly out far enough so that you can get to the bottom drain plug.

- Remove the plug thru the opening in the baseplate and catch the oil in a bucket.

- Replace the plug, and fill the engine with new oil.

- Slide the assembly back in place, bolt it down, and reconnect the hoses.

Torque Wrench TIPS

Dear Half-Mast,
TM 9-243, Use and Care of Hand
Tools and Measuring Tools, is skimpy
on torque wrench care and main-
tenance.

Is there a particular way we should
use and store our preset, audible,
micrometer and screwdriver-type tor-
que wrenches?

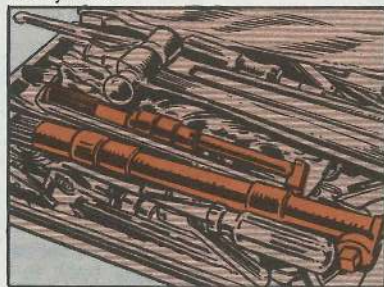
SSG P. L. B.

Dear Sergeant P. L. B.,

I'm glad you asked.

If your mainte-
nance job calls for
using the torque
wrench several
times during the
day, reset it to its
lowest setting each
time.

Always put the wrench back in its
box after using it. Never toss it into a
box with other tools. You'll damage it
every time.



At the end of the day when you put
the wrench away, leave 20 percent of
its maximum torque on the spring or
lever.

Examples: If your wrench has a
torque range of 0 to 100 lb-in, set it at
20 lb-in. A wrench with a 700 to 1,500
lb-in range would be stored with 1,000



lb-in on the spring or lever. (1,500 x
20% = 300 lb-in. Add this figure to 700
lb-in to get 1,000 lb-in.)

This tension keeps the lever or
spring from being "set" if the wrench is
dropped, knocked off a shelf, or
slammed against a wall.

WITH TORQUE
WRENCHES, THE
ONLY WAY IS
TLC!

58

AN-M4 Flamethrower Alteration

If your AN-M4-series reciprocating compressor unit doesn't have a charging
hose and pressure gage on top of the water separator, tell your organizational
maintenance people.

The charging hose and pressure
gage assembly are necessary in order
to use the compressor with newer
flame throwers in the system...or
coming in soon.

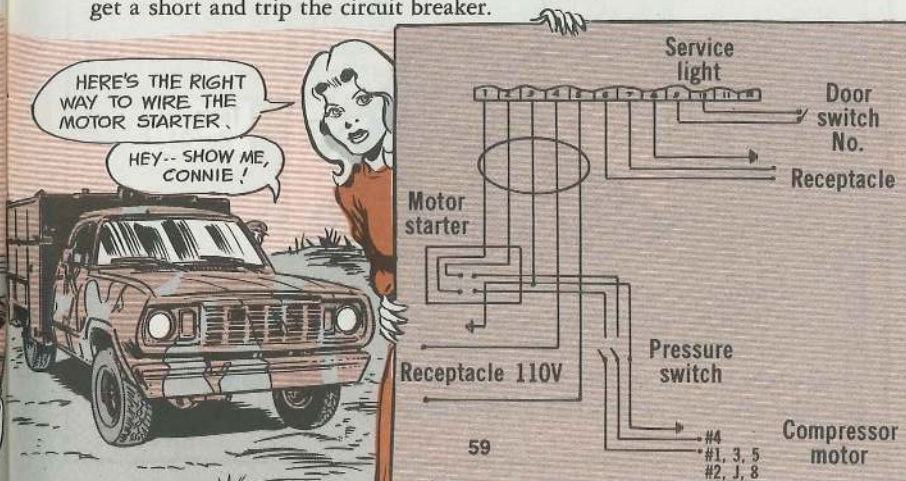
Para 2-5, TM 9-4310-100-20&P,
authorizes the alteration. The para-
graph lists instructions, illustrations
(Fig 2-1) and stock numbers for the
parts.



M887 Contact Maintenance Truck...

Wiring Diagram Goof

There's a mistake in the wiring diagram in Fig FO-1, TM 9-4940-421-14.
When you hook the compressor motor starter up the way it's shown, you'll
get a short and trip the circuit breaker.



3-KW GED Generators...

Flash 'em Right!

If your generator has stopped putting out, it may be because the generator exciter field needs energizing.

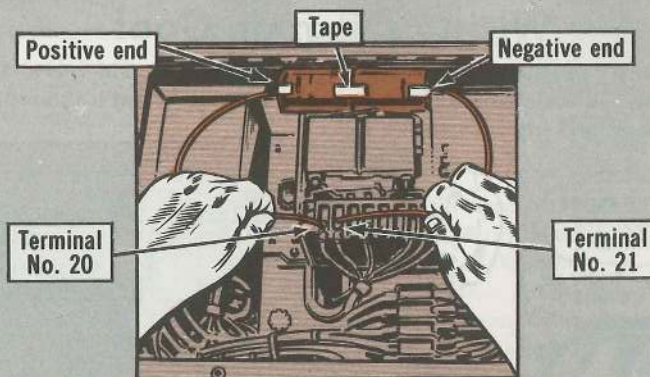
To get it back on line, you have to "flash" the field. Flashing energizes the exciter field winding, producing power when the generator is running.

If you have an older generator with a flash switch, start the generator and hit the switch for a second or so.

NEW GENERATORS DO NOT HAVE THE SWITCH! HERE'S HOW TO FLASH 'EM...

- Open the control box cover.

- Place two 1.5-volt batteries in series and hook up a piece of WD-1 wire to each end. Use tape to hold the wires on and to hold the batteries together.



Attach the wire from the positive terminal of the batteries to terminal No. 20 of the voltage regulator.

- Start the generator set.
- Touch the negative wire to terminal No. 21 for a second
- Remove both wires and you're done.

0.5 to 10-KW Generators...

Load and Ground Terminal Studs

IN CASE YOU DIDN'T KNOW...

...THERE ARE MANY DIFFERENT SIZES AND SHAPES OF GROUND AND TERMINAL STUDS!

THANKS, SARGE!

YOUR CHART'S A HANDY REFERENCE FOR MY MECHS!

GED Sets

KW Size	Load Terminal Stud NSN/PN	Wire Size (AWG)	Ground Terminal Stud NSN/PN	Wire Size (AWG)
0.5 60-Hz 400-Hz 28-VDC	5940-00-958-0349	10	5940-00-926-9827	6
1.5 60-Hz 28-VDC	5940-00-958-0349 13208E5820-6 (97403)	10 6	5940-00-958-0349	10
3.0 60-Hz 400-Hz 28-VDC	5940-00-958-0349 5940-00-958-1214	10 2	5940-00-952-2827 5940-00-952-2827	10 10
5.0 60-Hz 400-Hz	13211E6908 (97403)	6	13208E5820-6 (97403)	6
10.0 60-Hz 400-Hz	5940-00-958-1214 5940-00-901-0287	2 2	13208E5820-6 (97403)	6

DED Sets

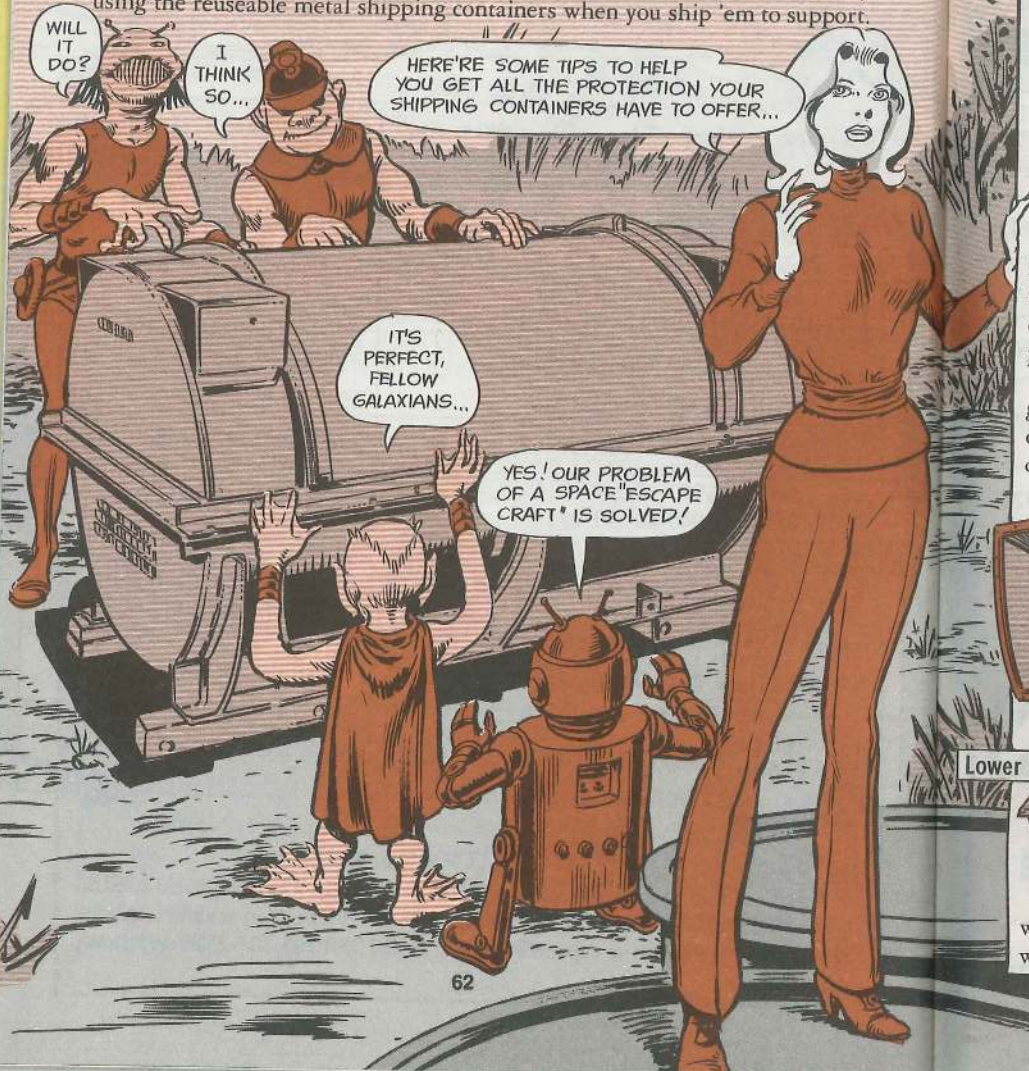
KW Size	Load Terminal Stud NSN/PN	Wire Size (AWG)	Ground Terminal Stud NSN/PN	Wire Size (AWG)
5.0 60-Hz	5940-01-009-4763	2	5940-00-234-3383	6
10.0 60-Hz 400-Hz	5940-01-009-4763	2	5940-00-234-3383	6

Reflective Tape

If you're looking for a reflective tape for ground support equipment used on the airfield, ask for tape, NSN 9390-00-949-8047. The 5-in wide white tape replaces the silver-white tape in Para 8-69 of TM 55-1500-204-25/1 on aircraft maintenance.

Reusable Containers... **SPARE** the Shipping Damage

Uncle Sam needs you...to prevent damage to components caused by shipping 'em without adequate protection. You can protect engines and transmissions by using the reusable metal shipping containers when you ship 'em to support.



62

Container Care

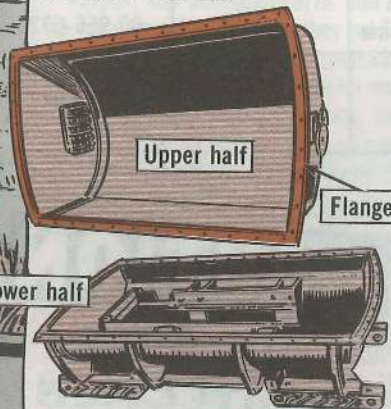
Press the pressure relief button before you open the cover. It'll release the air pressure to make opening the container easier and safer for the equipment.



Pressure release button

When you open the container, collect all the nuts, bolts, and washers so they don't get lost. Put 'em in a small container and leave it inside the shipping container for safe keeping.

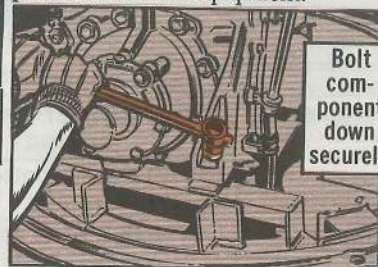
Be careful with the lid when you've got it off. A dinged-up flange on the cover won't seal tight enough to keep dirt and water out.



Keep the top on the container even when it's empty. That'll keep dirt and water from collecting inside.

Before you Ship

Make sure the inside of the container is clean before you put your engine or transmission in. Dirt, moisture, or grease can cause corrosion problems for the equipment.



Bolt component down securely

Bolt the component down inside the container. You sure don't want it bouncing around all the way to support. Replace any damaged sealing gasket.

Get any loose bolts or nuts out of the container before you seal it up.



Place fresh desiccant in the container to take care of any moisture that gets in.

Use the original mounting hardware—all of it—to fasten the top down securely.

63



Dear Half-Mast,

How do we get safety signs for our maintenance areas, such as EYE PROTECTION REQUIRED, HEARING PROTECTION REQUIRED, etc.?

SFC G.M.C.

Dear Sergeant G. M. C.,

HERE'S A LIST OF SOME COMMON SIGNS...



Legend	Size (inches)	NSN 9905-
Caution Hearing Protection Required	10 X 14	01-100-8205
Caution Hearing Protection Required	8 X 18	01-031-1247
Caution High Noise Area Wear Ear Plugs	10 X 14	01-122-1140
Caution Eye Protection Required	10 X 14	01-100-8203
Caution Do Not Operate Without Eye Protection	10 X 14	01-100-8204
Caution Wear Goggles When Using This Machine	7 X 10	00-956-6324
Caution Highly Flammable	10 X 14	01-054-0428
Caution Highly Flammable	7 X 10	01-054-0427
Caution Watch Your Step	10 X 14	01-054-0450

Order the signs on a DD Form 1348-6 and note in the Remarks Block that the NSN's are not on the AMDF.

If you have noisy gear that requires a black-on-yellow noise caution sign, order it with NSN 9905-00-198-2728. The sign is 2.13 inches X 4.6 inches and has an adhesive backing. It's on the AMDF.

AR 385-30, Safety Color Code Markings and Signs, tells you which type and color signs and symbols will be used to mark dangerous areas.

CAUTION
HEARING
PROTECTION
REQUIRED



2½-Ton Brake Safety!

Make sure you install only safe brake air/hydraulic cylinders on 2½-ton trucks! Details on indentifying the right cylinders are in a Maintenance Advisory Letter sent out by the US Army Tank-Automotive Command (DRSTA-M) 30 Nov 82. If further info is needed, phone AUTOVON 786-7398 or Commercial 313-574-7398 or FTS 973-7398. Or write to Commander, US Army Tank-Automotive Command, ATTN: DRSTA-MTB, Warren, MI 48090.

Somebody Goofed!!

Adapter, NSN 5120-00-619-9776, used with the power wrench to torque the Huey and Cobra main rotor retaining nut, was cast too thick and won't do the job. The "fat legs" will not seat on the trunnion and will cause wrong torque readings and possible damage to the rotor mast. So, scrap the old one and ask for adapter, NSN 4920-00-432-3316. Continue to use the old adapter socket wrench, NSN 5120-00-619-9779.

¼-Ton Throttle Clip

There's a new NSN for the throttle rod clip on the M151-series ¼-ton trucks. Use NSN 5340-00-776-6646 instead of the number shown in TM 9-2320-218-20P, Fig 23.

★ U.S. GOVERNMENT PRINTING OFFICE: 1983—659-007/4

M11 ID Plate

Identification plate missing on your M11 decon? Get a stick-on ID plate with NSN 9905-01-135-6952.

Mask Moisture Fighter

If rain and high humidity in your area are getting to your M17/M17A1 protective mask's filters, M1A1 waterproof bag, NSN 4240-00-803-5839, may do a better job for you. The bag has snap fasteners, not rubber bands like the M1.

POL Hotlines

Got a question about fuels or lubes? Use these "hotline" numbers to find out if current LO's list the right specs, what fuel is recommended for your equipment, if substitutes are available, what additives are approved, etc. Call the US Army Mobility Research and Development Command at AUTOVON 354-4325-3576 or -4594.

Long Wait for Trailer Boxes

Replacement trailer boxes for ¼-ton, ¾-ton or 1½-ton trailers are not "readily available", as stated on Page 24 of PS 360. Action has been taken to change the Acquisition Advice Code for all 3 boxes from "D" to "J". This means they are non-stocked, long-lead-time items.

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

**Loose Hydraulic,
Oil and Fuel Lines**
DOWN BIRDS!



TORQUE
ALL LINES

per
TM 55-1500-204-25/1