Issue 333
PS
August
1980

THE PREVENTIVE MAINTENANCE MONTHLY

Engine Air Cleaner PM
See Page 29

See the LIGHT-- Do It RIGHT!

M16A1 Rifle...

It takes twice as long to do it right after you've done it wrong!

If you don't know, find out!

A rifle is the soldier's best friend!

In those time-worn phrases, Mr. Rifleman, **every word in them is true!**

And, there are a lot more.

Taking care of your M16A1 rifle is professional pride...and your life! It's critical to unit readiness; it could save you a month's pay for damage you cause.

Cleaning

Your TM 9-1005-249-10 tells you just how and what to clean, complete with pictures.

Your TM tells you just how much of the rifle you take apart. So what do a lot of troops do? They go way beyond the TM breakdown, lose parts or put the rifle back together wrong. That's bad enough, but they don't tell anybody. If the rifle just happens to be issued to somebody else....

Use the cleaners your TM authorizes—in the way it authorizes them.

Lubricating

The second big one, lubricating, can be solved with one phrase: **LSA all the way.** You can get it in a 4-oz bottle, NSN 9150-00-889-3522.

You never use WD-40. It doesn't last like LSA. You do not use PL-S. That's an internal lube only for some other weapons (not the M16A1). **And you never use motor oil.**

The point is simple, again: If you want to protect your rifle, use the authorized lube. Do it by the TM.

Clean and lube it thoroughly, and do only what your TM authorizes you to do.

Avoid the trap of: "This looks simple enough for anybody to take apart." Maybe so. Getting it back together right, however, is not so simple—and it's been done wrong by countless soldiers.

Same goes for cleaners and lubricants. It may seem "harmless" to substitute, but a lot of troops have paid for damaged rifles because of it.

Careless Handling

Careless handling has damaged many M16A1's.

Again, it's that old "it can't happen to me" attitude. Rifles are bounced around in trucks. They're propped on APC ramps. They are thrown, whacked, stepped on, tossed to the ground. Carelessness takes a thousand forms.

It'll get you, and it could thin your wallet considerably.

PS THE PREVENTIVE MAINTENANCE MONTHLY

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ISSUE No. 333 AUGUST 1980

PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to:

MSG Half-Mast
PS Magazine
Lexington, KY
40511

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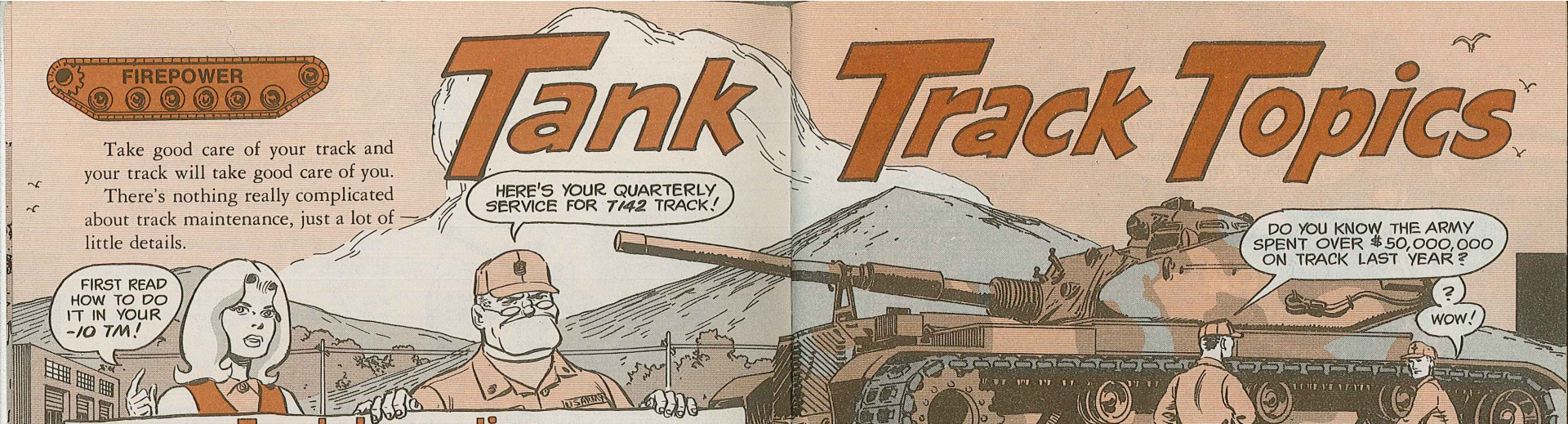
FIREPOWER

Tank Track Topics

Take good care of your track and your track will take good care of you.

There's nothing really complicated about track maintenance, just a lot of little details.

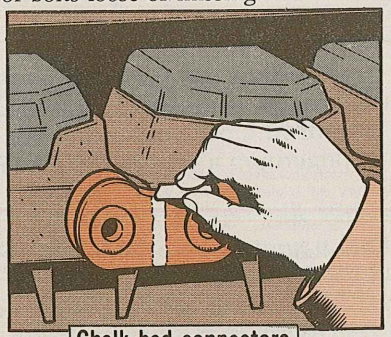


Track Inspection

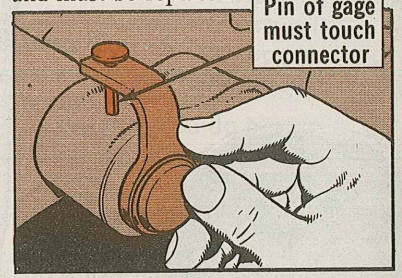
Track tension should be between $^{7}/_{16}$ and ½ inch as called for in the Preventive Maintenance Checks and Services (PMCS) for your vehicle -10 TM.

Complete the inspection and mark defective parts before any repair is made.

Drive the vehicle slowly backward or forward. Crewmen working on both sides of the vehicle mark with chalk any end connectors with wedges or bolts loose or missing.


Chalk bad connectors

If any end connectors seem badly worn, your mechanic will have to measure them with the end-connector wear gage, NSN 4910-00-795-7960. (The gage is part of the special tools in the vehicle -20P.) If the pin of the wear gage won't touch the end connector, that end connector is worn and must be replaced.



If half or more of the end connectors are worn on one side only, but within wear gage limits—or your T142 has 1,500 miles on it—the track should be reversed to give you more wear out of your end connectors.

End Connectors and Wedges

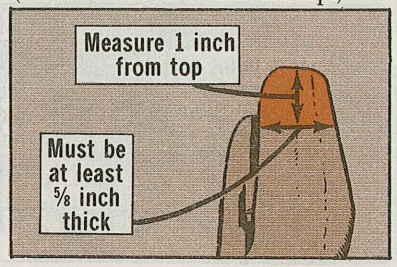
Always tighten both end connectors on each shoe, with the shoe just starting over the compensating idler, before tightening the center guide. If you don't, the wedge will loosen right up again. Tighten center guide nut with the guide between the compensating idler and the No. 1 roadwheel.

To check for loose wedges, look for shiny metal around the bolt head.

A wedge may not be seated. Look for a gap between the wedge and the pins. A gap means the center guide was tightened before the end connector.

A wedge may be noticeably higher than the others. This means the center guide was tightened before the end connector or a track pin is turning in the link.

CENTER GUIDES—Replace broken or badly bent ones and those worn to less than ⅝ inch thick (measured 1 inch from the top.)



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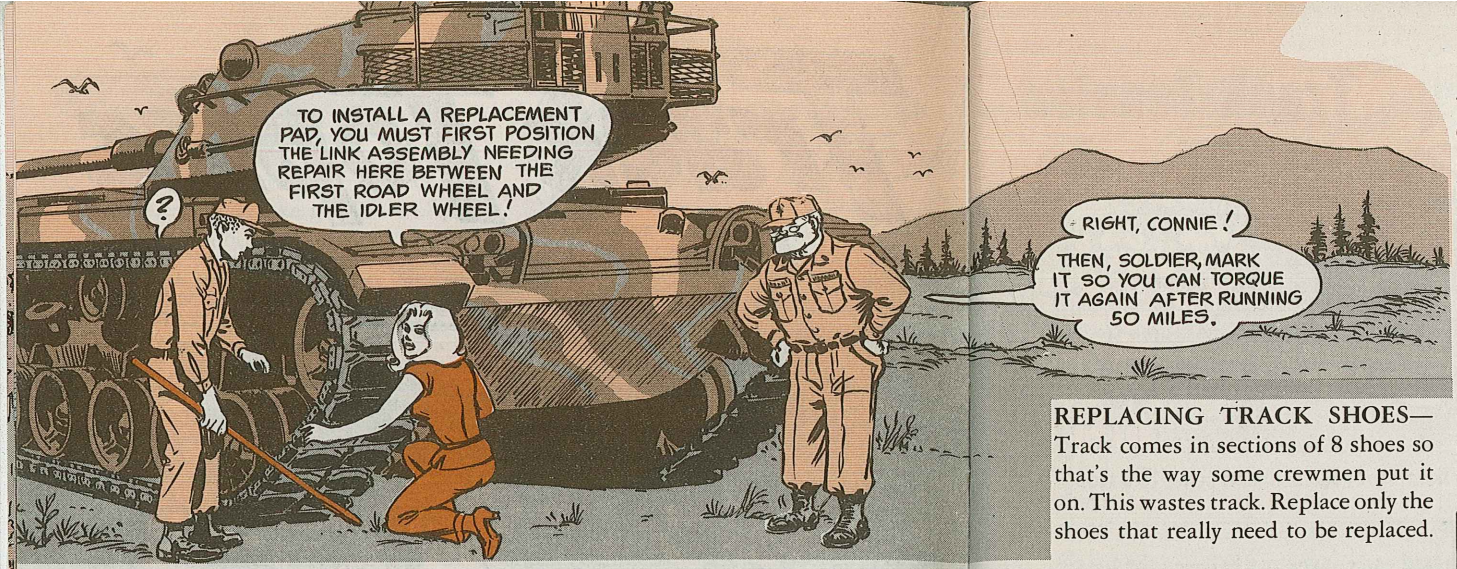
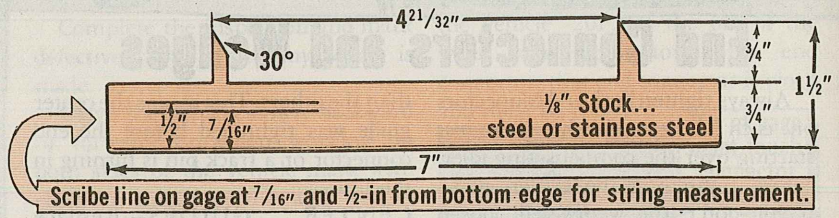
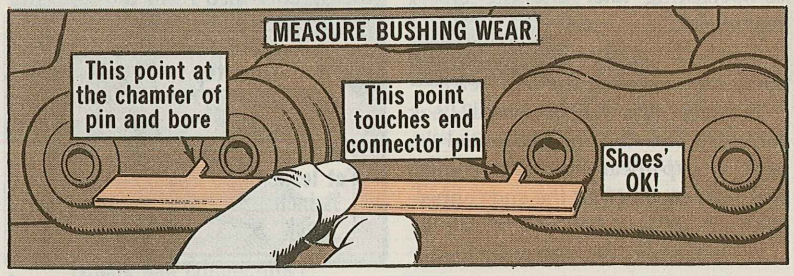


Track Shoe Bushing Wear

Your mechanic will make and use a shoe bushing wear gage.

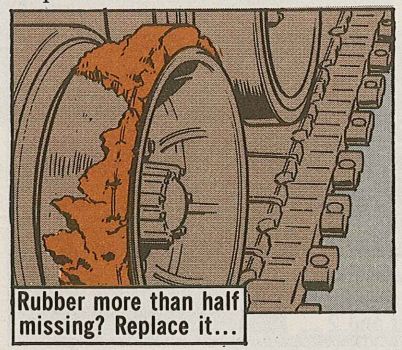


To use the gage, put the point of the gage on the chamfer at the end of the pin and the other point in the next end connector pin. If it won't go, the bushings are shot and you need to replace the shoes.

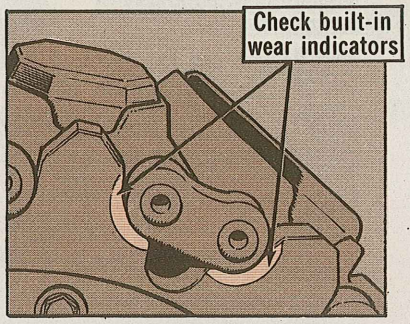


REPLACING TRACK SHOES—Track comes in sections of 8 shoes so that's the way some crewmen put it on. This wastes track. Replace only the shoes that really need to be replaced.

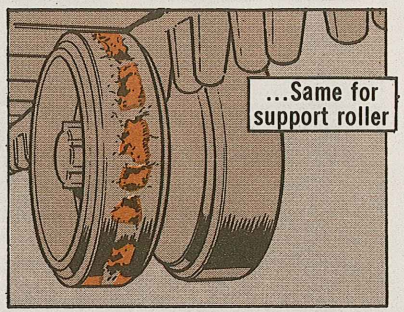
ROADWHEELS—It's OK for the rubber on your roadwheels to be chunked as long as the chunking is no more than 20 percent of the tread surface. However, if the chunking extends to the bonded surface of the rim, replace the roadwheel. If the rubber is missing more than halfway across at any given place, replace the roadwheel. It's serviceable if it has weather cracks not more than ¼ inch deep over the tread surface.



TRACK DRIVE SPROCKETS—Get your mechanic to check the drive sprocket. If the drive sprockets have built-in wear indicators, check to see if the undercut is worn away. There are 2 undercuts in line with each other on both sides of the sprocket. If an undercut is worn on one side, the sprocket must be reversed. If the undercut is worn down on both sides, the sprockets need to be replaced. (If your drive sprockets have no indicators, check 'em with the sprocket wear gage.)



SUPPORT ROLLERS & IDLER WHEELS—Use the same standards as for the roadwheels.



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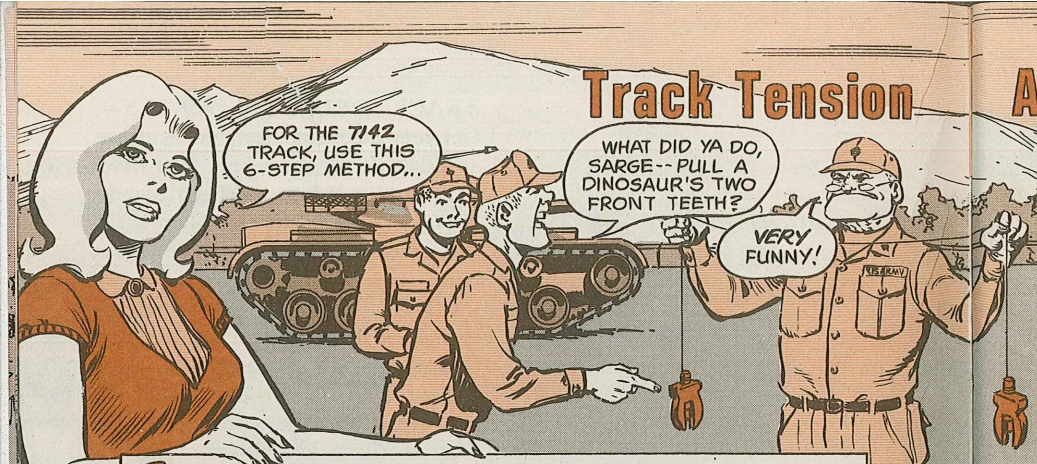
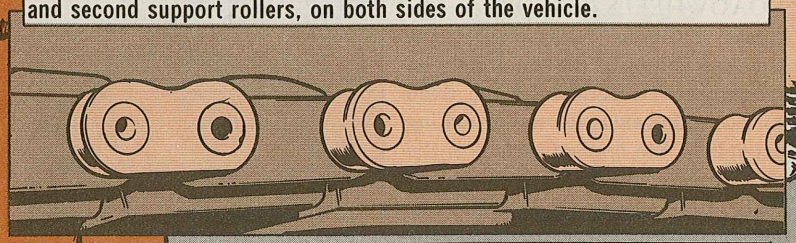
Track Tension Adjustment



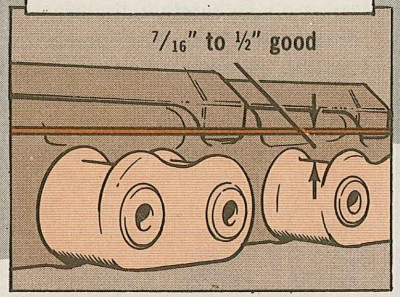
1 Move your vehicle forward on a hard, level surface and coast to a stop without applying brakes.

2 Remove dirt and mud from outboard end connectors between the first and second support rollers, on both sides of the vehicle.

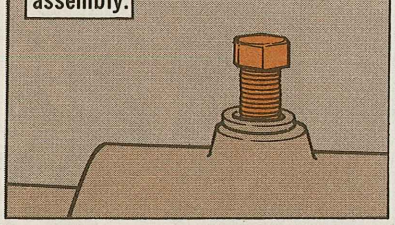


3 Place a string with weights over the end connectors at the first and second rollers. Make sure the string is centered on the end connectors. The weights attached to the string must extend past the horizontal center lines of the end connector.

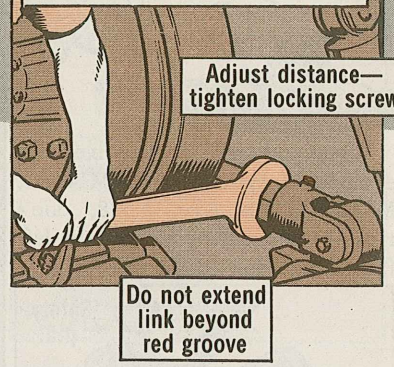
4 Measure the distance between the string and the end connector midway between the first and second support roller. If the measurement is not between 7/16 and ½ inch, readjust per steps 5 and 6.



5 Loosen the locking screw on the track tension adjusting link assembly.



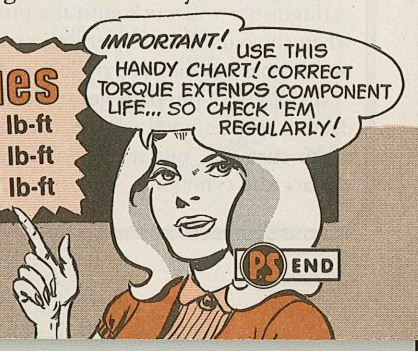
6 With the track link adjusting wrench, adjust the link assembly until the distance between the string and the end connector is between 7/16 and ½ inch. Without disturbing this measurement, tighten the locking screw on a flat surface of the track tension adjusting link.



NEWLY-INSTALLED TRACK OR PADS—Whenever you install new track, or even new pads, mark for later identification. (A little dab of paint'll do it.) After 50 miles of operation, check the new stuff and retighten as necessary.

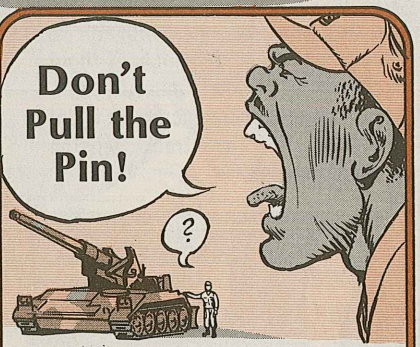
Track Torque Values

End Connector Wedge Bolt	140-160 lb-ft
Center Guide	300-320 lb-ft
Track Pad Nut	240-270 lb-ft

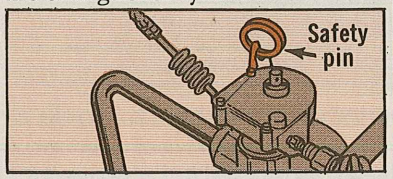


NEW FIRE EXTINGUISHER

Don't Pull the Pin!



When you work on the fixed fire extinguisher system on your M110A1, M110A2, M107 or M578, don't remove the safety pin from the left fire extinguisher cylinder.



TM's 9-2300-216-20, 9-2350-238-20 and 9-2350-304-20 are in error. You should not pull the safety pin when you install the cylinder. The extinguisher will work with the pin in when the outside or driver's compartment cable handles are pulled.

If the safety pin does get pulled out during the removal of the cylinder, make sure you put it back after you replace the cylinder.

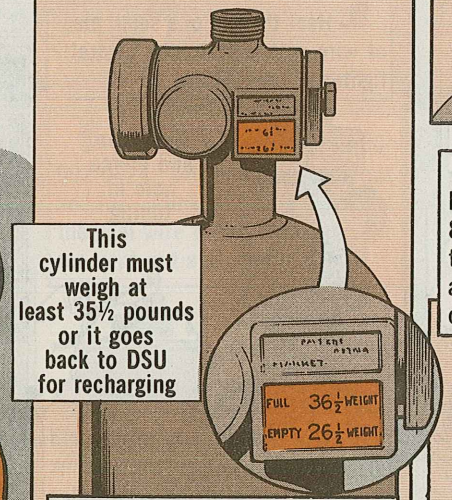
There's no more guesswork as to the readiness of the fixed fire extinguisher systems in the M48/M60 series tanks.

You no longer need to rely on easily-busted and often-dislodged plastic cylinder safety indicators.

Now there's just one acceptable way of making sure the cylinders in your tank's fixed fire extinguisher system are full and ready to do the job for you—WEIGH 'EM!

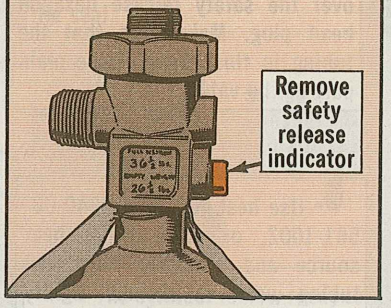
Cylinder Check

1. Remove and weigh each cylinder. A cylinder must be recharged/replaced if its weight loss exceeds 10 percent of the difference between the full and empty weight stamped on the head of the cylinder. The M48/M60 series tanks have 10-lb cylinders. If the cylinder weight has decreased by more than one pound from the full weight marked on the cylinder, it's unserviceable and must be recharged.

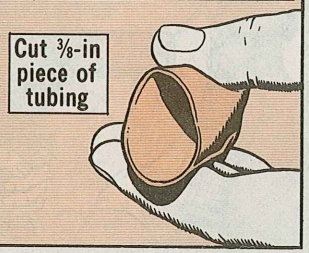


This cylinder must weigh at least 35½ pounds or it goes back to DSU for recharging

2. Check the safety release indicator. Remove any pieces of broken or damaged plastic safety release indicator.



3. Get a piece of 1-in diameter heat shrink tubing, NSN 5970-00-822-2775. Cut a ⅜-in piece of the tubing, making sure that the cut is at right angles with the round part of the tubing.



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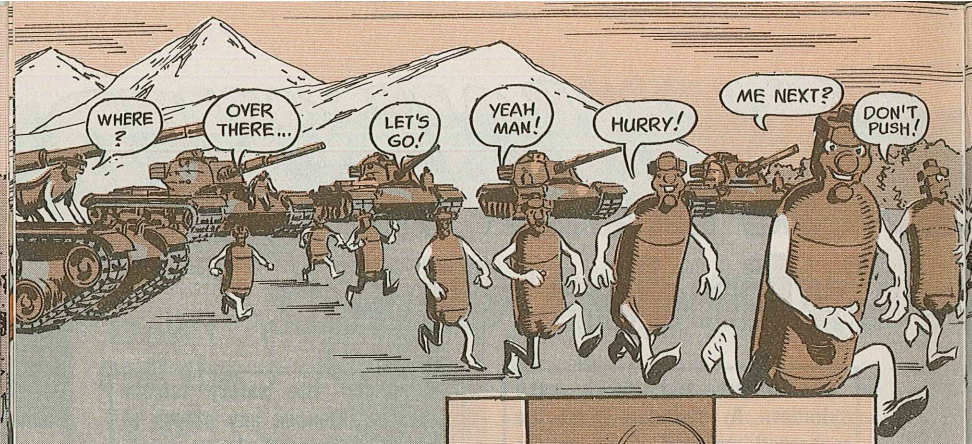
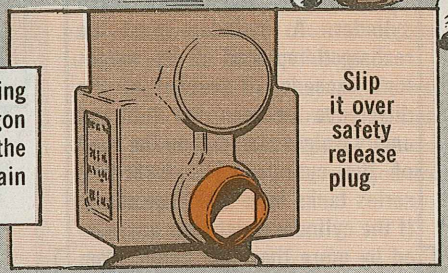
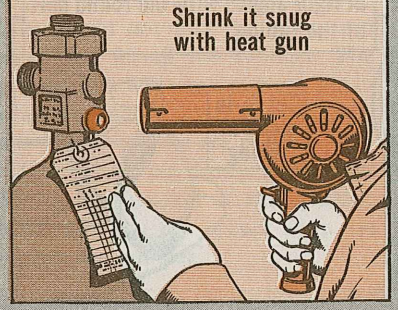


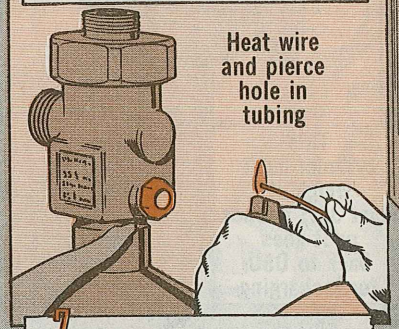
4. Slip the ⅜-in piece of tubing over the safety release hexagon head plug. Make sure that the tubing is flush against the main part of the valve.



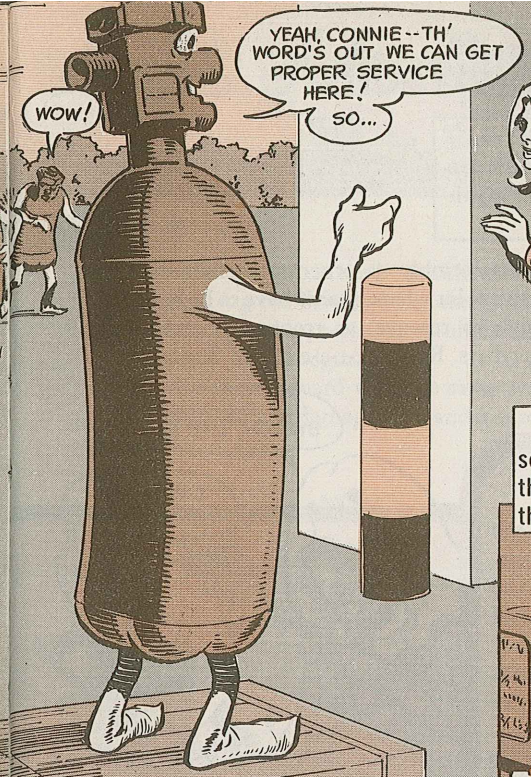
5. Use heat gun, NSN 4940-00-561-1002, or some other heat source and carefully warm the tubing until it shrinks tightly around the safety release plug. Make sure to move the heat source around to prevent scorching and burning of the tubing.



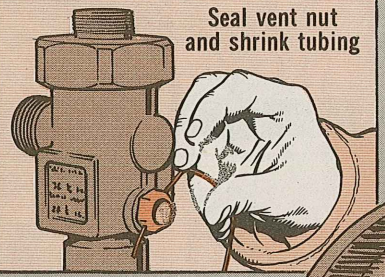
6. Heat the end of a small piece of wire with a match or cigarette lighter.

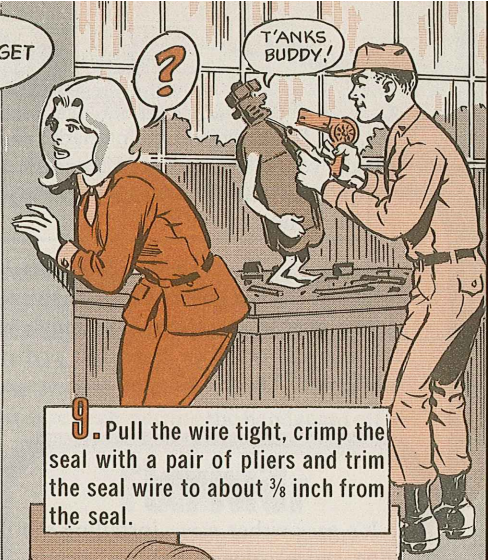


7. Use the hot wire to pierce a small hole through the shrunk tubing, in line with one of the holes in the head of the vent nut.

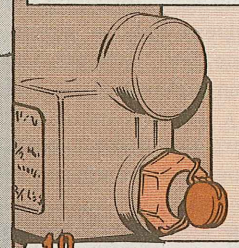


8. Use lead seal, NSN 5340-00-902-0426, and seal the vent nut and the shrunk tubing by threading the seal wire through the holes of the vent nut and plastic cap.

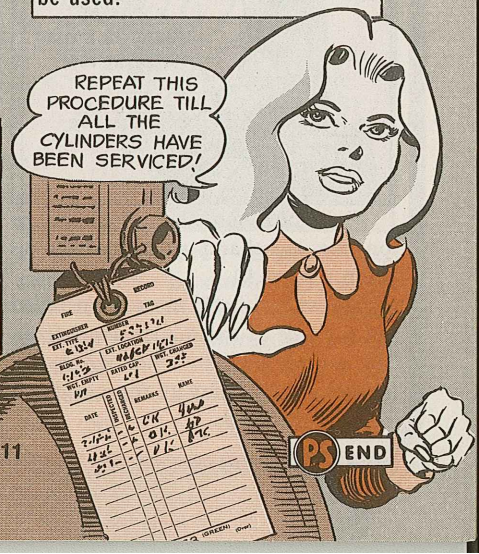




9. Pull the wire tight, crimp the seal with a pair of pliers and trim the seal wire to about ⅜ inch from the seal.



10. The cylinder is now ready to be used.



M203 Grenade Launcher...

Buddy System Gets It Done

A buddy system maintenance chore on your M203 grenade launcher can pay off in non-damage, non-repair dividends.

Hand guards

Removing the handguard for disassembly or other maintenance often results in cracked guards...even to the point where guards have to be replaced.

The guards sometimes are tough to remove, so troops pry away with screwdrivers or other makeshift prybars. Result: c-r-a-c-k, and down goes a handguard. There's a better way.

Place the weapon on the buttstock, with one hand gripping the stock and the other gripping the lower end of the handguard.

While your buddy presses down on the slip ring (tell him to use 2 hands—it's easier), pull the handguard free.

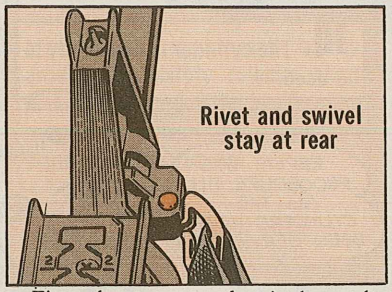
Install the handguard with the same system.

It's easy, fast and damage-free, and it sure beats getting the handguard off by yourself.

Swivel

It's easy either way...installing the sling swivel mount right or wrong. But, the wrong way damages the swivel and mount and hampers use of the sling.

You armorers can make a quick check before you issue the weapon to grenadiers.

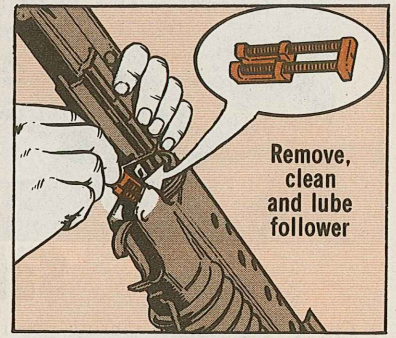


First, the mount and swivel must be on the righthand side (looking up from the stock).

The swivel itself must be installed on the side of the mount **away from** the muzzle end. In other words the swivel should swing all the way down **toward** the stock.

Follower

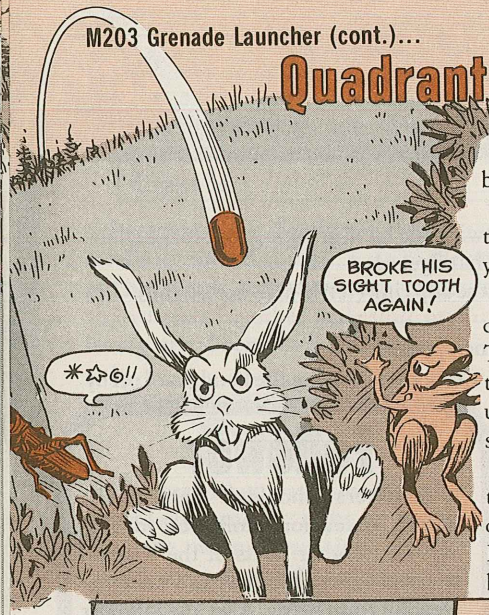
Armorers shouldn't ignore the barrel extension follower during service to other parts of the weapon because a dirty follower can keep the weapon from firing. Also, the follower tends to rust when it's not cleaned regularly.



You might even get some mass cleaning done by showing grenadiers how to remove, clean and lube the follower during their regular cleaning sessions.

Naturally, show 'em how to put it back, too.

Quadrant Sight

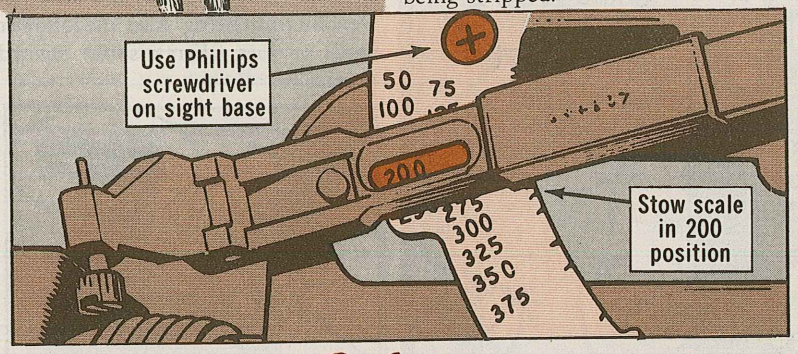


When a quadrant sight tooth is broken, replace the sight.

One good way to prevent broken teeth is to store the scale in the 200 yard position.

Another way to prevent sight damage is to use the right screwdriver. There are several kinds of screws on the sight, but the one that gets bunged up most is the Phillips head on the sight base.

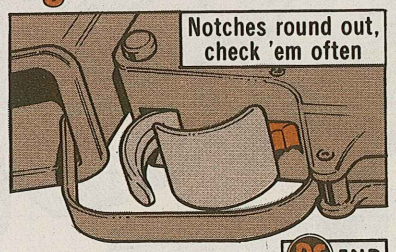
Troops use flattip screwdrivers on them, probably because the screwdrivers are handier, but they need a Phillips to prevent the grooves from being stripped.



Safety

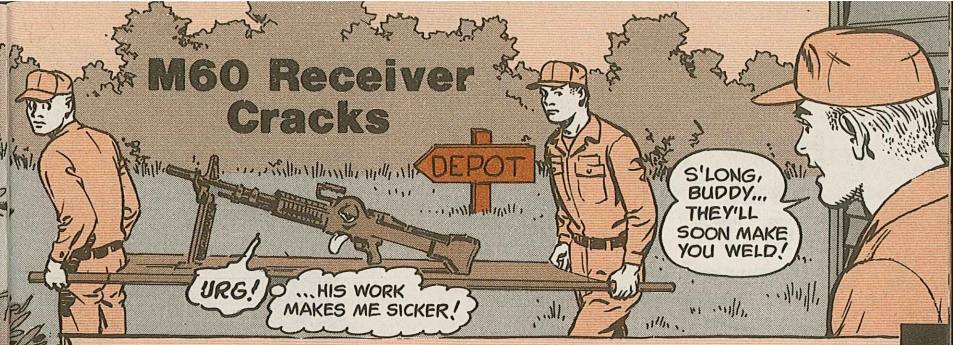
Check the safety during your PMCS's in the FIRE and SAFE positions. Safety detent notches round out with wear and you could end up with a faulty safety.

The safety should fit firmly in the FIRE and SAFE position. If it doesn't support has to repair it.



PS END

M60 Receiver Cracks



Dear Half-Mast,

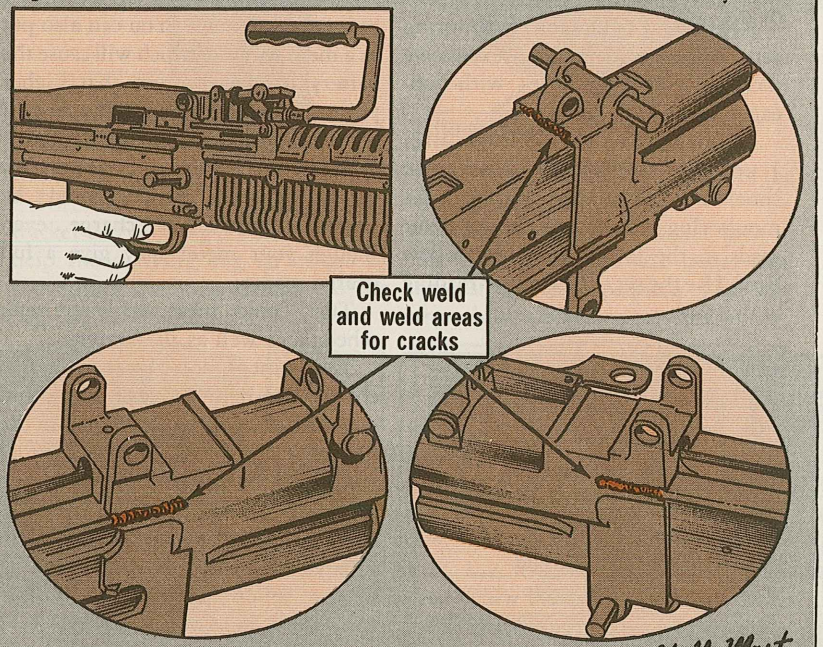
In my assignment as a Division MAIT member, I've found many M60 machine guns with cracks in the receiver, above the outer weld. Cracks are just behind the front pin of the trigger grip. What should armorers do when they find the cracks?

SFC J. O. S.

Dear Sergeant J. O. S.,

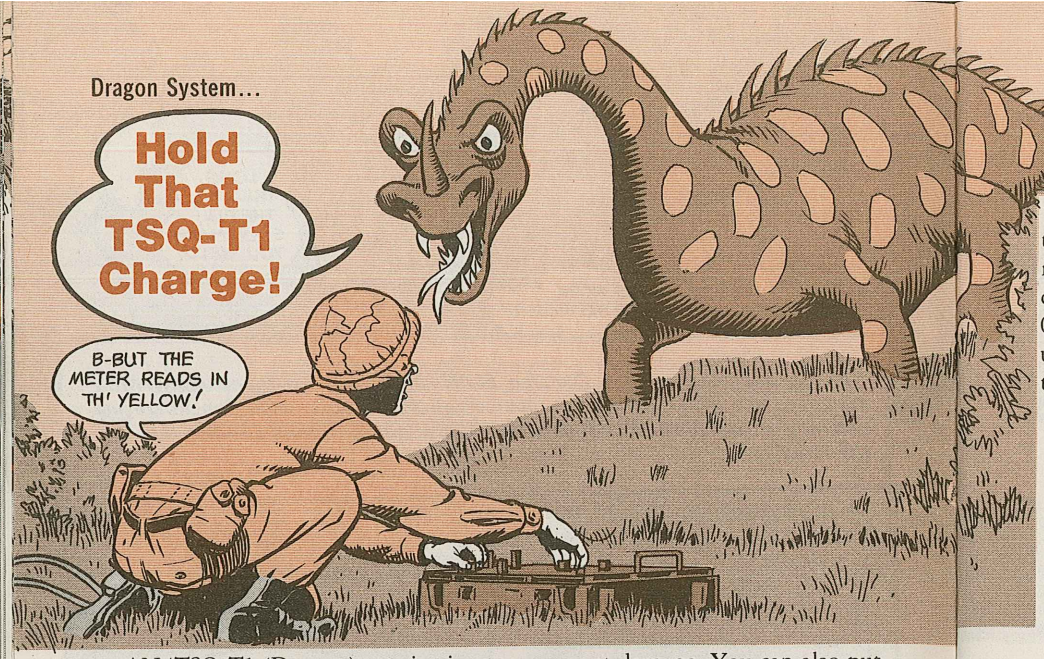
When there're cracks in the base metal of the receiver or in the welded areas shown here, turn in the guns for replacement.

Cracked welds are part of a depot overhaul program. The word on turn-in will be in the revised TM 9-1005-224-24, to be distributed this year.



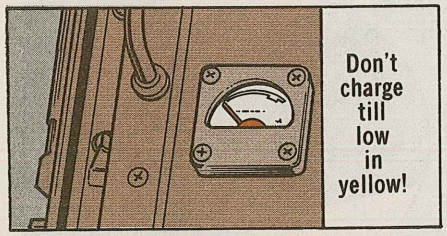
Half-Mast

Dragon System...



AN/TSQ-T1 (Dragon) monitoring set users are damaging expensive nickel-cadmium batteries with too-eager battery charging.

As Change 5 to TM 9-6920-480-12-1 and TM 9-6920-484-12 say, you should **not** charge the batteries in the monitoring set until the charge meter reads in the lower 1/3 of the yellow band. Use the set till the meter reading is that low.



If you charge a battery which has a reasonably good charge left, you can do permanent damage. You can also put in a memory cycle which will cause the battery to charge from that higher point...say high in the yellow...even if it becomes almost fully discharged.

In effect, the memory cycle puts in a surface charge which could be nowhere near full charge...even though your meter may give a full charge reading.

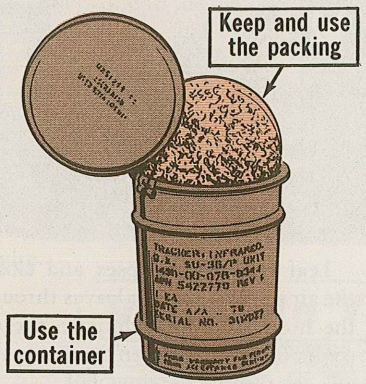
That could mess up a training schedule as well as the battery.

The point is, don't be too eager to charge the batteries. Let them run down till your meter shows 'em in the lower 1/3 of the yellow. You'll get all the power you need till you **really** need a charge.

If the batteries do not perform satisfactorily with the meter reading in the yellow, something's wrong. Turn them in to your support.

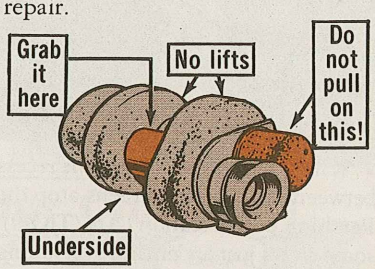
Tracker Protection

One of the best ways to protect your tracker when you're sending it out for repair or whatever is to use the container it came in (NSN 1430-00-078-8340). Naturally, you keep and use the container packing material, too.



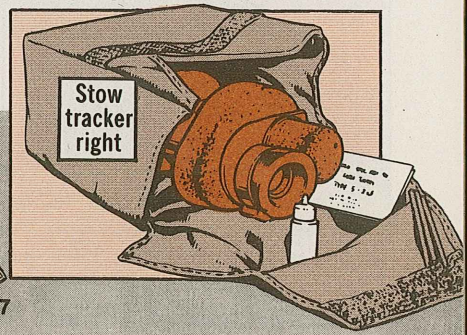
For tactical or training use, the tracker carrying bag is a must. You can help the carrying bag do its job by preventing handling damage to the bag and the tracker, too.

You also can prevent damage to the shock cushions on the tracker itself by letting them do their job as shock absorbers. That means go easy on lifting the tracker with them. Repeated victim of rough handling is the padded cushion beside the eyepiece. Troops yank the tracker from the carrying bag by pulling it out with the cushion. The cushion pulls off...and the tracker goes down for repair.



Best bet: grab the metal parts of the tracker and pull.

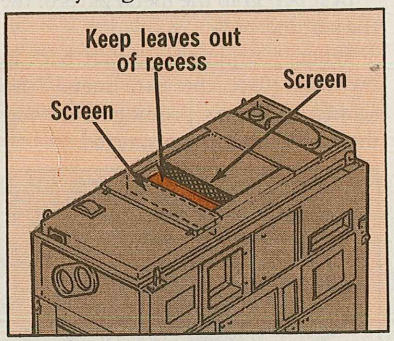
When you put the tracker back in the bag, place the bare metal base against the bag's padding. That way the whole tracker's protected.



Pershing...

Oil, Tree Leaves Don't Mix

When tree leaves fall into the recess between the air inlet screens atop the Pershing power station (AN/TJQ-9), some crews just let 'em keep on falling till they clog the air screens.



You can't stop leaves from falling, but leaves can sure put down the station's expensive ($65,556.) gas engine turbine.

Leaf buildup collapses and closes the air screens, forcing leaves through the hoses and air turbine to the oil cooler fins. The oil then overheats and the gas turbine bearings fail.

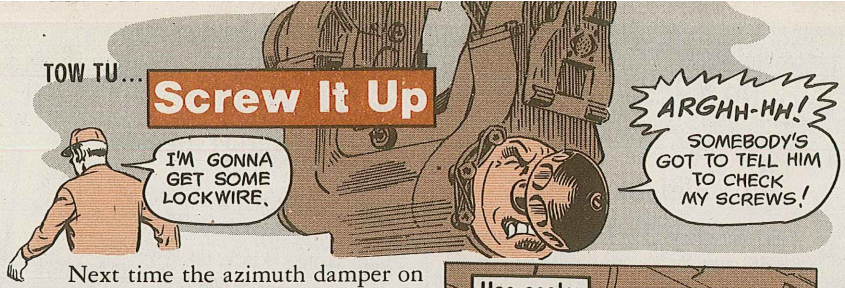
At least 8 turbines went down from leaves in a short period in 1979. Add up that potential repair or replacement cost!

So, before each operation, check the screens and the area between them for leaves or other debris. Remove it completely. When leaves are falling you'd get double protection by sweeping the top of the station clean. That'd prevent 'em from blowing around or otherwise being drawn into the screens.

A PMCS check in the new TM 9-1450-382-10 (page 2-15) includes the above.

TOW TU...

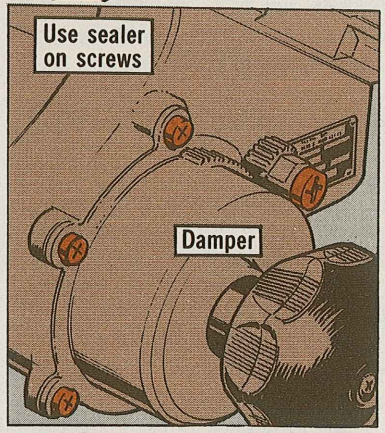
Screw It Up



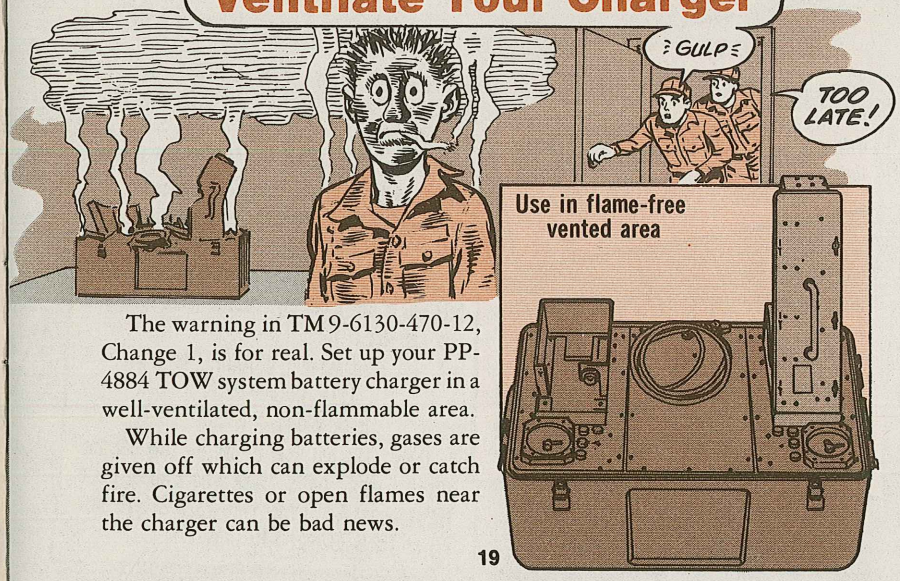
Next time the azimuth damper on the traversing unit (TU) of your TOW system seems a little wobbly, check the screws.

Those 6 machine screws that mount the outer cone to the damper support may work loose, and that'll give you play in the azimuth damper. Best bet: Tighten the screws and use sealer TL 290-21, NSN 8030-01-011-9425, on them.

If you're wondering about those locking wire holes in the screws, forget it. You now use sealer instead of wire.



Ventilate Your Charger



The warning in TM 9-6130-470-12, Change 1, is for real. Set up your PP-4884 TOW system battery charger in a well-ventilated, non-flammable area.

While charging batteries, gases are given off which can explode or catch fire. Cigarettes or open flames near the charger can be bad news.

No Paint on Canvas

Keep camouflage paint off your truck canvas and tents...even tho you may see pictures to the contrary in your camouflage pattern painting TB. A paint for canvas is still undergoing tests.

M151-Series Brakes

You can quit frettin' and bustin' your knuckles trying to keep the brake pedal free travel to the PMCS specified ¼ inch. The headshed says your M151's brake pedal is now A-OK if the free travel is within ¼ and ⅞ inch.

5-Ton Tire Pressures

Can't decide what tire pressures to use on your TM 260-series 5-ton? You can't always trust the data plate on your truck...it's not always right. The info in TM 9-2320-260-10 (Nov 77) page 1-5, table 1-6 is correct.

M911 Water Temp Gage Change

A voltage limiter. That's what you need if you're putting a new water temperature gage, NSN 6685-01-033-2562, on your M911 C-HET. You'll blow the gage as soon as you put it in unless you use the voltage limiter. Get it with FSCM 16476 PN 06290-0.

M880 Torque Talk

Forget the 210-lb-ft torque listing for spring U-bolt nuts in Table 1-2, TM 9-2320-266-20 (Jan 76) with C 4. The right torque for the spring U-bolt nuts is 110 lb-ft.

Got Your Tow Bar TM?

You've got a tow bar on your M543-series or M816 5-ton wrecker, but it's not covered in your wrecker TM's.

You need TM 9-4910-496-10 (Oct 72) for the older tow bar, NSN 4910-00-735-6056.

If you've got the new model tow bar, NSN 4910-00-433-7094, you should've received a final advance copy of TM 9-4910-593-10 with it. Until this TM is available thru regular pubs channels, you can get it from:

Commander, USAARRCOM
ATTN: DRSAR-MAT
Rock Island, Il 61299

These TM's tell how to use the tow bar and also list repair parts. Make a note about these TM's on page A-1 in your TM 9-2320-211-10 (Nov 77) or TM 9-2320-260-10 (Nov 77).

M796 Bolster TM Box

The TM container is not listed in TM 9-2330-287-14 (Oct 71). You can get a new one with NSN 2540-00-388-9985.

"Bubble Gum" Lamp

To get a replacement lamp for your Action-Lite Model ST-125 vehicle warming light, NSN 6220-01-008-6620, take the exception data request route. Use FSCM 11721, P/N ST-77 and RIC S9G.

Fuel Tanker Adapter

Older M131-series 5,000-gal fuel tank semitrailers used a fuel transfer hose with a threaded connector to hook up to the discharge manifold valve. But the replacement 3-in diameter hose you get may be the quick-disconnect coupling type. So you need an adapter to use this hose with the threaded valve. Adapter (coupling half) NSN 4730-00-079-1364 will do the job.

5-Ton Clutch Travel

Clutch pedal free travel for TM-211-series and TM-260-series 5-ton trucks is not what the vehicle TM's say it is. Instead, it's 2 to 2½ inches. This new info is already in TM 43-0143 (Jun 77), Ch 1, page 4-40.3, for the TM-211-series 5-tonners—and, natch, the same goes for the TM-260-series trucks.

Missing Chain

The PN listed for Item 6, Fig 282 in TM 9-2320-209-20P (Oct 76) is wrong. NSN 3020-01-064-2802 will get you a 27-link roller chain for your M764 pole setter. You may have to remove some of the links to make it fit, tho.

Forklift Filters

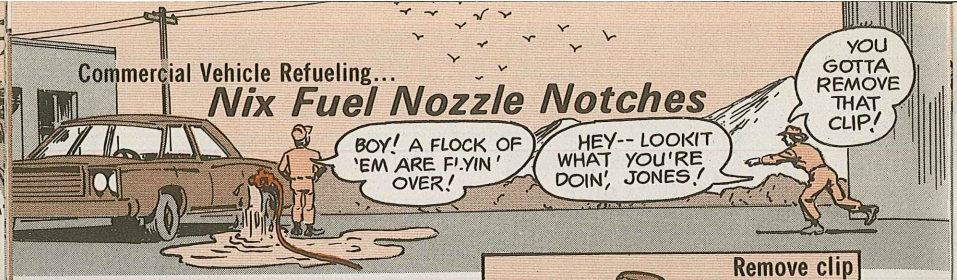
Straighten out TM 10-3930-632-20P (Jul 75) on the 2,000-lb GED Model MHE-229 forklift with this poop: NSN 2940-00-892-6214 gets a throwaway type engine oil filter element for Item 13, Fig 42. NSN 2940-00-986-0276 gets the transmission oil filter element for Item 20, Fig 60.

Mechanic and Driver Awards

A lot of good mechanics and drivers go unnoticed. Is your unit or command letting those people know they're doing a great job? See AR 672-5-1 Military Awards (Jun 74) with Change 4 for info on who qualifies for driver and mechanic skill badges and how to arrange for those awards. AR 672-5-2 Decorations and Awards, Illustrations of Awards (Jul 67) shows you the badges and qualification bars.

Commercial Vehicle Refueling...

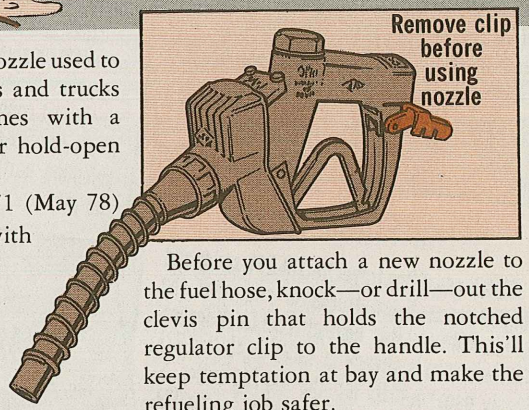
Nix Fuel Nozzle Notches



The $^{13}/_{16}$ -in diameter nozzle used to refuel commercial sedans and trucks with unleaded fuel comes with a notched regulator clip for hold-open fuel flow.

But Para 8-5, FM 10-71 (May 78) says never use nozzles with notched handles.

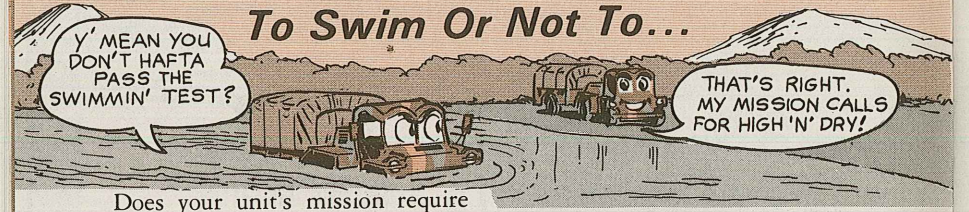
You have to keep your hand on the flow control trigger all the time you're refueling vehicles... for safety's sake.



Before you attach a new nozzle to the fuel hose, knock—or drill—out the clevis pin that holds the notched regulator clip to the handle. This'll keep temptation at bay and make the refueling job safer.

TM-242-Series 1¼-Ton Truck...

To Swim Or Not To...



Does your unit's mission require that your Gama Goat stand ready for swimming or fording operations? No? Then you don't have to report on its swimming fitness when you're pulling your PMCS ready/not ready checks.

But if there is swimming or fording in your Goat's future, make sure that—

—All body panels are tight.

—Seals are in good shape.

—Tailgate fits snugly.

—Tailgate seal's not damaged.

—Hull drain plugs are attached and'll do their job.

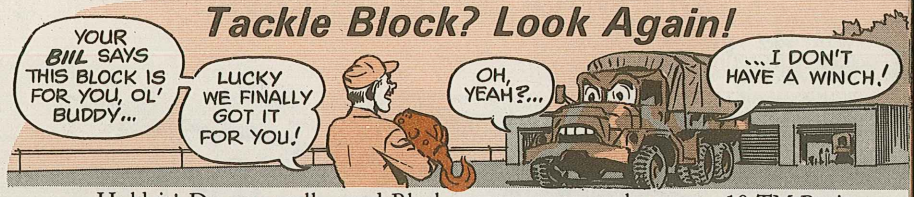
—Bilge pump operates.

Your Goat's "not ready" if it misses the boat on any of those checks.

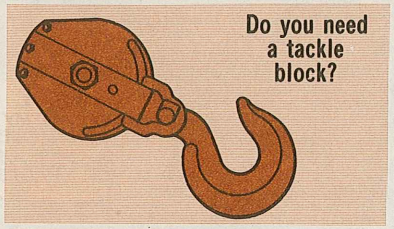
This word is in TARCOM Msg DRSTA-MTA 031415Z Jul 79—with more details in TB 43-0001-39-3 (Oct 79).

TM-209-Series 2½-Ton Truck...

Tackle Block? Look Again!



Hold it! Do you really need Block, tackle, NSN 3940-00-111-6693 for your deuce-and-a-half?



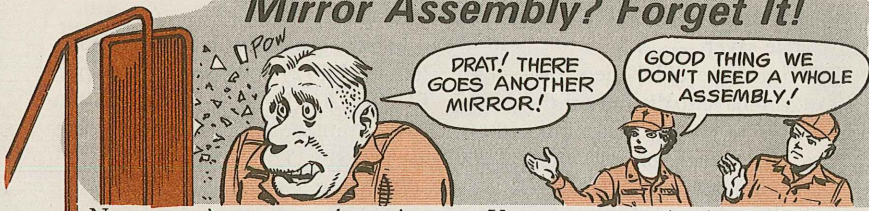
If your truck has no front-mounted winch, you don't need the tackle block—no matter what your -10 TM Basic Issue Items List says. You get a bum steer in both TM 9-2320-209-10/1 (Oct 76), page B-3, and TM 9-2320-209-10 (Feb 65), page 229.

That tackle block carries a price tag of nearly 65-bucks—and it's back ordered to the tune of more than $73,000!

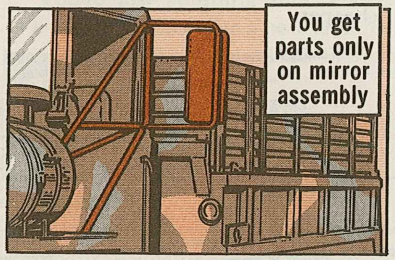
If your truck's got no winch, don't order the tackle block. If you've already got the tackle block—but no winch—turn the tackle block in.

5-Ton Trucks...

Mirror Assembly? Forget It!



No, you can't get a complete mirror assembly for your TM-211-series or TM-260-series 5-ton truck.

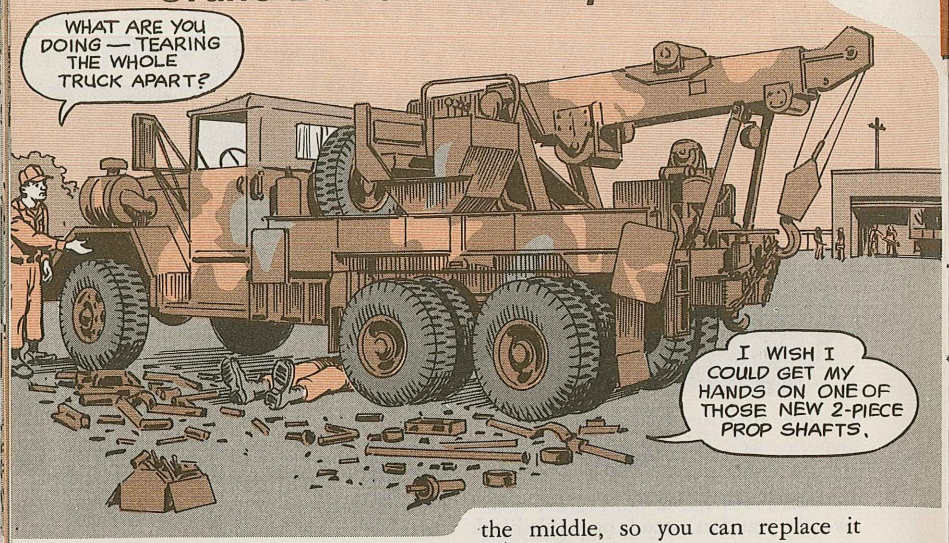


You can get only the individual parts as listed in your parts manual—TM 9-2320-211-20P (May 73), Fig 200, and TM 9-2320-260-20P (Nov 72) w/Ch 2, Fig 22-9 & 22-10.

Some people have dug up a couple of old NSN's for complete mirror assemblies. But these NSN's will not get you mirror assemblies—no matter what the AMDF says. You'll just waste time and paper. Your order will be rejected.

5-Ton Wrecker...

Crane Drive Shaft Improved



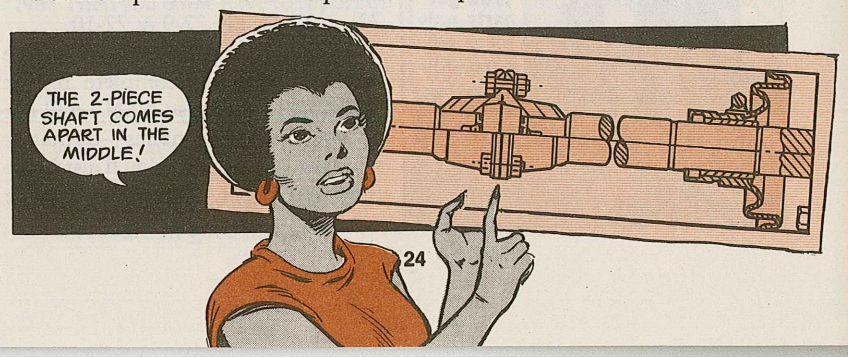
The new 2-piece crane drive prop shaft for the M543-series and M816 5-ton truck wreckers is a time and trouble-saver.

To get the old 1-piece prop shaft out, you have to disconnect the power take-off to power divider prop shaft, the rear winch prop shaft and the power divider linkage. Then you have to uncouple and lower the power divider to get enough clearance to remove the shaft.

But the 2-piece shaft comes apart in the middle, so you can replace it without all of that disassembly business. And you can use it in place of the 1-piece shaft.

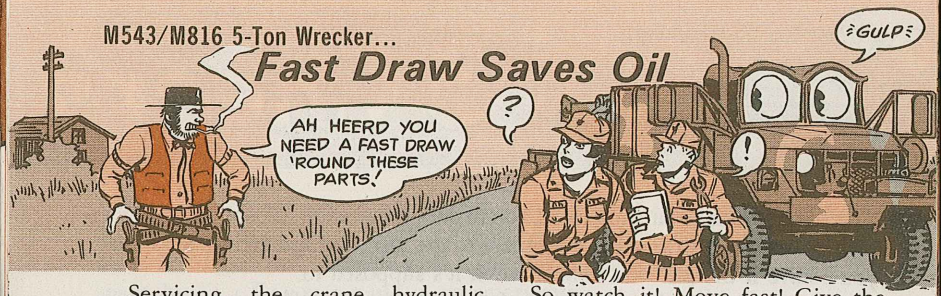
In fact, page 15, Ch 2, TM 9-2320-260-20 (Jul 72) and page 2-224, Ch 2, TM 9-2320-211-20 (Jun 73) tell you how to remove and install the 2-piece shaft, NSN 2520-01-045-6033.

Both the 1-piece shaft and the 2-piece shaft are in supply. Smart money is on the new one, tho. It's easier and quicker to replace—and it's about $30 cheaper.

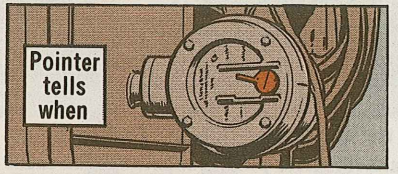


M543/M816 5-Ton Wrecker...

Fast Draw Saves Oil



Servicing the crane hydraulic system filter on your 5-ton wrecker can be a messy and wasteful job if that 70 gallons of hydraulic oil pours out. It can happen if the automatic shutoff valve fails.

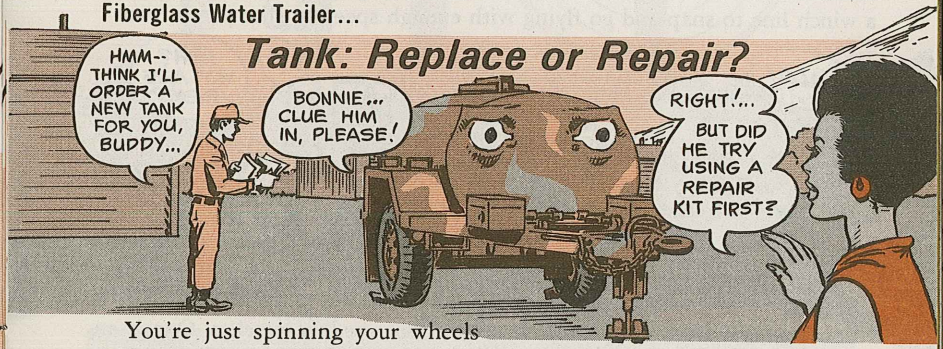


So watch it! Move fast! Give the filter element a quick jerk when you remove it. This is supposed to trigger the shutoff valve. If more than 3 gallons of oil come out, you know the valve didn't trigger. So—quick—put the filter element back in and yank it out again. This should put the valve into action.

You'll find more details on this in TM 43-0143 (Jun 77), page 4-48, para 4-18.

Fiberglass Water Trailer...

Tank: Replace or Repair?



You're just spinning your wheels when you try to order a new tank for your M149, M149A1 or M625 400-gal water trailer.

Yes, the tank has an NSN. And, yes, the AMDF leads you to believe that you'll get a new tank with that NSN. But you won't!

There're only 2 ways to solve the problem of a bum tank—repair it or replace the entire water trailer. Repair instructions—using an epoxy repair kit—are in TM 9-2330-267-14 (Jun 71), pages 6-1 & 6-2.

And get this. The epoxy repair kit is no longer available under NSN 2590-00-764-5625—even tho the AMDF says it is. Instead, order the kit under NSN 8010-01-060-7176.

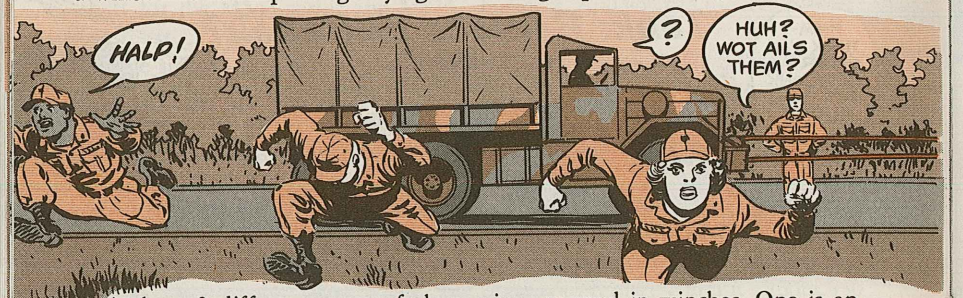
When You Go Winching...

3 Cheers for Shears

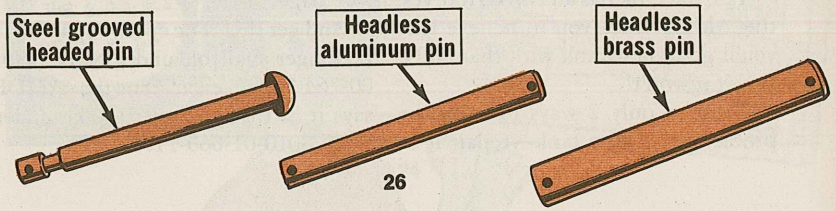
When a winch shear pin breaks, you're out of operation till you put in a new one. But that downtime can't compare to the lost time and maintenance cost you'll have if the pin won't shear when it's supposed to.

Shear pins are like fuses in electrical circuits. When a fuse blows, it prevents a fire or damage to expensive equipment. When a winch shear pin goes, it prevents shattered gears or a snapped cable.

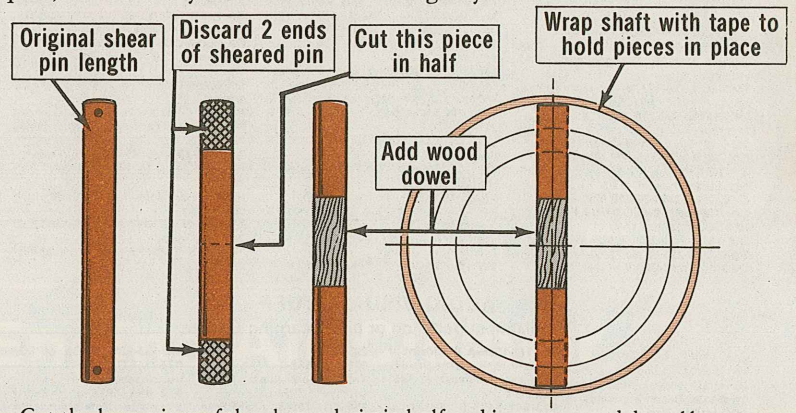
The pins are designed to break when the winch is overloaded. That's why you never substitute rivets, pins, bolts or nails for shear pins. A substitute can cause a winch line to snap and go flying with enough speed to slice you in two.



At least 3 different types of shear pins are used in winches. One is an aluminum headless pin with a cotter pin hole in each end. Another is a steel-headed pin that's grooved and is designed to break at the groove. And the Gama Goat winch uses a brass pin that's held in place with tape.



Some equipment manuals authorize a couple of spare shear pins for the driver while other manuals don't even authorize the pins at organizational level. So, if you find yourself with a sheared aluminum or brass pin and no spare, here's a fix you can use in an emergency.



Cut the long piece of the sheared pin in half and insert a wood dowel between the 2 pieces. Then wrap tape around the shaft to hold the shear pin pieces in.

A word of caution, tho. Once a steel-grooved pin is sheared, it's finished, so don't try this fix with it.

TRUCK SIZE & TM-SERIES or MODEL NO.	FRONT WINCH SHEAR-PIN NSN	REAR WINCH SHEAR-PIN NSN
1¼-Ton TM-242-series	5315-00-080-9217	
2½-Ton TM-209-series	5315-00-736-8685	5315-01-044-8362
2½-Ton Mdls V17A, V18A, MTQ & M764	5315-00-736-8685	5315-00-252-5669
5-Ton TM-211-, -260-series	5315-00-209-7979*	5315-00-282-2583
5-Ton TM-230-series	5315-00-880-5861	
10-Ton TM-206-series	5315-00-421-1676	5315-00-421-1676
10-Ton TM-233-series	5315-01-031-6212	
*Same for M748A1 & M815 midships winch		

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4, TM's, TB's, etc.; DA Pam 310-6, SC's and SM's and DA Pam (C) 310-9, COMSEC pubs.

TECHNICAL MANUALS

TM 5-3820-254-14&P Mar Reed Tool Texoma Mod 254-9 auger, earth, skid mounted
TM 5-5420-209-12 May Imp float (ribbon) bridge Condec Mod 2280, 2281, 2282
TM 9-1260-599-24P Mar Laser, target desig AN/PAQ-1
TM 9-1430-655-24P Mar AN/TSQ-73
C 1, TM 9-2320-233-20P Mar Goer
C 1, TM 9-2330-255-24P May Trailer, low bed, guided missile, M529
C 15, TM 9-2350-222-10 Mar M728
C4, TM 9-2350-230-24P/1 Feb M551/M551A1 Sheridan
C 4, TM 9-2350-232-10 Mar M60A2 tank
TM 9-2350-253-10 Nov M60A3 tank
TM 9-2350-253-20-2 Apr M60A3 tank
C 2, TM 9-2350-256-20 Jan M88A1
C 1, TM 9-2350-258-10 Mar M48A5 tank org maint
C 4, TM 10-3930-222-20P Apr Truck, lift, fork; GED 15,000-lb
TM 11-1520-236-24P-1 Apr Electronic for AH-1S stab-control aug sys
TM 11-5820-222-20P Jan Radio sets AN/VRC-24, AN/VRC-24A, AN/TRC-68, AN/TRC-68A
TM 11-6625-203-24P-2 May Multimeter AN/URM-105C
TM 55-1510-209-23P-2 Apr U-21 series
TM 55-1520-220-PM Mar UH-1C/M
TM 55-1520-220-PMD Mar UH-1C/M
C 9, TM 55-1520-234-23-1 Apr AH-1S (mod)
TM 55-1520-236-23-3 Apr AH-1S (modernized Cobra)
TM 55-1520-236-23P-1 Mar AH-1S (PROD) (ECAS) (MC)
TM 55-1520-237-23P-1 Apr UH-60A
TM 55-1520-239-23-1 Apr AH-1S (modernized Cobra)
TM 55-1520-239-23-2 Apr AH-1S (modernized Cobra)
TM 55-4920-394-13&P Apr Test stand, aircraft hydraulic systems, type MK-1
TM 746-238 Apr Preserv, pack TOW

MISCELLANEOUS

AR 750-51 May MAIT
CIR 310-23 Feb Rescinded pubs
CIR 700-29 Apr Supply requisition processing
DA Label 132 Jan 80 Warning—Do Not Start Vehicle While Radio Is ON
DA Poster 750-57 Dec Timing light
DA Poster 750-73 Dec Truck engine filters
DA Poster 750-80 Jan Cool It—Save your engine
Pam 310-1 (fiche) Mar Admin pubs index
Pam 310-2 (fiche) Mar Forms, labels index
SC 3433-90-CL-NO1 Nov Torch outfit
SC 3433-90-CL-NO1-HR Nov Torch outfit
SC 3433-90-CL-NO4 Nov Torch outfit, ctg & wldg
SC 5180-90-CL-N57 Feb Gen mech lt wt tool kit (fiche)
TB 746-92-1 Mar Painting, marking missiles

AUDIO-VISUAL STUFF

Available at battalion or post Learning Center

Films, TV Tape

TF 3-6124 Complete personnel decontamination
TF 3-6126 Decon apparatus, ABC M12A1, Part I
TVT 120-68 Organizational effectiveness

TEC LESSONS

020-171-1684-A & J Assy, disassy, breechblock 105-MM main gun
020-171-1686-A & J Maint of breechblock, breechring, bore evac chamber of 105-MM main gun
043-441-5477-F IHIPIR—purging cooling sys
101-113-4574-A Organiz maint TSEC/KY 57 (FOUO)
101-113-7140-J Install power supply PP-2953/U(*)
101-113-7141-J Quarterly PM on power supply PP-2953/U(*)
101-113-7142-J Troubleshoot/repair power supply PP-2953/U(*)
104-301-7509-J AN/PPS-4A (radar)
121-093-6907-A Repair (HAWK) launcher hatch-raising cyl
121-093-6909-A Replace base hyd panel manifold (HAWK launcher)
202-113-5218-A Op of SB-675/MSC Part 7)—troubleshooting
412-061-7919-J 0.2-mil theodolite—test, adjustment (T-16)
412-061-7977-F 0.002 mil theodolite—test, adjustments (T-2)
947-071-0189-F Assy, maint of AN/PSS-11 metallic mine detector

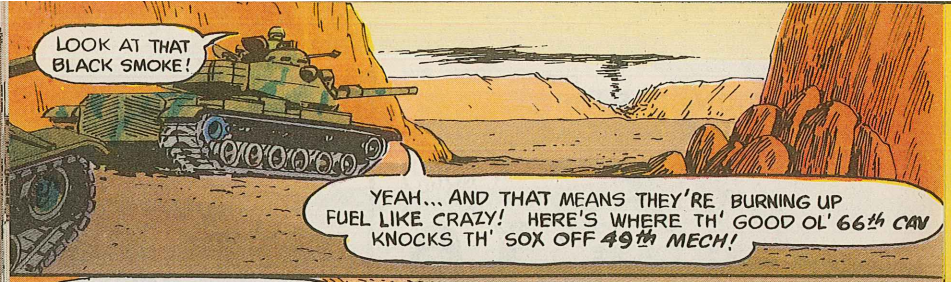
Mask It!

Camouflage paint in the wrong places will damage your equipment. So make with the masking tape before you paint. Mask all glass surfaces, plastics, rubber, lubrication fittings, electrical connections, hydraulic cylinder plunger rods and other working parts. Don't use grease as a masking agent for it will smear and mask areas that need paint.

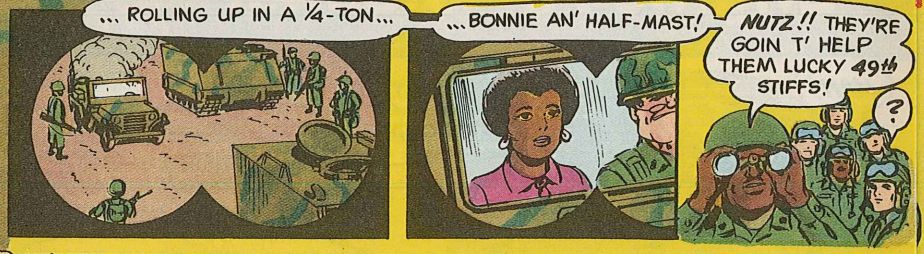
Generator Parts Mixed

Operators of 15-KW DED generator sets supported by TM 5-6115-464-24P (Oct 78) take note: The description of 2 oil filter parts illustrated in Fig 54 are mixed up.

The correct matchup is like so: NSN 5310-00-297-2275 is the flat cellulose washer (Item 27) and NSN 5330-00-171-7032 is the rubber cover gasket (Item 29).


LOOK AT THAT BLACK SMOKE!
YEAH... AND THAT MEANS THEY'RE BURNING UP FUEL LIKE CRAZY! HERE'S WHERE TH' GOOD OL' 66th CAV KNOCKS TH' SOX OFF 49th MECH!

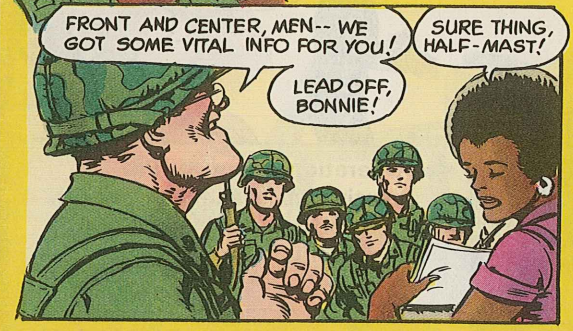

NO SMOKE FROM US... THEY WON'T SPOT US, 'TIL IT'S TOO LATE!
?
!
OH OH!
THEY MUST'VE WISED UP... THEY'RE SHUTTIN' DOWN THEIR ENGINES!
LOOKS LIKE THEY'VE GOT VISITORS...


... ROLLING UP IN A ¼-TON...
...BONNIE AN' HALF-MAST!
NUTZ!! THEY'RE GOIN T' HELP THEM LUCKY 49th STIFFS!
?

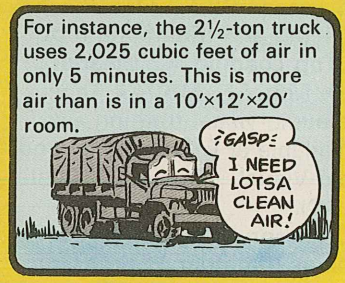

?
NO MATTER! THE GREATEST PM ADVICE IN TH' WORLD WON'T SAVE THEM FROM WHAT I'VE GOT IN MIND!
LISTEN CLOSE, GENTS! THIS IS WHAT WE'RE GOIN' TO DO!
WHILE WITH THE 49th INFANTRY...
WE THOUGHT THERE WAS A BIG FIRE OVER HERE!
WE WERE ON OUR WAY TO GIVE A CLASS ON AIR CLEANER PM!
NOW THAT YOU MENTION IT...

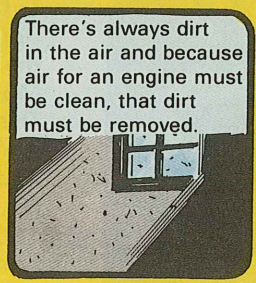

...POOR AIR CLEANER PM IS WHAT WE GOT TOO MUCH OF...


...MY TROOPS ARE MARKING TIME! PERHAPS YOU'LL GIVE THEM SOME MUCH NEEDED TIPS...
WHILE I PLAN A LITTLE STRATEGY...
YOU GOT IT, SIR!
IF YOU'VE GOT TH' TIME, WE'VE GOT TH' POOP!


FRONT AND CENTER, MEN-- WE GOT SOME VITAL INFO FOR YOU!
SURE THING, HALF-MAST!
LEAD OFF, BONNIE!

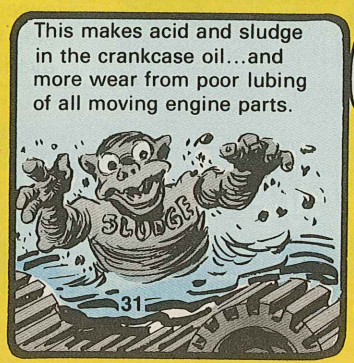

GENTLEMEN, ALL INTERNAL COMBUSTION ENGINES-- FROM TINY CHAIN SAW TO MONSTROUS TANK-- REQUIRE PLENTY OF AIR FOR PROPER FUEL COMBUSTION!


For instance, the 2½-ton truck uses 2,025 cubic feet of air in only 5 minutes. This is more air than is in a 10'×12'×20' room.
:GASP: I NEED LOTSA CLEAN AIR!


There's always dirt in the air and because air for an engine must be clean, that dirt must be removed.


If you let dirt get into the engine, it mixes with oil and forms a grinding compound that will speed up wear on piston rings, cylinders and bearings.
OUCH!
OW!


This damage spreads like cancer. Engine power goes down due to reduced compression. Blow-by increases, putting raw fuel, combustion gases—and dirt—into the crankcase.
AH'M SICK!


This makes acid and sludge in the crankcase oil...and more wear from poor lubing of all moving engine parts.
SLUDGE

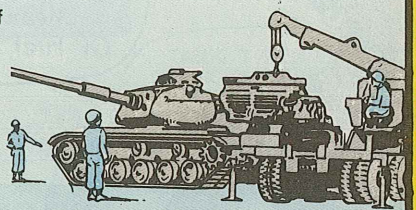

WHICH IS WHY ALL INTERNAL COMBUSTION ENGINES MUST BE PROTECTED BY AIR CLEANERS.


JOE'S Dope Sheet
TANK TYPES -- CHECK OUT THESE SOURCES FOR A LOT OF GOOD INFO ON M60 TANK AIR CLEANER PM...
Your engine's supply of clean air
Depends on your air Filter care!
A smoky exhaust
Means you've upped the cost
Of Fuel, performance, repair!
Operation Clean Air Preventive Maintenance Phase II. You can get this booklet by writing to Commander, USATARCOM, ATTN: DRCPM-M60-L, Warren, MI 48090.
TEC Lesson 020-171-5305-F, Servicing and Maintaining of the Top Loading Air Cleaner M60/M60A1, M60A2 Tank. This audio-visual training aid is available at your Training and Audio-Visual Support Center (TASC).
TEC Lesson 020-171-5305-F, same as the other TEC Lesson except that it deals with the side loading air cleaner—also available at your TASC.
WE HAVE THE WORLD'S BEST E PME ...Take care of it
IF YOU WANT TO DISPLAY THIS CENTERPIECE S, LIFT IT OUT AND PIN IT UP.

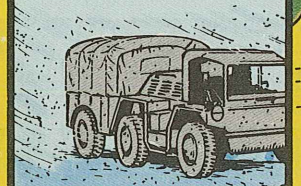
THAT'S REAL GOOD INFO, BONNIE!

NOW, MEN... A FEW WORDS ABOUT *DIRT*...

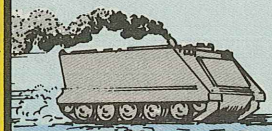
Dirt is mostly silicate and quartz (sand). Less than a half-pound of this dirt in a tank engine will lead to an engine rebuild job costing from $8,000 to $15,000!



In heavy dust several pounds of dirt may be pulled into your engine's air cleaner in just a few hours!



As your engine air cleaner gets loaded with dirt, you'll see blacker exhaust smoke and a drop in engine power. Your engine is starved for air! Unburned fuel is going out of the exhaust!



Some equipment has an air cleaner restriction indicator that tells you when your air cleaner is plugged with dirt.

...WHAT YOU CALL LAYING IT ON 'EM, SARGE...

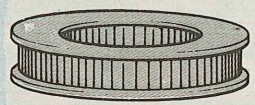
HELP ME WITH THESE VISUALS, PLEASE...

MY PLEASURE, BONNIE!

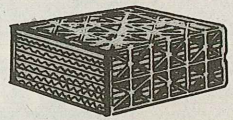
4 MOST COMMON AIR CLEANERS...

★ A fuzzy, mesh-type on a chain saw.

★ Oil bath, as on an M151-series ¼-ton truck.



★ Dry, non-washable, as on the 1¼-ton M880-series truck



★ Dry, washable, as on M60-series tanks

OK-- THAT COVERS TH' DIFFERENT TYPES OF AIR FILTERS... AND *WHY* AN' *HOW* THEY GET DIRTY--

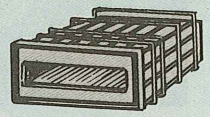
YEAH-- BUT HOW ABOUT CLEANING ELEMENTS?

...OR REPLACING 'EM?

NO PROBLEM! YOUR –*10* OR –*12 TM* HAS THE WORD!

TRUE, SARGE -- BUT CLEANING OR REPLACING ELEMENTS IS ONLY A SMALL PART OF FILTER *PM!*

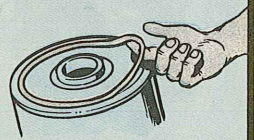
You must also find and fix leaks that let dirt sneak into your engine—



★ Holes or tears in the dry-type elements?

★ Element twisted or bent so it won't make a good seal in the housing?

There're rubber seals on some filter elements or in the air cleaning housing—or both!



Make sure these seals are in good condition.

Check the hose or tubing between the air cleaner and the engine.

Keep hose connections tight!!

Look for holes—especially in fabric-type hose where it may rub against near-by parts.

JUST ONE SMALL LEAK IN THE AIR CLEANER SYSTEM IS AN OPEN DOOR THAT LETS DIRT IN YOUR ENGINE!

CORRECT! OIL ANALYSIS IS ONE WAY YOU MUST USE TO FIND OUT HOW MUCH DIRT IS SNEAKING INTO YOUR ENGINE!

USE **AOAP** *

TB 43-0210 requires you to take an oil sample and send it into the lab.

The lab tells you if you're getting dirt. So, take those samples per the **TB** and send them in. If you're getting too much dirt, the lab will tell you to change the oil.

And be sure to check your air filtering system to see how dirt is getting in.

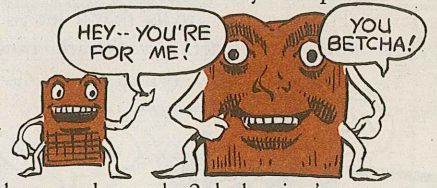
*** Army Oil Analysis Program**

AIR MOBILITY

It's in the Bag!

The compass correction card can't be kept on the instrument panel because it distracts pilots wearing night vision goggles. So Para 6-34h in TB 746-93-2 (Aug 78) on painting aircraft says to keep it in the log book.

Latch onto some handy little plastic



bags and punch 2 holes in 'em to match the rings in the log book binder.

Insert the card, close the bag with the plastic seal, and keep it in the front of the log book. NSN 8105-00-837-7754 will get you a box of 100 plastic bags.

They're Good Until...

Dear Windy,

We have a lot of O-ring packings that have been in tech supply for years. Some of them—in paper containers—feel brittle.

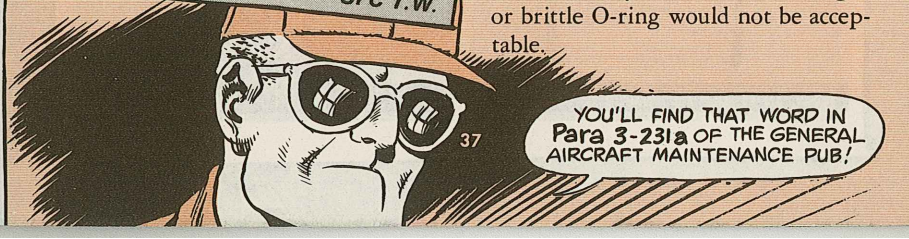
We'd like to clear the bins of faulty O-rings, Windy. Is there a shelf life on those little dudes?

SFC T.W.

Dear Sergeant T.W.,

No, Sarge. Leave 'em packaged because they have an indefinite shelf life. That's the word in Para 2-180 of TM 55-1500-204-25/1 (Apr 70) on general maintenance practices.

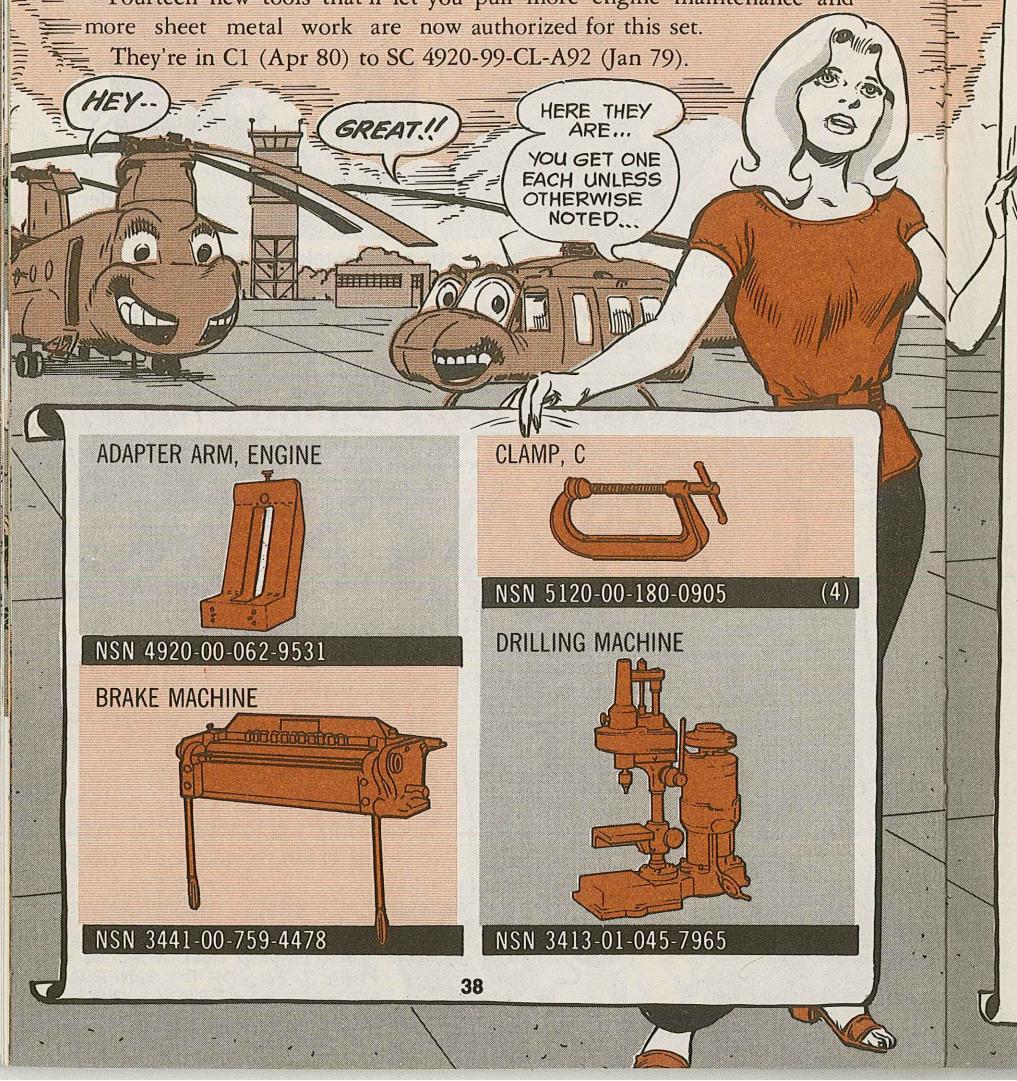
Check all O-rings for cuts, nicks or flaws before you use 'em. A damaged or brittle O-ring would not be acceptable.



AVUM No. 2 Set...

Aircraft Tool Set ADDITIONS

Fourteen new tools that'll let you pull more engine maintenance and more sheet metal work are now authorized for this set. They're in C1 (Apr 80) to SC 4920-99-CL-A92 (Jan 79).



ADAPTER ARM, ENGINE

NSN 4920-00-062-9531

BRAKE MACHINE

NSN 3441-00-759-4478

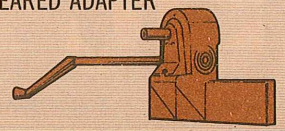
CLAMP, C

NSN 5120-00-180-0905 (4)

DRILLING MACHINE

NSN 3413-01-045-7965

GEARED ADAPTER



NSN 4920-00-084-3305

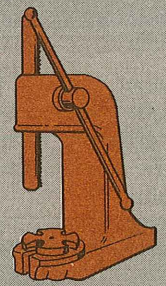
HAMMER, PNEUMATIC

NSN 5130-00-889-8985

NUT RUNNER AND SCREWDRIVER

NSN 5130-00-990-2874

PRESS, ARBOR, HAND OPERATED

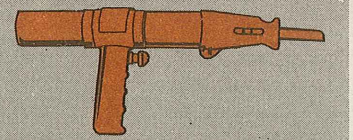


NSN 3444-00-243-2654

RETAINER, RIVET SET

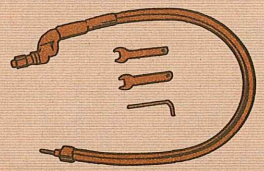
NSN 5130-00-357-3142 (3)

SAW, RECIPROCATING



NSN 5130-00-541-0501

SHAFT, DRIVE, FLEXIBLE

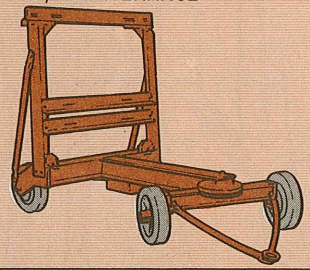


NSN 5130-00-893-5536

SHEARS, METAL CUTTING

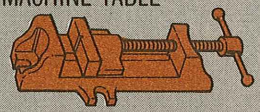
NSN 5130-00-595-9734

STAND, MAINTENANCE



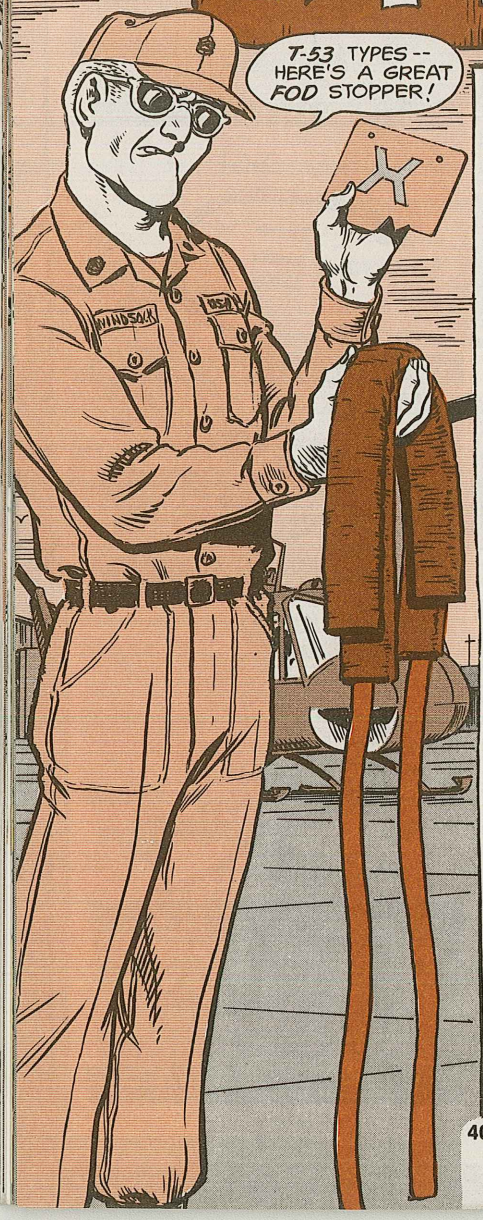
NSN 4920-00-269-0329

VISE, MACHINE TABLE



NSN 3460-00-277-3504

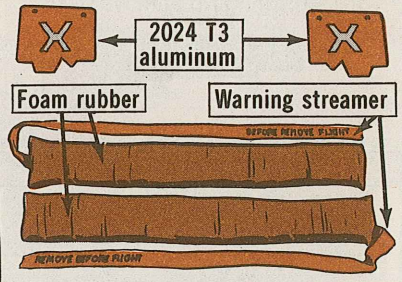
A PLUG IN TIME



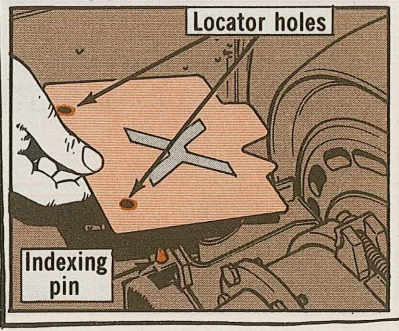
Dear Editor,

We haven't had any maintenance-related foreign object damage since we came up with a couple of handy plugs to protect the inlet of our T-53 engines.

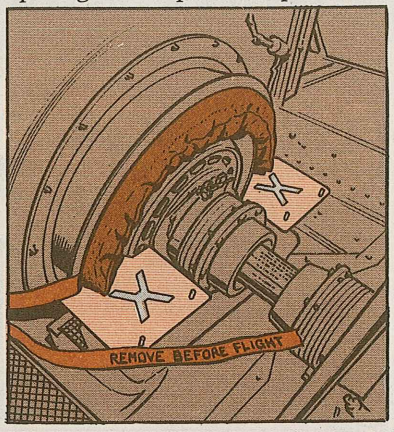
We use 2 pieces of foam rubber (3-in x 1¾-in x 27-in). The rubber is covered by canvas and a red warning streamer added. Two pieces of 2024



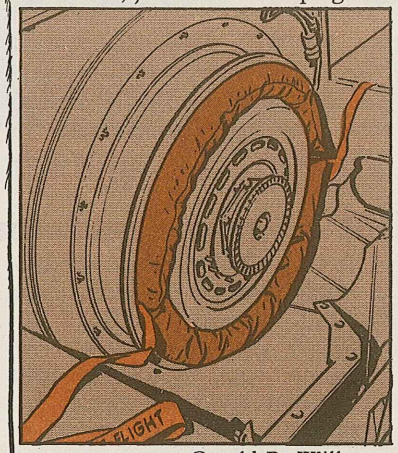
T3 aluminum (7-in x 6½-in) are shaped to fit the engine inlet. Two holes are drilled in each aluminum piece to fit the particle separator indexing pins.



Installing the top plug is a breeze. We use the aluminum to cover the openings in the particle separator.



When the whole particle separator is removed, just insert both plugs.



Gerald R. Willman
Mather AFB, CA

(Ed Note—Right! This is a fine way to cut down on FOD.)

Nonstop Entries

Some aircraft types under the Phased Maintenance System are working too hard!

It's true. Some people make 2 forms entries when one will do.

The Phased Maintenance Checklist is part of the DA Form 2408-13. It's a continuation sheet for the DA 2408-13 just as the DA Form 2404 is.

You can transcribe entries from the DA Form 2408-14, DA Form 2408-18 or other aircraft records directly to the Phased Maintenance Checklist. No intermediate stops on the DA Form 2408-13 needed!

Ute Battery Monitor

Now that MWO 55-1510-200-50-2 (Jan 80) has hit the field, enter it on the DA Form 2408-5 for your U-21/RU-21. Your support puts a battery monitor on your aircraft that'll flash a warning if the nickel-cadmium job heats up. The pilot can turn off the battery to prevent boilovers.

Got a Spare Regulator

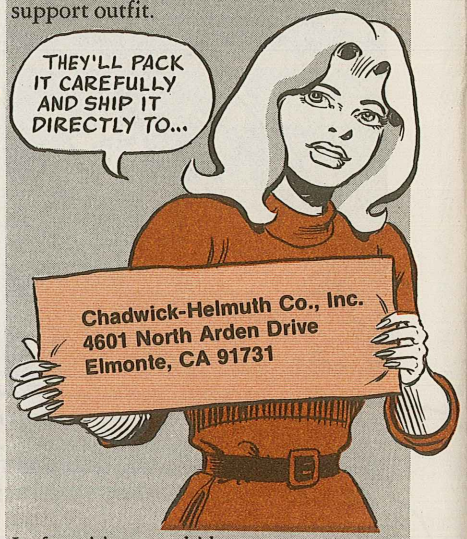
To keep the U-21 voltage regulator assembly line rollin' at the depot, turn in unserviceables—excess serviceables, also. The depot needs regulators NSN 6110-01-009-3828, 6110-00-179-8294 and 6110-00-995-1147.

VIGV Kit Here!

To adjust the variable inlet guide vanes on your T-53 engine following a fuel control change, use Switch and coupling kit, P/N LTCT 13726, NSN 4920-00-078-2410. That's the word in Para 5-155 of TM 55-2840-229-24 (Apr 71). Enough kits are now on hand for issue to AVUM outfits.

Rotor Blade Kit Repair

If your Vibrex Balancing Kit, NSN 4920-01-040-7816, is on the blink, contract maintenance support will put it back in shape. Turn the kit to your support outfit.



In fact, it's a good idea to protect your kit from moisture at all times.

Safety-of-Flight Messages

If your unit has not received these messages, check with your next higher headquarters.

UH-1-80-05 SOF: Inspect nuts, tail rotor drive shaft, clamps, NSN 5310-00-688-2069. All UH/EH-1, AH/TH-1, TB 55-1520-243-20-4 DRSTS-MEA 072030Z Apr 80

UH-1-80-06 Maint Advisory: Replace hydr pressure switch P/N 204-076-057-1, NSN 5930-00-646-3495 DRSTS-MEA 221605Z Apr 80

UH-1-80-07 Maint Advisory: Cap assembly, 42-degree gear box, P/N 204-040-502-11, NSN 1615-00-690-7602 DRSTS-MEA 222010Z Apr 80

AH-1-80-08 SOF: Inspect nuts, tail rotor drive shaft, clamps, NSN 5310-00-688-2069. All UH-/EH-1, AH/TH-1, TB 55-1520-243-20-4 DRSTS-MEA 072030Z Apr 80

AH-1-80-09 Maint Advisory: AH-1S rotor blades, NSN 1615-01-087-1611, P/N K747-003-201 and NSN 1615-01-034-6906, P/N K747-003-1 DRSTS-MEA 151610Z Apr 80

AH-1-80-10 Maint Advisory: Cap assemblies, 42-degree gear box P/N 204-040-502-11, NSN 1615-00-690-7602 DRSTS-MEA 222010Z Apr 80

U-21-80-05 Maint Advisory: T74-CP-700 engine performance checks, U-21A/D/G, JU-21, RU-21A/D/H DRSTS-MEA 021400Z Apr 80

GEN-80-05 Maint Advisory: Revise TM 38-750 DRSTS-MEA 031610Z Apr 80

GEN-80-06 Maint Advisory: Accidental servicing of automotive engine oil into aircraft turbine engines DRSTS-MEA 082115Z Apr 80

GEN-80-07 Maint Advisory: Change to calibration requirements for all fuel quantity testers DRSTS-MEG 252010Z Apr 80

OV-1-80-03 Maint Info: OV-1/RV-1 series aircraft ejection seat drogue gun installed life extension DRSTS-MEA 041610Z Apr 80

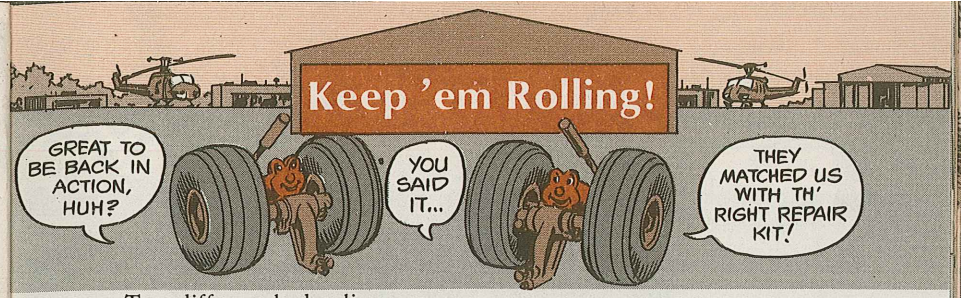
OV-1-80-04 Maint Advisory: Correction of C 2 to TM 55-1680-308-24 DRSTS-MEA 041615Z Apr 80

OV-1-80-05 Maint Info: OV-1/RV-1 series aircraft kit 1A/TSEC, Additional install instructions DRSTS-MEA 071645Z Apr 80

OV-1-80-06 Add/Changes Manual Op Instructions for OV-1D/RU-1D series aircraft with vertical instru display sys (VIDS) installed DRSTS-MEA 241605Z Apr 80

OH-6-80-02 Maint Advisory: Tail rotor assy link configurations DRSTS-MEA 091410Z Apr 80

CH-54-80-02 SOF: One-time inspect main rotor tapered pins DRSTS-MEA 252140Z Apr 80



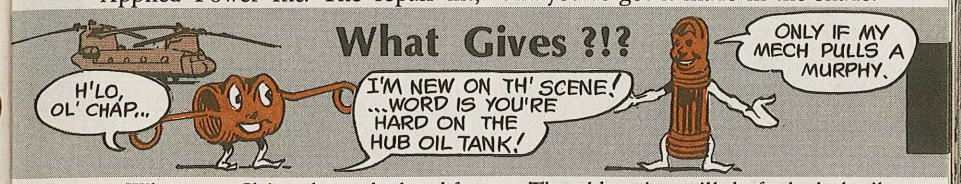
Two different hydraulic pumps are used on the Huey ground-handling wheels. You need to know which pump you have to get the right parts.

NSN 4320-00-133-6823 is the control number only. When you ask for that baby, you get one of the following 2 pumps:

Pump NSN 4320-00-435-0051, P/N HP 9902-41-10, is made by Applied Power Inc. The repair kit, listed on page 2339 of TM 55-1520-210-23P (Mar 77), is NSN 4320-00-348-8513, P/N KH 9000.

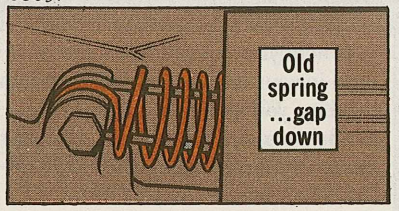
Pump NSN 4320-00-866-7750, P/N BU953B, is made by H.K. Porter Inc. The repair kit, listed on page 2109 of the Huey parts pub, is NSN 1730-00-076-6435, P/N JS953.

Match up the pump and repair kit and you've got it made in the shade!



When you Chinook mechs head for tech supply to get a replacement extension spring for the fore or aft rotor head droop stop, you may do a doubletake!

There's a new spring in the system, and it doesn't look anything like the old one. Both springs have the same identification—NSN 5360-01-082-6803.

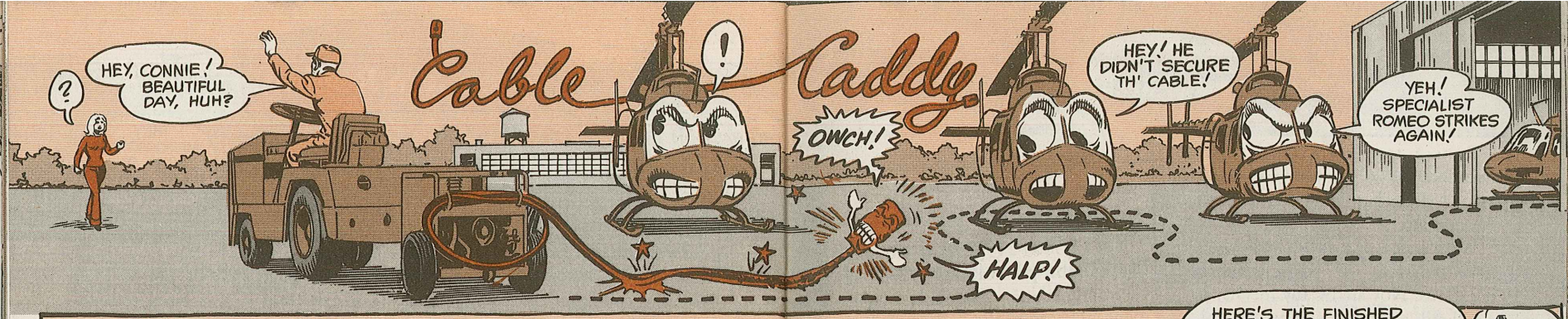


The old spring will chafe the hub oil tank if you position the gap at the end of the spring up instead of down.

The new spring can go either way without any chafing.

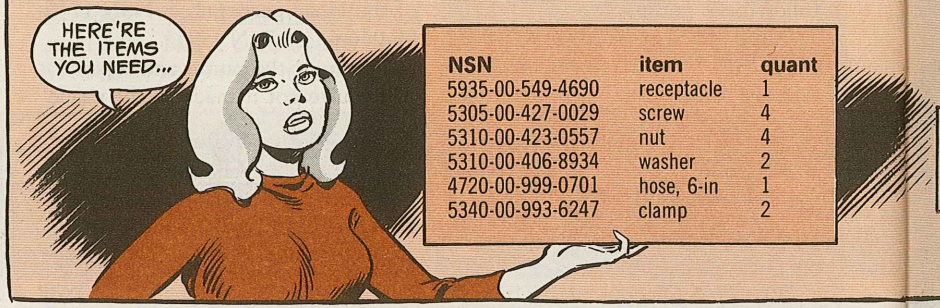
One point, tho. When you use the new spring, add Grommet, NSN 5325-00-825-1743, inside each end of the spring to provide cushioning.

The springs are interchangeable.



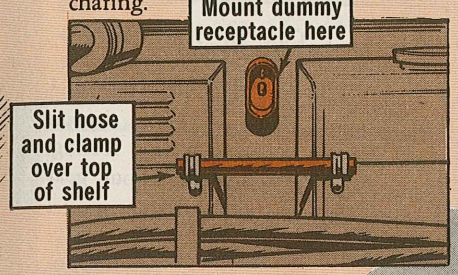
Here's a fix that'll help prevent damage to the power cable on the Model JHGVT7.5A generator sets.

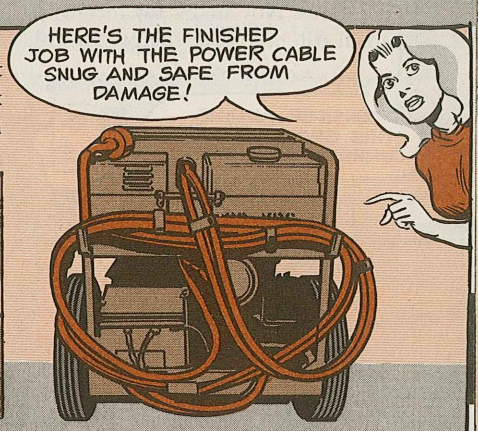
It'll keep the cable from unwinding and dragging over the pavement when you move the APU to the flight line.



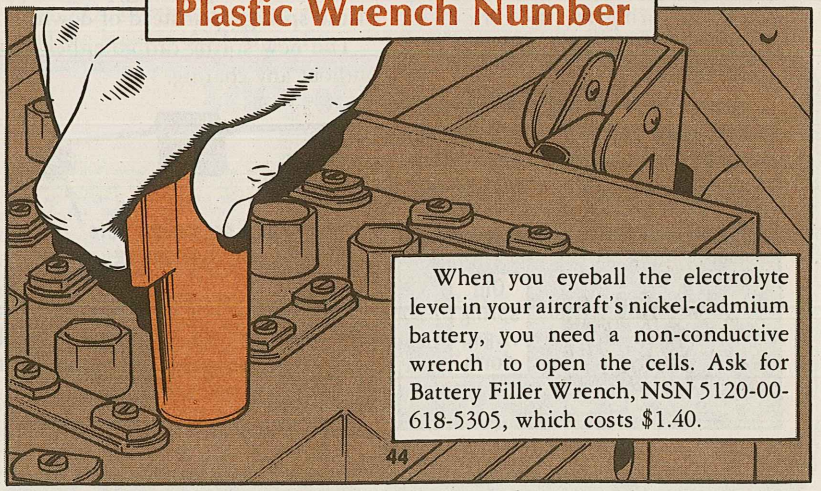
NSN	item	quant
5935-00-549-4690	receptacle	1
5305-00-427-0029	screw	4
5310-00-423-0557	nut	4
5310-00-406-8934	washer	2
4720-00-999-0701	hose, 6-in	1
5340-00-993-6247	clamp	2

Slit the hose lengthwise so it will fit over the fuel tank and control box shelf. This will prevent the cable from chafing.





Plastic Wrench Number

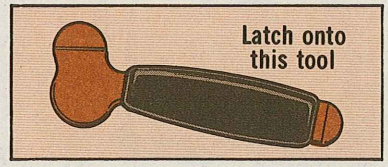


When you eyeball the electrolyte level in your aircraft's nickel-cadmium battery, you need a non-conductive wrench to open the cells. Ask for Battery Filler Wrench, NSN 5120-00-618-5305, which costs $1.40.

Dzus on the Loose?

Button up your aircraft with a slim little tool guaranteed not to put a bulge in your pocket.

NSN 5120-00-604-5007 will get you Cowl Fastener Key at a cost of only $1.25. It's authorized in Appendix A, CTA 50-970.



Reference Pubs Available...

For Your Information

Putting together a good commo reference library for your unit doesn't take a donation from the Carnegie Foundation.

With as few as a dozen books, you'll have answers to many everyday questions. Not all, by any means, and you'll still need your equipment TM's.

TM 11-5800-213-L

TM 11-5800-213-L (May 79)—List of applicable publications (LOAP) for communications electronic equipment. The pub lists all equipment alphabetically by nomenclature and tells you what other pubs have info about each.

FM 24-20

FM 24-20 (Feb 70)—Field wire and field cable techniques. Has good poop on all uses of wire—laying, reeling, splicing—and tells you about gear commonly used with wire.

TB Sig 222

TB Sig 222 (Mar 60)—Solder and soldering.

TB Sig 291

TB Sig 291 (Jun 56)—Safety measures to be observed when installing and using whip antennas, field type masts, towers, antennas and metal poles that are used with communication, radar and direction finder equipment.

TB 43-0001-9-X

TB 43-0001-9-X (published each quarter)—Equipment Improvement Report and Maintenance Digest put out by Communications and Electronics Materiel Readiness Command. Carries field fixes, support maintenance information and pubs info. It's designed to speed info to the field when a change to the TM is considered too slow. (You can get this series of TB's only by pin-point. They're not stocked.)

TB 43-0118

TB 43-0118 (Dec 75)—Field instructions for painting and preserving Electronics Command equipment, including camouflage pattern painting of electrical equipment shelters.

SB 11-6

SB 11-6 (Jun 77)—Dry battery supply data. Tells which batteries (nomenclature and NSN) go in what equipment, and consumption data.

SB 11-131

SB 11-131 (Sep 74)—Vehicular radio sets and authorized installations. The most current listing available of installation kits and components.

TC 11-4

Training Circular (TC) 11-4 (Apr 77)—Handbook for AN/VRC-12 series of radio sets. Has components, descriptions, operating instructions and troubleshooting tips for each radio, plus the AN/VIC-1 intercom.

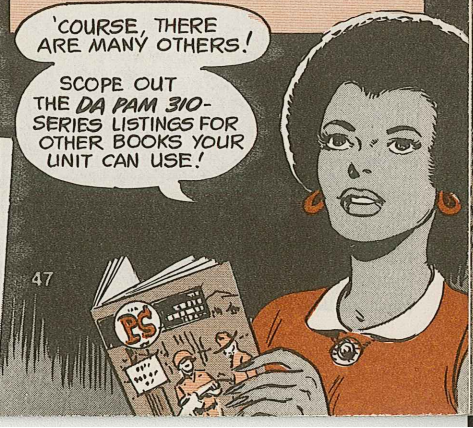
TC 11-5

TC 11-5 (Apr 77)—What's Up? How to repair and fabricate antennas.

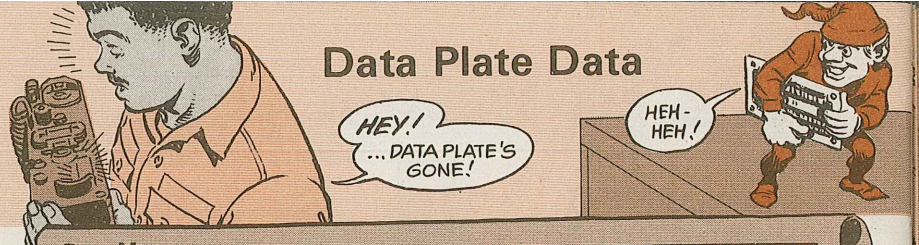
TC 11-6

TC 11-6 (Sep 76)—Grounding techniques.

Let's see, that's 11. Promised you 12, you say. Well, toot, toot, you really ought to keep the current PS (and as many oldies as you can get) on hand. Lots of good info here each month.



Data Plate Data



Dear Macon,

Rip-Off Ralph got the data plate from one of my TA-312 telephone sets. Since then, I haven't been able to find the stock number for a new one. Can you set me right on how to order one?

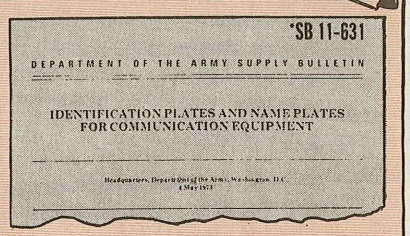
SSG F.H.

Dear Sergeant F.H.,

Be happy to. Wish I could help you locate Ol' Ralph, too.

Commo gear data plates are not stock numbered. You get 'em by following the advice in SB 11-631 (May 73). In short, the pub says to tell your maintenance support what you need. They take it from there.

Macon


SB 11-631

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

IDENTIFICATION PLATES AND NAME PLATES FOR COMMUNICATION EQUIPMENT

Headquarters, Department of the Army, Washington, D.C.
4 May 1973

Check out this pub

Forget the Crimper

Dear Macon,

On pages 52-53 of PS Issue 317, you show an E9B crimper and tell us to order it with NSN 5120-00-089-7955, P/N SCOTCHLOKE9B.

I did and got an E9E crimping tool. That one doesn't work with the splices you listed, NSN 5940-00-935-8262. The jaws won't open wide enough.

Did you blow it? How do I get the B model?

SSG W.R.H.

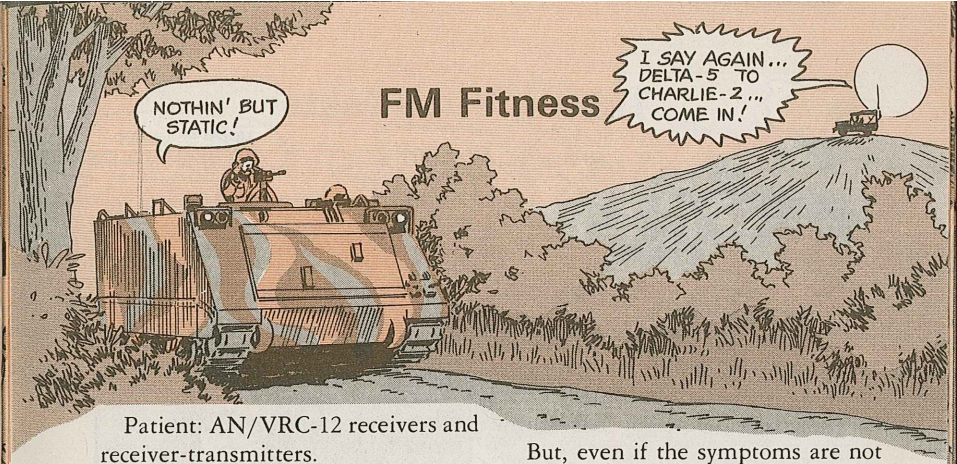
Dear Sergeant W.R.H.,

Forget the whole deal! There have been complaints about that splice snagging when troops try to reel in wire. Also, there's some doubt about the splice's moisture-proofing and holding power.

Until the headshed comes up with another solution, bone up on the field splicing info in Chap 4 of FM 24-20 (Feb 70).

Macon

FM Fitness



Patient: AN/VRC-12 receivers and receiver-transmitters.

Symptoms: Poor reception, short range.

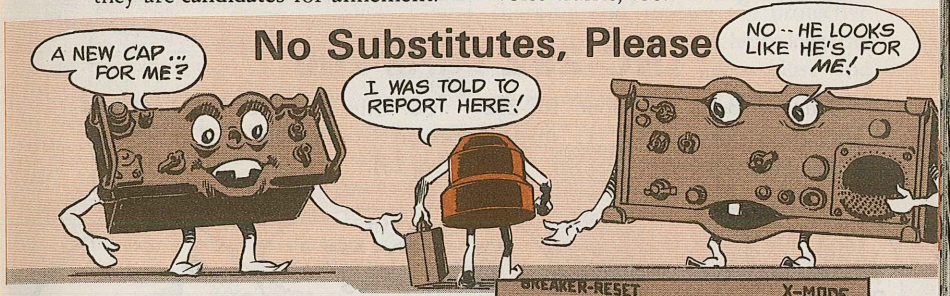
Diagnosis: Needs DS alinement immediately.

Any time your FM's don't measure up to your operator manual's specs, they are candidates for alinement.

But, even if the symptoms are not obvious, you should send it in yearly. An ounce of prevention, you know.

Your set should come back in the best shape in years, too. Your support has a new procedure which peaks the sets for digital traffic. It sharpens voice traffic, too.

No Substitutes, Please

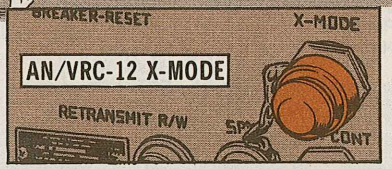


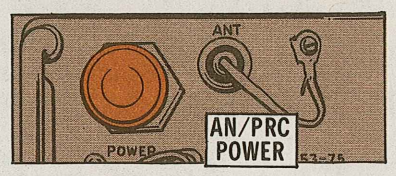
Looks are deceiving—and can be fatal.

For instance, the caps for AN/VRC-12-series X-MODE and back pack radio POWER hookups.

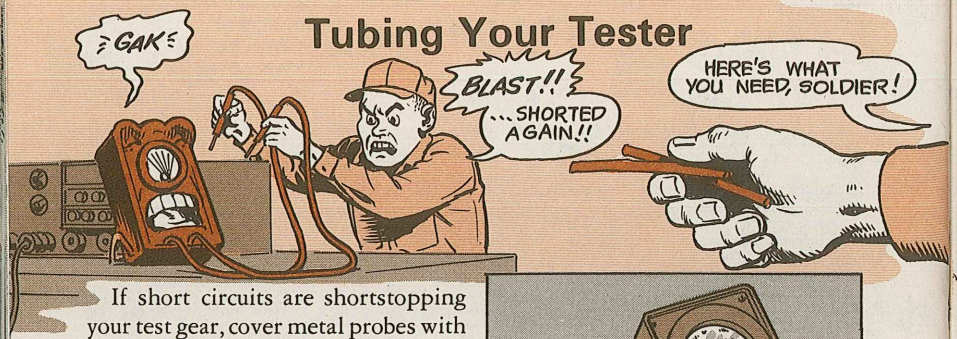
They look the same, but pin arrangements are different. Different enough to bend pins and screw up receptacles if you try to mash 'em together.

Fight the urge to switch.





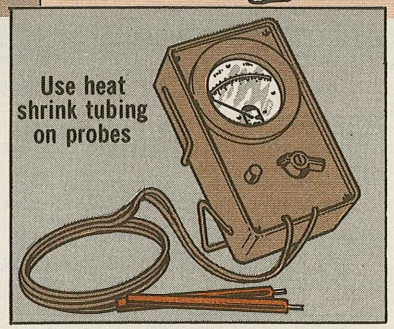
Tubing Your Tester



If short circuits are shortstopping your test gear, cover metal probes with a protective sleeve of heat-shrink tubing.

Order a ¼-in clear tube with NSN 5970-00-767-0524. Then, cover all but about ⅛-in of the probe. Leave just enough of the tip showing to make good electrical contact.

Finally, throw some heat on the tube to snug it to the probe.



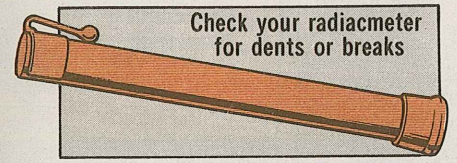
RC-292 Parts Pub

Finding parts for your RC-292 antenna group in the -15 manual giving you migraines?

Get some fast relief. Tell your pubs person to order TM 11-5820-348-24P (Aug 78).

Keep 'em Clean

Radiacmeters like the IM-93/UD, IM-93A/UD and IM-147/PD are small in size but big on providing protection against radiation hazards.



Take a few minutes to make sure your dosimeter is up to snuff. It'll last longer and work when you need it.

First, check for dents, cracks or breaks. They can damage the electrometer assembly and leave you defenseless.

Next, check the socket on the charging end of the dosimeter for dirt, moisture and other foreign objects. They can keep the detector charger from working right.

Clean the socket with denatured alcohol or a mild detergent. Then wave it in the air to dry it. Never blow on it or use a drying cloth. That lets in more moisture and lint.

After you finish cleaning the charging end, replace the protective cap on the dosimeter. It helps keep the socket clean and keeps dust and moisture from drifting into the radiac detector charger.

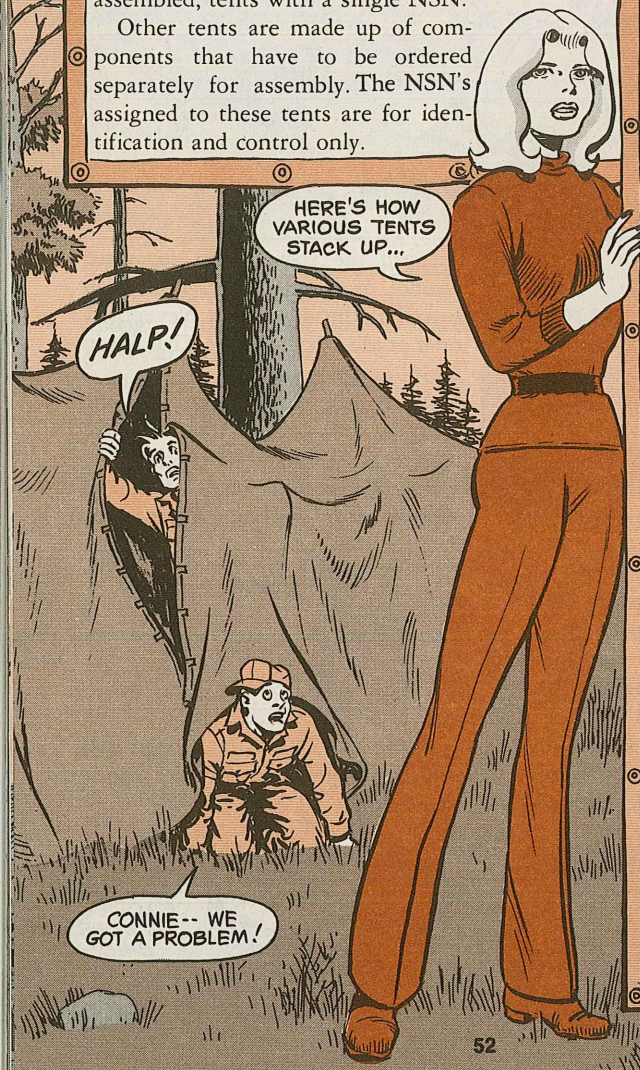
If the cap is lost or broken out, replace it with clear cellophane tape or similar material.

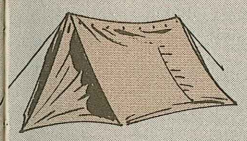
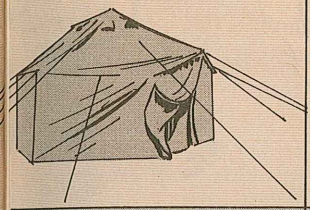
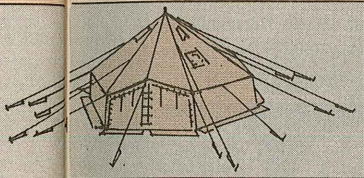
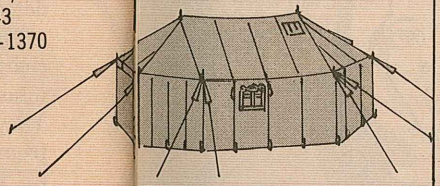
Tent -- By the Numbers

TROOP SUPPORT

You can now get some complete, assembled, tents with a single NSN.

Other tents are made up of components that have to be ordered separately for assembly. The NSN's assigned to these tents are for identification and control only.

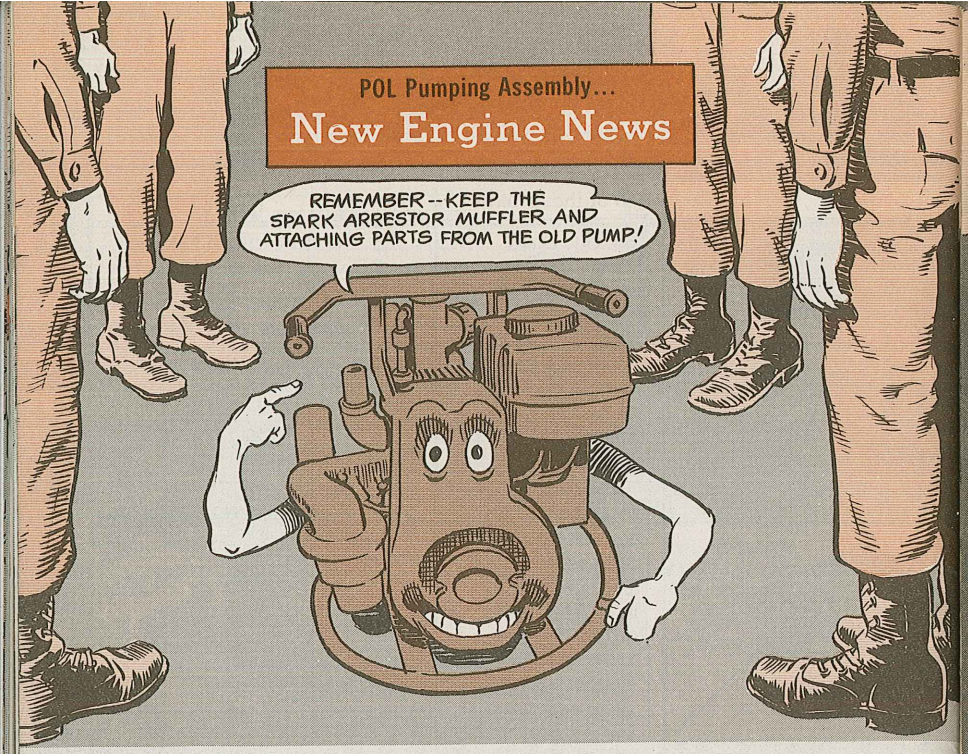


Item		c/o of these items	Quantity	NSN 8340-00-
Tent, mountain 2-Man NSN 8340-01-059-2430 (complete)		Tent, Mtn, 2-man Adapter, tent pole Pin, al, 9-in Pole, sect, tent	1 2 6 12	254-5348 222-3339 261-9749 223-7849
Tent, shelter half NSN 8340-01-026-6096 (complete)		Tent, shelter, half c/o line, tent 7½-ft long Line, tent 10-in long Pole, sect, tent Pin, al, 9-in	1 1 5 3 5	577-4168 263-0255 263-0254 223-7849 261-9749
Tent, lightweight, M1950 LIN V49674 NSN 8340-00-269-1372 (Assemble from components)		Tent, with cover and liner* Pin, al, 9-in Pole, 5-9 ft collapsible *Cover and liner are not available as separate items	1 20 1	269-1374 261-9749 188-8413
Tent, Arctic, 10-man LIN V47208 NSN 8340-00-262-3685 (Assemble from components)		Tent, with cover and liner Pin, al, 9-in Pole, 5-9 ft collapsible Replacement tent cover Replacement tent liner	1 28 1	262-3684 261-9749 188-8413 241-8435 262-3698
Tent, Command Post, M-1945 LIN V49143 NSN 8340-00-269-1370 (Assemble from components)		Tent, with cover and liner, screens lines and tent slips Pin, wood, 16-in Pin, wood, 24-in Pole, wood, 5-ft, 8-in Pole, wood, 9-ft	1 20 12 8 2	254-5358 261-9750 261-9751 188-8405 082-2167

TM 10-8340-221-13, FM 21-15 and TM 10-8340-222-10 have the word on maintenance, erection and take-down for these tents.

POL Pumping Assembly...

New Engine News



Use PN BKND407352, FSCM 66289 (RIC is S9C) for a GED engine that powers your 50-GPM flammable liquid pump, NSN 4320-00-913-7131.

This commercial engine comes without a spark arrestor muffler, NSN 2990-00-840-8817.

Before you turn in the pump that's on engine NSN 2805-00-839-6105, take off the muffler—and attaching parts—so you can put them on the new commercial engine.

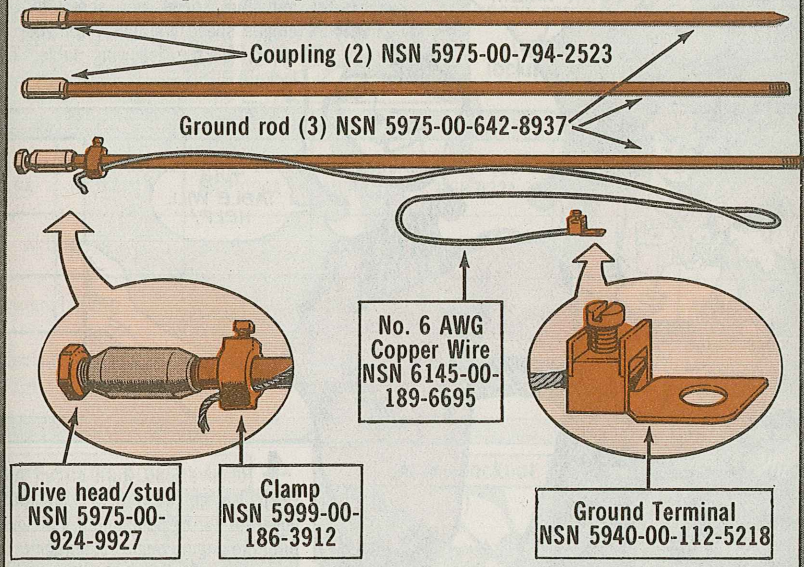
Your new engine doesn't wear Army colors, which means you'll have to paint it OD. Hang onto the operator's and parts manuals that are shipped with it because there are no Army TM's.

Be sure you get these manuals. In fact, don't accept the engine unless you have 'em in hand.

From The Ground Up

Ground rod assembly NSN 5975-00-878-3791 consists of 3 rods, each 3 feet long; 6 feet of No. 6 AWG stranded copper wire; 1 terminal lug; 1 driving stud; 1 clamp; and 3 couplings.

If you need replacement parts, here're the numbers to use:



You'll have an easier time of getting ground rods out of the ground with a slip hammer NSN 5120-01-013-1676.

In an emergency, you can make a driving stud from an old ground rod. Just cut a 3-in piece from the old rod, thread it and use it with the coupling.

Always be sure the drive head/ stud—either store bought or make-do type—bottoms on the ground rod before you start the heavy hammer stuff.

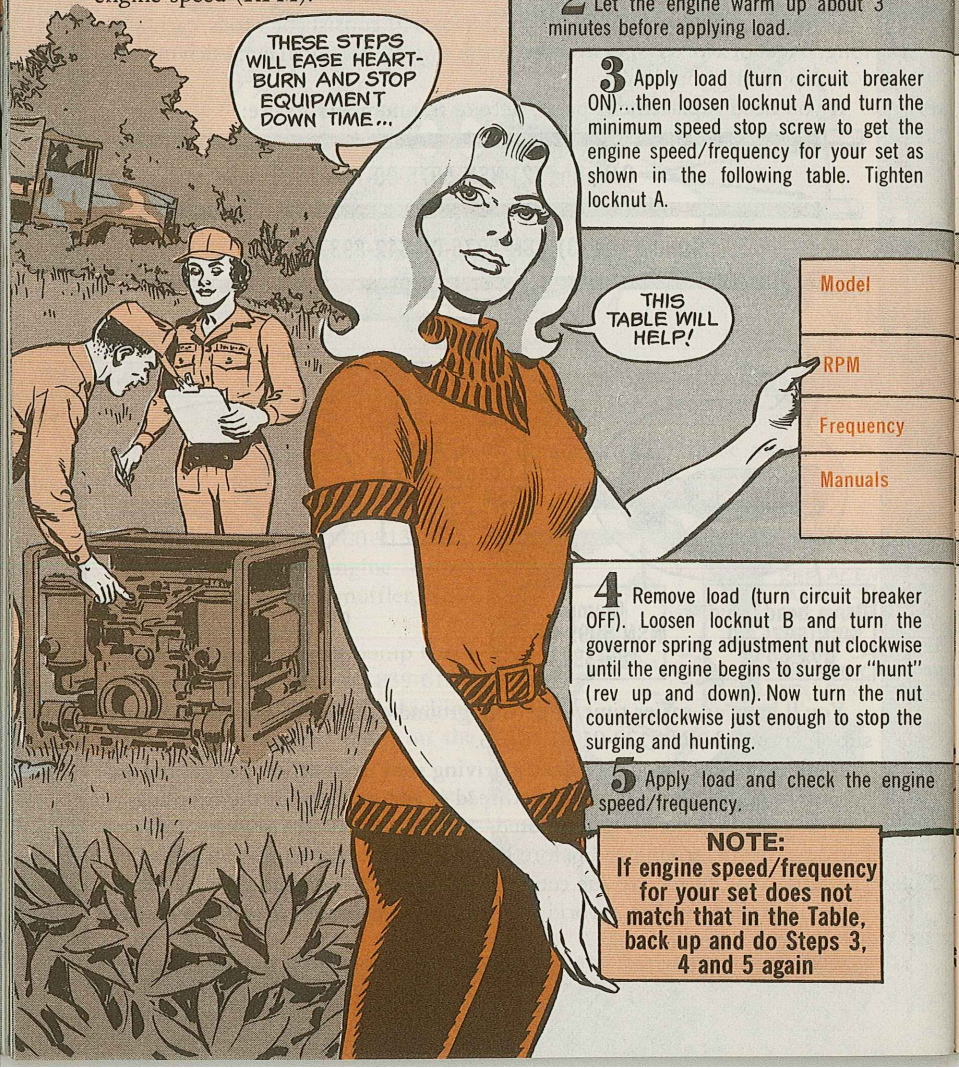
'Course, you never use the coupling as a drive head/stud.

TC 11-6 (Sep 76) has a world of good poop on grounding techniques. Read it...for your safety.

Small Generators...

Governor Adjustment with Frequency Meter

It's easy to adjust the governor on your 3-, 5-, and 10-KW GED generator sets because the frequency meter is directly proportional to the engine speed (RPM).



1 Start the engine, then move the govenor control knob to GOVERN or RUN (rated speed).

2 Let the engine warm up about 3 minutes before applying load.

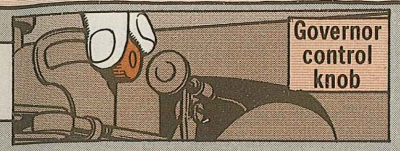
3 Apply load (turn circuit breaker ON)...then loosen locknut A and turn the minimum speed stop screw to get the engine speed/frequency for your set as shown in the following table. Tighten locknut A.

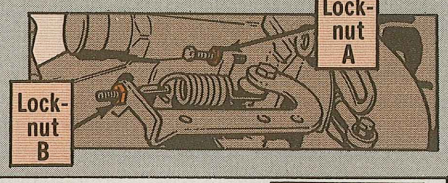
Model	3-KW, 60Hz MEP-016A	3-KW, 400Hz MEP-021A	3-KW, 28VDC MEP-026A	5-KW, 60Hz MEP-017A	5-KW, 400Hz MEP-022A	10-KW, 60Hz MEP-018A	10-KW, 400Hz MEP-023A
RPM	3600	3428	3600	3600	3428	3600	3428
Frequency	60Hz	400Hz	-----	60Hz	400Hz	60Hz	400Hz
Manuals	Generator TM 5-6115-271-14 Engine TM 5-2805-203-14			Generator TM 5-6115-332-14 Engine TM 5-2805-258-14		Generator TM 5-6115-275-14 Engine TM 5-2805-259-14	

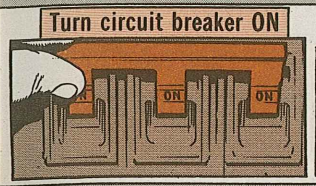
4 Remove load (turn circuit breaker OFF). Loosen locknut B and turn the governor spring adjustment nut clockwise until the engine begins to surge or "hunt" (rev up and down). Now turn the nut counterclockwise just enough to stop the surging and hunting.

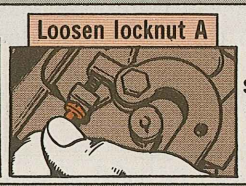
5 Apply load and check the engine speed/frequency.

NOTE:
If engine speed/frequency for your set does not match that in the Table, back up and do Steps 3, 4 and 5 again

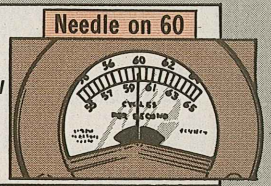


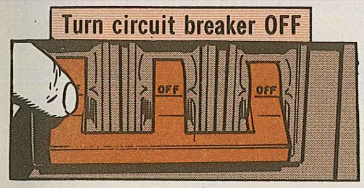


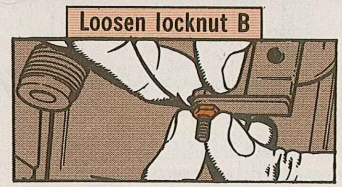




Adjust speed screw ...tighten locknut A







Adjust governor spring adjustment nut

28-V DC Generator Sets

Use the engine speed tachometer on the 3-KW 28-V DC generator set for governor adjustment like Fig 2-10, TM 5-6115-271-14 (Aug 76) says.

Tracking the Wild NSN

Most repair parts come with either an NSN or a part number.

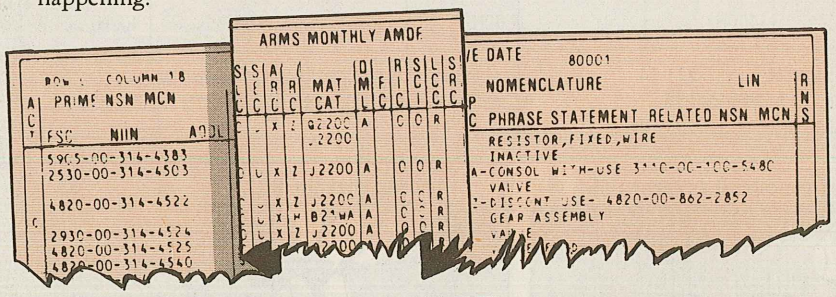
Need a part with just a part number? Tack the Federal Supply Code for the Manufacturer (FSCM) on the front of the part number on a DD Form 1348-6, give your support a pub and page number and you're clear.

'Course, if you don't have a military pub or GSA catalog source, give 'em all the info you can: End item info, part name, drawing number—whatever you have.

Want a part with an NSN? Just put that NSN on your request and send it to support.

Whoa there! Let's back up on that one.

Before you use that NSN, check it on the Army Master Data File (AMDF). Why? Well, the first 4 numbers of the NSN—the Federal Supply Class—can change with no notice to you. Or could be something's changed since the last time you've ordered it and the number's no longer good at all. Or could be you'll have to use a substitute or new number. In that case, the phrase code (PC) in the nomenclature column of the NSN you looked up will tell you what's happening.



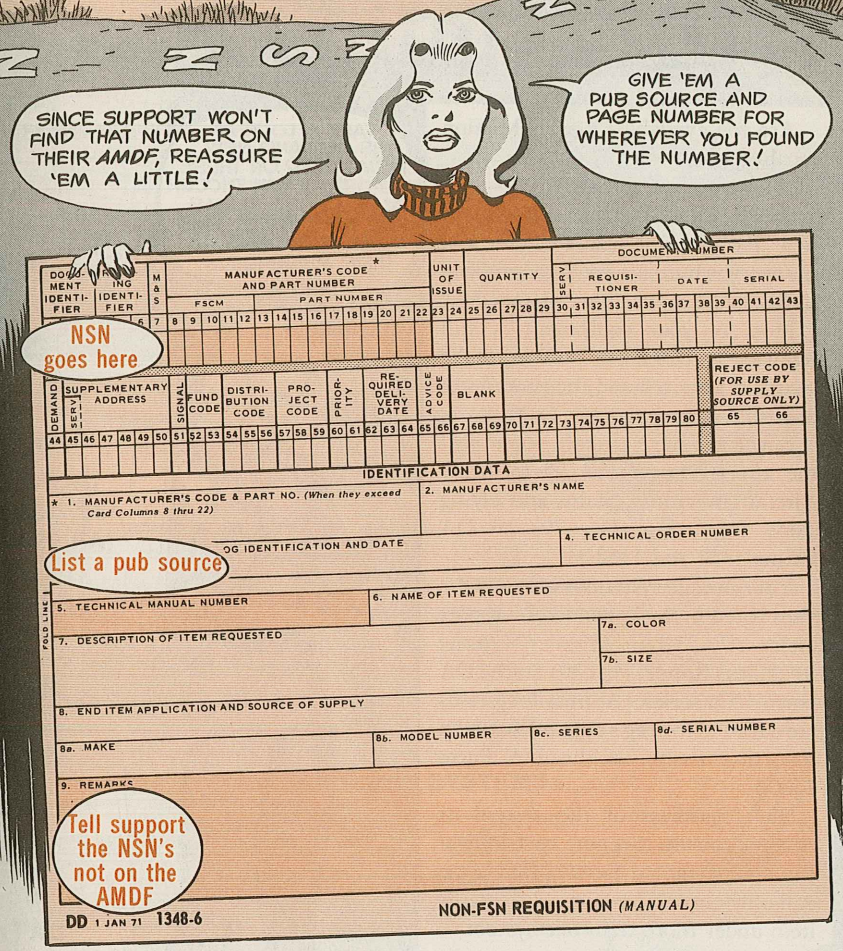
But what if the NSN's not on the AMDF?

First off, there could be several reasons why a number's not there.

For numbers in old TM's, the NSN may no longer be good. Or, if the equipment's not widely used, could be just not enough Army supply types ordered it to keep the NSN on the AMDF.

For numbers in new manuals, the NSN may not have had time to make the AMDF yet or the Army hasn't ordered it enough times to add it to the AMDF.

Whatever the reason, the solution is the same. Use the NSN. But treat that NSN like a part number request on a DD Form 1348-6.



Give support all the extra info you can: End item, price (if you have it), use and so on. Then on an open line or in the Remarks Block, write "Not on AMDF."

Once the request gets to its destination, no sweat. But until then, request for items with NSN's not on the AMDF go to the "exception data" supply route.

a READINESS Dictionary

Are you available? Ready? Mission capable?

All or none of the above?

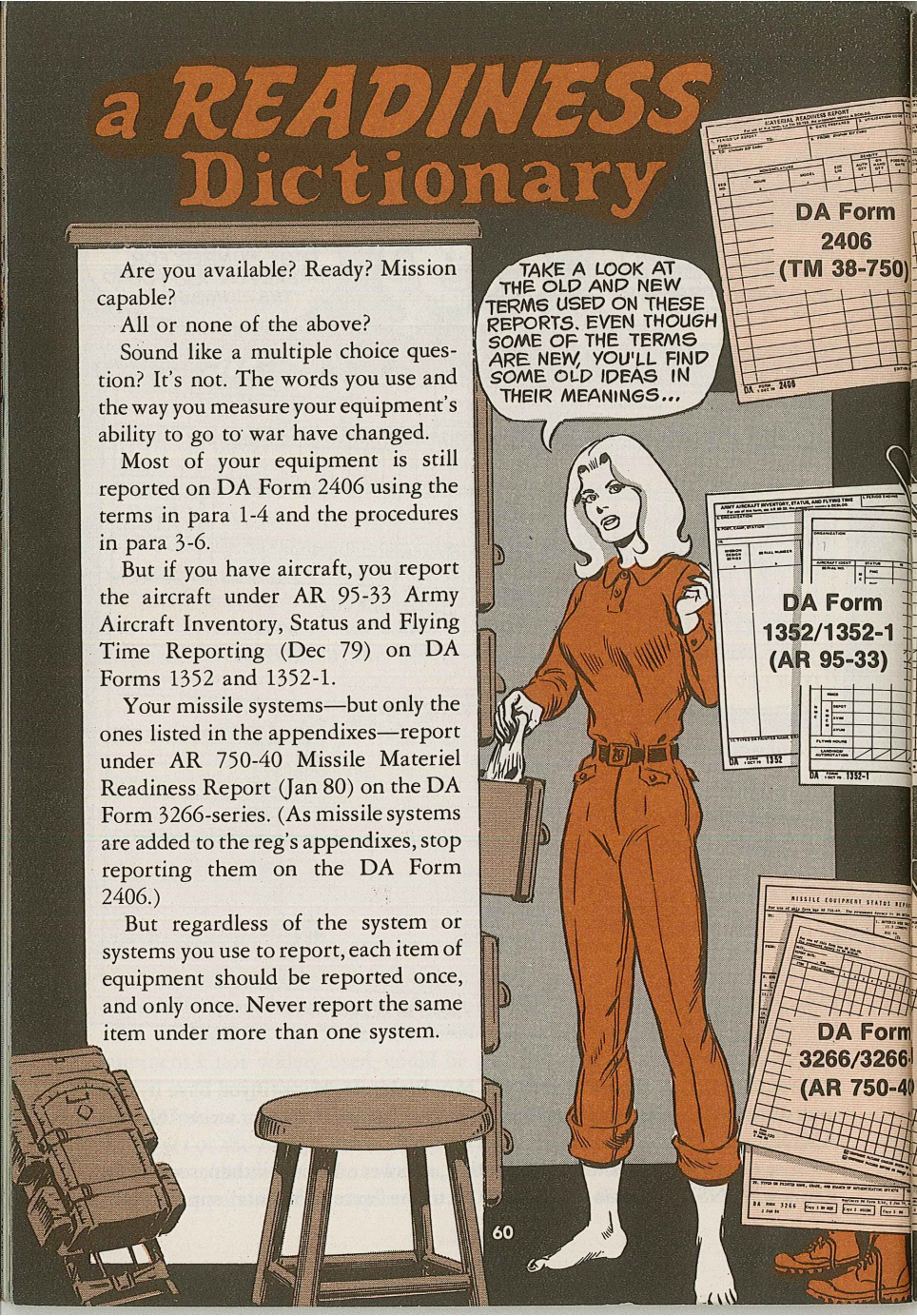
Sound like a multiple choice question? It's not. The words you use and the way you measure your equipment's ability to go to war have changed.

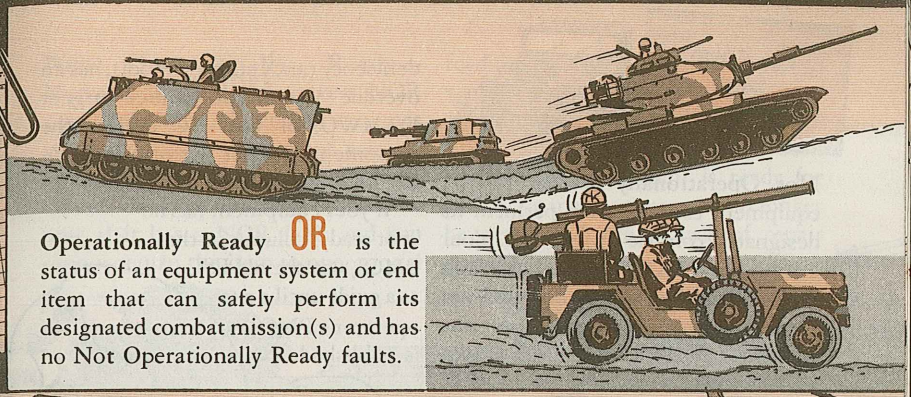
Most of your equipment is still reported on DA Form 2406 using the terms in para 1-4 and the procedures in para 3-6.

But if you have aircraft, you report the aircraft under AR 95-33 Army Aircraft Inventory, Status and Flying Time Reporting (Dec 79) on DA Forms 1352 and 1352-1.

Your missile systems—but only the ones listed in the appendixes—report under AR 750-40 Missile Materiel Readiness Report (Jan 80) on the DA Form 3266-series. (As missile systems are added to the reg's appendixes, stop reporting them on the DA Form 2406.)

But regardless of the system or systems you use to report, each item of equipment should be reported once, and only once. Never report the same item under more than one system.





Operationally Ready **OR** is the status of an equipment system or end item that can safely perform its designated combat mission(s) and has no Not Operationally Ready faults.

AIRCRAFT

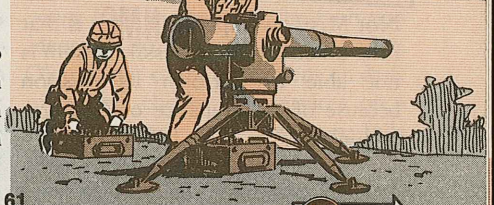
Mission Capable **MC** means the aircraft can perform all or at least 1 mission listed in Appendix A of AR 95-33 and meets operational equipment requirements in Section I, Appendix B of AR 95-33. (Mission capable includes both partial and full mission capabilities.)

Full Mission Capable **FMC** covers aircraft that meets the equipment requirements in Section I, Appendix B of AR 95-33 and can perform all primary missions listed for that aircraft in Appendix A. (Your C ratings for the Unit Status Report are figured on FMC time only.)

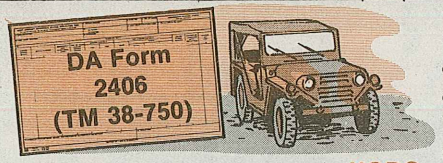
Partial Mission Capable **PMC** means the aircraft can perform 1 or more—but not all—of the primary missions listed for that model because 1 or more subsystems listed in Section II, Appendix B are not operational for maintenance or supply reasons.

MISSILE SYSTEMS

Mission Capable **MC** applies to those hours when the missile system meets or exceeds the minimum requirements listed for that system in its AR 750-40 appendix.

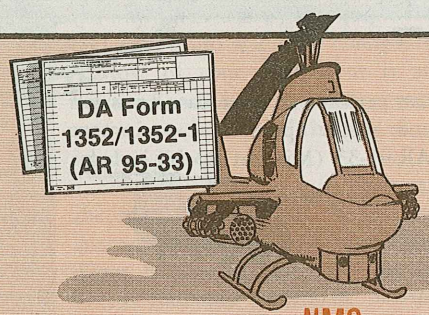


PS MORE



Not Operationally Ready **NORS** equipment cannot safely perform its designated combat mission(s). Your equipment is NOR when it has a fault in the "equipment will be rated not ready/available if" column of the operator's PMCS*, has an uncorrected deficiency (an X status symbol), has an overdue urgent or limited urgent DAMWO, or your CO decides the equipment cannot perform its combat mission(s).

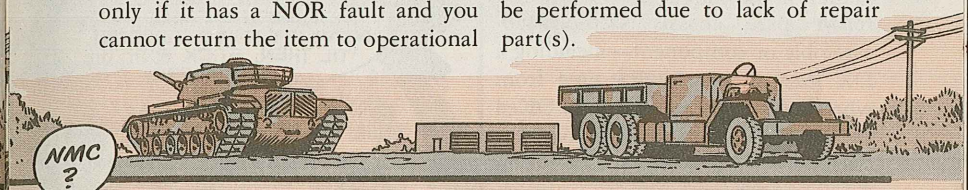
*If your equipment has no "not ready" column in the PMCS, use the old ESC as a guide until a new operator's PMCS is published.



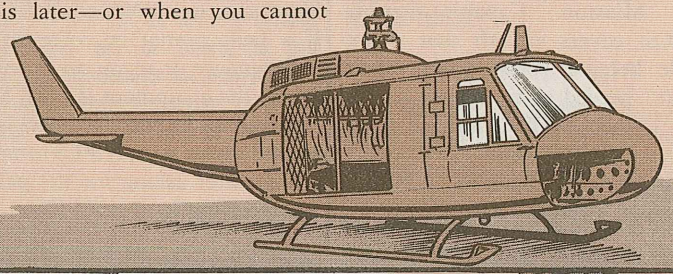
Not Mission Capable **NMC** applies to aircraft that is not flyable because of scheduled or unscheduled maintenance, outstanding Safety of Flight (SOF) messages or lack of repair parts.

Not Mission Capable **NMC** is that time an end item or missile system is not able to perform its mission because of maintenance or lack of a repair part.

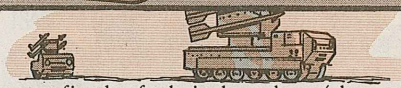
Not Operationally Ready—Maintenance **NORM** covers NOR time when the equipment or system is in maintenance. Equipment you are pulling routine maintenance, services, repairs or inspections on is NORM only if it has a NOR fault and you cannot return the item to operational readiness within 12 hours. Time spent waiting for pick-up, delivery, acceptance or receipt is NORM. NORM time stops once a unit has been notified the equipment is ready for pickup or maintenance can no longer be performed due to lack of repair part(s).



Not Mission Capable—Maintenance **NMCM** means the aircraft is not flyable because of depot, AVIM or AVUM repair work. NMCM time starts when you find a fault or when the mission is completed—whichever one is later—or when you cannot return an aircraft to FMC or PMC within 2 hours. NMCM time stops when the work is finished (inspected and status symbol cleared) or when work cannot continue because you need a repair part.



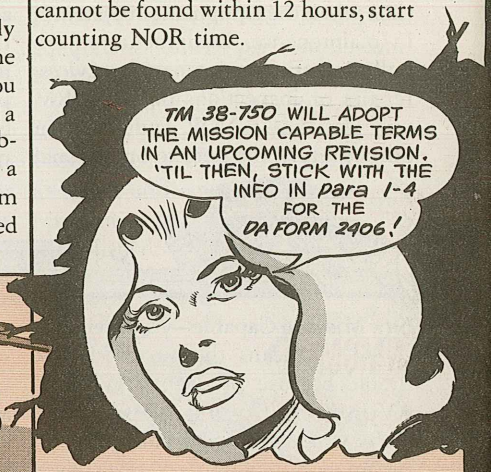
Not Mission Capable—Maintenance **NMCM** covers the time an end item or missile system is NMC because of maintenance or repair work at organization, DS or GS level. You include any time for maintenance or repair that takes more than 4 hours (12 hours for small missile systems) to complete. NMCM time stops when the work is finished or when work cannot continue because you need a repair part. Do not count any time if you fix the fault in less than 4 hours (12 hours for small missile systems). If the fault takes more than 4 hours (12 hours for small missile systems) to fix, count back to the time the fault was identified to figure your NMC time. (You do not count time spent on daily or weekly checks and services on a missile system in a power-on, fully ready condition as NMCM.)

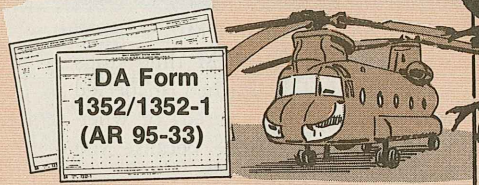


PS MORE

Not Operationally Ready—Supply **NORS** time is counted when the equipment or system is NOR and you cannot fix the fault because you need a repair part, chassis/assembly/subassembly or component—including a DX item. Count NORS time from when the part is ordered (and OKed by the CO) until the part arrives.

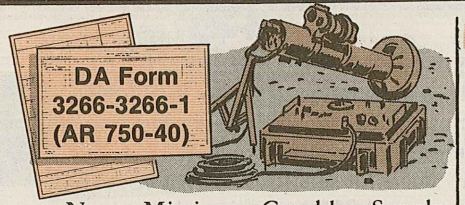
How to count NOR time: In days. If fault cannot be fixed or repair part cannot be found within 12 hours, start counting NOR time.





Not Mission Capable—Supply (NMCS) covers aircraft that is not flyable because you're short repair parts(s) needed to fix a fault. Count **NMCS** when work is stopped for a repair part and you cannot get the part within 1 hour of asking for it. NMCS time stops when the part arrives.

How to count NMC time: In hours. If a fault cannot be corrected with maintenance or repair work within 2 hours, the equipment is NMCM. If a fault cannot be corrected because of a needed repair part, NMCS time starts 1 hour after asking for the part, but not receiving it.



Not Mission Capable—Supply **NMCS** time applies when the missile system is NMC because you need a part. Count NMCS from the time the maintenance work stops to the time the repair part arrives.

How to count NMC time: In hours NMC time is counted from the time the fault is identified if it cannot be corrected for maintenance or supply reasons within 4 hours of finding the fault. Small missile systems—Chaparral, FAAR, Land Combat Support, TOW/Dragon, and Guided Missile Air Defense (AN/TSQ-73) report by days with 12 hours to correct a fault before counting back for NMC time.

PS END

New Maintenance MOS's

Change 14 to AR 611-201 Enlisted Career Management Field and MOS's really shook up the Mechanical Maintenance career field. Some MOS's bit the dust: 45P, 54D, 63C, 63F. Others were added: 45D Field Artillery Turret Mech; 45T Improved TOW Vehicle/Infantry Fighting Vehicle/Calvalry Fighting Vehicle turret mech; 63S Heavy Wheel Vehicle Mech; 63W Wheel Vehicle Repairer, 63Y Track Vehicle Mech; and 63D, 63N, 63R and 63T for the new Systems Mechanics who will be trained to pull organizational maintenance and recovery on a complete combat equipment system. Check into the change. You'll be hearing a lot about it.

W/ESDC Column

Change 3 to TM 38-750 added a new column to Appendix C—W/ESDC for Weapons/Equipment System Designator Code. The W/ESDC identifies items for a special kind of supply request your PLL clerk knows about. Put the W/EDSC on your DA Forms 2407 and 2402 for an end item with that code or any part or component of that end item. TM 38-750 doesn't tell you how to use the code, but the new manual will. Until then, put the code in Block 16 of the DA Form 2407 and Block 27 of the DA Form 2402—or wherever local SOP dictates.

Tire Pressure Upped

Some commercial-design vehicles now get more air in the tires to reduce fuel consumption. You add 4 PSI to the inflation figure specified in the owner's manual or on the plate or sticker in the vehicle. But you never go over the maximum allowable cold inflation pressure printed on the tire. This new info applies only to commercial-design vehicles under 7,000 GVW (gross vehicle weight). The word is in TARCOM Msg DRSTA-FM 191930Z Feb 80.

Survival Kit Info

The PM Checks and Services on most of your aircraft survival kits—and the survival vest—have been extended to 120 days. Inspect the kits listed in Table 2-1 of TM 55-1680-317-23&P (Aug 75) prior to issue, every 120 days, and before an and after repairs or modification. The word's in TSARCOM Msg DRSTS-MAPL(1) 121919Z May 80 and Msg 301810Z May 80...Gen 80-11 and Gen 80-15.

5-Ton Truck NSN Switch

There's a bum NSN in PS 330, page 23, "Transmission Air Leak?" The NSN in the TM is also wrong. Plunger seals in the TM-211-series and TM-260-series 5-ton truck transmission twin poppet valve come under NSN 5330-00-361-6781, not -6780.

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

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Wanna "BUY" a $435.00 W2 TOW system cable?

Then NEVER:

- Kink it...
- Step on it...
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- Prop Feet on it...
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The W2 is in Short Supply

Go easy with it!!