

Issue 654

PS

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2007

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-654

Approved for
Public Release;
Distribution is
Unlimited


THERE'S *GOT*
TO BE A WATER
TABLE DOWN
THERE SOME-
WHERE!

I'VE BEEN HUMPIN'
AROUND FOR *YEARS*
AND HAVEN'T FOUND
THAT WATER TABLE
YET!



GET A GOOD
GROUND
IN THE
DESERT...
SEE PAGE 40!

MAKE USE OF THAT CONTRACTOR!



SINCE WE'VE BEEN INVOLVED IN OEF/OIF, THERE'S BEEN AN INCREASE IN THE NUMBER OF CONTRACT MAINTAINERS IN THE MOTOR POOL AND ON POST.

Contractors are either helping the remaining maintenance personnel on an installation while fighting troops are overseas, or they are performing the repairs and upgrades necessary to put equipment back into shape for the next rotation.

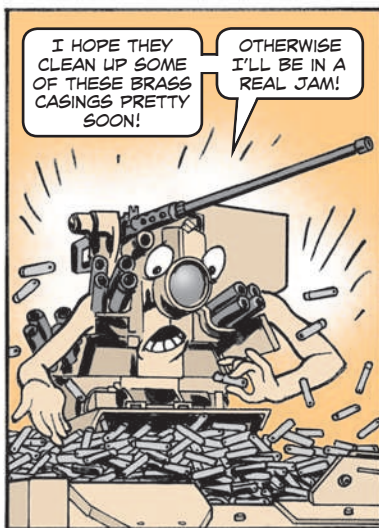
These contractors are, for the most part, former soldiers with loads of experience in maintenance—perfect sources for training soldiers.

Unfortunately, it seems that far too few soldiers are getting the chance to learn from that source. While we don't know how the contracts are worded, we suspect that there's nothing to keep soldiers from watching and learning while the experts twist the wrenches.



SO IF YOUR INSTALLATION IS USING CONTRACTORS IN UNIT MOTOR POOLS OR FOR RESET, GET YOUR MECHANICS A FRONT-ROW SEAT WHERE THE ACTION IS.

Clean Up Casing Clutter

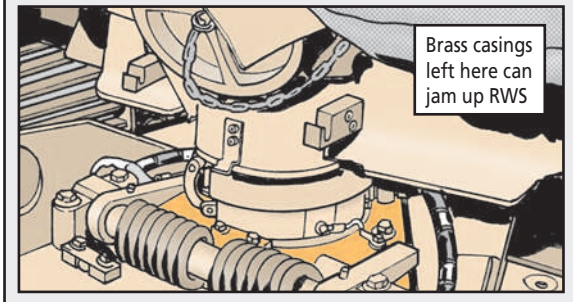


A little housekeeping never hurt anybody. And in the case of a Stryker with the remote weapons system (RWS), it can help prevent some unnecessary damage.

Firing the RWS throws around a lot of brass casings. The catch bags will get most, but not all of it.

If not picked up, the loose casings pile up around the base of the RWS. As the RWS traverses, the casings can get caught underneath and jam it.

SO, WHENEVER YOU HAVE THE CHANCE, PICK UP THOSE LOOSE CASINGS AND KEEP THE RWS ON THE JOB.

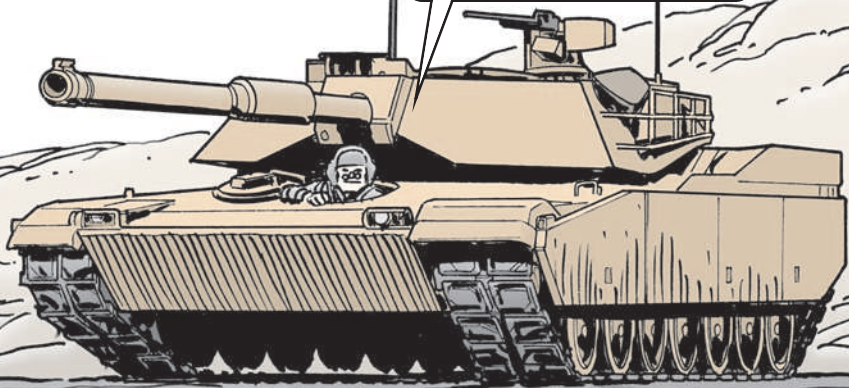


M1-Series
Tanks...

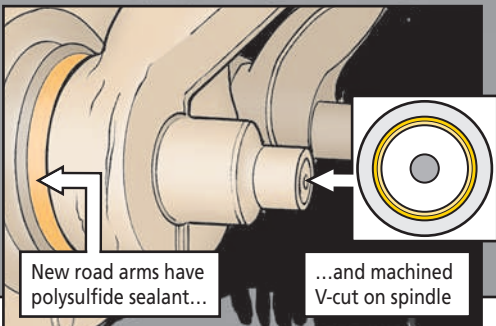
**NEW AND
IMPROVED**

ROAD ARMS

MECHANICS, NEWLY UPGRADED
ROAD ARM ASSEMBLIES ARE NOW
AVAILABLE FOR M1-SERIES TANKS.



THE NEW ASSEMBLIES USE A
POLYSULFIDE SEALANT AND CAN
BE IDENTIFIED BY A MACHINED
V-CUT ON THE SPINDLE.



New road arms have
polysulfide sealant...

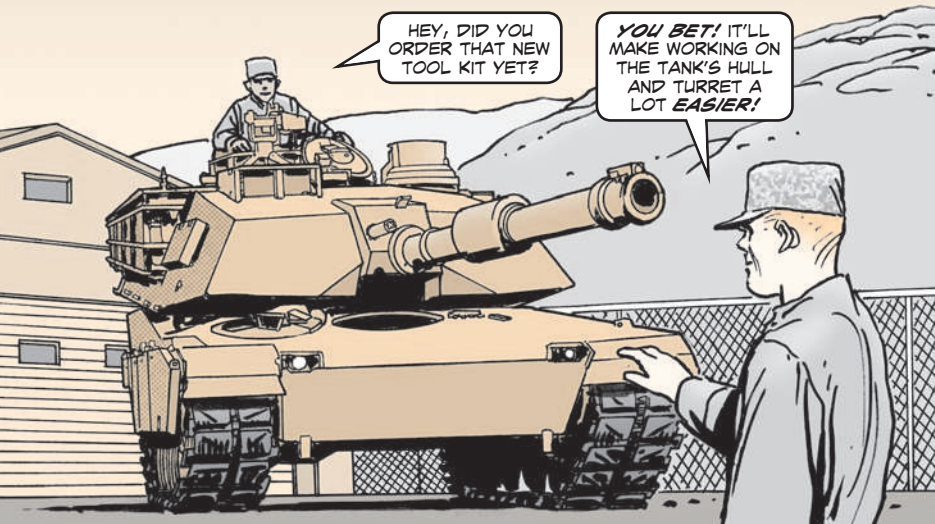
...and machined
V-cut on spindle

ORDER THE
NEW ROAD
ARMS WITH
THESE
NSNs...



Road Arm Position	NSN 2530-01-	Part Number
Left #1	531-9545	12473353
Right #1	531-9538	12489448
Left #2 and 7	533-9159	12489450
Right #2 and 7	532-0187	12489452
Left #3-6	531-9542	12473347
Right #3-6	531-9543	12473351

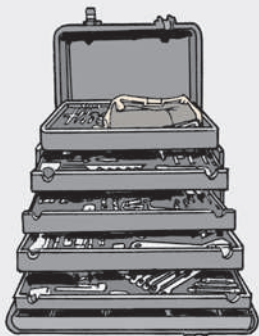
TWO BECOME ONE WITH NEW KIT



The general mechanic's tool kit, automotive, NSN 5180-00-177-7033, and the artillery and turret mechanic's tool kit, ordnance, NSN 5180-00-357-7727, have long been the kits used for maintenance on the M1-series tank's hull and turret.

But with the Army's transformation to two-tier maintenance, both are being replaced by a single tool kit for use by M1-series tank system maintainers (MOS 63A). The multi-capable maintainer tool kit (MCMTK) is available with NSN 5180-01-493-1664 and is covered by SC 5180-95-B74.

New MCMTK replaces both hull and turret tool kits for tanks



All of the tools in the MCMTK, including the tool box, are covered by a full replacement warranty. That's only for items that are broken, not those that are lost or stolen.

To replace a broken tool, go to:

[http://pmskot.army.mil/
SKO_Warranty.html](http://pmskot.army.mil/SKO_Warranty.html)

and follow the instructions. Tools will normally be replaced within 48 hours.

Questions? Contact Daniel Stark at PM SKOT, DSN 793-0131, (309) 862-0131 or email him: starkd@ria.army.mil

BREECH INSPECTIONS NOW SEMIANNUAL

HEY, ISN'T IT
TIME FOR YOU
TO INSPECT MY
M242 GUN?

NAH! YOU
HAVEN'T FIRED
NEARLY ENOUGH
ROUNDS YET!

WE'RE
SUPPOSED
TO DO IT SEMI-
ANNUALLY NOW,
REGARDLESS
OF THE ROUND
COUNT!

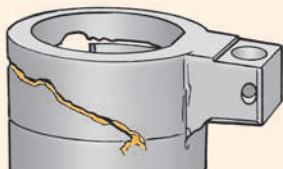
The PMCS tables in TM 9-1005-200-23&P are pretty specific on when to inspect the breech on your Bradley's M242 gun. Only one problem... *it's not enough!*

The standard breech, NSN 1005-01-114-0080, is inspected after reaching 12,500 rounds and then every 2,500 rounds afterward. The enhanced breech, NSN 1005-01-454-0398, is inspected after 25,000 rounds and every 5,000 rounds afterward. No inspections are required before reaching these round counts.

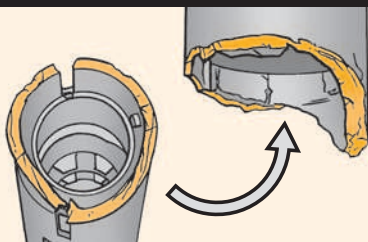
At one unit, a 25mm round exploded in a standard breech that had broken into two pieces during firing. Luckily, there were no injuries, but the M242 was a complete loss.

Testing revealed that a stress crack had developed in the breech and became larger over time. And because there were no firing records available from before the unit received the Bradley, there was no way to tell just how many rounds the gun had fired.

Crack in breech...



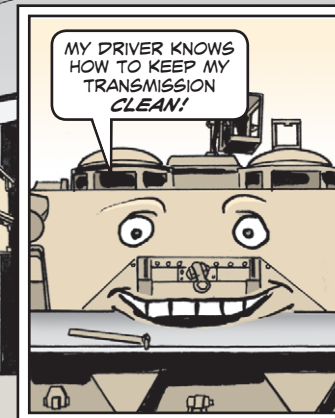
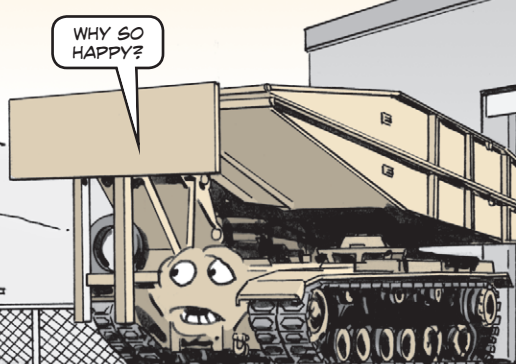
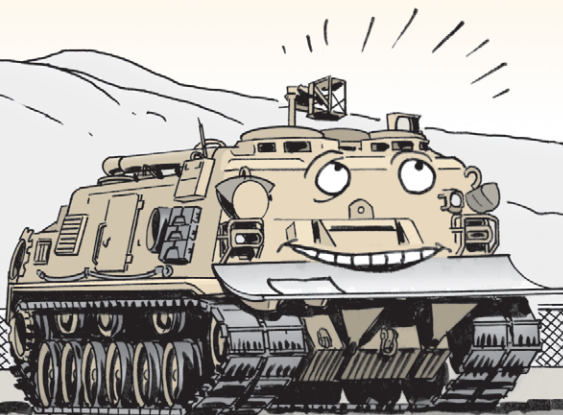
...can
make
it snap
in half



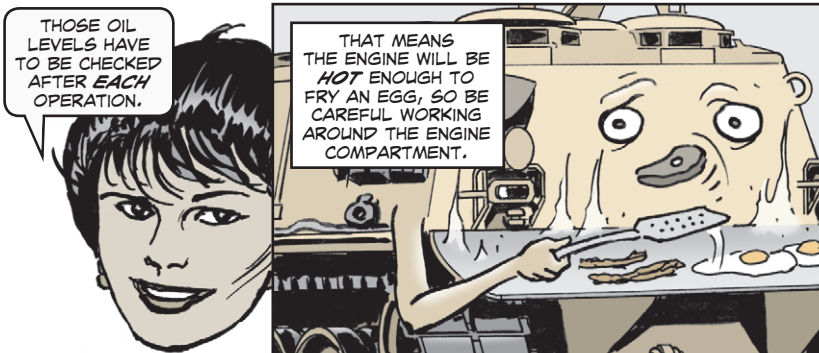
For that reason, gun system maintainers are now required to inspect the M242's breech semiannually in addition to the round count inspections. The increased frequency will give inspectors a chance to find any signs of cracking before it results in an accident due to breech failure.

You'll find the inspection procedures in work package 0051 00 of TM 9-1005-200-23&P.

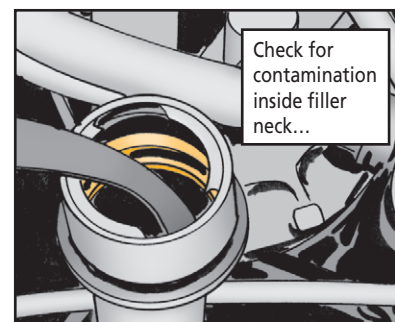
DOWN AND DIRTY WITH CLEAN PM



A clean engine and transmission makes for a happy vehicle, drivers. So it's up to you to keep that M88A1 or AVLB showing those pearly whites when it's time to check the oil level in the engine and tranny.



1. Start the engine and run at 1,000 to 1,200 rpm until the engine temperature reaches operating range (140-240°F on the gauge).
2. At idle, pull the engine oil dipstick and wipe it. Before reinserting it, check the underside of the dipstick cap and the filler neck for contamination. If you spot any, wipe it out with a clean rag.
3. Reinsert the dipstick and pull again. The oil level should be up to the FULL mark. If it's low, add OE/HDO-30 (15°F and above), OE/HDO-10 (-10 to -40°F), or OEA (-65 to 0°F), or multi-grade OE/HDO 15W40.
4. Stop the engine. Wait three to five minutes.
5. Remove the transmission dipstick and wipe it clean. Again, you'll need to look for any contamination under the cap and in the filler neck. Clean out any you see.



6. Reinsert the dipstick, pull it again and check the oil level. If the engine has been running long enough for the temperature to reach 180-200°F, the oil level should be at or slightly above the FULL mark due to expansion.

Otherwise, it should be between the ADD and FULL marks. If low, you'll need to add OE/HDO-10 (or OEA if temps are below 0°F) until oil is visible. If you've converted your transmission to CAT oil, make sure you use CAT oil to bring it to the FULL mark. Do **not** use multi-grade oil in the transmission!

STE-M1/FVS Repair

Failed STE-M1/FVS components can be repaired by sending the failed component, along with your name and phone number, to:

Team Armor Partnership (TAP)
Facility
Bldg 88037 (Oscar Waddell)
Corner of Clark/Logistics Lane
Ft Hood, TX 76544

The components are inspected by the on-site repairman to determine what repairs are needed. You will be contacted by contract personnel from General Dynamics Land Systems (GDLS) to discuss repair prices and for a government credit card number for payment. Questions? Contact Ray Williams, GDLS Field Service and Technical Support, (810) 825-7653. Or send an email to:

willir@gdls.com

M198 Towed
Howitzer...

HEY, HOWELL!
WE GOT THAT
NEW OIL
TRANSFER
SYSTEM IN
TODAY!

YOU CAN USE
IT INSTEAD
OF THE M3
OIL PUMP!

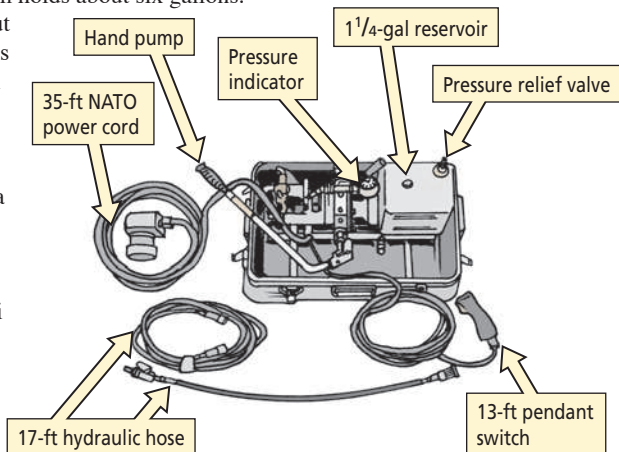
REALLY?
AND I WAS
GONNA USE
MY **LEFT**
ARM THIS
TIME!

GIVE YOUR ARM A REST!

The M3 oil pump is what mechanics currently use to fill and purge air from the M198 howitzer's recoil mechanism. The M3 holds about one quart of hydraulic fluid. The recoil mechanism holds about six gallons.

Since it takes about 30 pumps of the M3's handle to transfer six ounces of hydraulic fluid, it doesn't take a genius to figure out that you're gonna have a mighty tired arm before you get finished.

The MG4500 mini oil transfer system, NSN 1025-01-541-2481, puts a stop to that.



The MG4500:

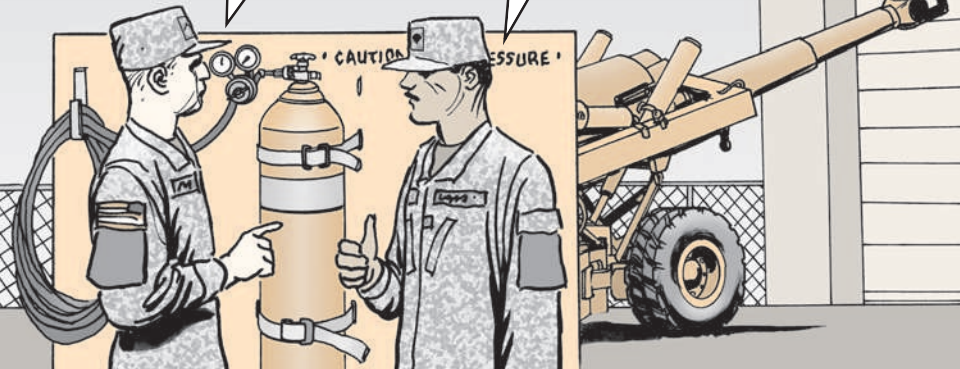
- is an electric-powered system that runs on 24-volt power using a standard NATO plug
- operates at a maximum pressure of 3,000 psi and a maximum flow rate of 1/2 gpm
- is packaged into a rugged 24x17x14-in case and weighs in at 45 lbs
- is rated to operate within a temperature range of -50°F to 150°F
- comes equipped with a 1 1/4-gal reservoir, pressure indicator, pressure release valve, funnel, handheld 13-ft pendant switch, 35-ft NATO power cord, 17-ft hydraulic hose with pressure shut off, and a backup hand pump that moves a quarter cubic inch of fluid per stroke at a maximum of 5,000 psi

For more information on the MG4500, contact the manufacturer, Mandus Group, Ltd., at (888) 922-8502 or go to <http://www.mandusgroup.com>

INTENSIFY YOUR NITROGEN!

WE'D BETTER GET THE
EQUILIBRATORS CHARGED
ON THAT HOWITZ!
ER!

BAD NEWS! THERE'S NOT
MUCH PRESSURE LEFT IN THE
NITROGEN BOTTLE!



There are few things more irritating than a nitrogen bottle low on pressure. If that's the only nitrogen bottle you have, that purging or charging job might get skipped.

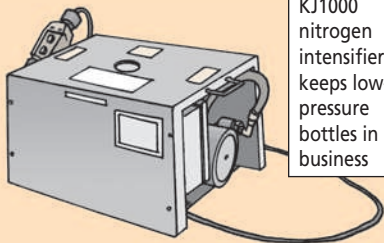
Don't let your equipment down. Save the day by ordering a KJ1000 nitrogen intensifier, NSN 1025-01-473-8886.

The KJ1000 can be used on all military equipment that requires nitrogen pressure. Just hook it up in line between the nitrogen bottle and the equipment to be charged and switch it on.

The KJ1000 boosts the pressure of the nitrogen in the bottle to the pressure needed for your equipment. When used properly, the KJ1000 can boost the pressure in bottles with as little as 200 psi all the way up to 1,850 psi!

The KJ1000 can also be used to reclaim nitrogen from your equipment to assist in maintenance. All it takes is a quick switch of hoses and the system is reversed, extracting nitrogen from your equipment into a nitrogen bottle. Once the maintenance task is completed, switch the system back and push the nitrogen back into your equipment.

The nitrogen filter on the KJ1000 should be replaced yearly. New filters will have to be ordered directly from the manufacturer, Mandus Group, Ltd. Contact them at (888) 922-8502 or go to <http://www.mandusgroup.com>



KJ1000
nitrogen
intensifier
keeps low-
pressure
bottles in
business

STOP LEAKS WITH TURRET HINGE COVER BOOT



DRIP... DRIP... DRIP. That's the sound you'll hear on a rainy day if your M1114's turret hatch has developed leaks around the hinge area.

Now you can stop the leaks by installing a hinge cover boot around the turret hatch hinge. Instructions for doing this aren't in the TM yet, so keep reading to find out what to do.

Order the turret hatch hinge cover boot field repair kit, NSN 2510-01-520-3972. The kit includes one hatch hinge seal, one each hatch hinge seal short and long tie-downs, thirteen 10-32 locking nuts, thirteen 10-32 x 1/2-in screws, four inches of 3/8-in diameter sponge rubber and a tube of adhesive.

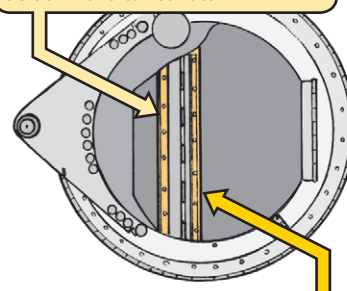
PUT A HALT TO
TURRET LEAKS BY
FOLLOWING THESE
PROCEDURES...



Turret Hinge Cover Boot Installation

1. Apply your M1114's parking brake.
2. Release the three turret hatch fastener clamps.
3. Position the short and long hatch hinge seal tie-downs on the outside of the turret hatch. Secure them with clamps.

4. Match drill six 1/4-in diameter holes through the short hatch hinge seal tie-down and turret hatch.

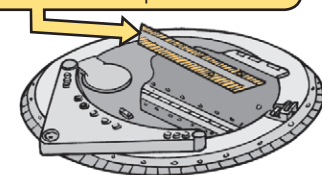


5. Match drill seven 1/4-in diameter holes through the long hatch hinge seal tie-down and turret hatch.

6. Remove the clamps and hatch hinge seal tie-downs from the turret hatch.

7. Use compressed air to blow away the residue. Then use isopropyl alcohol to clean the top side of the turret hatch around the drilled holes.
8. Remove small sections of insulation on the bottom side of the turret hatch, around the 13 holes to allow for the installation of the locknuts.
9. Apply adhesive to the bottom side of the hatch hinge seal.

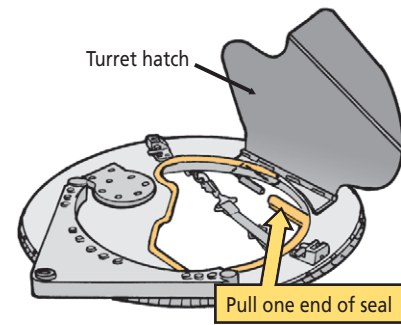
10. Install the hatch hinge seal over the turret hatch hinge. Make sure all the holes line up.



11. Install the short hatch hinge seal tie-down and the long hatch hinge tie-down and secure them with 13 screws from the top and locknuts on the bottom. Then, torque the locknuts to 68 lb-in.

Installation of Sponge Rubber in Side-Bead Trim Seal

1. Open the turret hatch and pull one end of the side-bead trim seal a few inches away from the turret armor.
2. Apply adhesive to the sponge rubber and insert the ends into the ends of the side-bead trim seal.
3. Re-install the side-bead trim seal onto the turret armor.
4. Close the turret hatch and fasten the three turret hatch fastener clamps. See TM 9-2320-387-10 for further guidance.



THE WORD ON WIRES

SO YOU NEED TO
REPAIR WIRING HARNESSSES
ON YOUR VEHICLES.

DO YOU KNOW WHICH
NSNs BRING THE SIZES
THAT YOU NEED?

IF NOT, HERE'S A
LIST OF NSNs FOR
BULK WIRE BY SIZE
AND COLOR.



The unit of issue for most of these is by-the-foot unless otherwise noted. Remember that 14 AWG yellow wire, NSN 6145-00-312-6106, and 16 AWG blue wire, NSN 6145-00-471-3951, are not on the AMDF. When you order on DD Form 1348-6, put "NSN not on AMDF" in the REMARKS block.

Wire size (AWG)	Black, NSN 6145-	Red, NSN 6145-	White, NSN 6145-	Yellow, NSN 6145-	Blue, NSN 6145-	Brown, NSN 6145-	Green, NSN 6145-	Orange, NSN 6145-
000	01-229-3617	None	None	None	None	None	None	None
00	01-229-3618	None	None	None	None	None	None	None
0	01-229-3619	None	None	None	None	None	None	None
2	01-229-3620	None	None	None	None	None	01-230-9785	None
4	01-229-3621	None	None	None	None	None	None	None
6	01-229-3623	None	None	None	None	None	00-470-8252	None
8	00-470-8255	01-230-1858	01-229-8299	01-230-1857	00-023-6765	01-231-5966	01-230-1859	None
10	00-468-1261	01-020-1095	00-468-1260	01-231-1393	01-229-4127	01-229-4128	None	None
12	00-845-5957	00-845-5961	01-231-7624	00-845-5958	00-845-5959	00-845-5956	None	01-230-1862
14	00-310-2598	00-310-2590	01-229-4134	00-312-6106*	01-230-2517	01-230-1863	None	01-165-5633
16	00-471-0428 (100 ft spool)	00-889-8551	00-468-1259	01-229-9666	00-471-3951*	00-471-0429	00-468-1256 (100 ft spool)	01-230-2519
18	00-958-3655	01-169-0755	01-165-1430	01-169-0756	01-169-2868	01-169-0754	01-165-1429	00-838-6613
20	01-230-2520	01-230-2521	00-652-1441	00-652-9307	01-230-2522	00-939-4956	00-939-4960	00-939-4958

*NSN not on AMDF.

REPLACE TUBE AND FLAP

PUTTING A NEW TIRE ON YOUR TRUCK OR TRAILER IS A JOB YOU WANT TO GET RIGHT THE FIRST TIME.

SO, THE **LAST** THING YOU WANT TO SEE AFTER WRESTLING A TIRE FOR AN HOUR OR TWO IS ANOTHER FLAT TIRE!



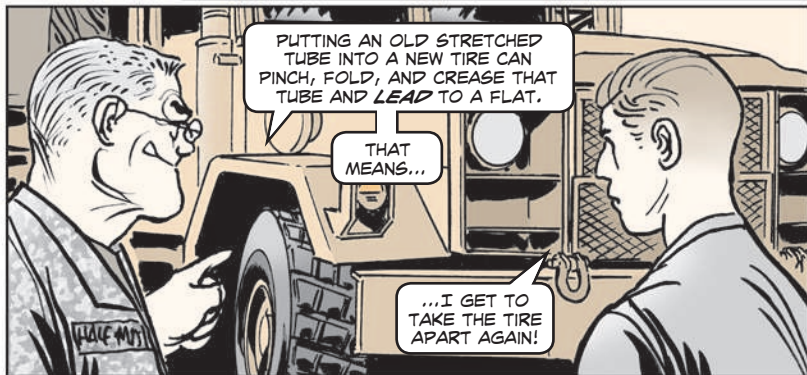
GET IT RIGHT THE **FIRST** TIME!

WHEN YOU REPLACE A TIRE, REPLACE THE FLAP AND TUBE, TOO.



THOSE OLD TUBES AND FLAPS WERE SHAPED TO THE OLD TIRE, JUST LIKE AN OLD BOOT FORMS TO YOUR FOOT.

OVER TIME, THE TUBE STRETCHED TO FIT THE INSIDE OF THE OLD TIRE. IT WILL BE **TOO BIG** FOR THE NEW ONE.

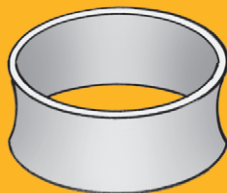


JUST ANY OLD FLAP WON'T DO.

IT HAS TO BE THE **RIGHT SIZE.**

NEW TIRES COME WITH FLAPS. RETREADS DON'T.

IF YOU HAVE A RETREAD, CHECK THIS LIST FOR THE FLAP YOU NEED.



Tire size	Flap, NSN 2640-00
7.50-15	895-5767
7.50-16	696-0466
7.50-18	797-0510
8.25-20	451-8088
9.00-16	208-7541
9.00-20	147-5160
11.00-20	158-5617
16.00-24	806-0488

YOU MAY GET CAUGHT IN A PINCH SOMEDAY AND HAVE TO RE-USE A FLAP.

ALWAYS KEEP A COUPLE OF GOOD USED FLAPS ON HAND. GIVE A USED FLAP A GOOD GOING OVER.

MAKE SURE IT'S THE RIGHT SIZE AND DOESN'T HAVE ANY CRACKS, FOLDS, TEARS OR SHARP EDGES THAT COULD DAMAGE A TUBE OR TIRE.



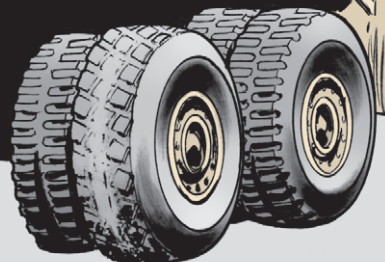
Match Dual Tires

WHEN YOU PUT A REPAIRED TIRE BACK ON YOUR VEHICLE, MAKE SURE IT IS MATCHED WITH OTHER TIRES ON THE VEHICLE

SEE PARA 2-11 OF TM 9-2610-200-14 FOR THE WORD.

TIRES SHOULD BE MATCHED FOR SIZE, TREAD WEAR, TREAD DESIGN AND CONSTRUCTION (BIAS, BELTED BIAS OR RADIAL PLY).

Mismatch is a bad match!



To Air is Smart

TO GET MAXIMUM LIFE OUT OF YOUR TIRES, MAKE SURE THEY HAVE ENOUGH AIR TO RUN ON.

THE **NUMBER ONE CAUSE** OF BLOW-OUTS IS UNDER-INFLATION.



A TIRE HITS MAXIMUM OPERATING TEMP WITHIN A FEW MINUTES OF DRIVING, ESPECIALLY WHEN DRIVING IN THE DESERT.

IF IT'S UNDER-INFLATED, THE SIDEWALLS FLEX MORE AND HEAT CONTINUES TO BUILD UNTIL YOU GET A FAILURE OR DAMAGE TO THE CASING.



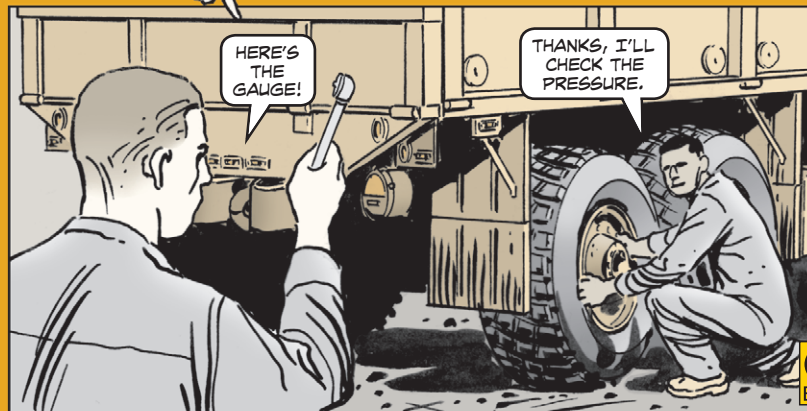
TO MAKE IT EASY FOR OPERATORS TO CHECK TIRES, GET A TIRE GAUGE.

NSN 4910-00-204-3170 GETS A LOW-COST GAUGE THAT MEASURES UP TO 130 PSI.

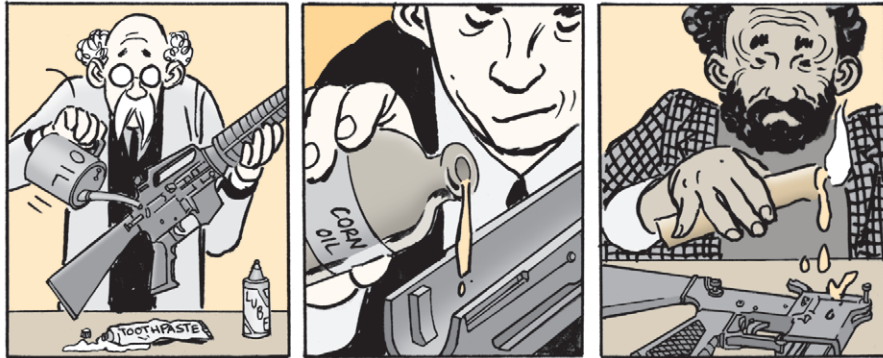


HERE'S THE GAUGE!

THANKS, I'LL CHECK THE PRESSURE.



CLP's the Best! Tests Prove It



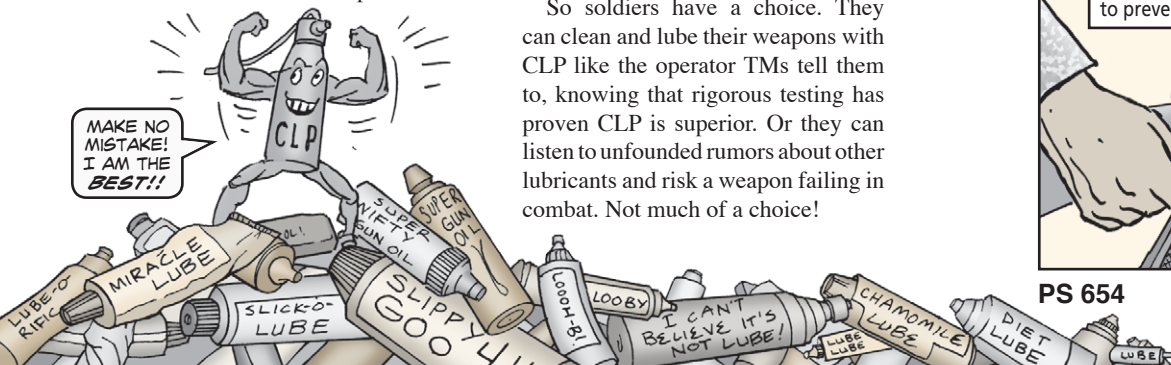
THE ARMY HAS SCIENTIFICALLY PROVEN CLP IS THE BEST THING YOU CAN USE ON YOUR RIFLE OR MACHINE GUN.

DON'T TAKE CHANCES. USE IT!

For years, rumors have circulated among riflemen and machine gunners that there were better lubricants available than the old standard CLP.

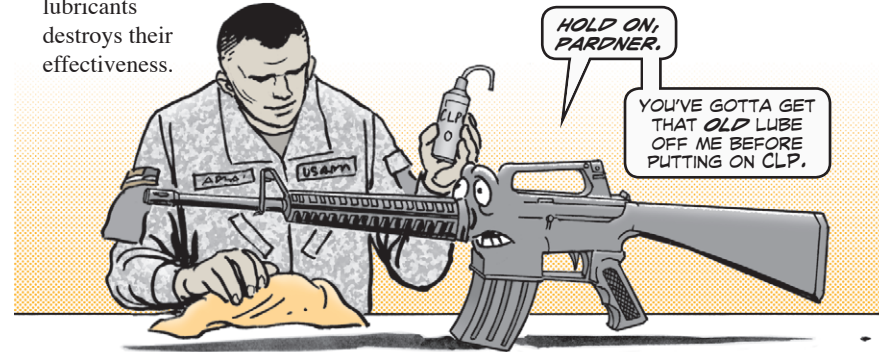
Well, it just ain't so. Those rumors are nothing more than rumors. The Army recently finished testing CLP against 23 other lubricant cleaners on the M16 rifle, the M4 carbine, and the M249 machine gun in an extreme desert environment. CLP outperformed them all. Weapons cleaned and lubed with CLP had fewer malfunctions than those treated with other products.

So soldiers have a choice. They can clean and lube their weapons with CLP like the operator TMs tell them to, knowing that rigorous testing has proven CLP is superior. Or they can listen to unfounded rumors about other lubricants and risk a weapon failing in combat. Not much of a choice!



If you need CLP, you can order a half-ounce bottle with NSN 9150-01-102-1473, a 4-oz bottle with NSN 9150-01-079-6124, or a 1-pt spray bottle with NSN 9150-01-054-6453.

Remember, if you've lubed your weapon with other lubricants, you need to clean them off completely with dry cleaning solvent before applying CLP. Mixing lubricants destroys their effectiveness.

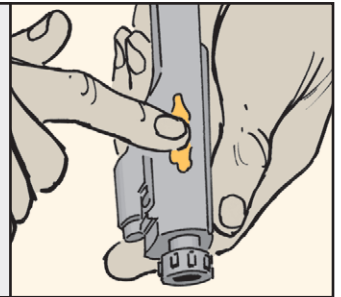


The one lubricant that is even better than CLP is called "elbow grease". Do your weapon PMCS as often as possible. Frequent cleaning is the best insurance against malfunctions.

In the desert, generously lube all internal moving parts. Generous lube means a coat heavy enough that you can move it with your finger. But keep lube off the outside of the weapon. It will attract sand.

For the M16 and M4, always tap the forward assist after loading. That's been found to prevent first round failures in the desert.

Put a generous lube (enough to move around with your finger) on internal moving parts

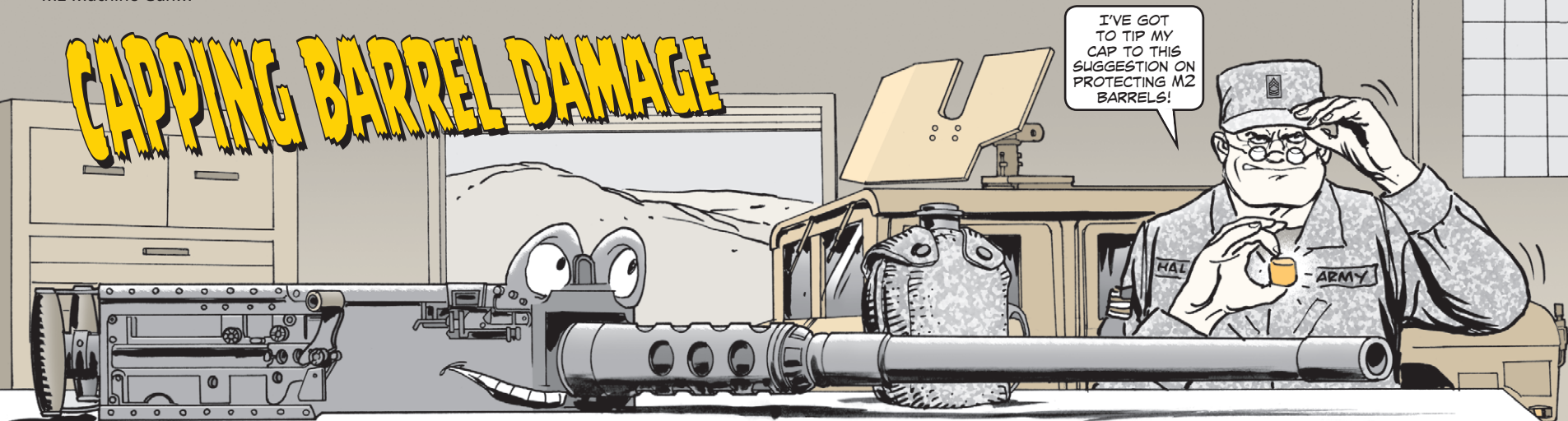


Tap forward assist after loading to prevent first round failure



FOR MORE INFORMATION ON THE IMPORTANCE OF USING CLP ON YOUR SMALL ARMS, SEE [TACOM GROUND PRECAUTIONARY MESSAGE 07-003](#).

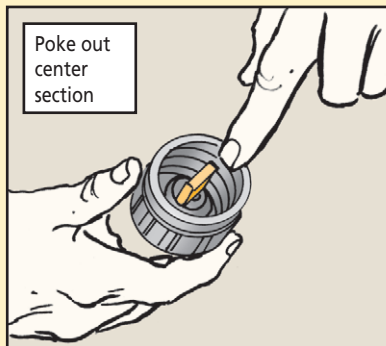
CAPPING BARREL DAMAGE



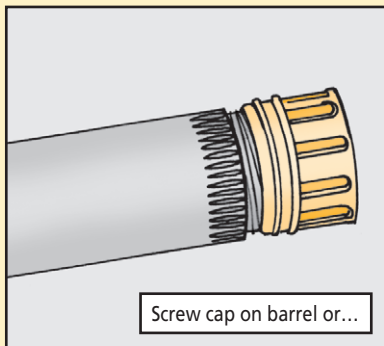
Dear Editor,

One of the biggest problems with the M2 machine gun is that its barrel threads get so banged up that you can't screw in the barrel. Then your only action is to get a new \$800 barrel.

You had a good suggestion on Page 43 in PS 563 (Oct 99) about using an old AOAP bottle to protect the threads. We've found a canteen cap also provides good protection. Just push out the center section of the cap with a punch and screw the cap all the way on the barrel.



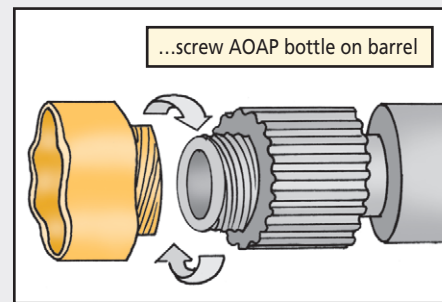
If you don't have spare caps, get them from your local military clothing store or order them with NSN 8465-00-930-2077. They cost less than \$2.



Robert Henson
Brant Ratliff
Contractors, 5th Special Forces
Ft Campbell, KY

Editor's note: If you armorers missed the AOAP bottle suggestion, it was to cut the bottle in half an inch below the threads. Then just screw the bottle on the threads. The AOAP bottle or canteen cap will both help protect the threads. Keep the bottle or cap on the barrel as much as possible.

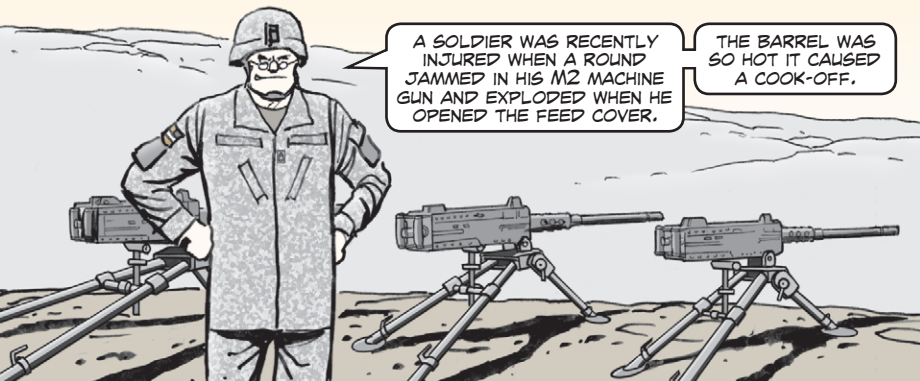
But it's also important that you not dump heavy items on the barrels during storage or transport or let barrels roll around in the back of a truck. Tie them down or block them in. Never leave a barrel standing on end where it can take a fall and damage the threads. And make sure your gunners know not to throw the barrels around or bang them against things.



M240 Machine Gun Cover Replaced

If you need a cover for your M240 machine gun, don't use the NSN listed in TM 9-1005-313-23&P (15 Apr 05). It's obsolete. Use NSN 1005-01-432-9538, which brings the M240B optical cover. The cover will be used for all versions of the M240 (except the M240C) and can take care of any sight attached to the M240 feed tray cover.

KNOCK OFF COOK-OFFS



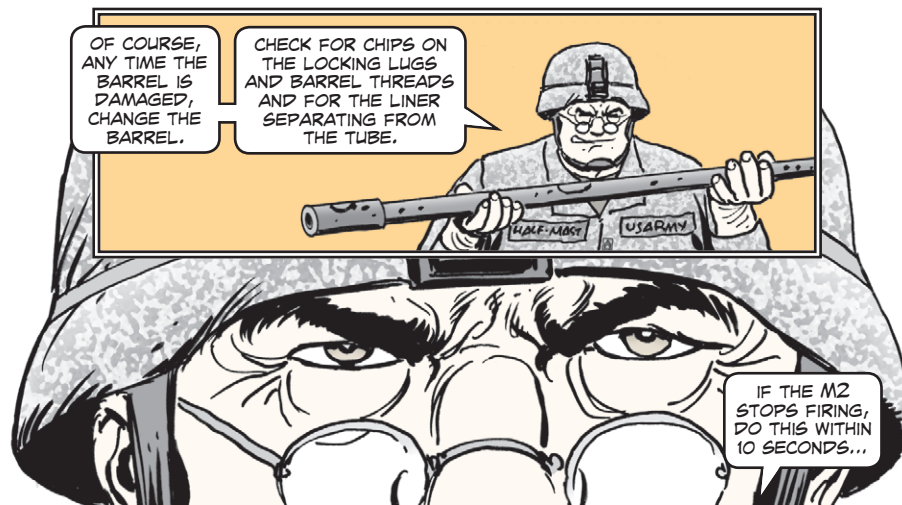
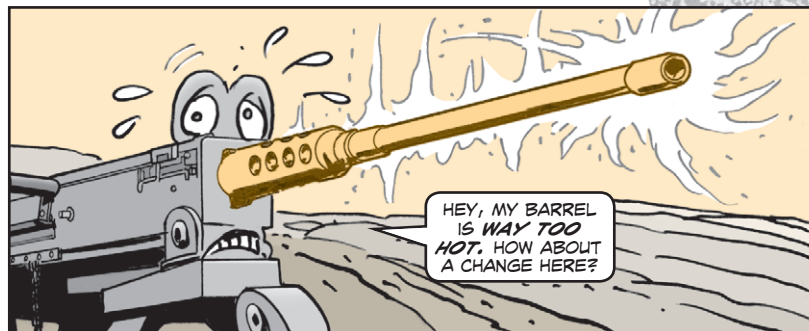
HERE'S HOW
TO KNOCK OFF
COOK-OFFS...

Changing the barrel as needed is the best prevention. That keeps the barrel cool enough to avoid a cook-off.

If you're firing **single shot** or **slow fire** (fewer than 40 rounds per minute), change the barrel only at the end of the day.

But if you're firing **rapid fire** (40 to 99 rounds per minute), change the barrel every hour.

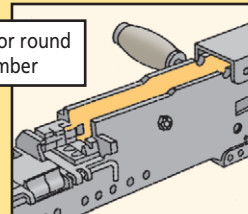
If you're firing **cyclic fire** (100 or more rounds per minute), change the barrel every 30 minutes.



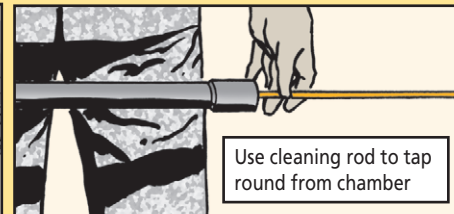
1. Pull the retracting slide handle to the rear.
2. Look to see if a round or fired case is ejected. If a round or fired case was ejected, release the retracting slide handle and try to fire again.
3. If the M2 doesn't fire and the barrel is hot enough to cause a cook-off (you've been firing 100 or more rounds per minute), place the bolt in the forward position, put the M2 in single action mode, and keep it aimed at the target.
4. Evacuate the immediate area for 15 minutes and let the M2 cool off. If you're in "bad guy" territory, keep the barrel pointed away from your guys and get out of the fire zone. **Never open the feed cover on a hot weapon.** A stuck round could explode in your face.
5. After the M2 has cooled for 15 minutes, keep it pointed down range and open the cover. Remove the ammo belt and pull the retracting slide handle to the rear. If the round isn't ejected, lock the bolt to the rear and return the slide handle forward. Look for the round in the chamber.

If the round is in the chamber, have someone put a cleaning rod into the muzzle end of the barrel and gently tap the round from the chamber. The weapon is now clear.

Look for round
in chamber



Use cleaning rod to tap
round from chamber



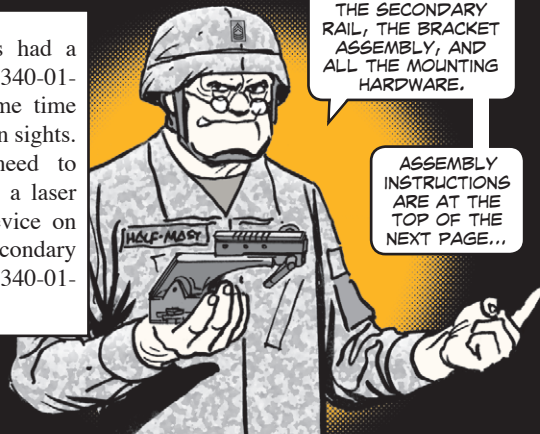
SECOND MOUNTING RAIL AVAILABLE



I'D LIKE TO ADD A
LASER RANGE FINDER TO
YOU, BUT I DON'T HAVE
ANY WAY TO MOUNT IT.

WRONG! GET THE
SECONDARY MOUNTING
RAIL AND YOU CAN MOUNT
ALL KINDS OF STUFF!

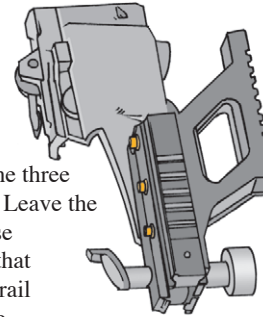
The M2 machine gun has had a bracket assembly, NSN 5340-01-502-7233, available for some time for mounting thermal weapon sights. But gunners sometimes need to mount additional items like a laser range finder or pointing device on the M2. With the new secondary mounting rail kit, NSN 5340-01-536-6189, you can do that.



THE KIT BRINGS
THE SECONDARY
RAIL, THE BRACKET
ASSEMBLY, AND
ALL THE MOUNTING
HARDWARE.

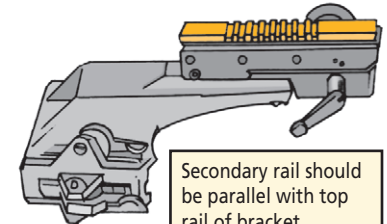
ASSEMBLY
INSTRUCTIONS
ARE AT THE
TOP OF THE
NEXT PAGE...

- Put the lock washers and then the flat washers on the three socket head cap screws.
- Make sure there is nothing blocking the three pilot holes on the bracket.
- Put the secondary rail against the bracket and install the three screws in the three pilot holes. Leave the screws loose enough so that the second rail is moveable.



Put three screws
in pilot holes

- Position the secondary rail against the bracket so that the rail's back edge butts up against the bracket's knob. Level the secondary rail so that it's as parallel as possible with the bracket's top rail.



Secondary rail should
be parallel with top
rail of bracket

- Tighten the three screws with a hex-head wrench. Be careful not to tighten them so much that you strip out the socket heads. If a torque wrench is available, tighten the screws to 75 lb-in.

MK19 Machine Gun...

Recoil Springs DS Job

Dear Half-Mast,

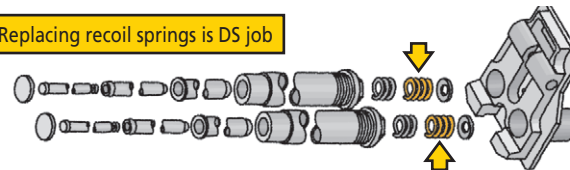
WP 0057 00-1 in the MK19 machine gun's TM 9-1010-230-23&P says the recoil springs should be replaced by the armorer if they're shorter than 17 1/2 inches. But the repair parts list on WP 0105 00-2 says the maintenance code for the spring is PAFZZ, which means it's a DS replacement. What's right?

R.J.

Dear Mr. R.J.,

The maintenance code is correct: Replacing the recoil springs is a DS job. But the armorer should be measuring the springs to see if they need replacing. This will be corrected in the next revision of the TM, which should hit the field soon.

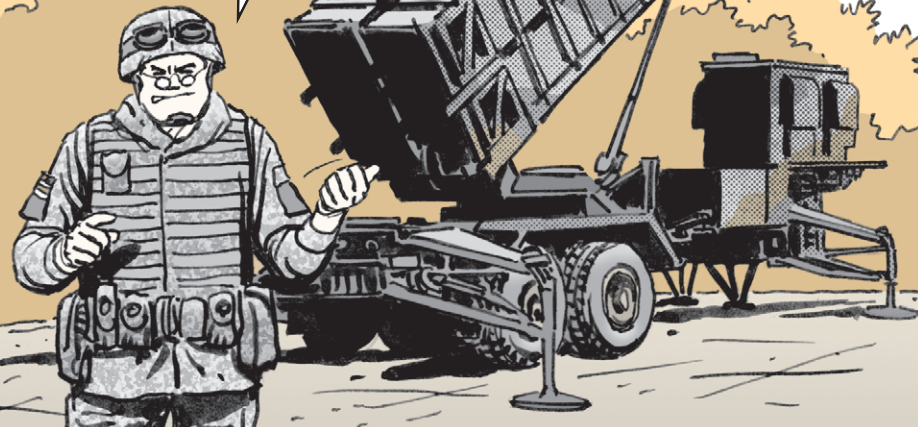
Replacing recoil springs is DS job



Half-Mast

Things You Need to Know

LEARN THESE LESSONS TO KEEP YOUR PATRIOT SYSTEM READY FOR ACTION!



Tires

When you order tires for the Patriot's M860A1 trailer, the only approved tire is a radial that comes with NSN 2610-01-500-4505 and is manufactured by Goodyear and Michelin. Accept **no** substitutes!



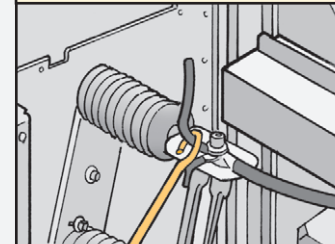
Trailer Bump Stop

The old bump stop for the launcher trailer was a bummer. So it's been replaced with NSN 5340-01-516-6975. Use that NSN when ordering a new stop.

Shock Hazard

On the configuration 3 radar 2A74 modulator, there is a high voltage shock hazard if you touch the corona ball at the HV terminal of the C1 capacitor with a grounding stick. To avoid the shock when grounding the modulator, first touch the ground stick to the access door of the high voltage deck. Then touch the stick to the corona ball. Finally attach the grounding stick to the bus bar marked **GROUND HERE**. Read WP 2034 in TM 9-1430-1601-20-2 for more info on this procedure.

Attach grounding stick to bus bar marked **GROUND HERE**

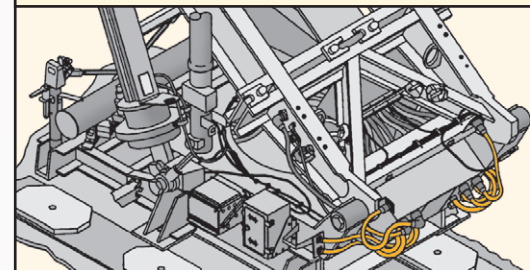


Launching Station Cables

Several umbilical cables for the junction box/launching station diagnostic cables (J-box/LSDU) have been damaged when the launching station platform was rotated in azimuth.

Check during your weekly PMCS that the umbilical cables are out of danger when the launcher platform is rotated in azimuth in either the elevate or stowed positions. If a cable could get caught, readjust its hanging strap to get it out of harm's way.

Check that umbilical cables won't be sheared when launching station is rotated

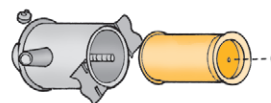


150-KW Generator Filter

The 150-KW generator's air filter, NSN 2940-12-172-8102, is made by 36 different vendors—and that has caused problems. Some of the air filters don't seal properly and let dirt and sand into the intake system. That can lead to damage to the generator.

Inspect your 150-KW generators for air filters that don't seal properly. Replace bad air filters with PN C24401 and CAGE D8086 or PN 02165054 and CAGE D2689 or D0857.

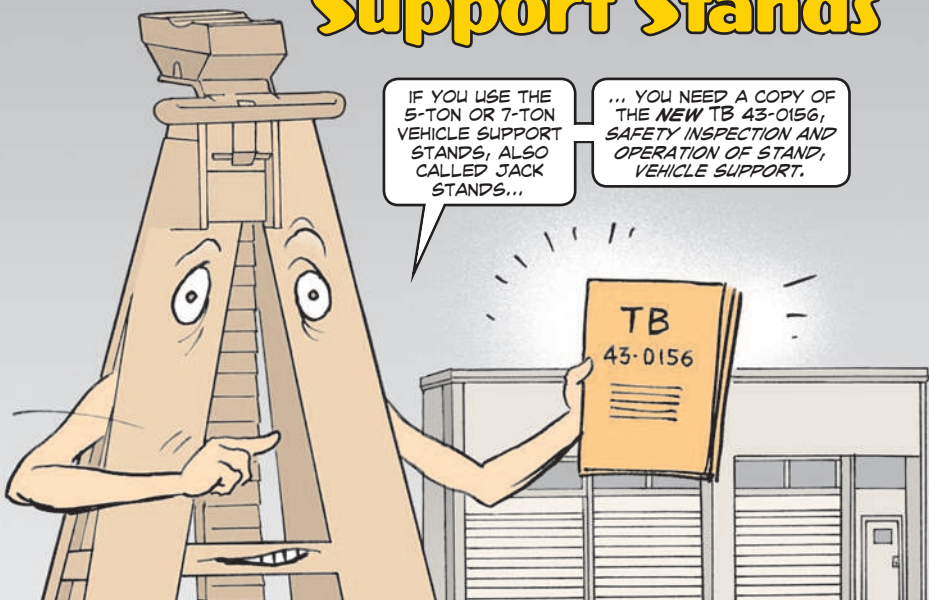
Does air filter seal properly?



To order the air filter, a requisition with exception data must be called in to the DLA Customer Service Center at DSN 932-7766 or 1-877-DLA-CALL (352-2255). Tell them you need an air filter with either part number.

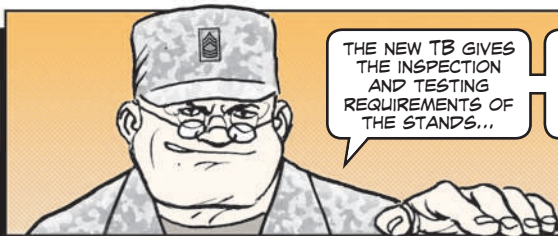
When you get the air filter, check it for the correct part number to ensure you got the right one.

New TB for Vehicle Support Stands



IF YOU USE THE 5-TON OR 7-TON VEHICLE SUPPORT STANDS, ALSO CALLED JACK STANDS...

... YOU NEED A COPY OF THE **NEW TB 43-0156, SAFETY INSPECTION AND OPERATION OF STAND, VEHICLE SUPPORT.**



THE NEW TB GIVES THE INSPECTION AND TESTING REQUIREMENTS OF THE STANDS...

AND CLARIFIES WHAT WAS FORMERLY IN APPENDIX E OF TB 43-0142, **SAFETY INSPECTION AND TESTING OF LIFTING DEVICES.**

TB 43-0156 is on the LOGSA ETM site:

<https://www.logsa.army.mil/etms/online.htm>

Your pubs clerk can order the TB:

<http://www.usapa.army.mil>

You can also request the TB from support stand item manager Carlos (Gabriel) Dena, DSN 793-5662/(309) 782-5662, email:

gabriel.dena@us.army.mil

If you have any questions or suggestions concerning sets, kits, outfits, tools and training systems (SKOT), visit the SKOT website:

<http://pmskot.army.mil>

Or call (877) 4-PMSKOT (476-7568) or email:

pm-skot@ria.army.mil

BATTLE RATTLE REVIEW

From boots to beret, clothes make the man (or woman, as the case may be). If you'd like an education in Army high fashion, you've come to the right place. Here are highlights of clothing and battle rattle stories published in *PS, The Preventive Maintenance Monthly*, over the last few years. Also included are the PS issue numbers and pages and the URL for online articles.

Boots

Your hot weather and temperate weather Army combat boots are already water-resistant. So don't apply any waterproofing products to them. That just clogs the pores in the leather so it can't breathe. Heat and moisture get trapped inside, making your feet uncomfortable.

The same thing goes for polishing and spit-shining. Don't do it. You'll clog the pores. Remember, these are no-shine, suede boots with leather that breathes. And boots that breathe make for cooler, dryer feet.

The boots are made for easy care. Clean them with a stiff nylon brush. Then rinse lightly in warm water. Air dry the boots. Never dry near fire, stoves or heaters. And never use alcohol or oil-based cleaners. They can damage the boots.



Army Combat Uniform (ACU)

The basic ACU consists of a jacket, trousers, patrol cap, moisture-wicking T-shirt and the recently adopted temperate and hot weather combat boots.

The ACU uses the same fabric as the desert combat uniform and the enhanced hot weather battle dress uniform. The fabric has three colors in the digitized pattern of urban gray, foliage green and desert sand.

To launder your ACU, remove all patches from the coat. Close all hook-and-loop fasteners. Turn the uniform inside out.

Machine wash in cold water on the permanent press cycle, or hand wash using a mild detergent that does not advertise bleach, whiteners or brighteners on the label. Rinse completely, but do not wring or twist. Hang dry or machine dry on low to medium setting only (between 140-160°F).

DO NOT dry clean, starch, use chlorine bleach or have the ACU commercially pressed. For more info, see PS 637, pages 48-50 or

<https://www.logsa.army.mil/psmag/archives/PS2005/637/637-48-50.pdf>

Soldiers deployed in support of Operation Enduring Freedom and Operation Iraqi Freedom can now replace worn-out Army combat uniforms (ACU) and ACU accessory items through an online ordering program called Army Direct Ordering (ADO).

The program allows soldiers or units to submit orders for items that need replacement. Here's the website address:

<https://army.kyloc.com/>

The website provides instructions on setting up an account, submitting orders and selecting a unit validator (an approving official).

ADO is for **replacement** only. It does not support **initial issue** of clothing.

For more info, see PS 650, pages 52-53 or

<https://www.logsa.army.mil/psmag/archives/PS2007/650/650-52-53.pdf>

"Knock-off" ACUs are showing up in Army surplus clothing stores. They may look like the real thing, but they're fake. Because they don't meet the Army's specs, they're considered unauthorized uniforms.

So, before you spend your hard-earned dollars on what looks like an ACU, consider this: The uniform may not meet appearance standards and specs set forth in AR 670-1, *Wear and Appearance of Army Uniforms and Insignia*. It may not meet durability and wear specs. Seams might fail. Colors might fade. Substandard fabric might tear or rip. When the ACU knock-offs wear out, the Army or AAFES isn't obliged to sustain or exchange them.

You'll get the real ACU issued to you at no cost if you deploy to Southwest Asia.

Other than through a deployment, how do you get the ACU? The Army began putting ACUs in the clothing bag in FY 06. And AAFES military clothing stores have started selling ACUs. AAFES are the only stores authorized to sell authentic ACUs, the ones that comply with specs.

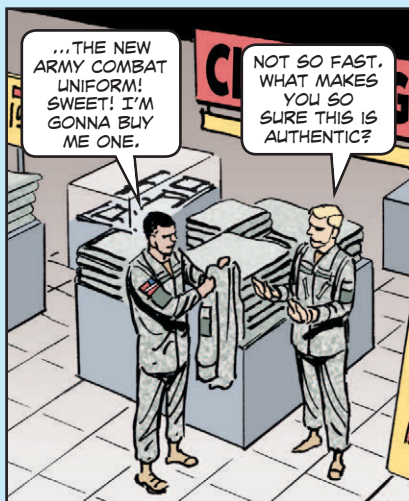
The ACU's universal camouflage will gradually replace the woodland and desert camo on clothing and personal gear. The Army will phase in the universal camo through May 2008. During this time, soldiers may have clothing and gear with a mix of camo patterns.

For more info, see PS 644, pages 46-47 or

<https://www.logsa.army.mil/psmag/archives/PS2006/644/644-46-47.pdf>

Also see PS 648, page 61 or

<https://www.logsa.army.mil/psmag/archives/PS2006/648/648-61.pdf>



Modular Lightweight Load-carrying Equipment (MOLLE)

Need shoulder straps for your modular lightweight load-carrying equipment (MOLLE)? Here's what's available:

The shoulder straps attach to the MOLLE frame. Keep in mind that the shoulder straps can't be used with the ALICE frame.

See PS 639, page 61 or

<https://www.logsa.army.mil/psmag/archives/PS2006/639/639-60-61.pdf>

NSN 8465-01-	Camouflage
522-6490	woodland
522-6487	desert
524-7240	universal camo

Hydration Systems

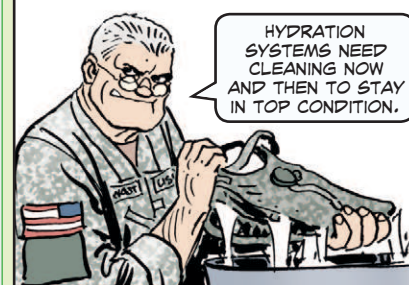
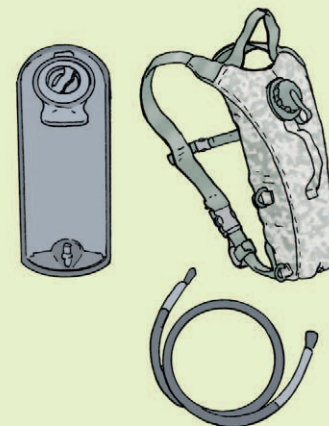
You need to drink plenty of water, especially if you're in full gear and soldiering in the heat. Just a couple of hours out in the sun without enough water will begin to sap your energy and endurance.

That's why you see more soldiers wearing hydration systems every day. They make it easy to replace your precious bodily fluids lost through sweating.

The typical system has a bladder for holding water, a carrier with straps for carrying it, and a drinking tube. They have several advantages over canteens: They carry more clean, cool water. You can drink on the move while keeping your hands and eyes focused on the mission. Drinking from the tube is more convenient than reaching for a canteen, so you might drink more water more often.

For more info, see PS 631, pages 48-51 or

<https://www.logsa.army.mil/psmag/archives/PS2005/631/631-48-51.pdf>



Washing the outer nylon carrier helps to prolong its life and makes it more comfortable to wear. You can hand-wash or machine-wash the carrier in cold water with a mild laundry detergent. Just don't use chlorine bleach, cleaning fluids or solvents.



Keep the bladder clean. A clean bladder, drinking tube and bite valve keep the water fresh and tasting good. If you can, remove the bladder from the carrier. Fill it with warm water and some biodegradable dishwashing liquid, NSN 7930-01-418-1128. Scrub the bladder (especially the inside), the drinking tube and the bite valve.

To freshen the bladder, add two teaspoons of baking soda to a full bladder of water. Let it soak overnight, then rinse.



Disinfect the bladder occasionally. Disinfecting is especially important if the water starts tasting funny or if you haven't used your system for a while. Fill the bladder with water and add two teaspoons of household bleach. Let it soak overnight, then rinse.

For more info, see PS 632, pages 50-52 or

<https://www.logsa.army.mil/psmag/archives/PS2005/632/632-50-52.pdf>

Interceptor Body Armor (IBA)

The small arms protective inserts (SAPI) that fit into your IBA vest need PM.

Dirty, grimy inserts need a good cleaning, especially before you turn them in to the Central Issue Facility (CIF). CIF expects it.

Use a cloth or soft brush to remove loose dirt or lint from the surface. Wet the SAPI with warm—not hot—water. Hand wash with a mild detergent and a cloth or soft brush. After washing, rinse with clean, warm water.

Let the inserts air dry. Never dry them near a heater or open flame. That could burn the fabric.

For more info, see: PS 644, pages 50-52 or

<https://www.logsa.army.mil/psmag/archives/PS2006/644/644-50-52.pdf>



The IBA protects you, so take a personal interest in its condition. That means thorough preventive maintenance.

Start by inspecting the **outer tactical vest (OTV)**. The OTV includes the following **cloth carriers**: base vest's outer shell, groin protector, throat protector, yoke and collar, and deltoid and axillary protectors.

The OTV also includes all **soft ballistic panels and inserts**.

When you inspect the **OTV's cloth carriers**, look for:

- cuts, rips, tears, holes, or burns
- loose stitching
- broken or missing buckles, snaps or hook-and-loop fasteners
- hits from fragmentation or small arms fire

You also need to inspect all **soft ballistic panels and inserts**. Look for:

- hits from fragmentation or small arms fire
- cuts, rips, tears, holes, or burns
- bunching or lumps that cannot be flattened

Depending on the amount of damage, your OTV could be repaired or replaced.

Ask direct support for guidance.

Damaged soft panels and inserts have had their ballistic protection weakened. So play it safe. Always turn in damaged panels and inserts for direct support assessment/replacement.

With a cloth or soft brush, sweep away loose dirt from the carriers and the hook-and-loop fasteners. **Remove all soft ballistic panels and inserts and all SAPI from the carriers before washing.** Wet the carriers with cold or lukewarm water. Hand-wash with mild detergent, NSN 7930-00-929-1221, and a soft brush. After washing, rinse thoroughly in clean, lukewarm water. Hang the cloth carriers to dry. Never dry them in a machine dryer or near a heater or open flame.

To clean the soft ballistic panels and inserts, use a moistened cloth or soft brush to sweep away loose dirt. Do not dunk the panels and inserts in water. It can damage the layers of ballistic protective fibers inside. They start to degrade and lose their ballistic protection.

If the panels and inserts become wet, let them air dry flat. Never dry them in a machine dryer or near a heater or open flame.

For more info, see PS 646, pages 48-51 or

<https://www.logsa.army.mil/psmag/archives/PS2006/646/646-48-51.pdf>

For info on SAPI inspection, see: PS 627, pages 46-47 or

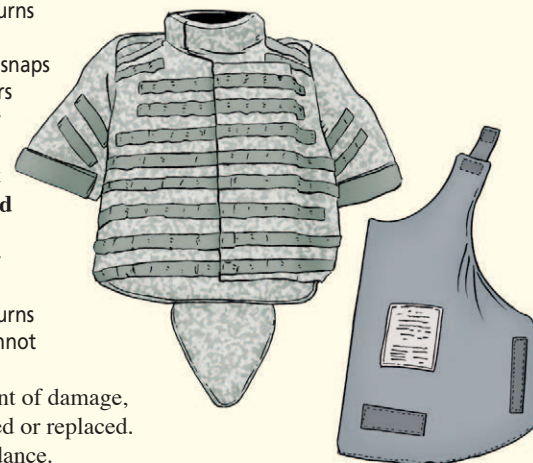
<https://www.logsa.army.mil/psmag/archives/PS2005/627/627-46-47.pdf>

For info on IBA fitting and sizing, see: PS 637, pages 51-53 or

<https://www.logsa.army.mil/psmag/archives/PS2005/637/637-51-53.pdf>

For info on IBA storage, see: PS 646, pages 52-54 or

<https://www.logsa.army.mil/psmag/archives/PS2006/646/646-52-54.pdf>



Advanced Combat Helmet (ACH)



The new headgear called the ACH is replacing the old PASGT Kevlar helmet. The ACH still needs PM, same as the old Kevlar pot.

Look over the helmet for gouges, cracks or scrapes. Is the chin strap hardware worn, cracked, loose or missing? Inspect the chin strap webbing for cuts, tears or ripped stitching. Look for damage to the pads. If the outer fabric is torn and the inner foam exposed, replace the pad. If you find anything you can't fix, take it to unit maintenance for repair. Check out the preventive maintenance checks and services in TM 10-8470-204-10. The TM also lists repair part NSNs.

To clean your ACH, all you need is cold water, a cloth or soft bristle brush and some mild laundry detergent.

Remove the chin strap webbing. Take out the suspension pads from the helmet shell. Take off the helmet cover.

Machine wash the chin strap, pads and cover in the gentle cycle with cold water and detergent. You can also scrub them by hand with cold water and detergent. If you like, let them soak for 10 or 15 minutes before washing. Frequent washing helps prevent pad odor. Rinse them thoroughly with clean water and let them air dry. Do not machine dry. You could shrink the fabric or damage the pads.

Wash the ACH shell the same way, with cold water and detergent. Then rinse it with clean water and let it air dry. Use a small nail brush or toothbrush to clean dirt and debris from the hook disks on the inside of the shell. Keeping the hooks and loops clean helps the pads stick.

For more info, see PS 628, pages 58-60 or

<https://www.logsa.army.mil/psmag/archives/PS2005/628/628-58-60.pdf>

Proper helmet size, fit and stability are critical to your mission and safety. If the ACH sits too low on the head, it interferes with your eyewear and field of vision. If it rides too high, you increase your risk of getting wounded by fragmentation from an IED or a mine. And if it's loose and unstable, it's a constant bother and a handicap. You need to get acquainted with ACH sizing and fitting guidelines.

The first step to a good fit is to choose the right shell size. Start by having someone measure your head—length, width and circumference.

GET HARD-
HEADED
ABOUT
ACH PM!

Length and width are best measured with a caliper, NSN 5210-01-434-9493. To measure circumference, you must use a measuring tape, NSN 8315-00-782-3520.

Use the chart below to select the right shell size as determined by the largest single measurement. For example, suppose a soldier's head has these dimensions:

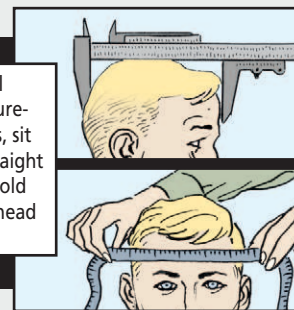
Circumference: 21 1/2

Width: 6 1/4

Length: 8 1/2

His measurements would fall in the highlighted areas of the chart.

For all measurements, sit up straight and hold your head level



Head/Shell Sizing Chart

	Head Length	Head Width	Head Circumference
Medium helmet shell	Up to 7 3/4 inches (198 mm)	Up to 6 1/2 inches (162 mm)	Up to 22 1/2 inches (573 mm)
Large helmet shell	From 7 3/4 inches (198 mm) up to 8 1/4 inches (210 mm)		From 22 1/2 inches (573 mm) up to 23 1/2 inches (597 mm)
Extra-large helmet shell	8 1/4 inches (210 mm) and over	6 1/2 inches (162 mm) and over	23 1/2 inches (597 mm) and over

An 8 1/2-in head length would override any other measurement and would call for him to wear an extra-large shell.

The second step to a good fit is to choose the right pad size. Each helmet comes with a set of seven 3/4-in thick (size 6) suspension pads: one circular crown pad, two trapezoidal pads and four oblong/oval pads.

The only way to determine the right pad size is to try on the helmet with the pads in it. When you first try it on, wear the standard pad configuration. That includes all seven size 6 pads placed inside the helmet like so:

- crown pad in the center of the helmet
- one trapezoidal pad in the front, another in the back
- an oblong/oval pad on each side of the trapezoidal pads

Tighten the four-point chin strap to see how the helmet and pads fit. Here's how to tell if you have a good fit:

- The ACH is snug but not too tight.
- The crown pad touches the top of the head.
- Look up with your eyes only. You should just see the rim of the ACH. If you can't see the rim, the helmet sits too high.
- Shake your head up and down and from side to side. The helmet should remain stable.

For more detailed info about sizing and fitting the ACH, see PS 642, pages 52-55 or

<https://www.logsa.army.mil/psmag/archives/PS2006/642/642-52-55.pdf>

The Army offers only one version of the ACH chin strap and its parts: the Specialty Defense Systems (SDS) Warrior, NSN 8470-01-530-0868.

The NSN brings a four-point chin strap with four attachment tabs, four posts and four screws.

NSN 8470-01-531-3351 brings the chin strap only.

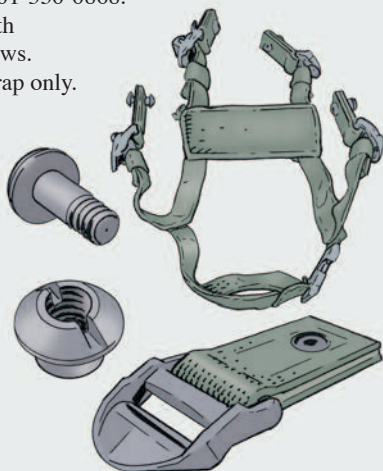
If you have only the chin strap, you'll need to order a mounting screw set, NSN 8470-01-533-1011. The set includes four each of the attachment tabs, posts and screws.

For more info, see PS 645, page 49 or

<https://www.logsa.army.mil/psmag/archives/PS2006/645/645-49.pdf>

For info on helmet mounts for night vision devices, see PS 647, page 45 or

<https://www.logsa.army.mil/psmag/archives/PS2006/647/647-45.pdf>



Beret

Make your beret a good fit by soaking it in hot faucet water for one or two minutes. Shake out most of the water, then put the beret on. If it's too loose, tug on the ribbons, one at a time, until it's snug. Knot the ribbons and cut off the ends. Air dry the beret. Never put it in a dryer; the heat will shrink it.

The beret's made of wool. If it needs cleaning, take it to the dry cleaners. Never machine wash or hand wash it. It'll shrink.

For more info, see PS 638, page 52 or

<https://www.logsa.army.mil/psmag/archives/PS2006/638/638-52.pdf>

TMs for Clothing and Individual Gear

TM 10-8400-203-23, *General Repair Procedures for Individual Equipment*, covers everything from helmets, body armor and mountaineering gear to cold weather sleeping bags and modular lightweight load-carrying equipment (MOLLE). TM 10-8400-201-23, *General Repair Procedures for Clothing*, has chapters on BDUs (nothing on ACUs yet), caps and hats, cold weather clothing, wet weather parka and trousers, fire retardant clothing and lots more.

For more info, see: PS 648, page 55 or

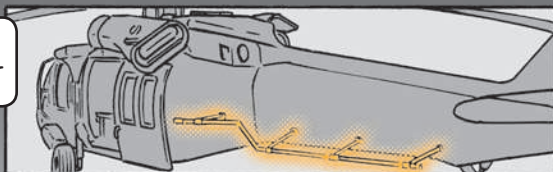
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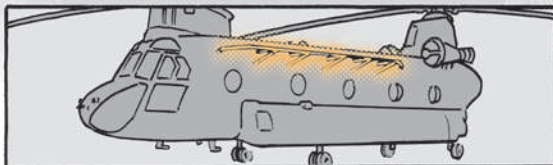
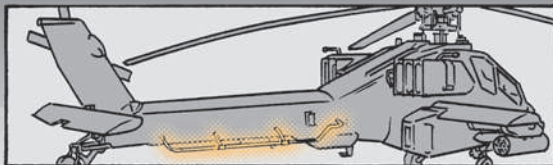
CH-47D,
UH-60 Series,
AH-64D...

FRIED FROM THE INSIDE

GEE, I HOPE
THEY TEACH THE
NEW GUYS ABOUT
THE ANTENNAS...



YEAH!
THEY WERE
THE DEATH
OF US!



Crews, staying away from the AN/ARC-220 high frequency radio antenna when it's keyed up protects your innards from being fried.

Never get within three feet of the high-powered antenna when the pilot or crew chief is self-testing the radio or transmitting.

The farther away you are from the antenna, the safer you'll be. Touching the antenna when it is operating can light you up like lightning.

Also, don't assume that it's safe to get close just because the blades aren't turning or the engines aren't running. Not so!

If the aircraft has power and the pilot or crew chief left the radio in the automatic link establishment (ALE) mode, it can still harm you.

In ALE mode, the radio is not off and the antenna puts out radiation that can burn you.

In all modes except OFF, you won't feel any heat but—like a hotdog in a microwave—you'll be cooking from the inside out! Make sure the radio is off when you're around your bird.

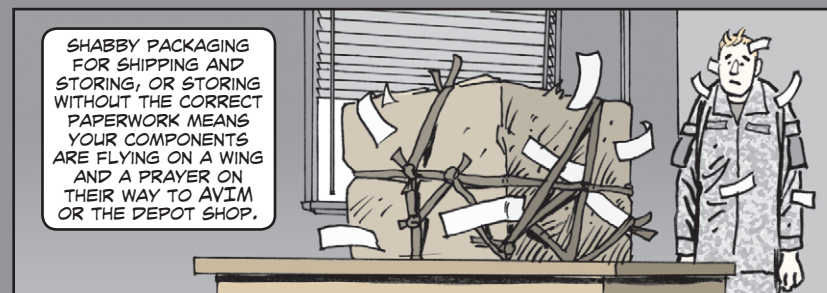
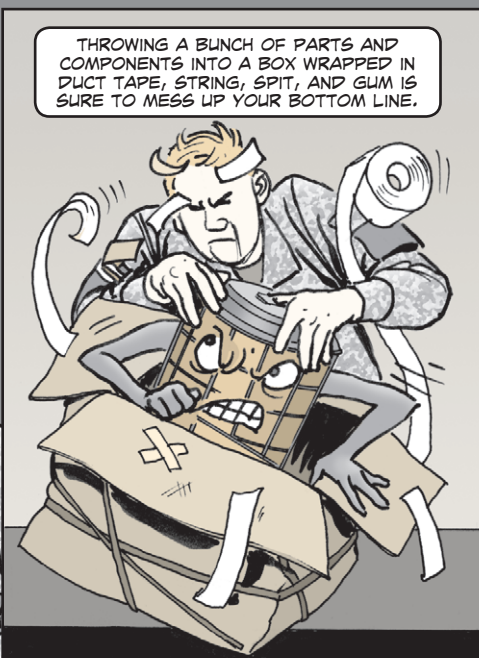
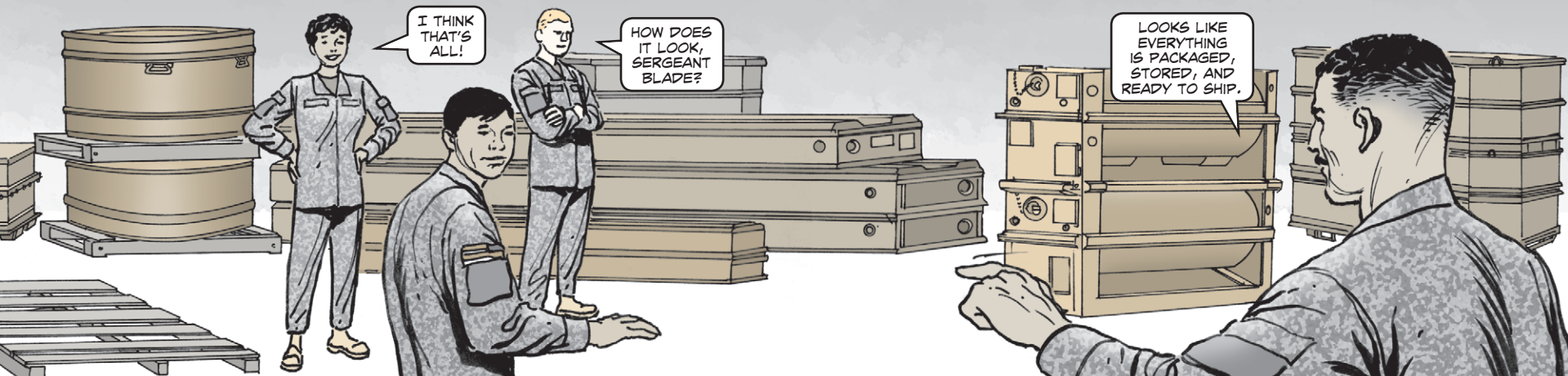
And never stand any closer than three feet when it's on, transmitting, or in test mode.

BE **SAFE** RATHER THAN
SORRY—KEEP YOUR DISTANCE
SO YOU WON'T GET **BURNED**
BY RADIATION.



Pack Right, Ship

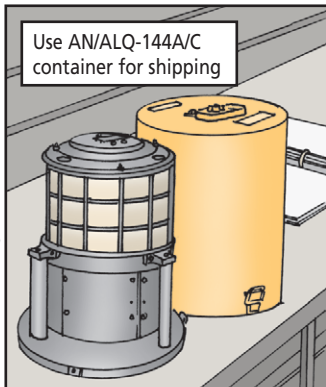
Right, Store Right



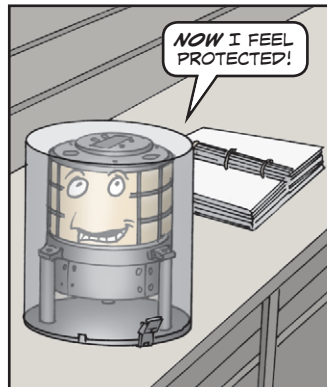
FOR
EXAMPLE...

...if you ship the ALQ-144A/C countermeasure set, use the correct shipping container, NSN 5865-01-250-2422. There's also an old container, NSN 5865-01-037-1325. The difference between them is the shape, but both serve the same purpose. Make sure they're clean, free of corrosion and seal out condensation and moisture.

Use AN/ALQ-144A/C
container for shipping



NOW I FEEL
PROTECTED!



If you just need to store the countermeasure set upper transmitter, use NSN 5865-01-109-1801.

SOME CONTAINERS HAVE
ADDITIONAL PACKAGING
INSTRUCTIONS, SO
FOLLOW 'EM.

THE **BEST** MAINTENANCE PRACTICE
IS TO SHIP COMPONENTS IN THE
SAME CONTAINERS OR BOXES THE
REPLACEMENT PARTS CAME IN.



Always think about weather conditions when you ship a component. Consider how long it will sit outside, and whether it will be transported or stored in a salty, rainy, cold, dusty or sandy environment. That determines the type and amount of desiccant, preservative, cushioning material, and how much other protection you need to use. Check out TM 746-10, *General Packaging Instructions for Field Units* (Apr 93), for more packaging instructions.

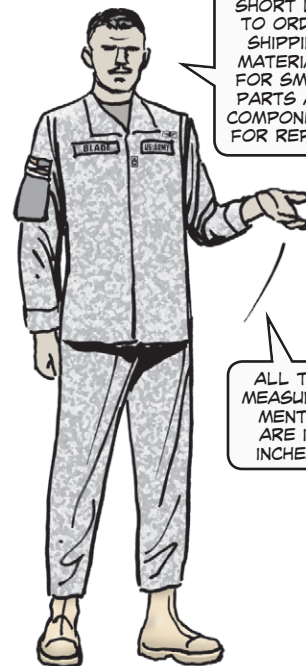
TO MAKE SURE
PACKAGING IS DONE
RIGHT HERE A FEW
MORE RESOURCES
TO USE...



- FM 38-700, *Packaging of Material - Preservation* (01 Dec 99)
- FM 38-701, *Packaging of Material: Packing* (01 Dec 99)

Before shipping any components, include all the historical data. That means using DA Form 2410 and DA Form 2408-5. If the paperwork is left out, your unit won't get turn-in credit, and the component could be returned. Upon receipt of disposition instructions from the managing inventory control point, ship material with the completed DD Form 1577-series condition tag, and the correct number of copies of the 1348-1A.

USE THIS
SHORT LIST
TO ORDER
SHIPPING
MATERIALS FOR SMALL
PARTS AND
COMPONENTS FOR REPAIR.



ALL THE
MEASURE-
MENTS
ARE IN
INCHES.

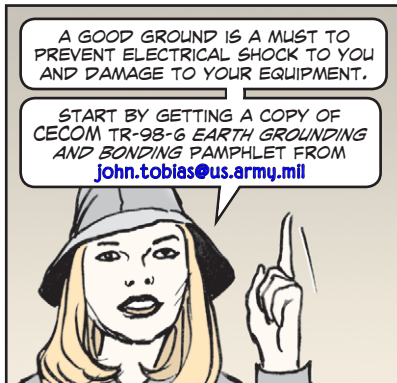
NSN	Item
8105-00-224-8485	Envelope, packing list
8105-00-290-0342	Sack, shipping, padded envelope
8105-00-756-2710	Envelope, packing list
8115-00-050-5237	Box, shipping, 12x12x18
8115-00-101-7638	Box, shipping, 9x6x3
8115-00-134-3655	Box, shipping, 12x12x14
8115-00-134-3656	Box, shipping, 14x14x14
8115-00-179-0578	Box, shipping, 10x16x8
8115-00-192-1604	Box, shipping, 8x8x12
8115-00-192-1605	Box, shipping, 10x10x12
8115-00-248-4185	Box, shipping, 18x18x18
8115-00-516-0251	Box, shipping, 20x14x9
8115-00-550-3558	Box, shipping, 24x14x14
8115-00-787-2142	Box, shipping, 6x5x2 ¹ / ₂
8115-00-787-2147	Box, shipping, 6x5x3 ¹ / ₂
8115-00-787-2148	Box, shipping, 12x8x3 ¹ / ₂
8115-01-015-1313	Box, shipping, 26x9x9
8115-01-019-4084	Box, shipping, 18x12x3 ¹ / ₂
8115-01-057-1244	Box, shipping, 10x10x3 ¹ / ₂
8115-01-057-1245	Box, shipping, 16x16x3 ¹ / ₂
8135-00-300-4905	Cushioning material, foam
8135-00-926-8990	Cushioning material, bubble
8135-00-926-8991	Cushioning material, bubble

If there's any doubt about packaging, shipping or storing aircraft parts, contact the AMCOM Packaging Branch, DSN 788-9130 or (256) 842-9130.

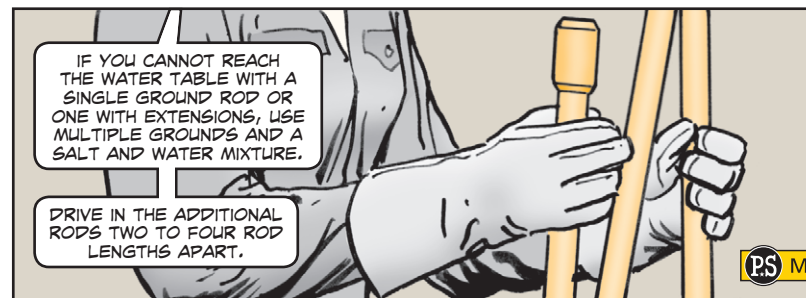
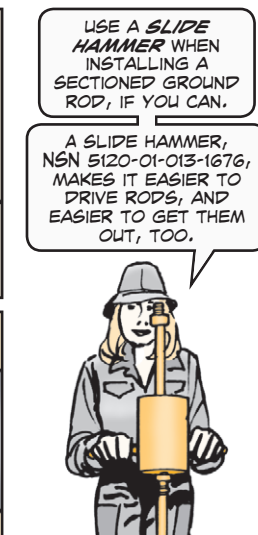
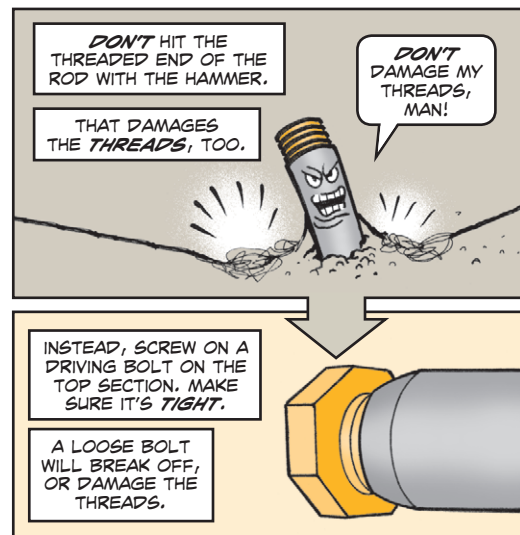
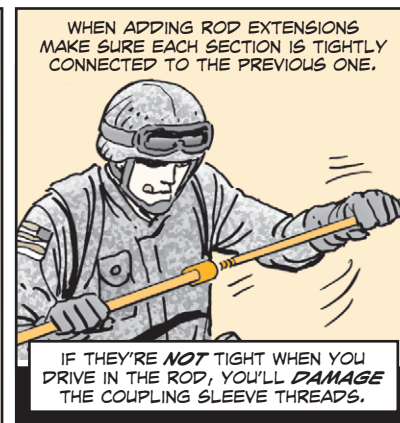
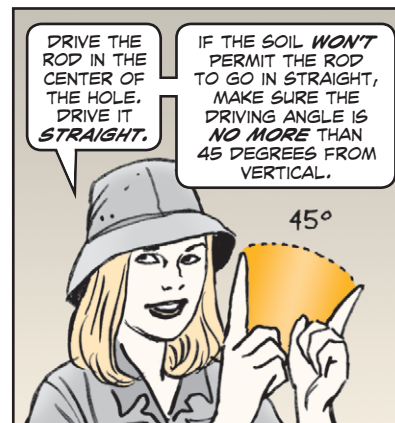
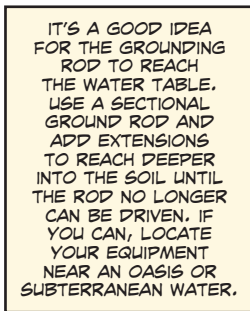
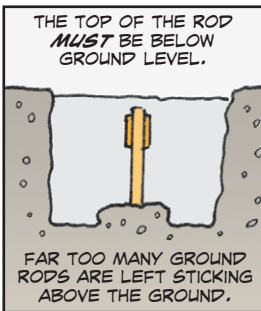
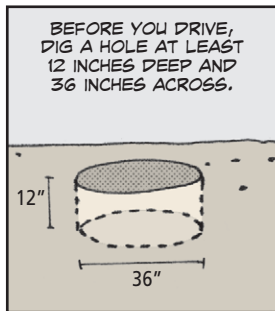
For additional information on packaging, shipping and storing, contact LOGSA's PSCC, DSN 795-9176 or (570) 895-9176 or email:

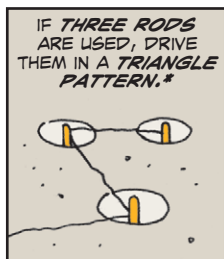
pt@tobyhanna.army.mil

GETTING A GOOD GROUND IN THE DESERT

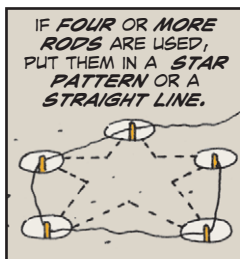


Before You Drive

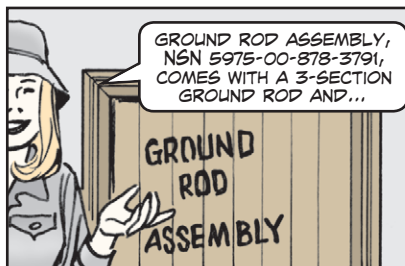




*RODS SHOULD BE SEPARATED BY A DISTANCE OF TWO TIMES THE DEPTH OF THE ROD FOR **MAXIMUM EFFECT**.

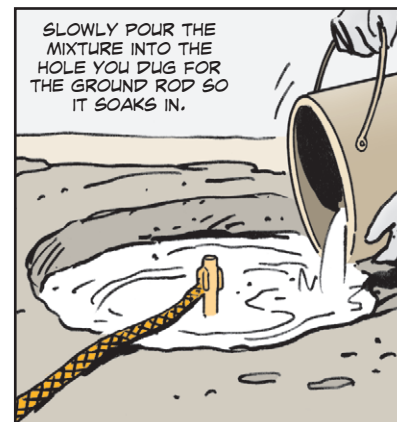
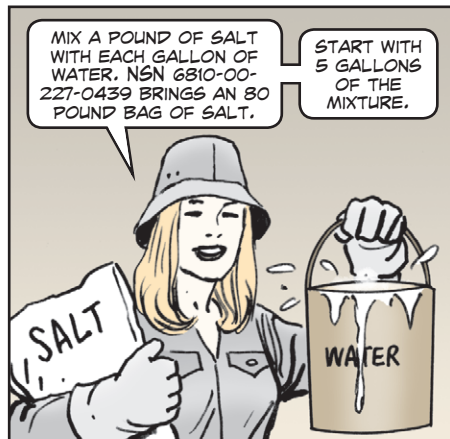


WHEN USING MULTIPLE RODS **ALWAYS** CONNECT ALL THE RODS TOGETHER WITH THE FINAL ROD BEING CONNECTED TO THE EQUIPMENT TO BE GROUNDED.



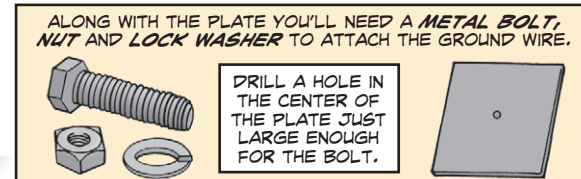
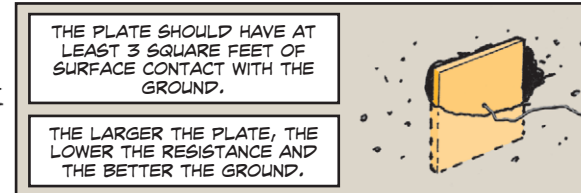
Parts	NSN
3 couplings	5975-00-794-2523
1 clamp	5999-00-186-3912
1 drive head stud	5975-00-924-9927
1 terminal lug	5940-00-271-9504
No. 6 AWG wire by foot	6145-00-395-8799

Soil Preparation



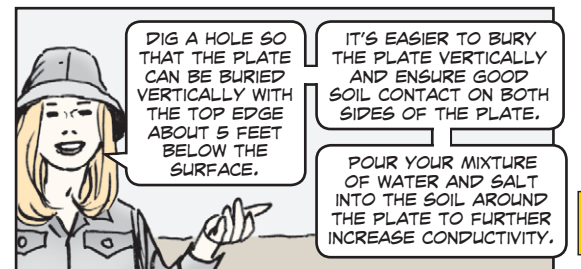
Grounding Plates

BECAUSE SAND IS **EASY** TO MOVE, **GROUNDING PLATES** CAN BE A GOOD IDEA IN THE DESERT.



THE GROUND PLATES—USE TWO TO FOUR—SHOULD BE SPACED AT LEAST 10 FEET APART.

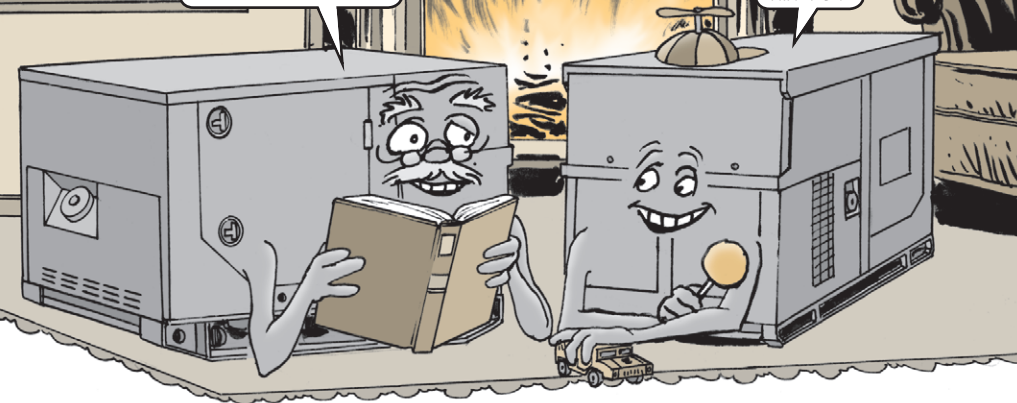
THEY GIVE YOU A LARGE, METALLIC AREA THAT IS IN CONTACT WITH THE SOIL.



A Shot Stator Story

THIS IS THE STORY OF A REPLACEMENT STATOR AND WHAT CAUSED IT TO FAIL...

ARE THERE NINJAS?



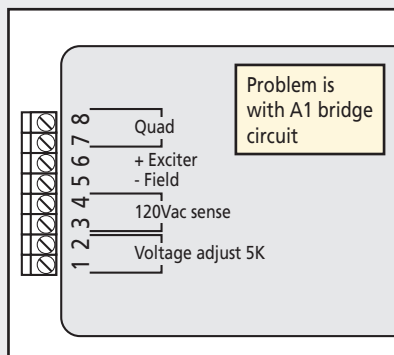
Dear MSG Half-Mast,

We're replacing the main stator on 5- and 10-KW generators far too often. No sooner do we replace a failed stator than the replacement fails. What's going on and how do we stop it?

SGT S.O.S.

Dear Sergeant S.O.S.,

The problem is with the A1 bridge rectifier circuit. The 5- and 10-KW TQGs use a quad winding circuit to provide a no-load voltage source to the voltage regulator (A1). Voltages that develop across the quad winding circuit during an engine start can peak at well over 400 VAC, exceeding the A1 full-wave bridge rectifier circuit diode peak reverse voltage (PRV) rating. When that happens, the diodes short out and cause catastrophic failure of the quad winding circuit. Now the generator set won't work and you have to replace the entire stator and the A1.



When you replace a stator but don't solve the circuit problem, you can kiss the new stator goodbye.

Solve the circuit problem by installing a fuse between terminal 8 of the A1 voltage rectifier and the Q1 of the quad winding circuit.

To do the job, you'll need one fuse holder, NSN 5920-00-816-6892; one 3-amp/250VAC, time delay, MDL-3 fuse, NSN 5920-01-322-6986; two crimp-type splices, NSN 5940-00-478-0037; and three wire ties, NSN 5975-00-727-5153.



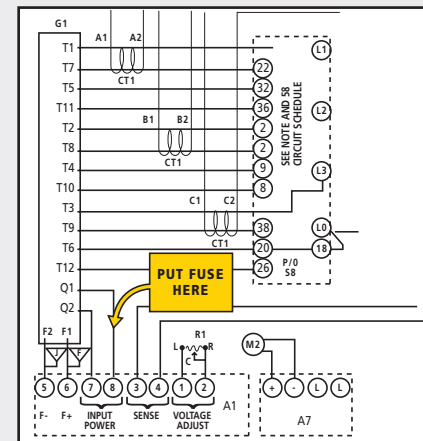
Add a time delay fuse

Here's how to install the fuse:

1. Make sure the generator set is completely shut down, then disconnect the cable from the negative battery terminal.
2. Find the A1 rectifier—it's mounted right-center on the inside back wall inside of the generator set control cabinet—and locate terminal 8 and wire number 106B.
3. Cut the wire six inches from terminal 8.
4. Strip off about 1/4-in of the insulation on both ends of the wire. Then use a crimp splice to join a lead of the fuse holder to each end of the wire. The fuse holder should now be wired in line of wire 106B.
5. Put the fuse in the fuse holder and secure the fuse holder with the screw and lock washer and get the leads out of the way using wire ties as needed.
6. Reconnect the cable to the negative battery terminal and you have made the modification!
7. Check your job by running the generator and verifying the correct voltage and frequency. Check it twice and then bring the generator up to load and check it again.

If the fuse blows while you are making these checks, the A1 is already shot and must be replaced or the stator is bad and must be replaced. You'll need to use a multimeter to determine which of these is bad.

If you need help with this troubleshooting or making the modification, contact Donald Greg Youll: donald.youll@us.army.mil, DSN 992-4748 or (732) 532-4748.



Half-Mast

WHY STICK YOUR NECK OUT?



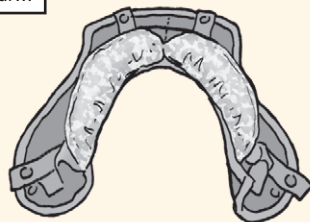
PS 654

A Level 2 military operational protective posture (MOPP) requires both torso and neck protection against fragmenting munitions and 9mm rounds. That means you need to wear the interceptor body armor's (IBA) vest, collar and throat protector.

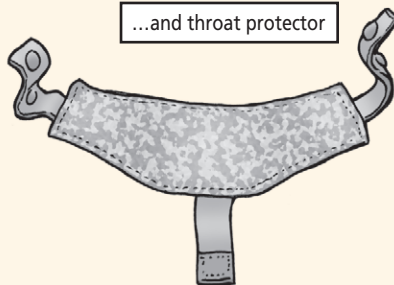
Wear vest...



...collar...

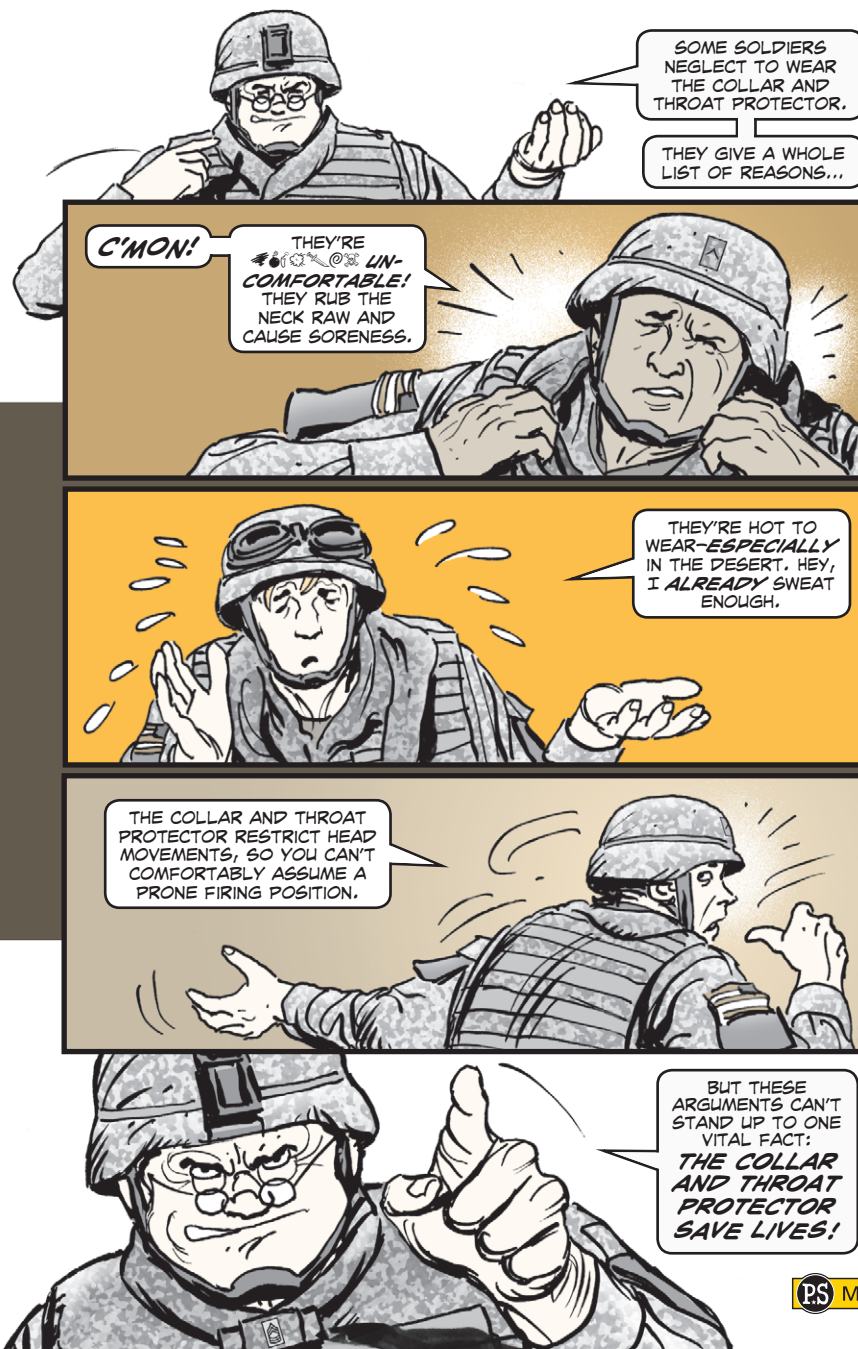


...and throat protector



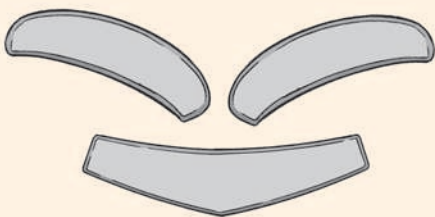
46

MAY 07



IEDs and car bombs have inflicted a growing number of neck wounds on soldiers who didn't wear the collar and throat protector. Even light fragmentation can sever a vein or artery in the neck. If that happens, you can bleed to death in a matter of minutes.

So wear your collar and throat protector when the MOPP demands it. But before you put them on, inspect their soft ballistic panels. Turn them in and get replacements if they've been hit by fragments or small-arms fire, or they have any holes, punctures, cuts or tears in them.



Inspect soft panels for fragments, holes, tears

HERE ARE A FEW WAYS TO
MAKE WEARING THE COLLAR
AND THROAT PROTECTOR
MORE COMFORTABLE...



- Make sure the vest is centered on your torso. The webbing on the left front panel should line up evenly with the webbing on the opposite panel. One side should not be higher than the other. That should keep the collar and throat protector from riding too high and chafing the neck.
- When it's safe, remove the throat protector so you can cool off.
- Likewise, unfasten the hook and loop fastener on the front of the vest. Hold open the front panels to release body heat and let in cooling air.

• If you're sweating a lot, remember to stay hydrated by drinking plenty of water.



PS
END

Body Armor Set,
Individual
Countermine...

Just Some BASIC Instructions

THE BODY ARMOR SET, INDIVIDUAL
COUNTERMINE (BASIC) PROTECTS THE
SOLDIER PERFORMING MINE-PLACEMENT
OR MINE-CLEARING OPERATIONS.

BUT IT
WORKS
FOR YOU
ONLY IF...

...YOU WEAR
IT PROPERLY...

NOT
LIKE
THIS
GUY

OR
THIS
GUY



...AND YOU
CARE FOR IT
PROPERLY!

FOR MORE ON
THAT, YOU
NEED TO TURN
THE PAGE.



PS MORE



THERE'S A LOT TO KNOW ABOUT WEARING AND CARING FOR THE BASIC.

HERE ARE SOME OF THE HIGHLIGHTS TO KEEP IN MIND...

Fitting

For the most part, the BASIC is not a one-size-fits-all outfit. Only the face shield, chest plate, groin plate and groin plate carrier are one-size-fits-all. Every other component—helmet cover, overboots, trousers, vest, collar and upper and lower arm protectors—requires sizing to get a good fit. You may need to mix and match component sizes.

The BASIC fits over your uniform. The helmet cover fits over the PASGT Kevlar helmet but not the advanced combat helmet. The vest and collar fit over the PASGT vest or the Interceptor body armor outer tactical vest. Arm protectors and trousers fit over BDUs or the new Army combat uniforms (ACUs). And overboots fit over your combat boots.

For more on sizing, see WP 0008 of TM 10-8470-203-10.



Try on the BASIC...

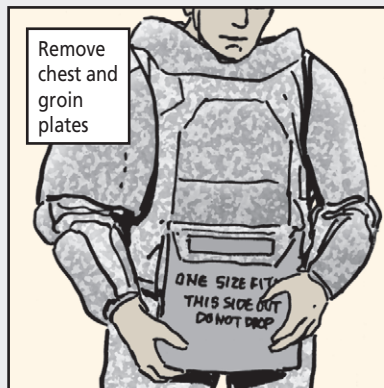


...to get a good fit

Cleaning

You'll find complete cleaning instructions in WP 0012. Pay particular attention to these points:

- Remove soft ballistic inserts from the front and back of the vest. You can't remove soft inserts from the rest of the components—they're sewn in. Also remove chest and groin plates.
- Hand wash the following parts in warm water and mild soap or detergent: helmet cover, trousers, vest, groin plate carrier, arm protectors and collar. Never machine wash and dry. It causes too much wear and tear on the fabric.



Remove chest and groin plates

- Always rinse off the face shield before you wipe it. If you wipe it without first rinsing, dirt and grit can scratch the surface.

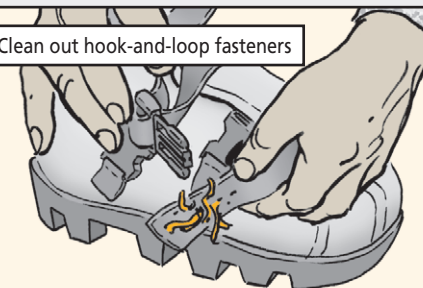
- The BASIC has hook-and-loop fasteners on the helmet cover, collar, vest, groin plate carrier, arm protectors and boots. Clean the fasteners regularly or they won't fasten. Comb out dirt, debris and lint with one of the brushes in the TM's expendable and durable items list. In a pinch, an old toothbrush will do.

- Care and cleaning also applies to your boots. Clean dirt out of the side-release buckles. Dig out mud, ice and hardened dirt from the tread. Trim frayed areas on the webbing hook-and-loop fasteners.

Rinse face shield first, then wipe



Clean out hook-and-loop fasteners

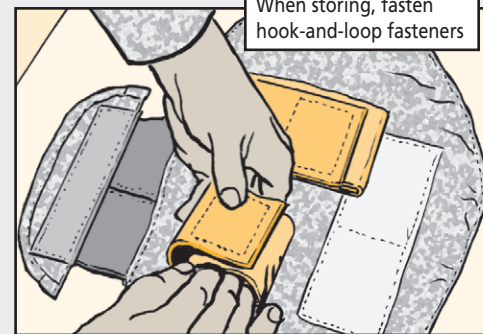


Storing

Store the BASIC in the Air Force carry bag, NSN 8460-00-606-8366. WP 0014 shows you how. When you store the suit:

- Fasten the hook-and-loop fasteners on each component. That way fasteners on one part won't catch on other parts. It just makes it easier to store and retrieve the components. Fastening also keeps the hook-and-loop fasteners from attracting dirt and lint.
- Put the groin plate in its carrier. Put the chest plate in the vest pocket.
- Store boots sole-to-sole. Keep them away from the face shield. That reduces the risk of scratching.
- Cushion the face shield between the right and left upper arm protectors.

When storing, fasten hook-and-loop fasteners



HYEX...



Swing Bearing Lube

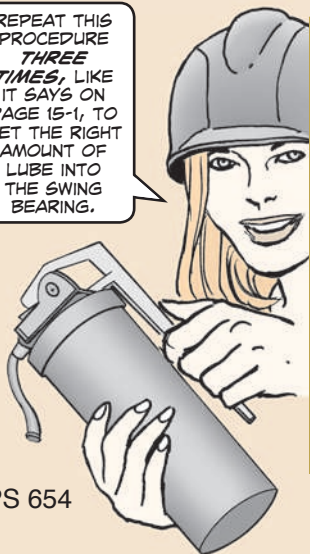
A lack of lube causes the excavator's upperstructure to rotate at a snail's pace or erratically.

Two grease fittings that lubricate the structure's swing bearing are located directly under the access cover for the boom's hydraulic hoses. Needless to say, they get overlooked!

Grab your grease gun and put some "swing" back into the swing bearing by following these steps on Page 15-1 of TM 5-3805-280-10.



REPEAT THIS PROCEDURE **THREE TIMES**, LIKE IT SAYS ON PAGE 15-1, TO GET THE RIGHT AMOUNT OF LUBE INTO THE SWING BEARING.



- Park the excavator on level ground.
- Lower the bucket to the ground.
- Turn the idle switch off.
- Run the engine so the rpms are one third the way up the rpm gauge, without a load, for two minutes.
- Lower the rpms to the slow idle position.
- Turn the key switch to OFF, then remove the key.
- Attach a **Do Not Operate** tag on the right control lever inside the cab.
- Pull the pilot control shut-off lever to the locked position.
- During scheduled services, give the fittings ten shots of grease each.
- Start the engine. Raise the excavator's bucket several inches off the ground. Turn the upperstructure 45 degrees.

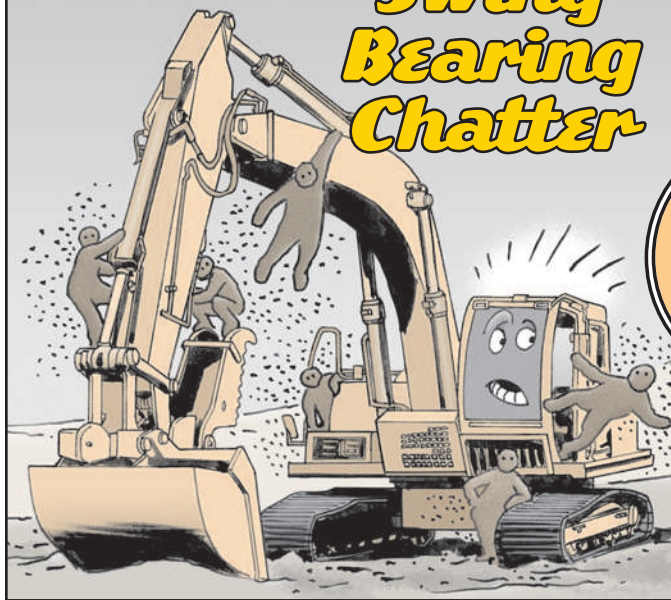
HYEX...

Swing Bearing Chatter

THE RIGHT AMOUNT OF LUBE WILL HELP KEEP GRITTY GREASE GREMLINS AWAY.



BUT TOO MUCH LUBE CAN DAMAGE THE SEAL AND LET IN DUST, DIRT, SAND, AND WATER.

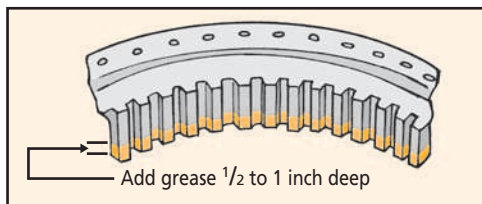
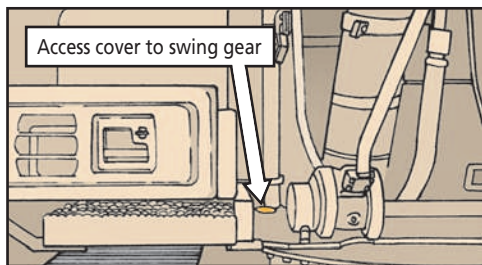


Gritty grease chews up the teeth on the hydraulic excavator's swing bearing ring gear. And by the time you hear the sound of wear—gear grinding during traversing—it's just plain too late. The ring gear's teeth are worn, repairs are needed and costs are high.

Remove the swing bearing's access cover to eyeball the ring gear. Look at the ring to see how much grease and grit have built up.

If you see a heavy coating with too much crud, wipe it off with a clean rag. Add grease so it's $\frac{1}{2}$ to 1-inch deep from the bottom of the ring gear. But too much grease can damage the swing gearbox seal. So remove any grease that's over the top of the swing drive pinion.

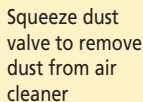
You'll find this info on Page 15-2 of TM 5-3805-280-10.



YEX... Air Filter Scoop



Operators, it's a good idea to squeeze the sand out of the dust cap on the bottom of the air canister every day before you start operations. This gets rid of sand from the canister, but not from the primary or secondary air filters. By the way, make sure the rubber dust cap is in place. Air filter life is cut in half when the cap is missing or cracked.



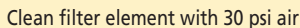
Give the primary air filter a good brush off if you're at the worksite and the engine chokes down, or you notice a loss of power or black smoke. Shut off the engine. Pop the canister's lid and pull out the filter. Don't touch the secondary filter. That's your mechanic's job.

Tap the filter real good with the heel of your hand to loosen sand and dirt. Then shake it good and tap some more. This will knock enough junk out of the filter to keep you going until your mechanic can clean the filter with 30 psi air or replace both filters.

Never bang the filter on a rock or hard surface. You might dent it so it won't fit or make a good seal.

Make sure you keep an eye on the air cleaner indicator on the dash. If the indicator light turns red during operations, stop and clean out the primary filter.

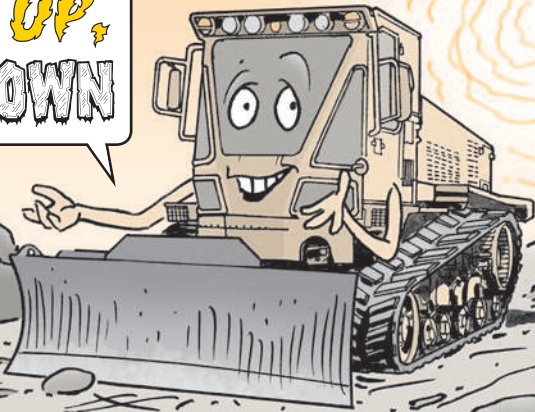
Bone up on how to inspect the air filters by looking at pages 14-9 and 14-10 of TM 5-3805-280-10.



DEUCE...

**WARM UP,
COOL DOWN**

THAT'S
THE
TICKET!



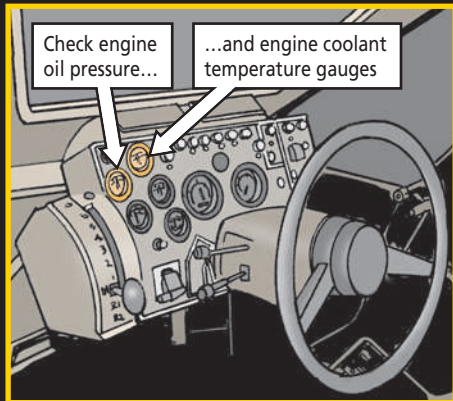
Operators, Page 77 of TM 5-2430-200-10 is loaded with good info when it comes to starting or shutting down your tractor at the worksite. Here's what you need to remember to keep the vehicle mission-ready:

Warm It Up

After start up, make sure you have engine oil pressure. Then idle the engine for five minutes to warm it up.

Warming up the tractor gives the oil time to lubricate the parts. It also lets the engine warm up enough to boil off condensation caused by normal engine breathing. That way, you won't have to worry about condensation mixing with the oil and forming a sludge that'll clog the engine.

Once you've got the tractor warmed up and operating, check the gauges, especially those for water temperature and engine oil pressure. They should be within normal operating range.



Cool It Down

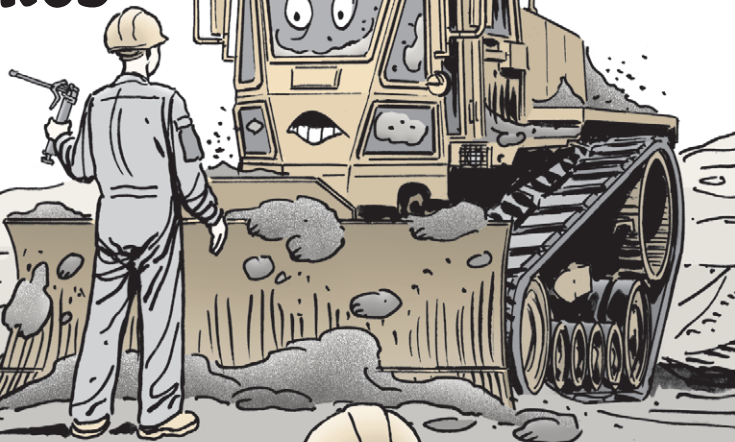
After operations, let the tractor cool down before shutting down. Idle the engine for five minutes. The engine needs to cool down after operations to prevent excessive heat in the engine and particularly in the turbocharger center housing. Overheating can crack the block, warp a head or valves, or bake the oil until it's not slick enough to lube the bearings. This also lets the turbocharger slow down, and reduces coking in the turbocharger bearings.

DEUCE...

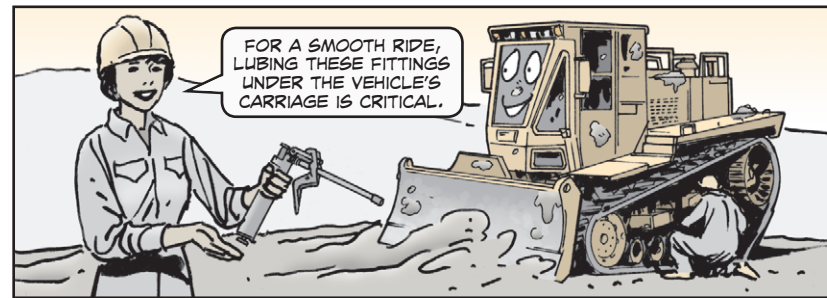
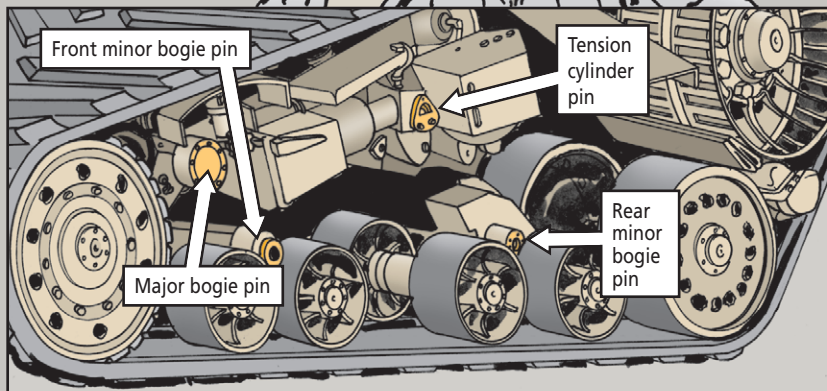
LUBE THE 'UNDER' FITTINGS

WHOA, BUDDY!

YOU BETTER CLEAN MY FITTINGS **BEFORE** YOU USE THAT GREASE GUN!

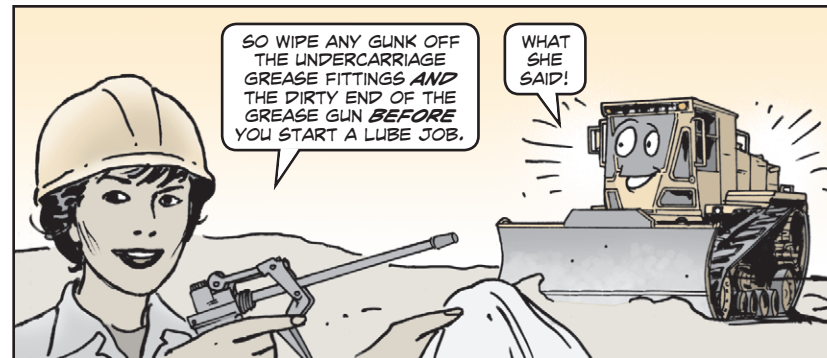
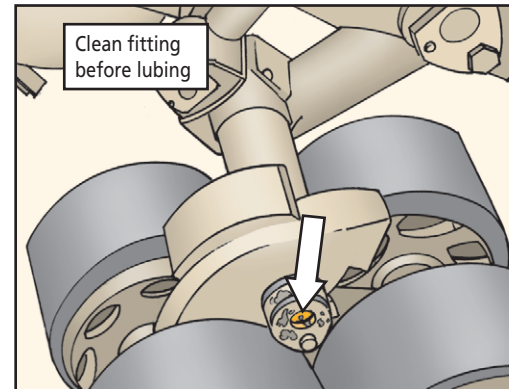


OPERATORS, GREASE FITTINGS NEED LUBE, **ESPECIALLY** UNDER-CARRIAGE ONES FOR THE FOLLOWING...



Make sure you clean the fittings before you give 'em pumps of grease during scheduled services. You can stop any damage to mid-roller's cylinders by keeping sand and dirt out of 'em.

These fittings are covered with dried mud and hard-packed sand. Dirt and sand stick to grease. With a dirty grease gun extension or dirty grease fitting, an abrasive sandpaper-like combo is pumped into the cylinder. Contaminated grease will score the cylinder every time. Eventually, the excavator gets sent to support for cylinder repair or replacement.



DEUCE Winch **Not** for Towing

Operators, follow the word on Page 85 of TM 5-2430-200-10. The tractor's winch cable is rated at 44,000 pounds and works for self-recovery. Do not use the cable to tow another DEUCE!

Suggestions...

Where Do I Send My Idea? SMART, ASP or PS Magazine?



SMART, the Army's Supply and Maintenance Assessment Review Team, is meant to improve logistics support. Soldiers and DoD civilians are encouraged to submit ideas that will save money, time or lives. If the suggestion is accepted, the Army gives the submitter a monetary award based on the value of the suggestion.

A related program, the Army Suggestion Program (ASP), handles ideas that increase efficiency and productivity of the Army in areas other than logistics. The ASP website is: https://armysuggestions.army.mil/services/Asp/asp_home.cfm

The question of whether to share an idea free through *PS Magazine* or to get a possible cash award is one of dollars and sense.

PS advises suggesters to go for the monetary award first. We'll be happy to accept a story idea based on a successful SMART suggestion.

You can submit SMART ideas on the AEPS website:

<https://aeps.ria.army.mil/smart/smarthome.cfm>



If sending an email idea, you must include your name, rank, Army component, unit or home address, duty phone number, primary end item NSN, a description of the problem and your recommended solution. If you have pictures, please include them.



Publications...

AR 750-6 Updated

An update to AR 750-6, *Army Equipment Safety and Maintenance Notification System* (13 Oct 06), is available on the Army Publishing Directorate website: <http://www.apd.army.mil>

The update:

- consolidates policy for ground and aviation safety messages
- updates the equipment safety and maintenance notification system to include aviation safety action and maintenance information messages
- makes the Army Ground Safety Notification System current with Army practices
- establishes standard timelines for reporting/receipt of and compliance with safety and maintenance messages.

Getting to FED LOG Online

GREAT! NOW THAT WE'RE HERE... HOW LONG IS IT GONNA TAKE TO START GETTIN' FED LOG SO I CAN ORDER PARTS?

THE ANSWER COULD BE... AS SOON AS YOU GET CONNECTED TO THE INTERNET!



Sometimes it takes awhile for published products to catch up to units after they move. When that happens with a product like the monthly updates to FED LOG it causes headaches for soldiers who have to order parts and supplies.

Here's the good news! You can access the FED LOG data online by visiting the Logistics Information Warehouse (LIW):

<https://liw.logsa.army.mil/index.cfm?fuseaction=login.main>

Once you've logged on to LIW, click on the FED LOG icon in the center column and get down to business.

However, to access FED LOG online you'll need a free program called Citrix loaded to your computer. That may require someone with administrator privileges. Citrix is available in LIW under the Support link at the top right of the LIW homepage. On the Support page find the Downloads section and click on Citrix Clients. Under Citrix Client Downloads click on Download for the Citrix ICA Full Client and follow the load prompts.



IF YOU NEED ASSISTANCE CALL THE LOGSA HELP DESK, 256-955-7716, DSN 645-7716.

MWO for M997 HMMWV R12 Conversion Must Be Completed by August 07

The phase-out of the Freon R12 in your M997/M997A1's air conditioning system must be completed by the end of August 2007. MWO 9-2320-280-35-5 gives guidance to convert to R134A. If your unit doesn't have the conversion kit, NSN 4130-01-503-9310, or doesn't have the money to apply the kit by 31 Aug 07, contact the Tank-Automotive LCMC's MWO Office at DSN 786-7407, (586) 574-7407, or LeeAnne.Filary@us.army.mil, for immediate assistance. Provide your M997/M997A1 HMMWV's vehicle identification number and a shipping address.

NO ITH in Tracked Vehicles!

The Bose Improved Tactical Headset (ITH), Racal Raptor, and any other under-the-helmet, light-weight headsets are for use in light/medium wheeled vehicles **ONLY**. These headsets **MUST NOT** be used in tracked vehicles! The noise levels in tracked vehicles exceeds the capabilities of these headsets. **Soldiers using them in tracked vehicles will most likely suffer hearing damage!** The only headset that should be used in tracked vehicles is the Bose PI-CVC headset/Kevlar combination helmet or the CAPS/ACAPS headset (in rear of Bradley only). For further information on this, email MAJ Ron Claiborne, ronald.claiborne@us.army.mil
Or call him at DSN 992-5415 or (732) 532-5415.

AN/APR-39A Processor Return

Don't remove the A7, User Data Module (UDM) Circuit Card Assembly (CCA), NSN 5841-01-201-8645, from the AN/APR-39A(V)1 digital processor, NSN 5895-01-395-7447, or the AN/APR-39A(V)4 digital processor, NSN 5895-01-445-6940, when returning them for repair. If the processor is in need of repair, return it with the UDM intact and ship it by classified means. Some of you are removing the UDM in order to ship the processor by regular mail, but this just slows down the repair and return process.

ASV WITH MISADJUSTED PARKING BRAKE MAY CAUSE FIRES

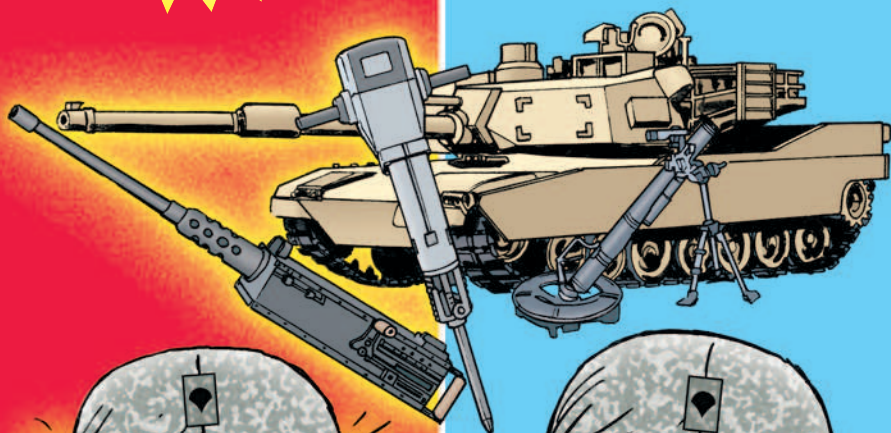
The TM doesn't say it yet, but operating M1117 armored security vehicles (ASVs) with parking brakes that are misadjusted and dragging or partially or fully applied may cause fires. By now, mechanics should have already inspected the parking brake adjustment using the guidelines in TACOM SOUM 07-012. *If not, your ASV is NMC!* Mechanics, you can get those mandatory procedures online: https://aeps2.ria.army.mil/commodity/soum/tacom_wn/07/soum07-012.html And operators, make sure you fully release the parking brake per your -10.

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

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

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NOISE**

**HARMS
YOUR
HEARING**



WEAR HEARING PROTECTION



THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-654, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

ISSUE 654 MAY 2007



COMBAT VEHICLES

Stryker RWS Casings Check
M1-Series Tank Improved Road Arms
M1-Series Tank New Tool Kit
M2/M3-Series Bradley Breech Inspections
M88A1 Recovery Vehicle, AVLB PM Tips
STE-M1/FVS Repair
M198 Towed Howitzer Oil Transfer System
KJ1000 Nitrogen Intensifier



WHEELED VEHICLES

M1114 HMMWV Turret Hinge Cover Boot
Electrical Wire NSNs
Tire, Tube and Flap Tips



SMALL ARMS

CLP Superior Lube for Small Arms
M2 Machine Gun Barrel Thread Protection
M240 Machine Gun Cover NSN
M2 Machine Gun Cook-off Avoidance
M2 Machine Gun Mounting Rail
MK19 Machine Gun Recoil Springs



MISSILES

Patriot Missile System Maintenance Tips



TOOLS

Vehicle Support Stand TB

2



AVIATION

35

2

Helicopter Antenna Safety Reminder

35

3

Aircraft Parts Packaging, Shipping and Storing

36-39

4

5



COMMUNICATIONS

40

6-7

7

Grounding in the Desert

40-43

8

5-, 10-KW TQG Stator, Rectifier Circuit

44-45

9



SOLDIER SUPPORT

27

10-11

Battle Rattle Review

27-34

12

IBA Vest, Collar and Throat Protection

46-48

13-15

Countermine Body Armor Set

49-51

16



COMBAT ENGINEERING

52

16-17

HYEX Swing Bearing Lubrication

52

18-19

HYEX Swing Bearing Ring Gear

53

19

HYEX Air Filter PM

54

20-21

DEUCE Start-up and Shut-down Procedures

55

22-23

DEUCE Undercarriage Lubrication

56-57

23

DEUCE Winch Towing Caution

57

24



LOGISTICS MANAGEMENT

58

24-25

Recommendation for Suggestions

58-59

26

AR 750-6 Updated

59

26

FED LOG Online Access

60

nvited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and

Just write to:

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USAMC LOGSA (AMXLS-AM)

5307 Sparkman Circle

Redstone Arsenal, AL 35898-5000

Or e-mail to:

logsa.psmag@conus.army.mil or

half.mast@us.army.mil

Internet address:

<https://www.logsa.army.mil/psmag/pshome.html>

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