

Issue 127

PS

TNI Series

THE
PREVENTIVE
MAINTENANCE
MONTHLY

and helping
prevent anything
from happening

FORGOTTEN
AND
LEFT
ABOUT
MAINTENANCE
COSTS
DON'T
POWER UP
YOU





When Rabbit's Head is there, you get
 Three things: forward boots for to know—
 Good men, who know of boots in stock.
 Good roads, they know to find.
 'Till the army get, ye say to head.
 —Old Rabbit

Old Rabbit Head and his men might not have been the first to use special forward boots, but they were brought the art to a high degree of perfection. Just ask the sergeant:

They were effective, even though they were usually outwitted in both man power and weapons. Why? It's easy—

He had a communication net that couldn't quit. It told him what was going on and where—and he couldn't afford that "you weren't that didn't get the word."

His mobility factor was you high! Get where needed, hit, run, and leave no trace.

Surprise, reliability and accuracy of his weapons made up for their lightness and small numbers.

So what's new? Nothing, really. The Formula will remain the same:

MOBILITY COMMUNICATIONS FIREPOWER



It's not just
 the boots that
 make the
 difference.

It's not just
 the boots that
 make the
 difference.

PS
 P.S.

When you subscribe to this magazine, you'll receive a special gift. A copy of the book "The Art of War" by Sun Tzu. It's a classic that's still relevant today.

Subscription rates: \$19.95 per year (4 issues) in advance. Single copies \$5.00.

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YOUR "TRAFFIC LIGHT" TB'S



When you drive up to a traffic light you'll find the light is either green, amber, or red.

If it's green, then naturally you go ahead.



If the light turns amber, you have two choices—you either stop or you take a chance and go on through and maybe you'll get through without someone crashing you head-on.



But, if the light's red, then you stop and wait for it to change.



You may have seen the new Equipment Serviceability Criteria TB's. You'll hear these referred to as the "traffic light" TB's.

They serve the same purpose as a traffic light. They'll tell you whether your equipment's ready to go (green or operational), whether it's not quite up to snuff and it may require like it's supposed to or it may not make it (amber or limited), or whether your equipment will not do what it's supposed to do or it's not reliable (red or nonoperational).

So how do these "traffic light" TB's affect you? Your commander may tell you (no, you do the operator, and do what's recommended) to use the TB's to see how your equipment stacks up. You use DA Form 1095, the maintenance worksheet, to put down what you find.

Now these TB's aren't meant to take the place of your maintenance service on your equipment. They're a checklist to see just how ready your equipment is.

You won't have "traffic light" TB's for all of your equipment.

Here are some you can look for.

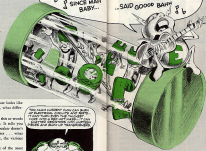


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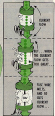


... GOT THE...
Fuse
 ... SAID GOOD BAYE...
 SINCE MAH BABY...

... GOT THE...
Blues...
 ... SAID GOOD BAYE...



WHAT IS A FUSE?



"As long as the new fuse looks like the one in the equipment, what difference does it make?"

You've probably heard this or words to the same effect before. It tells you loud and clear that the speaker doesn't know anything about fuses... what they are, how they work, the various types, and their ratings.

And yet, fuses are one of the most common and cheapest items around for saving electric and electronic equipment from the harmful effects of the excessive current flow that comes from overloaded circuits that become grounded, short-circuited and overloads.

"THEir main function is to protect the circuit from excessive current flow... they are used to protect the circuit from excessive current flow... they are used to protect the circuit from excessive current flow..."



So, how good are fuses? They're not perfect. For this reason, they're sometimes known by their formal name—"over-current protective devices."

A fuse is really a short strip of metal alloy with a low melting point (see previous p.). When the current goes too great, the fuse melts—or blows—blows and melts, but this action opens the circuit and cuts off all current flow before the power source and load circuits begin to burn.



WHAT MAKES IT HOT?

The heat element is made of various combinations of wire, lead, and tin and may be in the form of wire, ribbon, or lead. Whichever form it takes, though,



for low-temperature working temperatures it's a "weak thermal link" in the equipment.



Known for resistance it slightly higher than the wire conductor in the equipment, the element heats more quickly and melts before the conductors suffer damage during high-current flows.



Depending on the metals used in them, leads can handle current values from .25A amperes for sensitive measurements to 100A amperes for high-power equipment.

SHIELDING

Besides guarding the circuit, leads have another job... they serve as built-in fuses. That is, they point to the source of trouble—such as insulation circuit grounding or loose spots, short circuits and overloads—that's caused by a reduction of lead resistance. And,



Sometimes a blown lead will warn you of a sudden increase in the applied current.

So, if your equipment keeps blowing fuses in short order, hold up. Before you go resetting power by putting in another good fuse, you've gotta have your organizational expertise: inspect circuits for grounds and see for shorts and abnormally low load resistance.

HERE'N FOUR BASIC TYPES OF FUSE



CARTRIDGE



CARBIDE



GLASS



LINK FUSE (LEFT)

The most ones commonly found in electric and electronic equipment are the cartridge and link-or-chain types.

LINK



I'M THE LINK FUSE!

FUSES

Of the four, link fuses are the simplest. They're just a strip of fuse metal—either wire, ribbon, or flat sections with connecting nodes. They were the first type used in electrical equipment, and were either soldered into the circuit with special low-melting solder, or they were inserted under two binding screws in recessed holders.



CARTRIDGE

FUSES



A cartridge type consists of a fuse link inside a hollow tube. This tube is made of glass, ceramic, silica, wood, or some other insulating material. The ends of the link are recessed or metal contact on either end of the cartridge.



These fuses may be either one-time or rewirable. The one-time kind must be thrown away once they've blown. The others have provisions for replacement links.



Cartridge fuses are broken down according to their current capacities. In the low-current range—from .001 to 50 amperes—are the ferrule type cartridge fuses. You'll find these cubes used most often in test equipment, radios, radar sets, and all types of vehicles.

Those with the high-current capacity are the knife-blade type. They're used for currents ranging from 60 to 600 amperes and are found in main bus lines and power plant installations.



PLUG FUSES



INDICATOR-ALARM FUSES



Plug fuses are often called "house fuses" because of their wide use in 120-volt AC branch circuits in most homes. They have a fuse link mounted within a porcelain envelope (see *Clifford-Base*) plug. This link connects between the metal screw threads and a metal clip contact at the bottom of the plug.



A glass or plastic window at the top lets you see whether the fuse has blown. Special material is often used in the fuse to stretch or cloud the window when the fuse blows. This type fuse has a current capacity ranging from 5 to 50 amperes and is designed to operate in circuits with voltages lower than 125 volts.



These are special jobs used in automatic control circuits and certain telephone switchboard circuits. They have two main jobs to do . . . protect against too much current—naturally—and give the alarm when the fuse blows.



Here again we have two characters—grasshopper and beetle. Both have a fuse link holding two spring-loaded alarm contacts. They're designed so that the fuse link completes the local circuit and the alarm contacts complete an alarm circuit when the fuse blows.

WOW! WOW! WOW! . . . THE BEETLE IS BLIND TO OTHER ALARM CIRCUIT



EXPANSION CODE

When you use a code to identify a product, you need a way to make sure the code is read correctly. This is where the expansion code comes in. It's a series of numbers and letters that are used to identify a product.



Don't let a code with a number and a letter confuse you. It's just a way to identify a product.

There's no exact coding when a line is physically expanded or undervalued because it won't fit the line (unless, but, it's a different matter when it comes to making sure the good line and the blown one have the same width and correct settings and fiber-size characteristics).

Making sure they're identical also means the difference between coordinate operation of your equipment or... one that's turned up, or kept blowing. Fine, or made your equipment coordinate blowing in the wrong place. It's as simple as that.

To help you put your line into, here's a type designation based on the line as required by British spec. BS-473 (1987, 1 Feb 87). A special setting line would be coded like this:



The expansion code is a series of numbers and letters that are used to identify a product.

The letter 'E' followed by a two digit number means a line type parameter series of a given expansion and diameter.



Just one more note for the letter 'E'. The rule for the line size characteristics. All lines are used to determine for a short time, some values of expansion greater than the value indicated in the correct setting equipment. The time period over which a line can handle the additional stress is known as fiber-line characteristics.



Some codes are used to identify a product.

When you use a code to identify a product, you need a way to make sure the code is read correctly. This is where the expansion code comes in.

- 1. Special lettering line
- 2. Special lettering line
- 3. Two digit number
- 4. Special lettering line

Letters 'E' and 'A' have the same line size characteristics. Their basic difference is the value of correct needed to make them line. A 'E' line usually is used on high power circuits and will blow instantly only at extremely high values of grounded or short-circuit current. 'A' lines may be used for all types of correct settings and all settings ratings, but they blow instantly at much lower grounded or short-circuit values of current.



The voltage rating of a line is the maximum voltage that can be applied to a system line without making serious voltages. For other lines, it must protect the most serious voltages which could be across the line and thereby complete the circuit again.

This problem is overcome in two ways. The first is by use of longer fiber widths, when blown, leave wider gaps in the circuit.

When this isn't practical, the lines are filled with a special, non-flammable, insulating spackling-like. Lines with a 'C' characteristic have this special material.

When you use a code to identify a product, you need a way to make sure the code is read correctly. This is where the expansion code comes in.

Before the letter 'E' was used, voltage ratings were shown by a letter symbol. Under that system, a 2000 volt line was stamped with the letter 'E'. One with a 11,000 volt rating was marked 'A'.

Now it's simplified and is the same as commercial designation. The rating is written out in numbers followed by the letter 'E'. So 2000 is "E2000" and 11,000 is "E11,000".

Current ratings are also shown the same on both ratings and commercial lines. But our two long ago ratings have been a three digit number and the letter 'E'. The 'E' represented the correct value to a 10 ampere line was indicated as "E30". Now it's got "E30".

Current rating is the most generally known line rating and tells the maximum value of current the line can carry without blowing.

The final symbol, 'C', is a real only when there is a requirement for shock proof lines.



COMMERCIAL USE

Sometimes you may find yourself trying to pick a replacement fuse from a commercial source. This could cause some puzzling because various firms use different designations.

Example: A quick-acting cartridge fuse may be marked "BAG, LA, 200" by one firm. Yet, the same fuse made by another company may be designated "AGC LA 200". Notice the first one uses a number-letter code, while the other is marked in letters only.

All commercial cartridge fuses have the current and voltage ratings marked in amperes and voltage values identical to those on military fuses. But the style and blow-time characteristics of commercial fuses are designated by the particular manufacturer's code.

The table below shows the style and blow-time characteristics designations of commercial cartridge fuses most likely to be used in communications equipment.



MILITARY FUSE SPECIFICATIONS		
DESCRIPTION	SUPPLY FUSE CHARACTERISTICS	BLOW-TIME RANGE
100	Slow-acting	
200	Normal	7 1/2 long x 1/4 dia.
100-20-0.5	Slow-acting	
100	Normal	7 1/2 long x 1/4 dia.
100-20-0.5	Slow-acting	
100	Normal	7 1/2 long x 1/4 dia.
100-20-0.5	Slow-acting	
100	Fast-acting	7 long x 1/4 dia.
100	Fast-acting	7 1/2 long x 1/4 dia.
100	Fast-acting	7 long x 1/4 dia.
100	Fast-acting	7 1/2 long x 1/4 dia.
100	Slow-acting	
100	Slow-acting	7 1/2 long x 1/4 dia.
100	Fast-acting	



This all means you've got to be mighty careful in checking each manual and letter to pick the right fuse as a replacement.

Do that and you shouldn't have to ring the fuse bells.

PM on your face is short and simple.

Keep an eye on the fuse ends for signs of overheating and corrosion.

You can clean the ends with four-grit sandpaper, but be sure to wipe 'em good with a clean cloth.

Fuse clips should be kept clean and tight as you'll get a good contact.

AN ARM-GI CABLE FOUL-UP



A couple' cables of the ANYARM-GI radio set can give a one-two punch

to the radio. The PC-4118 has a shell of insulating material.



PC-4118-01

—so the set and the radio it's connecting don't knock 'em both out.

The trouble-makers are the CE-6070(U) and CE-6075(U) cable screen clips, and they've got to be removed before you use 'em. The set set's for the ANYARM-GI and 27A and the RM-48C-15 and 505 radio sets.

Fig P128 of the DRAFT can damage the P-108 wires if the test set clips...



... it's plugged into the radio (set of the RM-48C-15/505), if the metal cover of the plug starts to ground sending a damaging current thru the radio.

You can avoid damage if you replace the P108 with plug type PJ-8118, supplied with RM-1005-



PJ-8118

WIRING MISTAKES

The CE-6070 is a different bird to handle, since it's wired wrong. Three colored wires (Purchase Order 3142-PC-6070-01-01) have pins wired the wrong way of what they should be.

Use it as it is and you'll damage the amplifier and oscillator mechanisms of the radio you're testing, since the cable interconnects the radio chassis with the main receiver RF amplifier and the speaker oscillator.

When wired right the pins of the plug connect to the same numbered pins of the receptacle. Like, Pin 1 of P128 male and to Pin 1 of P128 female



end of the cable. From the gap in the mating ends the plug is numbered 1 to 7 clockwise and the receptacle is numbered 1 to 7 counterclockwise.

And friend, if you don't have the right tools for the repair, send the cables up to third edition for the job.



**SEALED
WITH
A SEAL**



Dear Half-Mast:

What's with the new bearing and on the M11? Haven't you? It's listed in TAM-2420-278-00P May 68, Pgs 17, Item 4, or Ord number 7004894, P/N 2780478-0781.

If you ordered a new one, supply part no. a seal with a flange on the outside end and a taper on the inside end. The Ord number—7004894—is the same, though.

Should I use it or did somebody make a goof?

SP4 R.L.P.

Dear Specialist R. E. P.,

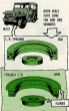
No goof—just an improvement, so use it in good health.

Supply gave you the new eye bearing and which works better even though you get it under the same P/N and Ord number Marine there is an improved main bearing and with the same P/N and Ord number as its older version—P/N 2780478-0402 (7700011).

These new seals are standard equipment in M11's with replacement number 200449 and above, and they will be taking over to supply in present model of the old seal are exhausted. However, don't be inspired whichever eye seal you get.

There won't be any records for M11's below 200449 and you can verify the old or the new seals with my M11.

Half-Mast



Dear Half-Mast:

If you're checking the vacuum portion of the fuel pump on our M11, M13 and M14-1 selected vehicles, we find oil in the capsule bottom cover. Does this oil affect the operation of the pump, engine or valve?

SP4 P. A. S.

Dear Sergeant P. E. P.,

A little oil in the bottom cover of the pump is perfectly normal and harmless. But too much oil is a sign like this means trouble.



DISCHARGE PORT OPEN IN THE TOP OF PUMP



When the engine performs OK and the windshield wiper do their job, don't worry about the oil in the vacuum section of the fuel pump.

If your engine suddenly starts gulping oil, have your vacuum pump checked out before you go digging for other possible causes.

The diaphragm captures and stores oil in this type of pump. When the fuel pump, oil is drawn from the condenser and pumped straight into the intake manifold.

Symptoms will be fouled spark plugs, rough idling, blue smoke from the exhaust, too much oil consumption and a leaky windshield wiper.

Half-Mast

ENGINE OVERSPEED



Dear Editor,

One of the OEM's engines on our M54 will-propelled motor blew its top and went over the 5000-RPM maximum limit. Had us running around in circles adjusting the carburetor, distributor, and checking the governor diaphragm. None of this did any good.

Then we got to thinking that maybe the governor diaphragm just wasn't getting the vacuum from the lower chamber of the distributor, like it's supposed to, so we changed the distributor and that solved the problem.

We don't quite know why the distributor failed. It might have been a leaky governor valve or leaky seals. As my



A 2007 PLYMOUTH CRUISER IN THE DISTRICTS HAS A DISTRIBUTOR OVERSPEED

dad, now when we get an overspeed, we usually turn a lot of time and effort going by checking the distributor first.



Case
STARTING
Camp Drive, N. Y.

old Man—Right? And drivers with an overspeed restriction want to remember they don't have a "hot" vehicle . . . just one that might blow a red light through the engine block if they don't wear it back to the service area.



STICK-UP

It's common causing the discharge valves (PN 2198-754-8886) found on your M54 and M56C gasoline engines to stick.

So now when you want change fuel one of the compartments, one of them may get dumped before you spot the thief.

This'll happen when the valves stick—the fuel can flow from one compartment into another.

Here's the plug on these valves:

The gland plug and the valve stem assembly seal.

When the lever is pulled to open the valve, the plug twists with the stem, threads into the valve body, and seals.

The seal doesn't close when the lever's released because the stem is sealed. This lets the fuel flow.

To prevent that plug and stem from seizing, get the plug in a vice and turn it 1/2 to 1 1/2" up to give 1/16" lock. Don't forget to remove any rust that might be on the stem. With the added clearance and a clean stem, you'll get no more sticking discharge valves.

One more thing. Don't get your 10" presentation before doing this job.



WINCH CABLEGRAM



WHAT'S THE CORRECT CABLE LENGTH?



Dear Mr. Rex:

What's with the winch cable on my M17 (to the truck)? TM 9-4980 (May 51) says on page 108, June 1958, that the cable size is 7/16" dia. by 150 feet. On another hand, TM 9-2130-212-20P (Feb 48) page 78, Item 3, says the cable is 1/2" dia. by 200 feet.

Which is right?

OWG F. S.

Dear Mr. F. S.:

The TM 9-4980 was right when it was issued, but there have been some changes made.

TM 9-2130-212-20P
M17 (to the truck)
OF 7-48 1000



The TM 9-2130-212-20P is still right except for one detail. FM 9-4018-120-120P will get you a cable in every specification like it says in the 20P except that it will be 150 feet long instead of 200. That extra 50 feet was not much to wrap around the winch drum.



QUICK DRAW

GREASE GUN



Are you a time slave on the grease-gun draw—adjusting your MILITARY™ quick coupler?

Learn to use it right and you can make Max Miller look like slow motion.

The trick is to hold your grease gun so the coupler is in good contact with



the grease fitting while you build up the grease gun pressure. This way you have power on the coupler jaws. If you let the grease gun and coupler move away from the fitting or slip on the side ways, you won't get the right coupler action.

Before you do anything, be sure the grease fittings are OK—without any cracks, leaks, grooves or deep scratches on the ball surface. If you're not sure of a fitting, wipe it out and squirt some grease through it. If the grease can't get through easy, get it a new fitting.



Remember . . . the fitting on the MILITARY™ quick coupler adjuster is a special double check valve that (1504 4758-679-5875) to replace it with the same kind!

Most of the trouble is with leaks in the hydraulic coupler and extension tube.

The fixer's reason for this is a grease fitting that's damaged, plugged, or otherwise lost up.

However, first be sure all the grease fittings you have to work on are good, then have the company mechanic check out your grease gun.

If there is a leak in the extension tube, your company mechanic will cut the threads with a cutting compound and tighten it up good and tight.

If the threads are damaged or stripped, however, the thing he'll do is work 'em over with a 1/2"-27 NPTF die.

Should there be a leak in the hydraulic coupler, the best deal is to order another coupler (3509-6000-381-

5004), 3509-6000-381 Item 10 at \$5 each.

The jaws can gradually wear out to the point where they no longer get a good grip on the grease fittings. If this happens, turn 'em additional and that'll give a new gripping surface over time.



Aside from wearing the jaws, don't bother with repairs to the coupler. If it leaks, get a new one.



M113 TORQUE TOPICS

Some M113 PC's have been coming through with transmission and engine oil temperature switches with wrenches torqued to only 20 to 25 lb-ft instead of the maximum of 40 lb-ft like the book says.

If you get an M113, do yourself a favor and check these switches for correct torque. It takes more than 20 to 25 lb-ft to seal the threads right.

On 'tactical loads, don't go ape with that torque wrench.

If you over-torque it'll mess up the calibration and your temperature readings will be phony.

Get these switches torqued right—to a maximum of 40 lb-ft—and you won't have any worry about them deforming.



One other thing on these switches before we switch off . . . If you need to order the Transmission, Temperature, Electrical Resistance transmission oil temperature (TORR177) you'll find it in Item A, page 51 of TM9-2800-214-20P (Mar 63) and the stock number is P25 500-670-0395.

Just remember, whenever you order one you should also order Dishing Flyer shoulder, M1, ghd, 1/4 NPT x 1/2 NPT (146021). It's Item 9 on page 51 of the 20P and the stock number is P24 670-377-1164.

The heading and the transmission belong together like Canada and maple-syrup-soaked waffles.

GENERATOR REGULATOR PLUG



Dear Hal-Nut:

The generator regulator you find in many types of military vehicles has a plug plug. What I want to know is how do you use this in maintenance?

Sgt. J. R. K.

Dear Sergeant J. R. K.:

This is strictly a K.Y.O.P.H. item—Keep Your Common Finking Hands Off It.

The only time it's used is during maintenance. At the factory they run a vacuum test to be sure the regulators are sealed right. That's the only function of the plug.

Love it, Hal!

OLD STALE TALE

Hal-Nut

Everyone knows this is as old as the sea about the farmer's daughter but it seems like it needs retelling.

Some jokers will slip up and use petroleum base hydraulic fluid in their wheeled vehicle's hydraulic brake system. Stop! Good Lord!

Only non-petroleum base fluid is to be used. To keep from doing damage to the vehicle's brake system use only, repeat, use only non-petroleum base hydraulic fluid.

You can always tell when you have the correct fluid, the containers are painted olive drab and are clearly marked with specifications, FM and

non-petroleum base classification.

Before pouring brake fluid into your vehicle's brake system, look for the container over the door class:

1. It must have this eye marking—
Hydraulic Fluid, Non-Petroleum Base, Fed. and Specifications FM 4-614 or FM 4-612.
2. It must have one of these FM's—
FM 4-612 (D-612) on the 1-gal. size
FM 4-614 (D-614) on the 1-gal. size
FM 4-612 (D-612) on the 1-gal. size.

So, look for the eye-mark markings before you pour, they'll keep the jokers from being on you.

ROAD MAP FOR FORMS

Save! Any time you hit the road for a private trip, you get your road maps out and plan your route. That's so you can avoid detours and find the shortest way.

In the Army Equipment Repair System you'll want to do the same for your DA Forms—so they don't detour but take the shortest way.

Since some parts of the system are still under construction, here are some routes you'll want to use on your TADDS road map.

Use DA Form 2400, 2400-1, 2400-2, 2400-3, 2400-4, 2400-5, 2400-6, 2400-7, 2400-8, 2400-9, 2400-10, 2400-11, 2400-12, and 2400-13 if provided from the appropriate DA

COMMANDING OFFICER
BASTON ARSENAL
ATTN: WSPFC
METUCHEN, N. J.

... instead of the addresses listed in Appendix EB and FF of TM 14-714. (DA message 120748 dated 24 Jan 65 and 0404 up. DA message 127033 dated 24 Jan 65 added the 2400-8 to the list.)

The 2407 is the History, Service Request Form, and the 2407-1 is the History, Service Request-Continuation Sheet.

The 2408-1-1 is the Equipment Maintenance Record (Operational).

The 2408-2 is the Equipment Transfer Record.

And 2408-3 is the Equipment Inspection Record (used by higher activities).

MAIN ROUTE
COMMANDING OFFICER
BASTON ARSENAL
ATTN: WSPFC
METUCHEN, N. J.

EVERY TIME
I GO
ON
ROAD
TRIP
I
CHECK
THE
ROAD
MAPS
TO
SEE
IF
I
CAN
GET
TO
MY
DSTN
THE
EASIEST
WAY.
WHY
NOT
DO
THE
SAME
WITH
DA
FORMS?



EMERGENCY AND URGENT IBS
 FOLLOW THESE ROUTES.



Transportation

Emergency Office
 22 Army Transportation Support Center
 ATTN: 3A0000
 2700 and 2700A
 Columbus, Ohio

Emergency Office
 22 Army Transportation Support Center
 ATTN: 3A0000
 2700 and 2700A
 Columbus, Ohio

Command and Support Facilities

Emergency Office
 22 Army Transportation Support Center
 ATTN: 3A0000
 2700 and 2700A
 Columbus, Ohio

Countermeasures

Emergency Office
 22 Army Mobility Support Center
 ATTN: 3A0000
 Columbus, Ohio

IBS (Chemical)

Emergency Office
 22 Army CBR Agency
 ATTN: 3A0000
 Aberdeen, Maryland

Fuel Control

Emergency Office
 22 Army Mobility Support Center
 ATTN: 3A0000
 Columbus, Ohio



Engineers

Emergency Office
 22 Army Mobility Support Center
 ATTN: 3A0000
 Columbus, Ohio

Weapons

Emergency Office
 22 Army Weapons Center
 ATTN: 3A0000
 Fort Belvoir, Illinois

The mobility manual you need to read is **EMERGENCY AND URGENT IBS**, 2007-1, 2008-1, 2008-7, and 2008-8 straight to:

Emergency Office
 22 Army Mobility Support Center
 ATTN: 3A0000
 Columbus, Ohio

Are **EMERGENCY AND URGENT IBS** topics not your specialty? Intelligence and security manual get worked directly to:

Emergency Office
 22 Army Communications Support Center
 ATTN: 3A0000
 Aberdeen, Maryland

The new storage box set change is in **EMERGENCY AND URGENT IBS** will pick up these changes as your maintenance team read out

BLIND IN A BLACKOUT



Ever try to identify a bus under a blanket in a blackout?

Possible, maybe, but it's a good bet you'll miss more often than you hit.

So, never play this game when you ask for info—so order parts for your equipment.

Read your equipment's data plates, and identify it by name, model and number—on your DA Form 1546.

I'll pay in kinks, loose info—and parts that fit.

PS—It helps if you include the same info, too, when you get a question on PB.



LET IT SHAKE — NOT BREAK



— You can stop leakage in the piping between the discharge tank and the collect tank on your Mc-Pac Model 1000-2000 water purification unit by replacing the copper tubing with plastic tubing.

Sound simple?

Nothing is it.

The copper tubing does the shaker when you take off rough country and jostle across rough ground with your Mc-Pac unit. Something has to give — and it's the copper tubing.

Sooner . . . just replace the copper tubing with a flexible plastic tubing.

Here's what you'll need:

1 in.—Diam. steel, 47', 1/2-14 thread size, P/N 4750-202-47 (10' bag)

1 1/2 in.—Diam. tubing, 10-12 lb., 1/2 in. O.D., P/N 4750-201-001 (10')

1 in.—Diam. steel, 1/2 in. to 28/2014 18', P/N 4750-201-1708 (10')

1 in.—Diam., straight, pipe to base, 1/2-14 thread size, 1/2-in. O.D. base size, P/N 4750-202-4707 (10')

Walter, looking for what's shaking things.

Well, the answer is right under your nose. The plastic tubing.



Now when you hit the bumps, the tubing will shaker . . . but it won't break.

SUPPLY MAN...

...and how to
get the most of
them.



Give a careful listen . . .

You say it's happened to you?

You need to order a repair part you know that you don't have an FSN? And you only have some other part number (manufacturer's, Conf. Ingt. Ord, etc.), but no manual or publication reference to query in your requisition?

Don't give up!

Here's what you do:

Give the repair part description and whatever part number you have for it on your requisition, the way you do on all your requests. Then put a note on the requisition (attach a note if you're using the DA 7445 request form), briefly explaining your problem to your supply support center. (They know that AR 721-58 OR's the deal.)

Then the supply support people will make a technical call of your request. When their call search reveals that there is an FSN, they'll run an MILSTRIP procedure (Military Standard Requisitioning and Issue Procedure).

Under MILSTRIP, you see, your supply support can help you with this kind of a request by using a special

code, and by routing the info you give you in the standard section of the DA Form 7445 (the MILSTRIP single-line form, purchased requisition form), which they forward to their supply center.

Of course, when your request is assigned this special code (it's called the "requisition code" 1), the sticky part is that your request'll have to be mailed in rather than sent through the conf. MILSTRIP classified channels.

Also, the supply center receiving the request has to process it manually, because the electrical brain which can process a track load of supply data in seconds, will accept only legitimate and normally authorized FSN'd items.

So it's likely take a bit longer to issue and ship your repair part . . . but, you'll get it. For info on what you can get (it) if the repair part's available.

However, like was said in the beginning . . . you can ask for repair parts the way you were it for what you're way up the strap—when you know that the repair part you need hasn't been assigned an FSN or a supply authority.

JOE'S DOPE

Robin
and his
hoods



ON PM IS NEVER OUT-OF-GATE

I came to pass that Robin of Loxley and his men retired back to the deep of Sherwood Forest. They were to finally denude the hated sheriff and free the land that has suffered sorely under his wicked fist.

But a legend of mighty proportion overgrew the land and all the lanes through the wood were laid . . . It was whispered that ghosts and demons roamed the wood, leading it and the Nottingham castle off from the present folk . . . forever . . . ?

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Oh yeah! If real pop reads out that of Robin and his cool group (about company strength) pulled a combat patrol action and during this deal, lugged up yr old sheriff and Co, but good. When the smoke cleared they had stayed back, with no casualties, into prepared positions in Charlie-Bravo sector, coordinates 481378 . . .



And that was eleven hundred years ago. So not happened to him ? Well, hold yr horses, I'll show you . . . Take it easy . . .

COME WITH ME TODAY TO THE STEEL UNDETERMINED WOODS BEHIND US . . .



SHERWOOD FOREST

The legendary deeds of the Robber of the Marsh . . . The Ghost in the Pain . . . The Wizard of the Lincoln Green, The Hunter of the Long Bow and Clifford Grove . . . the Arch Enemy of Nottingham's Sheriff . . . Robin of Locksley . . . (commonly known as)

ROBIN and his Hoods

"WANT BE FEARLESS LEADER. FROM THE woods and from water HERMAN TOO LONG IN SHERWOOD FOREST. AT last SHOW THE FIGHT TO THE world. VILLAGES. WE MUST SHOW OUR ABILITY ON THE ACCOUNT. WE'VE BUILT THIS!"

"THE FIGHT ON BATTLE FOR LONG MARCH WE WOULD YOU BE THE BETTER MAN WE WOULD BE BETTER FOR THE FIGHT. FIGHT."

"WANT BE FEARLESS LEADER. FROM THE woods and from water HERMAN TOO LONG IN SHERWOOD FOREST. AT last SHOW THE FIGHT TO THE world. VILLAGES. WE MUST SHOW OUR ABILITY ON THE ACCOUNT. WE'VE BUILT THIS!"

"WANT BE FEARLESS LEADER. FROM THE woods and from water HERMAN TOO LONG IN SHERWOOD FOREST. AT last SHOW THE FIGHT TO THE world. VILLAGES. WE MUST SHOW OUR ABILITY ON THE ACCOUNT. WE'VE BUILT THIS!"



OTTINGHAM

...in the north of the island, near the coast, and...
 ...in the north of the island, near the coast, and...



JOE'S

Dope Sheet

Check

- Is your receipt ready?
- Will it perform when you need it?

Fights are won by the ready and fleet,
NOT the polished, the shiny and neat.

So maintain with care
the weapons you have,
and keep you cool in the "heat."



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

IF YOU WANT TO DISPLAY THIS CENTERPAGE ON YOUR BULLETIN BOARD, OPEN UNFOLD, LAY IT OUT AND PIN IT UP.

...and what things we will do!

HOW IS THE SURETY
BOND... NOTY THUNDER LOUD
SARACIN... AND ANOTHER RE-ARRANGING
SPEAKS BY ANOTHER... THAT...
DOING AND THE MOUNTY WOODS?

IT'S
ABOUT
TIME... YOU
WILL BE HAVING
THIS SURETY
BOND...
FOR YEARS.

HOW DOES
THE ESCAPE
FROM THIS
MOUNTY WOODS?

REARRANGING
THESE THINGS
MAY BE ON THIS
MOUNTY... DON'T
TALK... IT'S ORIGINAL
MOUNTY.

A BAND OF
MOUNTY FELLOWS
PLANNING THE HEART...
LOOK WITH YOUR OWN EYES...
ALL YOUR LEADERS...
THINGS ARE...
AND... IS...
AND... IS...

REARRANGING
THESE THINGS
MAY BE ON THIS
MOUNTY... DON'T
TALK... IT'S ORIGINAL
MOUNTY.

And so, for the first time in eleven hundred years, the parchment rolls, the draftsmen's pens and the sheriff's minster pen will

ON TO
MOUNTY WOODS

LOOK ON
MOUNTY

SHIRT IN
THE MOUNTY

THE
MOUNTY WOODS



- Battle Map -



THEY... Meanwhile, in the Wooded Forest... Bobb's cunning strategy has spotted the enemy's base advancing into the Cherokee Dale sector, coordinates 58-1265.





Like every day, the course of Richard's... .. street ends among the... .. the... ..'s... .. soon all was still with a... .. deep silence... .. to a man, the... ..'s... .. were... .. destroyed. And so, after... .. three hundred years, Robin... .. chose the best hole deep into the... .. ancient... ..'s... .. chain... .. mounted above Ralph... .. Mar... .. worth, Sheriff of Nottingham, falls from his saddle... .. dead!



Bill of Robin and his wife, reprinted, picked up their... .. and finally headed out of... .. Forest, and to their... .. amazed eyes into the... .. Forest. Being that... .. the... .. was... .. he headed to the... .. good of USA, and promptly... .. switched in the Army, based he... .. the... .. colonels... .. recruited him of the... .. Green for... ..'s... ..: Where is he now? Oh! he's a... .. FBI... .. instructor with the... .. special... .. focus on... .. attacks... .. left... .. special with the... .. law and... .. order... .. Yeah!! they... .. use that... .. kinda... .. stuff... .. on that... .. wife!

Oh- now hit the... .. back of you.





ACCIDENT PREVENTION... CHART AHEAD

Maybe you can't always stay on top of the supply game—but you can try. A Chart Ahead Board helps keep your time change replacement schedule from turning into RDP statistics faster than you can close the hangar door. Just plucking the tabs from each aircraft's EM Form 2408-15 (Component Installation and Removal Record) is all it takes.



JUST AS THE NUMBER SHOWS, BOTH CAN BE TRY



Any plane out in the open will do, as everybody in the hangar can watch it. That way you'll be less likely to forget about ordering replacement parts until it's too late . . . and crew chiefs can watch the main SUPPLY ACTION column when necessary.

For 3-13 in EM 1-12 (Aug 80), "Army Aviation Organizational Aircraft Maintenance and Supply," has some ideas to help us get the most out of your board with the least effort.



DA 12-31 CHANGES AGAIN

No! The Army's never found change for the rate of change! It's just that DA Form 12-31 (1 Sep-67) is now not only obsolete, but physically, being left behind by the fast flying Army aviation program.

To stay with the program you've got to get your orders in for the 1 November 1967 edition of the 12-31 (No instructions for 12 of Army Aviation Publications) now. This book is against your copy of the obsolete version you've got on file with the All Distribution Center in Ft. Lee.

NEW EQUIPMENT CODES

You make right off the book the new and old aircraft designations are coded in Column 4. Including the you read from Area column 4, check, is whether you should write in any 1, 2, 3, 4, etc. same designation used to each model. And, the Army's not the Army without aircraft codes of correct codes for each aircraft model. It the new manual, except for the form, but this is being corrected on the DA-15, 200-257 and 204 series, are being replaced by a new code number . . . 100 . . . meaning that DA-15 is the code.

CRUISE

What's after? Well, the CRUISE block at the bottom of the form means any job of a general nature not not limited to any specific equipment, or group of equipment, or any of the form above.

SUPPLY NOTING
You'll only find the noting has been changed at the top of the form to include a 1000 address. You can do with the notation on the back of the form. If requiring all company and detachment use note to use the 10-10 through the next higher headquarters, large with all and that the 10-10 down to 10. Last column had 100 applying here to be entered in blank just as easy last.

SUPPLY INSTRUCTIONS
Columns 11 and 12 were added to specify instructions before it from general Column 4, however, in the instruction on the back page 17 apply. The Training Checklist are an example of instructions type code when the general description means general category 10s, 10s, etc. If apply applicable to a specific type of equipment or group of equipment such as 10-10 and 10-10.

GENERAL INSTRUCTIONS
DA 12-31 (10-10-67)
GENERAL USE OF 100 IN SUPPLY INSTRUCTIONS

GROUPS AND INSTRUCTIONS ABOVE
Tables 10, 10, has been changed from "Type of Aircraft" to "Subject Grouped" because the 100-1 down has been listed as in the 10-10 column and a light notation on the top line being on the bottom.
In the 10-10 column are required, the DA 10-10-10-10 is not set on the 10-10 . . . the 10-10 and 20-10 code should be set about one . . . but you'll have to wait until the 10-10 is ready to be put on the 10-10.

EDIT THE PAGE
Example for these changes the same way the same as for the obsolete form explained in DA 1-13. Besides, you've got the instructions right on the back of the form itself.
If you're going to part of the program, go get your orders—on the ground as well as in the air.

Alvin S. Swartz



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Alvin S. Swartz



NONEXPENDABILITY-ACCOUNTABILITY



Does this fall in the category of items and their proper disposal under AR 115-11?

SUPPLY



Dear Buddy Blandford,

AR 115-11 (Mar 62) with Change 1 (May 62) says that, etc, etc, etc, will be recorded in a single line item in supply property books. Special tools are not mentioned. But they're required for aircraft maintenance and are not listed until the next item assigned a unique identifying specific type of aircraft.

My question is: Will the property book reflect account for these special tools in accordance with para 11 or will the maintenance effort account for special tools the same as spare parts and repair parts?

SFC E. P. H.

Dear Sergeant C. F. H.,

First thing you gotta do is to stop thinking of special tools as kits, sets, etc. Special tools are individual items.

That means you can place the balance of para 11 in AR 115-11 as a reference. And the last line of para 11 says property books are kept:

... for all nonexpensible property issued to the organization."

No need for a special tool that's expensible to be treated any different from those spare and repair parts you

mentioned. That's because the expensible tool class doesn't use enough to worry about so it's made out of material that's not critical enough to be worth recording after the tool's done.

The best way for you to know how the Army looks about each special tool is to check Chapter 3 in the GEP for the aircraft type you're gunning while field maintenance done the same with the -SAP. Each tool is coded either as possible or nonexpensible.

Each nonexpensible tool needs a DA Form 14-110 in the property book and the "T" manual number goes in the authority block for that tool.



Buddy Blandford

KEEP A TENSE TENSIO METER

Now that you reach for the C-8 tensiometer in your A Supplement, B, or C aircraft tool kit to check control cable tension on your bird, remember—make the accuracy check right-off.

Without the check you could get false readings and end up with either a slack or a tight cable. Course a cable with too much slack can give you sluggish controls, while a cable that's too tight can wear pulleys and part cable strands, for real. That's why you want to splash with the operating info for your tensiometer.

The instructions vary with different manufacturers. For example, the accuracy check spelled out in TBI 1-1142-1.1, IIS (1 Apr 62), page 3, paragraph 4.5, is for the C-8 made by Pacific Industries and allows you only a plus-or-minus one percent margin of error.

But suppose you have the C-8 made by Whalin. The operating prop and

accuracy check are much alike in form of you when you open the case cover. Accuracy on this baby should be within two per cent of the last number stamped on the calibration bar.

When you actually make the check, be sure the bar has the same serial number as the tensiometer it was calibrated with . . . because this can change each time the tensiometer and bar go back for recalibration.

Set the gadget for the smallest cable size listed (1/16-in.), and put the bar



for loose of the screwing handle so that the jaws grip the bar. The 1/16-in. Old reading on the Whalin should be within two per cent of the stamped number on the case bar—115 in this case.



Take several readings and if the average is not within the two per cent range of 115-117, you know the tensiometer's been through the mill and needs to be turned in for repair . . .

—WALTER



STOP THE ROCK WITH A LOCK

Here's a few complaints on that Supreme maintenance stand (POM 1790-004-0004) being kind of shaky to stand on in the low level or open position.



To the people who liked to complain passed the word on to the manufacturer, who's now adding on a real simple cast-iron lock to the frame. You can do the work right in your own garage if you're having the same rock 'n' roll trouble.

Just measure across inches up from the bottom of the center frame angle on both sides . . . and drill two holes with a 7/16-in. drill in each of the vertical supports.

Now make up two cast aluminum catches (CQ-4-011) as shown here . . .

and force the catch through the hole into each side with an ANGLECUT machine hole (FSM 1400-150-0131) and an M5 20001-21002 self-locking nut (FSM 2110-010-0008).

After installing the lock, you can now force the other two holes—the two ANGLECUT machine holes (FSM 1400-151-2100) and the M4-10001-10 spacer (FSM 1500-004-0014). In run this hole through the spacer and use the same size self-locking nut to snug it up from the inside of the plate face.



There shouldn't be any flex in the catch mounting and the slot in the catch should fit snug up with the spacer for a good lock.

This idea is offered as a no-strings attached gift for PE readers.



FOR THE BEST HIGH POWER ILLUMINATION LIGHTS

THE TOOLS YOU NEED

Now you can ... the tools that you think you'll need when you get yourself the high power illuminator today. They come from Quorum and are added on to the 3-4-555-800, FOR 400-714-8000.

The tools listed in Volume 1, 2 and 4 to FOR 00-1-01, 00-1-02, 1-01.

<p>00-1-01 00-1-02 FOR 00-1-01 00-1-02 FOR 00-1-01 00-1-02 FOR 00-1-01 00-1-02</p>		<p>FOR 00-1-01 00-1-02 FOR 00-1-01 00-1-02 FOR 00-1-01 00-1-02 FOR 00-1-01 00-1-02</p>	
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OHM THE WATER

BY FULL SERVICE

That wet stuff—water—sure is giving back with the systems. 800/7000-744, 4117, OHM 900-6039, and the systems. 800/550-811-1488, OHM 904674, in the elevation band on some AM, MPQ-11 Hawk radio sets. The water gets inside the head and knows the scientist and system use of which, found familiar?

That's no more so giving it—out while you use while the problem. Here's how you do it.



Get rid of any pipes and only in the head that's the right for you with one more—water.



Take care of both as right.



And one important tip to not all place when water right used by.

NOZZLE NEWS

Dear Mr. Editor,
I'm sure you'll find this story an illustration of the words. There's nothing in TM 3-107-300-12 about color of these things.

Dear Mr. Editor,

Let's get down to work with the Hawk nozzle.

I mean just how much faking or clipping of the subtitle line in the old words is allowed? And what's the story on illustration of the words. There's nothing in TM 3-107-300-12 about color of these things.

By D. C.

Dear Sergeant D. C.,

You're right. The TM's silent on the rain subject, in fact.

So clear you'll be ahead of the game, too, when you want to know in that clipping or faking of subtitle that goes 10-10-10 or more across the words has to be explained. You measure the depth with Gage, depth, and indicating. 800/550-811-1488.

The gage is used in TM 3-107-300-12 (3-107-300-12).

And don't get in a habit about the



color of the words. A change of color means nothing.

Half-Heart

WORTH A TRY

MOULDER
CART

Maybe it'll work . . . and maybe it won't.

It sure won't hurt you to check a warning on the moderate values of your Hawk 65/7000-10 probe suspension roller. It ought to read something like this.



Before you do it, you want to read what AR 303-36 (Jan 57) says about moulting.

The warning just might keep you from stepping on the roller and connection between the moderate values and roller set group.



STOP GETTING THE HORN ...

KEEP YOUR PINS STRAIGHT



Do the pins on your Hawk electric girthed ring electrical connector look like somebody took a hammer to them? Maybe they have.



Most likely, yes, some guy has probably tried to insert the plug with the pins without first making sure the whole works lined up. It doesn't take much doing to pull this kind of good.

But there's a way to make sure it doesn't happen again—easy enough. And you get a bonus . . . no short-circuiting connections.

The best thing you do is look us in a tin just out of yellow paper that you can find on page 4 of www.4-400-541-2281 or call 400-541-2281.

Now you make the connectors and plugs. This is one time you don't want to quit. Just . . . three strips of masking tape across the upper end of each plug and one on each side of the girthed ring. The strips want to be about 1/2 inch apart and the



inter-pin distance from center to next from the end of the plug.

Now get out the paint and a small brush and fill in the space between the strips of tape.



After you remove the tape, you can see that you have it made. From now on, whenever you put in the plugs, line up the yellow stripes on the plugs with the ones on the girthed ring. This can't go wrong.

TAPE IT SHUT



TAPE OVER
VIDEO
SCREEN

One question usually follows another whenever a Hawk maintenance man looks at the missile without a shell.

First: What's with the destroyer plug across the shell?

Second: Can it be taped shut?

The answer to the first question is that the missile does not yet have so that the destroyer plug could be used when stationary equipment was put in the missile in place of the warhead for test and evaluation.

And the deal on the second question is that the shell can be taped shut. The tape to use is Tape, pressure sensitive waterproof. You can get it under P/N 8158-721-0796 from Defense Supply Center.

DAMAGE STOPPER



You know one good way to make sure the shooting plug, P/N 5011-71-1004, for the air end of your Hawk missile doesn't take a beating when you put the bird on the launch rail. One simple Navy ground crew member always tucks the plug in place as all other—except when the missile cable is connected. Naturally, if you have the new shooting plug, P/N 5011-804-5071, which was added by AFSC 9-140-000-28/1/15 of Jan

08, you don't have any problems'cause it's made so it doesn't take a beating.



NEGATIVE, NEGATIVE...



IT'S NO HANDSTRAP

Careless John becomes not drawn to House Job by using the power cable between the main junction box and the branching boxes as a pull-line to force themselves ahead the Mini track-mounted RJ handles. The cable's built to carry AC power and light-switch loads for their entire life... not for hand massages they'll have it and short-circuit your operation in a hurry. So—if you need help—use the steel hand support. One more thing—if your handle doesn't have hand supports like these, check out **800-834-8470** 9-11-84-20-7 117 May 82, with the people up the line.

DON'T USE
POWER CABLE
AS PULL LINE



FOR HAND SUPPORT
CHECK OUT
800-834-8470
9-11-84-20-7
117 MAY 82

HONESTLY, JOHN



Due to the quarterback calling an automatic and changing signals at the line of scrimmage—you get a better view on our line in this House Job and let's **1-800-834-8470** that appear on page 43 of 85 118.

The signal-switch has the adjustable top and rubber wiper... so there's the correct picture relay to set you straight.

HEAD UP AND STRIKE STRIKER
Right side up, 1/2 in
1/2 in left by holding
on 11 in 1/2 inch



FOR 11 IN 1/2 INCH

CLEAN BUT

You should've seen the guy.

He was walking down his Home-John equipment. And was he getting it clean! You bet. That high pressure hose was doing such a good job it liked to take the mounting chain of the MTH's handling unit.

And the MTH generator set . . . you could hardly see it for the water that was splashing on and around it.

Course . . . when they went to start the generator the next day, they found it was inoperable. And sure? The only

thing that caused was the crew—after the guy who had played hooky with the hose.

It's a good thing you don't see a high pressure hose—or stream—around your equipment. You'd have the same kind of trouble.

TENSION HEADACHE?

Forget those pills, surgery, this kind of tension you want—and need. That's for real. Cause if the back group of the thing goes bad on your Home-John handling beam joints with no stress, you could be headed for real trouble—like a ground bird as it leaves the pad. So, if you don't have us push a little on both things now—and the stress on the back assembly doesn't drop in the hole—adjust the two nuts on the back nut or get your support to take a lookin'.



MISMATCH MISHMOSH



Can problems spring together?

Like maybe your M35E3 comes John Deere loader and M35E3 handling unit appear to be loading and have suddenly turned off about matching up like they should?

And, as a result, no amount of pushing and heaving can get 'em lined up right when you're loading an M35E3 or M35E3 system.

Trust? Well, apart the one and give a lesson.

It just could be that your mate was one of the "lucky" H-J units that ended up with an M35E3 loader that left the shop with the rather loading a different place on handstands.

Typ—by some manufacturing flake—some of the M35E3's were lined with the M35E3 and M35E3 alignment plates attached to the left rear fender in the reverse order . . . a situation figured to make correct alignment impossible and have you tearing out your hair in a hurry.

The best remedy to the problem is to make a last year of your H-J loader—
and check out the alignment plate.

Make double sure that the M35E3 plate is forward of the M35E3 plate, like this.



If you hit the judges and run across a lot of mismatched plates either apply a little do-it-yourself time and or kick the loader back in support for correct use.



★ STOP PUMPING ★

If you don't when—you'll sure have warts—with your M&M-series Hooper jobs handling unit. Tying this trick is sure like lifting yourself up by your bootstraps. It sounds great, but it just can't be done. If you keep pumping, all you'll buy is trouble—like resting up the lower seat bracket. So, make sure the hole hook is free of the bracket—before you make with the hydraulic muscle. OK!



STROKE IT GENTLY



Are they taking a beating or are they taking a beating?

If getting heated means taking a beating, then the hydraulic pump-socket on some M&M-series Hooper handling units are taking a beating.

Here ... it doesn't say anything about it in TM-9, 1055-208-12. Just the same, do, when you reach the end of each stroke with the pump handle—stop. What's stop, like in halt.

All it takes is a little extra push and the socket is a gone gone.

The socket'll also be hurting if you



don't have the handle all the way in when you use it. And the center pin must be used to hold the handle in place.

TAPE'LL WORK

Here... you're supposed to hold one in the dining place for your Milwaukee M2, M3 and M4 wrenches. You see 'em when you strip the' wrenches up the supply line.

Trouble is... they have a way of getting lost. And there's no way of replenishing 'em fast.

But—there's a way out. You can use the heavier adapters with pressure sensitive tape. You'll find the tape, PPN 81 25-100-8089, on page 28 of *Grid T 551*, T-2 (Apr. 61).

Your support people'll tell you that the info on using the tape is in paragraph 19 of *Change 3* (2) Aug. 61 in their TM 9-1576-1-66.



LUBE IN A TUBE

Can't you get lube in a tube?

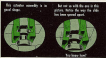
LO 9-1480-108-39 (Mar. 61) tells you about doing it... and if you look in *Grid T 551*, T-6, Section 8 (Apr. 61), you'll find the stuff to use in doing it. Doing what? Why lubing the Morse bearings in the rotating cylinder in your Nike B? Well, Yip... the supply manual shows that you can get a 1-oz tube of grease and lubrication grease under PPN 9030-176-4102 as the job the way it says in the DC. You see... if you don't have any plugs in the bottom of the bearings, you've got the oil-lubing kind. Then you sure don't of the grease.



POTS GOING TO POT?



Seeing's believing... to take a look—a good look. What you're eyeballing is the automatic assembly in the data job—remember the year 2000—Morse's minute and small scales. It's something you never get to see 'cause it's not your job to go into the pot.



It happens that some guy was making his own adjustments. But he didn't stop moving his 1/16-in. hex-head wrench as he locked the check—so loose not loose enough. The slide was opened too far to move back.

It's real simple to avoid this kind of trouble if you remember that as you turn the wrench to lock the check, you'll come to a spot where the ratchet becomes a little tight. Keep going. Once you get by the tight spot, the ratchet'll move freely again for about one complete turn before the slide hits against the block. That's when you want to stop ratcheting.



Another thing... it's mighty important to keep going past that tight spot when you're lubing the check. The reason the ratchet goes on the right side is this: At that point the ratchet is moving to move up and the roller bearings in the yoke are unlubing in the joint. Things get lubed that way.

But, if the bearings don't get loose by your locking all the way, they'll drag to bite the band when you turn the power back on and the rollers start to spin. Because the bearings weren't built to take this kind of punishment, they'll break up. And then you won't be able to make your tape adjustment—no how.

Now . . . supposing you do everything according to the book and you find you have backlash. Don't give in to the temptation to get out the wrench again and start turning a little more. Instead, check out TRS-1428-251-2512, dated 5 Aug 78, for the official low-backlash wood. If you're still in trouble see if your support units can't back us on a copy of TRS-1428-251-2513, dated 10 Aug 78. Both of these TR's spell out the road for thinking for clear shippage.

STOP, LOOK, TIGHTEN

Using your eyes and hands can find off trouble before it starts on your EM 129 Nike-Mercury guided missile trailer.

Some like some trailers have had the king-pin nut-loose bolts for the front undercarriage like wheel about off. Kind of embarrassing, too—the way the undercarriage and vehicle would put together.

This can happen if the two bolts holding the king-pin nut become loose—like when locking wire's not used. The bolts are put under a heap of

stress when they are not tight. So, install bolts with more "loaf" in 'em over along 1 and even when they do, check the king-pin nuts now and again.

If they're not fastened with locking wire, tighten 'em and then cut the locking wire. Check first, tho, to make sure the bolts are still in good shape. And if the bolts have any visible up

them even with locking wire being used, remove them and take a good look. Any sign that they about have had the ounce is all the reason you need for replacing them—immediately.

WAVE GOOD
BUT DON'T WORRY

DO THAT
LOCKING WIRE
N GOOD
ON 129-25
NOTE

THE RIGHT WRENCHES



IS YOUR CARBURETOR—
OR OTHER ENGINE ADAPTER
OR SPARK PLUGS IN
FRANKLY USED? IF SO, YOU'VE GOT



There's no good reason—but there
are some bad ones—for using the
wrong wrench to remove the plastic
cover plugs on your XMS and XMSH
Nike JATVs.

Taking the plug out with any wrench
you get your hands on can set off sparks
that could ignite the bonnet. Or maybe
the thread'll get hammered so the igniter
doesn't seat right . . . and that'll mean a
tricky malfunction.

To use the right wrench—buy a
igniter adapter (PN 4021-448-01-001)
or square wrench (PN 3126-543-
1000) that's in your XMS-6-1000—
Ms. 1 tool kit—to remove the plug.
And if one or the other doesn't work,
ring out for your support unit.

OPEN THE VENT



The people who are in the know say that the
drive motor will seal on your Nike-Hercules
acquisition antenna if made up's done wasn't be
a lot of oil leakage in the antenna drive. That
means if yours has a bad case of leaks, don't
bet that the oil seal is the troublemaker.

The answer might be something real simple
—like the air vent not being open when you
put oil in the antenna drive. And it may tell
you in LI 9-1-140-210-20 that you open the air
vent when you're filling up with Oil-20 lubri-
cating oil.



OPEN VENT
WHEN FILLING
WITH OIL



BABY NEED NEW SHOES?



The rubber track shoe pads on your light tank type vehicle wearing out too fast?

You can save your baby's shoes—and your unit's maintenance funds—by

making TM 9-2100-201-12 (July 59) page 498, para. 511. It shows you in that the rubber track shoe pads are needed only "for increased traction on icy or slippery roads, trailing maneuvers, or operation on hard surfaced roads." The rest of the shoe baby can go barefoot.

This applies to the whole light tank family including all types of the M1 tank, the M55A1 105-MM SP howitzer, the M56A1 main 40-MM SP gun, and the M41A1 105-MM SP howitzer. Likewise for the M19 and M113 FC and, in fact, any vehicle that uses replaceable track shoe pads.

TM 9-2100-200-04, page 13, para. 9 gives more pad steps.

TAB THE TAB

Dear Half-Mast,

I know the story about old galloos never dying—that what happens to Rayport warbirds when they're turned in headed for tear with unit identification markings? Are they automatically turned into the scrap pile or can they be refurbished—just another?

Sgt. R. M. V.

Dear Sergeant R. M. V.,

Good question—if most guys were "just curious" this'd be a better man's story.

You've got your finger on a thumb that's been begging the supply boys for years . . . over the body of a warbird has been painted with a unit ID mark it's Rayport-the-does as far as being able to refinish the surface and release the warbird.

The way to get a step to this way is to paint the ID markings on the



metal tab on the upper part of the body of the warbird. This way—when the warbird is turned in—it can be really refinished and released as a serviceable item of supply.

Half Mast

M88 VTR COOKOUT



Dear Half-Mast,

We need a little trouble we've been having with our M88 VTR's. When the engine gets to a high RPM, the flames that cut the sides of the grille and burned the rear tail lights off.



We've prevented burn-back tail lights by shaping and welding a chunk of quarter-inch flat steel stock like it shows in the drawing.

CWO C. P.

Dear Master C. P.,

Sounds like you been messing with the deflector in the top position. The notch that puts the deflector in the top position is not for use. In fact, less production M88's don't even have it.

In the horizontal position, where the deflector should be during normal operation, your tail lights ought to be safe.

You can use the intermediate position only when moving an occupied disabled vehicle. The thing to do then is to tip

and keep your engine RPM down to a reasonable figure. Then you shouldn't have any problem with cooked tail lights.

If you still have trouble, the fix you show could be applied if you get permission from your local area commander.

If you get a low model M88 there is no problem because it comes with solid sheet metal tail light guards instead of the open-frame type.



TRACK JACKS



Repair've wikkid in these easy sections and heavy work items (Jack) (P/N 2100-001-000) that's not able to "load the gun".

Some the jack links are bending, which may be the fault of the jack or from handling it.

Some of the jacks in the supply system are modified versions from a couple of 1/2" storage jacks, and didn't come out just right.

On the other hand, the links can get broken if the jacks are bounced off the tracks.

The full-size marks for these modified links are around the link base or in the center of the link. The base will only be underused and the link's center should be so it instead getting a 1/4 in radius . . . both will be some twisting up.



To fill in the center hole of the link that is not visible after it is fully assembled.



Be careful that you start and end the weld slightly in from each edge, so it's not too under or too and weakens the track.



Remember, don't do your tamper on these jacks to make sure they don't break the tracks. Support the tracks with your ODM machine and just take 'em off.

LOOK-ALIKE (LIFESAVER) PACKINGS



Does the M1 gas on your M1A1-T flame thrower really pressure pack like?

Could be the gas's got the wrong kind of packing in its barrel-and-liner body assembly. But here it checked right away.

Here's what happens. There are a couple of cheap-looking, look-alike pressure packings which fit the M1 gas ... but, only one of 'em will work right in the gas.

The big difference in the two white, molded Teflon packings is in their chamfer design. The top of the right one tapers off 120° It's called a 120° chamfer packing. The top of the one that shouldn't be used in the gas tapers off 90°. (Nasty, it's called a 90° chamfer packing.)

If you ever have a chance to compare the two look-alike packings, the one for sure way to tell 'em apart is to run your finger along the top of 'em. They both look like steady slopes, but the 120° chamfer packing (the right one) is real smooth top-side. On the top of the 90° chamfer packing (the wrong one) you'll feel a sharp edge.

Another mighty important fact to remember about these packings is that they have to be installed a certain way to provide a good pressure seal.

They have to be seated into each other ... one backing each other. And the large open end of the seated pair goes to the front of the gas.

The M1 gas takes one of the 120° chamfer packings, and here's how to set the 'em Packing, EA 1224, 125-1250 (2.90 lbs, 4 1/8, 120° Chamfer angle).

RIGHT



The one you want to stay away from is Packing, EA 1224, 207-1250 (2.90 lbs, 4 1/8, 90° Chamfer angle).

WRONG



And be sure to put the packing together (seal and washer) on right, too. It goes with its beveled edge towards the packings. That way the beveled edges will shove the packing against the face of the liner body and make a better seal.

BOLT BIND?

YOU WANT
TO GET THE
BOLT INTO
THE CHAMBER?

WON'T
THE BOLT
FIT INTO
THE CHAMBER?

AND REMEMBER
THE... THE... REMEMBER
TO... TO... REMEMBER

So you just had stripped your M1 and M2 machine gun—and in several times over. But when you get 'er together and loaded back on the charger, you say you get a bind in the bolt.

Then there—hold your breath!

Before you start reading 'er again again, just slip off the back plate and take a gander at the coil buffer tube . . . could be your trouble. If the tube has a dent it should be straight up and down.



This also means you've the old type buffer with serrations. And with the



buffer and bolt wear snug enough, you also have the buffer tube lock with a

stud that fits into the buffer serrations . . . that's the rub.

The buffer serrations are only on one end of the stud, and not all the way around. So if you can see the serrations on top of the tube, as if the stud is not almost vertical, you're going to get a gap between the lock and buffer body because the stud won't be seated in a serration.

SEEK THE
GAP IN
SERRATION
... GAP



Then the spring action, caused by the gap, forces the buffer body up so that the guide lugs don't line up with the matching slots on the receiver—giving you a bind in the bolt.

So . . . if your M2 has you in a bind, man, check the buffer stud to make sure the lock stud's in the groove.

SEEK THE
GAP IN
... GAP



"OILING" PAYS OFF



Yep—it leaks oil just a long way.

Whether you're looking for a welder to go with your stripes, trying to make sense on a three-day job or making sure your 1.5-in. roller launcher fits when you need it.

You're on your own, but as the reader and the parents of K and E give—how follows the steps for looking the electrical firing mechanism of the 1.5-in. launcher like it says in TM 5-2002. You know how it goes. . . .

Remove the trigger grip.

Wedge the blade of a screwdriver against the front of the top plate until the trigger safety leg drops about one-third inch from the plate when you depress the trigger.

You'll know when you've got it right 'cause it'll snap shut when you hit the spring on the wire.

Now hold the trigger leg against the screwdriver.

This keeps the sensitive to the wire and lets you see the oil in the sensitive spring (figure 1) as well as some of the sensitive wiring.

Be dirty the gun.

That's where the oil goes . . . A special oil at all temperatures.



And, remember, just a little oil—like one or two drops. Any more and you'll blow up the entire trigger mechanism.

Look the trigger mechanism carefully.

That's your own money on with your other "oiling" projects. OK?



OK
OK
OK
OK

WORLD'S MOST DANGEROUS JOB

PURGE THAT BOMB

If you've been known to carry a torch on occasion, did you know this one about the bomb or all by a coronavirus in the world? Blow like down into your Thursday!

Your bomb

There's one of the regular kind. It was an innocent-looking empty fuel drum. But the drum proved to be nearly-empty after all. There were less than 100 gallons in there to be set off by the rattling torch.



Could happen to anybody working on fuel and oil drums . . . if they don't heed the warning on explosive hazards. It's in black and white on page 48 of TMS-217 (17 Oct 58) "Welding Theory and Application."

You just never would, see, hear, or realize any empty container that has had flammable stuff in it until all of the fumes are taken out and the container is well vented.

No, before you use your Day-After-Tomorrow for No. 9 or any container, use one of these methods to get rid of the fumes.

You can have 'em cleaned out until all the fumes are gone. Your supplier has the equipment to do the same job, including a combustible gas indicator. (214 555-554-555) (OChem), to make sure all the fumes are cleaned out.

Another method is to fill the container to overflowing with water and keep it as full as you can while you work on it.

However, the latest purging pump is given in TR OHS 127 (15 Feb 67). The new pump uses a chemical and water combination that's reliable and fast.

It may take a little longer to do a job when you purge a container of explosive vapors. But "it's better to be a little late, Private Murphy . . . than to be known as the late Private Murphy".

A WILD PAINT JOB

Dear Ray/Matt,

You have written to find an FSN for the paint used on the Wild T2 shoulder and accessories. We used this paint for spot painting of the delivery doors. Is it permissible to paint them another color?

THO A. C.



Dear Mr. A. C.,

No special paint has been set up as yet for use on your Wild T2 shoulders and their accessories. Most dealers have been using a lacquer or trimline you guess would best closely match the original color. If the honey hue is all that is in question, you can paint it a lacquer OD.

Here's what you'll need: Delivery box only—Easwell, Inc., 600, Old, FSN 48 00-201 8346 (color X24887). All painted components (including delivery box)—Easwell, Inc., 600, Old, FSN 48 00-201 8346 (color X24887), or Easwell, Inc., 600, Old, FSN 48 00-201 8346 (color X24887).

THO A. C.

Comic Rodd's BRIEFS



NO "IT'S" FOR WHEELS

"IT" services on military wheeled vehicles are no longer needed. You now get semi-annual in-plant oil changes quarterly. That's the word that has been telegraphed world-wide to all major commands by the message HQAFD (40 Apr 87). The details will be passed down telling you that only semi-annual preventive maintenance services will be called. The services will be done every 3,000 miles or 6 months, whichever comes first—and you're to use the "Q" PM procedures in the vehicle's TM as a guide for the maintenance.

REMEMBER

The procedure for towing a 2½-ton Q14-series hydraulic truck rearward is in Change 1 to TM 9-8024. To be specific, the Change says when towing the Q14 rearward with all wheels on the ground, put the transfer lever in DOWN POSITION position and shift lever in the R (reverse) part of the det. Do this even for short distances, like when you're just backing a diesel truck into a shop or stall for repairs.



AS YOU WERE...

Chopper pilots, hold it Don't Move your AH-1H helms. Your chemical oxygenizer's got the word . . . for the time being you can hang on to your E15 helicopter mask. An improved version of the helicopter mask is being standardized (as the M24 aircraft mask) so that you'll be swapping your E15 for an A17 field mask, like you may've hoped before.

LANDS OFF

It's been cold before—but it seems even colder. Don't, like never, load your life packs. To begin with, there's no authority for it—while many years wide open for a screaming—and second, the operation calls for lighter ejection hardware and material. So, knock off . . . please.

FOR THE RECORDS

All 30-213 (New 02) "Records Man, against 302 units of Army Army and Army Reserve" gives the latest release records . . . both how to keep them, to what and which units to drop. TM 30-730 maintenance records are discussed on page 28-40. And supply records are covered on page 27.

*Would You Stake Your Life on
the Condition of Your Equipment?*



WAVE
**HOT STUFF
COMING UP!!**

BE SURE COOLING
SYSTEMS, FAN BELTS,
RADIATORS, HOSES,
WATER PUMPS AND
FANS ARE READY
FOR THE **HEAT WAVE**