

Issue 53

PS

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THE PREVENTIVE MAINTENANCE MONTHLY



In This Spring A Young Man
Fancy Turns To... Maintenance



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For more about this and other books, and to place in answer your questions, feel free to call Matt Matt, Ph.D., Editor, *Journal of Mathematics*, New Jersey State and University, at 800-4-A-TECHNICAL.

The following are some guidelines for how to approach the interview. First, be prepared to be asked a lot of questions. The interviewer will want to know about your background, your interests, your strengths, and your weaknesses. Be honest and open, and don't be afraid to ask questions of your own. Second, be prepared to be asked to do some work. The interviewer will want to see how you think and how you work. Be prepared to show your skills and your ability to solve problems. Third, be prepared to be asked to talk about your future. The interviewer will want to know where you see yourself in the future and how you plan to get there. Be prepared to show your ambition and your drive. Finally, be prepared to be asked to talk about your values. The interviewer will want to know what you care about and what you believe in. Be prepared to show your integrity and your character.

BLANK FIRING ATTACHMENT



Learn how both "into-of-battle" and "practice" use the new gun. Blank firing attachment and the short-round stop used in the M1919 machine gun.

The big gun has been added by John trying to figure out which machine gun gas which attachment and how they're used.

First - ABOUT THE BLANK FIRING ATTACHMENTS...



The new M16 blank firing attachment (used in the M16/M16A1 and M16 machine gun) is listed under Civil Service No. A885-04111111.



The old M16 attachment came under Civil Service No. A885-0409711.



The new M16A1 blank firing attachment (for the M16A1 machine gun) comes your way under Civil Service No. A885-04111111.



The Civil Service No. for the old M16 attachment is A885-0409711.

VS. SHORT-ROUND STOP



It's easy to see the big difference between the old and new attachments for the machine gun. The old attachment had parts that were clear across the entire... while the new ones are much smaller. These parts... whether the old or new... the same for both the light and water control guns since the machine gun is identical.



The old and new from old... for the light machine gun are the same. And the only difference in the M16A1... and... is that the new one has a slightly larger hole.



Fig 1



The old blank firing attachment for each typical gas gun is no good and should be turned in when a couple "Normal" MWO's are applied to the gun by your Ordnance support unit. MWO Ord A6-W14, plus Chaper 1 and 2, put a short round snap on the 187144, 1919-A1E) and 192544 models (Fig 1), and MWO Ord A1-W15, plus Ch 1 puts the same snap on the 187140 (Fig 2).

The short round snap prevents snap-pages caused by metal links jamming in the feedway and in the short rounds. The old M6 and M341 gadgets just wouldn't work in the receiver since the snap is added to. The snap stays put and becomes a permanent part of the receiver and from then on you always use the new M6 and M341 attachments.

To get the A4 and A4E1 ready for blank firing . . . pull the bolt holding pin and put back a ball bush and slip the gadget into the receiver (Fig 3). Push in the pin and you're all set on the receiver end of the gun (Fig 4). The 1917A1 needs the same snap.

Now around to the front end of the rifle (Fig 5). Remove the front barrel banding from the barrel jacket . . . and screw in the rammer-like gadget (Fig 5). You're ready for blank firing.

Fig 2



Fig 3



Fig 4



Fig 5



Fig 6



Fig 7



To get the 1914M ready (Fig 8) . . . remove the gland (Fig 1) and replace it with the other half of the blank firing gland (Fig 3). That's all there is to it.

When you're all through firing blanks, remove the attachment immediately. If the barrel jacket attachment is left on, a live slug is going kick up a storm trying to get out of the small hole in the front end.

By now you're probably wondering what's what with the M6 attachment and the 1914M machine gun. There's nothing to it. You can't use the attachment with the M6. What's stopping you is the length of the M6 barrel jacket. That means the blank firing gadget doesn't fit up snug against the barrel jacket as it does on other models.

Agreed . . . you can get the rear-end part of the M6 attachment to fit next to the disconnector stop since the warheads are the same. But this'll only let you pop off one round as a test.

In other words . . . the M6 can't be—and must not be—used for blank automatic fire.

Fig 8



M6-M601



MAKE A GOOD ROW WITH YOUR MSJ

Skysweeper

There's no doubt about it: the MSJ Skysweeper is the most powerful there is. It's compact, it's powerful, it's ready to do a job that you wish the chips lay down. But—be aware you're going to operate it if you want her to swing into action when you begin flipping chips.



Flipping switches and pulling handles. It takes what they call "wiring" to figure out. That goes for everything that makes up the Skysweeper—the MSJ (T&S) 75-amp gas... the MSJ (T&S) 100-amp gas... and the MSJ (T&S) 100-amp.



Take
The Mount



Using a couple wiring things with the plug and cable assembly on the mount can lead you straight to the hot water heater.

If distance is not plugging the plug assembly into the receptacle has before traveling. This leaves you without breaks and lights on the road begin.

WHEN TRAVELING



KEEP PLUG IN RECEPTACLE

And that's not bad enough — putting the plug under the car level cap is crucial given you must maintain for the price of one. You'll be without breaks and lights and when you run, the team begin.

the wheel assembly also turns, crushing the plug against the inside pedestal.



PLUG CAN GET CRUSHED AGAINST INSIDE PEDISTAL

You can force the plug when it's too large while the wheel is turning, but slip up when you move into a temporary stopping place.



KEEP PLUG IN DUMMY RECEPTACLE WHEN NOT IN USE

That happens when you make the driveway and remember—too late—that the plug's still in the wrong hole. The cable hits the axle as you make the driveway and there comes the squaking sound of rubber being ripped up.



AXLE WILL CRUSH CABLE

You also let yourself in for trouble when you loop the cable over the crimping handle on the inner loop. This keeps the driveway from reaching the ground, which puts a strain on the plug and receptacle assembly.



OR, don't, since this forces receptacle under your finger caps.



1. Run the plug in the receptacle line when traveling.



2. Before entering the driveway, make sure the cable is not looped over the crimping handle and put the plug in the dummy receptacle.

Keep The Mud Out

Some guys have been having trouble with the MB tractor throwing all sorts of stuff into the elevation segment gear and base plate gearing of the gun. The gears get loaded with mud, rocks and what-have-you, and the gun doesn't work, but you do—going rid of the stuff.

COVER GEARS TO KEEP MUD OUT



Unit's Delia says he does study on a fix that'll also cover of this mud-slinging you can be doing something. Get yourself a piece of canvas that'll be large enough to cover the gears. Tie the canvas after wrapping it around the sides of the top overage. That'll keep things snug and clean.

Just In Case...

Corbin Magazine's batteries are supposed to last two days to carry spare parts and equipment. They're the batteries which are supporting the latest day control systems (serial number 11412 and up) and systems which get modified by SPENCER 11412 11412.



So... if you've been short-changed... get that second carrying case under the hood. Stock No. 11412-11412 11412.



Sure Should Hear

Ma... they're not making those three plus stranger on the flyovers these days.

If the job isn't mopping when you get into trouble with the MIT (TDS) leader-runner, like not feeding the statue, you can probably blame it on rust. And you know who gets chewed out for rust.

What happens is that water or just plain moisture works its way into the bellows covering the tubes and rolls of the chain-drive and trap-drive belt assemblies. If you don't fix it, any pressure drive into the rolls and tubes, the rust goes to work. Next thing you know... the rolls and tubes are fused so tight by the rust, nothing's gonna give before the three plus dies.

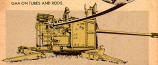
Once things get to that point it's time to call in Ordinance.

First chance you get, then... loosen the bellows on each assembly. Then lean back and shoot some grease in the direction of the rolls and tubes, all the time keeping an eye lookout for signs of rust.

Let's say there's no rust. Now's the time to make sure the weapon stays out of the hands of Ordinance by inserting a thin coat of G.R.A. on the parts. You're not finished until you replace the bellows.



**KEEP A THIN LAYER OF
G.R.A. ON TUBES AND ROLLS.**





Before You Replace...

An owner manual found its way from TBI's M1 says that the info on the Skip concept extension kit isn't what it should be.

The TBI allows you an 8.1° slope in replacing the gun mount. Actually... the slope shouldn't be any more than 0°. When it's done, your filling chute is shown out of which, Kaseki? Your target stays in one place.



Long Time No Lube?

Looks like some gaps have been about on grease supply.

That must be the reason the connecting rod and bearings in the small three-cylinder valve and control assembly are taking a beating for lack of lubrication. This time... several small gaps have been available to lightly lube the rod once a week like DQ-9-0015-1 tells you.

Make sure the grease gets into the sliding surfaces of the rod and bearings by adding and lowering the gun a couple times while you're lubing.

You want keep the grease out of the groove in the arm. The grease'll help collect dirt...and that's something you want no part of.



Bring Her Up To Sniff



Some guys've been finding their leader-runner M17 (T175) has been getting runned instead of doing the running. Lot of 'em got banged up bad by the gun running into the trap when it's in the down position.

Before your big puns get hold of our runner again, run her through this fix. Might stop trouble before it happens.



1. With leader runner trap assembly locked in UP position, push forward on gun right-side trap-drive pin and run wire down down-quarter gun housing. That should move your trap assembly forward $\frac{1}{2}$ to $\frac{3}{4}$ inch. And the assembly should return to its normal position when puner's released.

The trap-assembly doesn't move far enough? Shorten the trap-drive counterweight-link assembly until

you get the right movement. To shorten her, loosen pins nut and hexkey-drive link clockwise.



The stud's faster way if the trap-assembly moves forward more than $\frac{1}{2}$ -inch. Rotate the trap-drive link counterclockwise until the stud's right.



REPLACE
NUT
TIGHTEN

2. Check mechanism, break wire, and firing mechanism (includes dual-fire button when moved to the trap and released).



Cycle lever slowly until the firing mechanism trips the trigger, and snap roll quick. Measure how far the firing-actuating-rod is depressed. Take a reading from the rear actuating-firing-rod roller to rear-actuating-firing-rod bracket.

If the distance is less than $3\frac{1}{2}$ in., do this:



Disconnect the adjustment yoke of link TH4026. Loosen the jam nut and screw nut the yoke as long as the firing-linkage-assembly tone arm equals about $7\frac{1}{2}$ inches. Connect the yoke and recycle, checking movement of the firing-actuating-rod. Repeat the operation until the firing-actuating-rod moves the required $7\frac{1}{2}$ to 14 inches.

If the distance is greater than $3\frac{1}{2}$ in., do this:



Screw the yoke in and shorten the firing linkage to get the right adjustment. When it's adjusted right, tighten the jam nut and connect the yoke to the firing-linkage lever. If there wear and tear on your M17 (T25) loader-cumnyer if she's like it says here.





Weather Rot Stopper

Boys' Cables are like Rat Traps—the longer they sit the worse they get. Only difference is the cables taste the same when they've been sitting awhile. But weather can leave 'em up, specially small connections which have been trapped out for connections.



USE WEAPON COVER

Long replacement of a Ratscraper means those boys and their components gotta be protected. One way to do that is build a shed to store them in—if your CO approves the idea.

If not, get the world's weapon cover, detach the boys, struggle 'em up close together, and lock 'em in. Keep the cover a few inches off the ground to allow for circulation. That allows the cover to dry out after it gets wet.

Cable connections should be protected whether or not you have 'em covered. Spray or brush some lightning insulating compound on the connections. Electrical 'meat' the stuff's inflammable at both end temperatures. Put it only on when connected and checked for proper continuity.

Connections can also be covered with electrical insulating tape. If you can get both, apply the compound and then put on the tape. Double protection.



Neither of these things is available through your God T. Hunt up your buddies in the maintenance section and hunt compound and tape from them.

You won't see enough to share their supplies.



Hot Parts

Somed Skywreaper never got to see what the inside would look like, but strange things can happen to 'em.

"Why...just farther day a guy took a dematched the blower out of its area when anyone touched it. After much look-out, one guy asked Ordnance to look the seal on the main power junction box. Darned if there wasn't an inch of water on the bottom of that watertight, dust-proof, everything-proof box.

The sealing was failed off of everything in large patches, and the condense, lines and filters were leaked and badly corroded.

Strange thing is that the Sweeper was used for maintenance training...and has been sitting indoors on a dry floor for a long spell.

There are several possible answers. Maybe somebody accidentally compared with the sewer holes, the gaskets were bad or so one time the Sweeper sat in a puddle of water and moisture seeped into the box through the side connections. That there's the chance that the clean-up detail got a little frisky with its head in reaching down the area—especially if the box wasn't sealed right.

So it's a good idea to run the sewer holes for tightness at least once a month. And have Ordnance check the box's insides at the annual inspection.

Course...a corroded box is due for some field maintenance right quick.

TAKE ORDNANCE CHECK ROUTE



THEY'LL CLEAN 'EM OUT, REGRIND THE WHEELS WITH
ABRASIVE WAX AND GIVE THE BOX A NEW SEALING GASKET.

TEST COVER ROUTE FOR TIGHTNESS OFTEN—WHEN CLOSED.

TANK TALK

A little cost here...



Ever lost a dollar for floundering? It's the dollar-dollar machine you had to have before he'd learn that you've gotta keep on your toes to keep a dollar the same.

Every time you test of fire getting a tank head maybe singing some of its company, it can only be you tell that somebody somewhere somewhere overlooked some of these safety points.

First of all, it's best to make sure you've got the equipment in shape with a list of it should develop. So give them the extinguishers a good going over. Like this:

FOUR EXTINGUISHERS



Have the cylinder removed and weighed. It holds 18 pounds of charge. I believe the container weight marked on the valve body from the total weight (container and charge). If the difference is less than nine pounds—meaning you've got less than nine pounds of charge—then it's time either to get a recharge or to have a fully-charged cylinder installed.

Some extinguishers may have a filled weight specified on the cylinder. In this case you'll need a new cylinder when your total weight is one pound or more below the specified filled weight.

Check all extinguisher lines and fittings for tightness. Look for breaks in the

and there and you'll never yell...

"Fire in the Hull!"



or your pull handles and heads. Check around pull handles to see that they're working right. And give a sharp eye to that outside pull handle—it could be stopped up with steel, snow and stuff like that.



FOURTH EXTINGUISHERS

Have the weight checked regardless of whether the wire head's been broken. The container weight is stamped on top of the stationary part of the external head. Subtract this from the overall weight that shows on your scale. If you come up with less than 4½ pounds of charge (minus container), replace with a fully-charged extinguisher. And don't forget to check the proper storage—up that your storage location's in good shape.

And here are a few general things that a customer keeps well in mind if he wants to keep off the grill:

NO SMOKING in or around a vehicle

No flares and no
burnt ends — keep
'em clear of vehicles,
work and people
that'll burn.



Prime an engine
only when it's being
cranked.

Use that dispenser to fill your main engine—never do it with the emergency and full.

Remember, an engine
fire...



When your baggage is not in operation, keep the fuel shut-off valves, or fuel selector valves, OFF. This'll cut down the danger of leaks and fires, as well as hydrostatic test.



Keep an eye on U/I box. Make sure it's properly installed and connected. When not out of the tank, positive head should be well insulated. The positive head is "live" when engine switch is ON. See that it's wrapped completely with three or four layers of electrical tape, and fastened up so it won't hang around when the tank's operating.

Know all the in's and out's of operating your baggage safely.



Naturally it's best to inspect dies from starting in the first place. So before, during, and after operation, keep your sharp eyes on:

Emergency and main gas filler caps. Check for tightness and proper fit.



Fuel couplings, underburners, fuel pumps and spark assemblies. Look for leaks.



Replace fuel filter daily for the 1642 engine. Check for leaks and proper assembly of fittings and clamps.



Pressure burner. Watch for leaks in lines and fittings.



Muffler without cracks. Look for cracks, insulation deteriorating around the fuel tanks and for no more gyp in the joint joints.



Muffler exhaust stack should be open for tightness.



Fuel tanks. Look closely for leaks.

Fuel tank mounts. Are they tight and secure? **Is it right?**



Electrical cables. Check for insulation breaks and good connections.



Exhausters. Check operation before starting your engine. Push the bottom end down for the automatic CLICK.



Engine compartment blgs. Keep a clear of anything that'll burn.



Universal joints. Are the yokes tight? Check when properly assembled and tight? If they're loose, check the torque on the bolts and nut on the yoke. If they get loose, the U-joints can fail and stop up your fuel tanks.



Battery hold-down clamps. Check for tightness, proper thread clearance. They shouldn't rub against adjacent metal parts.



When disconnecting batteries, always take the ground strap loose first. It'll help you get those sparks which can set off any gasoline that's around.



There's Nothing Wrong With Musclemen Firing It, But ...

Take a long, cold look at the equipment below. Know what it is? It's a hand-fired timing mechanism bracket for the 30-mm gun.

Some of you guys probably have read the real McCoy and know what caused the break.



That's right, ... some Joe played grade with the hand firing lever while manfully firing up with a round. He held on to the handle and kept pulling when the gun fired. That kept the firing plunger to the rear. The gun went through its counter-rotal cycle, something had to give. Bam—it did. And our hand-fired timing mechanism bracket was chaffed up.

The break also threw the hand firing lever shaft and the firing lever plunger assembly shaft out of alignment.

The firing mechanism on the 30-mm gun isn't the same as the 30-mm, but the same thing has been happening. A gunner pushes on the firing handle and holds it in. Whammo ... and a replacement is put in for new firing mechanism parts.

There's also been some talk about breaking the timing mechanism bracket when trying to hand fire the 30-mm gun with safety ON (up). The thing breaks in the same spot as when the hand firing handle is pulled too far back with the safety OFF. What happens is that the descent on the lever shaft runs smack into the plunger, which has now had to go without breaking something because the safety is ON.

Course, ... it takes a man with a mighty powerful pull to wreck the works. But, it's happening. What are the answers?

TURN THE PAGE

NUMBER ONE—test the lead firing lever there hot points. Give it a sharp tug with the index of your finger. The gun is where you're making it your first gun after three hours of play. (Sellers were sure to pull on firing lever while the gun's being checked.)



**PULL
AND
LET GO**

NUMBER TWO—check make sure the safety is OFF when you're hand firing. If there's one "gun" in the handle when you tug it sharply, you'll probably find you forgot about the safety.

NUMBER THREE—make sure there's a 1/2" in clearance between the firing plunger cap and the trigger plunger. You can get the proper clearance by putting the safety ON ... then inserting the journal ... and finally adjusting the firing plunger cap.



**DOWN
IS OFF**

**1/2"
CLEARANCE**

You A Circuit Breaker?

You can crowd over many machines of an MCM's tank without doing any damage, but you've gotta be especially careful with one piece of equipment that goes with in—the solenoid on the .30-cal machine gun mount.

Unless you watch what you're doing when you come on down the tank, you can rip the wire from the top of the solenoid. Same thing'll happen if you remove the gun from the mount when you've got your trigger turned off.

Something else to think about ...

DISCONNECT LEAD WIRE



Make sure the lead wire is disconnected when you remove the machine gun back plate. **DO NOT CONNECT WIRE**



You can help matters by not connecting the caps over the coupling when you hook up the lead wires. This way it'll become a break-away connection.



There'd also be a good time to talk about the infrared trigger line activator. When installing the backpack, make sure the sensor (also known as the "trigger") is to the right or down over the trigger bar of the gun. Many a firing failure has been traced to a misaligned trigger.

BEING SHOWN TO
"UPPER" IS IN YOUR PLACE



M3 Elevation Quadrant —

Pull A Switch With The M36

It's easy to solve the problems of eye angles: the M3 elevation-quadrant level vial bubble in the M36 tank. Get a little light on the subject, that's all.

Followers complain they can't see the level vial bubble using the M36 instrument light. All they need is this switch:

Select the M36 instrument light for the M36. You can guide the light beam anywhere you want, because the lamp's on a flexible neck. Adjust her to shine on the scales and micrometer

along with the level vial bubble.

Course, that M36 instrument light is normally used with the T15681 telescope. That means you can pull her off the telescope and put her on the M36 elevation quadrant only when using indirect fire.

To light things up like a Christmas tree in a lightroom, pull the lamp bracket off that M36 light. Everything goes all lit up. But first, find out if you're gonna violate blackout restrictions before pulling off that bracket.



Cable can be taped to chassis near assembly—wherever it gives best reach for lampman.

From the "Shooter"
Hunt? Know about these...

T31 Ballistic Computer Goals



Any guy out of his rubber wouldn't kick his T31 ballistic computer or throw it out of his M4B tank and hit on the beach.

But there're some screwy operating methods that'll do just about as much harm.

Primarily, when entering an ammunition can, before doing so, turn the ammo release handle to STOP... which is about 30 degrees clockwise (straight up and down). Then the handle can be moved in or out for selection.



Forget to do it that way, and it's a goof. A driver gets damaged data, then the roller gets damaged by the can rollers.

Crazy as it sounds, some guys have pushed the reset button and elevation hand crank at the same time. Why? Maybe "the Shooter" knows, but



probably not. Pushing the reset part just at the end, and pushing the button part just on power operation. A push-guns on back at the same time might guess.



Another goof is forgetting to throw the electrical switch to OFF before removing and replacing the ballistic can. Don't get mad the guys who if the reset button is pressed with the can removed.



Much, you wouldn't do any of these things. But keep on the lookout for slightly different things.

BATTERY STAND-IN

Here's a device made by the Illinois National Guard. It's used in place of a battery when starting up their stored vehicles.

A truck can be started with a slave cable and run without a battery, but this has a tendency to cause glazing of the generator commutator. But, the use of either batteries or a proper resistor will let the generator produce a 3- or 6-ampere output without doing any harm.

These resistors are made from a standard house element, same type, seven-in, 115-v, 1500-watt.



For element 251 T-F-821 with resistor cable set as first, connect the resistor just with one lead and by along the vehicle with the other lead until you find a spot that gives you about 1 amp.

Get the center wire of the point and thread the wire between your car and the battery terminal. Carefully stretch the top portion and stretch the threaded rod as the whole case, then tighten and make the bottom terminal.

CAREFUL: NEVER USE THIS WITH A 115-VOLT CURRENT.



To mount the threaded resistor, use a standard porcelain socket.

The first... use a 1/2 x 12 inch piece of 1/4 inch diameter. For a more use an old car with lots of ventilation holes tall enough to show the element. Allow a couple of inches above the element for cooling.

At the open end of the fit use with another piece of wood and make it as your like.

Get some asbestos paper, lay thick like 12-14MM (1/4 in), and seal using the same block. Insert the resistor on the block.



Now attach a couple of heavy leads with "Welder" 2/2" battery clips, covered with "Welder" 2/2" flexible insulation. Be sure also that each No. 000-00110000 leads looking at the end should be in contact the leads to the box with clips, that track No. 0004-0000700.

Attach your car with small steel wires, leave large end bolts for the leads.

Is now only the unit into the battery box and connect the leads to the ground cable and the positive cable and start track with a blue cable. (Being sure that the polarity is correct.)



When the track's running well, disconnect the blue cable. You'll find that by the time you have moved about a dozen tracks, you'll need a batch of resistors! The first one is ready to shut down. Kill it and take that resistor in down to use in another track, and so on down the line.

The main gain to this system is that you don't have to disconnect a dozen sets of batteries for their storage line, and the resistor is much faster and easier to carry, handle and connect.

You'll have to bear in mind that the three-ohm resistor is for 24-volt systems only. Of course, you can make one for other systems ... just cut for 1.5 ohms for a 12-volt track, or .5-ohms for the 6-volt system.

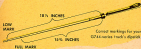
Steel Socket

Anyone who is troubled by loose ends of the cable-in-cable-cord-cord-cord-cord-cord will be happy to know that there is now a steel receptacle being found under Owl Stock No. 00100-0010000. This is more durable than the old car types, even on your blue-car vehicles. Order it when you need a replacement.

And in the meantime, are you sure that M400 Owl 001-0010 has been performed on all your luggers? This is the one that calls for the polarizing bracket on the receptacle.



Dippy Dipsticks



Next time you check your oil, you may find your dipstick's different from your buddy's, even though you're both driving GM's series 4-cyl models. Some, when along the line these dipsticks appeared on the same for their marks, and it's been causing a little confusion.

The straight poop is now out—the stick you should be using goes under GM truck No. 4044-7750008. It has three level marks on it. The overall length of the stick is 19 1/2 in from the bottom of the screw cap to the end of the stick, or 18 1/2 in from the top edge of the screw cap to the end of the stick. You'll probably find that measuring from the bottom of the screw cap is a lot easier than measuring from the top of the cap, because it gives a natural stop for your ruler.

One other way to know this stick is by its markings: CHECK OIL LEVEL ONE MINUTE AFTER STOPPING ENGINE—DO NOT SCREW IN TO CHECK OIL—SCREW TIGHT AFTER CHECKING OIL.

Now, if you have a different kind of stick than this one, take it down to supply person, tell it is and get the right stick. That's all you have to do to get it.

But, of course, the problem always comes up: what do you do if supply hasn't got the right stick for you?

If you have a two-level mark stick and you can't get a three-marker . . . it's best to remark the other side. First, take your stick and measure down 11 1/2 inches from the bottom of the screw cap. Make a mark with a hammer and punch. This will be your top full mark. The line mark should be 18 1/2 inches from the bottom edge of the screw cap. Scratch out all other marks on your stick and go by the rest now. Amen.

One important point to remember: No matter which stick you have—choose that sticks right to the one you just fixed—check your oil with the dipstick unscrewed. This is the only way to get an accurate reading. Don't forget, tho, to screw that dipstick in right after you take your reading.

Connie Rodd's

"TIGHT 'N' SWEET OBT"



Danger... read this

You may be dealing with a giant dynamite and are **WARRIOR**. It could go off any minute, so please read this and follow through.

Get in back of your 42744-series M&G Lanes wrecker and check the diameter of that rear winch cable. It should be 14-in. If it's not, get it back to Ordinance right now.



Because of slips in Ch 1 118 June 90) would Ord 8 85L 4744 (June 94) and its new Ord 8 85L 4744 (Apr 94), your Ordinance needs could have listed you a 14-inch cable (Ord book No. H009-0004-270; 270-40-00-281-4281). A few may have listed not, so check.

That 14-in cable (Ord book No. H009-0004) 10, 270 40-00-281-4281 has a capacity of 41,000 pounds, like T&I 5-8000 (June 90) says. Decrease the diameter of that cable, like to 14-inch, and there's a good chance it'll snap under this load. Pay the poor guy who's in the way.

Check your digits

First chance you get...do a slow jog around your 2073 trailer mount, stopping on how one side and then the other for a close look at the area right below the 2073-1010 gate. Take a long look at the section where the 2073C mount meets the M&G trailer.

You should see a 14-in registration number mounted on each side of the



trailer. At least the numbers should be there.

If the numbers are missing or hard to figure out, tell your C.O. He'll get word to Ordinance.

Simple covers

In most UTM sets the M27 and M28 make you'll likely find muscle cover Ord Part No. 7317271, which is fine and sturdy for 70-mm guns with the old style muscle breaker (Ord Part No. 7304834) or the counterweight.

But when your 90 sports the new Mast Defense Ord Part No. 7305844 the muscle cover in the UTM set will be a wee bit short. You'll have to swap the old muscle cap for a new muscle cover. Just ask for Muscle Cover, Ord Stock No. 80052-8007100.



Made tracks



Your 40-ton spreading dual-wheeled tracks over swamp, overland, sand, snow, bogs, swamps or over roads—will be happy to have this. There's a custom driver called a *tyrant*, which you can get to keep these tracks from bogging down.

There are glider-like fins and fins into the ground, giving you traction and send you right along. They can be used on dual-wheeled and tandem dual-wheeled jobs.

For 5,000-11 through 11,800-28 sizes, use Ord Stock No. 80014-8010067 (PDM 2530-893-4821-4804) on your regulation. For sizes below this, up to and including 5,214-28 sizes, use Ord Stock No. 80014-8010068 (PDM 2530-893-4804).

On your regulation, along with the stock number, put down the name you need them.



FROM THE CD 10-1-1078-1 FEB 55 TELLS YOU HOW TO USE T&E

Get for ordnance



ED 97881 might as well tell you to have Ordinance repack the covering and clearing your house on the M44 self-propelled howitzer twice a year.

So, right now...add a note to your ED as a reminder to ask Ordinance to get some G&G to check your house semi-annually. And, if it's been more'n six months since those gears were worked on, get the job done quick-like.

Remember: Those gear boxes get hit with all kinds of weather when their covers covering's off, making it darn important to get 'em repacked. You'll see this clip on the revised ED.

Made it safe

Grab hold of your TM 9700 (Apr 14) on the M19 armored infantry vehicle and make this note next to page 1843. Might as well stick this gear up like in that gay matrix, after-it's important.

Before cranking your engine to get a compression reading:



There have been a few cases of gas vapors being ignited—and I can't afford to lose my friends.







Joe's

Dope Sheet

If you're careless and hasty today,
And replace parts the quick **EASY** way
Without testing to see
What the trouble can be
In the end you will pay with delay.



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

NEXT MORNING

WOW!

TO
HEATHMAN
MOTOR
MOTEL?



I AM THIS VEHICLE
ABOUT READY... I WANT
THAT'S WHAT... I WANT
THAT'S WHAT... I WANT
THAT'S WHAT... I WANT
THAT'S WHAT... I WANT

THE
MOTOR!



I CLASHED THE
BRAKES IN
THE STATION!



I'LL
REPLACE
THE STARTER!



THAT WON'T
DO... I'LL
REPLACE THE
GENERATOR



THAT WON'T
DO... I'LL
REPLACE THE
GENERATOR







AND NOW THE BATTERY GROUP
WON'T LOOK ALL
THE TIME A BATTERY GROUP
WON'T BE PLACED
YOUR PART AT ALL



LATER

THEY WERE
WALKING TOWARD A BATTERY GROUP
TO REPLACE THE BATTERY GROUP
WITH THE BATTERY GROUP
THEY WERE ALL BATTERY GROUP

THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP



STILL LATER

THEY WERE
WALKING TOWARD A BATTERY GROUP
TO REPLACE THE BATTERY GROUP
WITH THE BATTERY GROUP
THEY WERE ALL BATTERY GROUP

THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP
THEY WERE ALL BATTERY GROUP



In the Spring

DUMP ANTI-FREEZE

Things have changed—the rules are in—that anti-freeze you drain out of your truck's radiator this Spring just won't do us good. From now on that's going to get new stuff every Fall.

When you drain that anti-freeze from your truck, don't save it for next year—get rid of it starting now. Your truck'll get new, clean, fresh stuff every Fall to put it in shape for that cold weather ahead.

This means that you'll drain your cooling system twice a year. In the Spring to get ready for hot weather, you'll open your radiator cap and engine block drains and let the old anti-freeze out. Then, if your cooling system needs it, (if they're clogged or rusty) you'll clean it with cleaning compound and neutralizer—this is given under FSN 11-17, 11-67-605 and FSN 6858-273-0903. Add the rust inhibitor you'll find in the kit.

If your system doesn't need cleaning compound but you want to add rust inhibitor only, you can get the inhibitor separately by ordering Gird Guard No. 51-1, FSN 6858-274 or FSN 6858-281-1-580.

Come the fall and colder weather, again you'll drain the system. And this time you'll add new anti-freeze.

If you're in an area where the temperature goes from freezing (32° F or -60° F,) you'll use these truck numbers to get your ethylene glycol—

FSN 6858-293-1293—1-gal. container (for standard);

FSN 6858-293-1294—1-gal. container (for standard);

FSN 6858-293-1298—1-gal. drum (for slight slope, arctic and more grade);

FSN 6858-294-0736—5-gal. container.

In places where it gets colder than -60° F, then you'll want the Arctic grade of stuff—FSN 6858-274-1800-59 gal. drum.

By the way, that little warning group on the anti-freeze can is coming off, and there'll be a little more to its place telling what to do. You know, the one that says, "Warning, do not store in temperatures lower than zero degrees Fahrenheit." It's now been established that it does no harm, but you've got to show it can before you can pour it.

TR Ord 411 (15 Aug 66) gives you the go ahead sign on all this dope.



SGT. HALF-MAST MECHANICS

ANSWER

CAPT.



MATCH 'EM

Dear Half-Mast,

Where do we get the stock numbers and authority on requisition parts for the Bendix and Douglas wingwheel electrical connectors again, eh?

A. A. B. B.

Dear Sir A. B. B.,

Your vehicle Gnd 7 SNL is the answer to both of your problems. You can rely on Bendix and on Douglas M., but you can replace any of their parts.

Your SNL lists all the parts in their line complete with manufacturers, manufacturers' part number and Ordnance part number. These parts are also listed as separate items in your SNL's 66

Groups. Just look them up as you would any other part — to help you get the right item after you find the separately listed item, cross reference its manufacturer, etc. with the one you need listed in the list.

Yes, for instance, you want to replace a governor. Find Part No. 77222441. All you do is look at the line of governors and pick out the one that has the same Gnd part number, then look at the Gnd stock number which is 6255-7722245, and you've got it made.

If you feel your requisition may get kicked back, put a note on it saying that the parts are needed to replace parts used from your kit.

Half-Mast

NEED A BRACKET?

Dear Half-Mast,

Where can I get my hands on some left brackets, both left and right side panels, for my M12 12-ton trailers? It's real! I've had, but can't get them because they're only in Gnd F SNL 62718 (27 Feb 51).

Capt L. T. C.

Dear Capt L. T. C.,

Get some good news for you, Sir. Because those brackets are in great demand, they've now been put back into the supply system.

Those left side panel brackets (Gnd Part No. 7879567) can now be had by ordering bracket PBN 1518-D-400046.



0710. The right panel bracket (Dell Part No. 75770-08) has been placed into supply under PIV 3115-D-800045-G710.

Both of them will show up in the mail arrival on Oct 7 1991 0710 on the 12mm M107 trailer.

Handwritten signature: J. E. D.

DRAGON WAGON DRAGON?

Dear Half-Brother,

Why are we getting M107 track tractors into this shop which have failed emergency brakes?

The ones we've seen have the brake drums cleaned from the shaft, and sometimes the drum itself is broken around the edges. Why?

Mr. L. E. D.

Dear Mr. L. E. D.,

It's quite likely that those brakes are failing, simply because the guys using 'em are using 'em for the wrong thing.

Trying to stop that bulk of bulk with an emergency brake is a lousy idea—it'll knock the glances right out of those drums. Those emergency brakes, just like any other, are to be used only in rare kinds of situations—in an emergency when you've got to stop quick like and for parking.



M107 TRACK TRACTOR

Wrong adjustment of the brake, although a reasonably common, may be the starting the trouble. A dragging brake could generate enough heat to rub metal with the drums. You'd know that brake's OK if it holds the vehicle on an incline and has about 1/2 of the handbrake lever in motion.

M107G 100-710 (1 Apr 11) was put out to give better braking when you carry heavier loads. It was a design job and should have been done when the vehicle was overhauled. But, if you're having continued trouble and you know your drivers are doing right by that brake, take the matter up with your Delmarco office.

It's almost worthless to get a LTR (DA Form 485) off to the Chief of Delmarco, Washington 25, D. C., ATTN: CHDSOL. This way the people who designed the brake will know what's up.

Handwritten signature: J. E. D.

MD4 FINAL DRIVE

Dear Ray's Mail,

It's recently replaced a final drive on our MD4 FTR with a final drive for an M4A3 tank. Now the FTR moves more sharply to one side than to the other. Is there a modification in the final drive between these two vehicles?

LT COL. E. R.



Dear LT COL. E. R.,

The current final gear set for the MD4 FTR is Dael Gear, No. G212-1100004 (FTR 2122-FTR0004.) The ratio is 5.36 to 1.

This is the gear train which was used in the "amphib tanks," a heavier armored version of the MD4 during World War II. It's not the same final drive used on the M4A3. On the FTR it gives you a higher ratio for greater towing power.

You'd better get the right gears in your MD4 as soon as you can, because driving it with unmatched final drive ratios will make your differential spider gears spin like crazy all the time, and they're only meant to revolve when you're towing.

RAY
1/10/54

WHO'S LITTLE JOE?



Dear Ray's Mail,

What did the term "Little Joe" for the auxiliary engine and generator signify? Does anybody know?

LT COL. C. R., JR.

Dear LT COL. C. R., JR.,

Well, I had an idea it was tied up with "Little Joe from Kalamazoo," mentioned after pay roll time and then. He had something to do with a blinder and loco locos. Anyway, here's the point: was Joe, and the early Wisconsin engines

had four cylinders, there might have been a connection. Remember that cylinders were once known as "Gill Jaws." Maybe there's the answer.

To make sure, I asked around, both in the Army and among manufacturers. Ten different places gave me ten different answers.

One says it began at Ford Head in 1917; another says it was used as far back as World War I. Somebody else said a manufacturer started it way back in the 1880's, but that manufacturer says he didn't. That's the way the answers went. What confusing.

Maybe the name, like lots of things, "just grewed." Who knows?

John H. - Detroit

CAN BE DONE

Dear *Mail-Mail*:

It's impossible to clean the oil filter element for the main engine on the cargo tractor M101 without refilling the power pack and on the rolls. It's do this quarterly; therefore, we think the AO should be changed to read quarterly (inspect, clean, and install). How about it, *Sarge*?

Lt. W. W. D.

Dear *Lt. W. W. D.*:

Changing the weekly interval of taking care of the oil filter element just isn't too smart . . . too dangerous! Your friend's engine would be sure to get all hung up before too long, and that's no good.

Here's something you can do which'll make the job a lot easier. If you'll open the grille for the muffler compartment and position for you'll find a plate with 18 holes and 18 studs holding it down. This plate is located below and in the rear of the muffler. The plate'll have to be removed, but before you do it be sure that the muffler isn't hot, else you may end up with the "hot man."



Please not-removal and service your filter element like it tells you in TM 9-7410 (Jan 14). Just-washed element. Keep your dirt 12's off the fan rings on the top of the fan . . . there's not much clearance between rings and blades, and anything can happen.



Those holes are going to get replaced with "quick steel fasteners" one of these days—so watch the 'em.

John H. - Detroit

CHEMICAL



For A Complete
Change, Use A . . .

Refill For Your M9A2 Kit

No more replacing the chemical components in your M9A2 detector kit by tin and pieces . . . something real new has been added.

All the chemical components now come packed together in a refill kit and all the components bear the same distinct dem. Makes it real simple to keep your detector kit in working order at all times.

When time comes to finish up any one of the items in your detector kit, just ask for: Refill Kit, Chemical Agent Detector Kit M9A2, P30 4667, 999-4914, listed in SM 3-4-6605-A 12.

The refill kit brings you:



Complete set of detector kit

Refill kit (new M9A2)



Solid response filter and solid response vial



Solid response spray and solid response vial



Complete set of detector kit

Refill kit (new M9A2)



Hot Dope For Cold Smoke

To keep your SIG-intelligence smoke generators from "foggies" out on you in cold weather, pour in the dehydrated alcohol according to the chart below. P30 46 283-0000* (Chem. Stock No. 1156311) gets you a five gallon can from the Chemical Corps. The 5,000 allows you 10 cans per generator for repeated re-purposes of 1277 seconds. You'll want to see D-1 to D-10 3-141.



Expected Temperature	Alcohol (% volume)	Water (% volume)
32°F to 157°F	10%	90%
12°F to -2°F	20%	80%
Below -2°F	10%	40%

New Address

The new mailing address for Chemical Corps Form 2558 "Request for Drawings and Specifications" is: Commanding Officer, Edgewood Arsenal, Army Chemical Center, Maryland. ATTN: Reg & Spec Office, Bldg 73.

Now the change in your copies of the form so they'll not get sent to the old address by mistake.

The form itself is available at the new address.



Give Carbon Tet The Gate

Hope you're using dry cleaning solvent for scrubbing and busting the MS and MSA incendiary oil-soaking and transfer sets. That's the best stuff to use—on carbon scratch inside.

Carbon tet'll let the gate of your unit run run in a hurry, because it cleans up the protective sets—and that means corrosion in the fuel and transfer pumps. When they run up, you'll be put into business fast.

Just let's nobody'll use the wrong cleaner for this job, stick a tag on the side of the equipment, and tell the world to use dry cleaning solvent. You can also stick on another line and tag—

DON'T USE CARBON TET!



Tip-Off On Hot Stuff

Just like it says in big yellow letters on its side . . . the M1 WP (White Phosphorus) smoke grenade is a burning type grenade.

This baby comes equipped with a high explosive fuse. (Same kind of fuse used in high explosive fragmentation grenades). Its care and handling takes a little more respect than you give an ordinary smoke grenade.

A WP'll put out a thick cloud of smoke all right . . . but it'll also start a fire for you and an unfriendly so-falls-and-chings within its range.

CARE OF WP GRENADES

Should you ever catch a WP leaking, for you, its storage or anywhere in your quarters, warn the fire checking it in the nearest bucket of water, or keep it in sand, dirt, mud or whatever you. WP burns when it's exposed to the air and once a grenade starts leaking, you'll not be safe till it's well smothered.

If you have to get rid of a leaking grenade by throwing it, be sure it lands at least 30 feet from you and everybody else.

WITNESS IDENTITY

The WP grenade is shaped different from an ordinary smoke grenade. Even so, WPs must be kept by themselves so they'll not get mixed up. Grabbing a WP in place of an ordinary smoke grenade can prove a dangerous mistake.

Run of WP can burn right thru to the bone . . . so keep it off your clothing and skin. Best first aid for a WP wound is to dunk it in water immediately, or cover it with wet cloth, or saturate sulphur solution while the particles are picked or squeezed out.



The WP grenade has a round top and a round bottom.



Ordinary smoke grenades have flat tops and bottoms and rolled edges.



QUARTERMASTER



Loused-Up Lubes

Two guys who drink our lubricants reach all the same words when lubes are like strawberry jam. The grease monkeys say they're following the ID's, TM's, and FM's down the line, but gummy guts and sticky machinery are making machines work ... with no time-and-a-half.

Time matters: Is that if they're not made right, you can't do anything about lube performance.

But chances are you can do something about it. The first-up could be caused by the handling of the lube.

Time out, in making and delivering lubricants, manufacturers are as careful as a grandma's wife picking a husband for her daughter. So if the guy doing the lubing does everything right and the lube doesn't do its job, better check your handling techniques.

A little condensed dew, a drop of moisture, an unseen drum leak in the supply room can cause a vehicle to quit to lug down miles and miles later.

Check your handling techniques against this list to keep lubes in tip-top shape:



1. **Get Lifting.** Avoid dropping drums or other containers from trucks— even on accident. Lubs might spill, making leaks or contamination likely (a drum leak is a leak). Even if they don't leak, a violent fall can ruin or corrupt lubs.



2. **Get Filled.** Many companies control the weather of barrels. In the field, use a respirator or other protection for fumes, which are stored naturally. Some use 55-gal drums, actually they sample off carbon when there's water or impurities. Watch air level at end but in cold temperatures for separation or jelling.



3. Lubrication: This is what makes parts slick instead of sticky. Oil, dirt, or other stuff shortens the life of oil by stopping up circulation, and that's obvious: you'll see some brown, soggy or matted parts. Clean oil circulation around, right, especially partially filled areas where you can get contamination. If there's a leak, change oil to a light, clean mixture.

Remember that lubricants with additives go bad faster than straight mineral oil. For instance, a little water won't permanently damage straight mineral oil, but it could remove an additive partially or completely. If there's any doubt about contamination, arrange for an inspection. There are filters you can use.



4. Lubrication: Keep all dirt, moisture, or fuel from around the opening before connecting or removing the plug or cap.



5. Lubrication: Keep 'em lubricated right, all the way. Lubrication is the world's most secret if you're using the wrong lubes.

Be careful, be clean, inspect often, and your later prevention maintenance will be on the ball.

Arrest That Arrestor

Using a spark arrester on your MTRV is not smart! Don't do it—if you're burning wood or coal. But if you're concerned to liquid fuel, that arrester has got to go.

It has a nasty habit of trapping the gases from the liquid fuel, and the something you know you're all set up for an explosion. A lot of gas gathers in the arrester and just hangs there, waiting for a chance to explode. So get rid of that arrester—now.

You don't get anywhere gas from burning wood or coal, so it's OK to use the arrester with them.

You'll want some TM 10-715 for dogs on this.



Stash Away DA Form 10-46

Every piece of self-propelled MHE and each special purpose vehicle should come to you with its own copy of DA Form 10-46 (Registration and Historical Service Record) properly filled in. If the form is AFSCA, you better check with your Supply Office and make a new one. One is signed by your CO like it says in AR 780-7900.1 (14 Aug 51). The first copy comes when you'll have to answer for its whereabouts.

Actually the form's got nothing personal to do with you and the warehouse's kept up by your QM field maintenance staff. But for convenience, it's gotta stay with the equipment.

All you're concerned with is seeing that it doesn't get lost or misplaced. And the best way you can do that is to keep the form in the equipment's DA CTS (check file envelope). That way it won't be overlooked when the equipment goes in field maintenance. It'll also be handy when the inspectors come by.

The form's more or less like your own service record. It's used to clearly identify the equipment when it goes on duty, and then provides a running record of what happens to it. The data the form collects in field maintenance finally decides when the form's ready for retirement.

REGISTRATION AND HISTORICAL SERVICE RECORD OF SELF-PROPELLED MHE AND SPECIAL PURPOSE VEHICLES (DA FORM 10-46, 1 AUG 51)		(SEE INSTRUCTIONS)	
1. EQUIPMENT IDENTIFICATION 9490-219-8001		2. EQUIPMENT NUMBER 10533199	
3. MANUFACTURER'S NAME CLARK MFG CO.	4. MANUFACTURER'S ADDRESS CLARK MFG CO.	5. MANUFACTURER'S PHONE 140-09 11434-P	6. MANUFACTURER'S TYPE QMF
7. EQUIPMENT TYPE FORK, LIFT, POWER		8. EQUIPMENT MODEL 140045-9-2-430	
9. EQUIPMENT WEIGHT 8000 LB	10. EQUIPMENT COLOR 16B (BLACK)	11. EQUIPMENT YEAR 11/50 (1950)	
12. EQUIPMENT STATUS CLARK MFG CO.		13. EQUIPMENT STATUS 1600 (1950)	
14. EQUIPMENT STATUS 1600 (1950)		15. EQUIPMENT STATUS 1600 (1950)	

For A Bum Steer

To head off a bum steer on your 1966 Federal Model NCM-QM workhorse crane, never bend her back in the curve. The ship crane's built with bend-free steel (SAE 1045-A1 and A2 11954), which gives the moving mast and the drum a twist.

Never try to make a sharp turn when you go, or you could end up with no steer at all. And that's no fun.



Check A Line



Some Quartermaster Handley units have found that when a mast sways the fuel lines have worked loose from vibration. Some have been worked from fighting up them units before checking the lines for tightness.

Any time you go into position after a road march, be sure to make a "Before Operation Inspection" as specified in your TM before you light up. Take a close look at all fuel line connections and clean up where fuel may have leaked during road march.



GOT YOUR

SIGNALS STRAIGHT?



No matter if it's a football, baseball, or a high-rise construction team, every guy's gotta have his signals straight or the team can't do its job.

For instance, a crane operator getting ready to work on steel may have ground rules to guide him. But without "yes, he says a ground guide for him, fewer operations. The ground guide's the team quarterback.

Before an operation, the operator and ground guide have clearly got together and figure the job out. There's more teamwork when the guide gives hand signals during operation.

There're some of the most important hand signals you'll see when. If everybody knows "yes, and everybody says "yes, everybody will have things under.



1. Lay a stick or string of line where you want the blade stopped.



2. To signal the depth of the cut, he will show, one or two fingers of his right hand for each inch of a foot. The left hand being open at your side. So, if you want the operator to make a two inch and not three-inch cut of a foot, make two fingers of your right hand and be the left hand being open.



3. The operator also has to know what the hand pattern he often a carrier all your way. Let it be known by signaling the number of feet with your left hand and pointing to your right foot with your right hand. When you make three fingers of your left hand and point to your right foot with your right hand, you're telling the operator that there are still three more feet to go in that area.

The same signals work on a lifting operation. For 1 would show where the lift is to begin. For 2 would signal the depth of the spread you want. For 3 would show the depth of the lift you're in for.

The same signals work on a lifting operation. For 1 would show where the lift is to begin. For 2 would signal the depth of the spread you want. For 3 would show the depth of the lift you're in for.



4. When you want to stop a carrier, tap the palms of your hands together in a circular motion with the right hand on top.



5. To speed up an operation, give the old double-time signal.

6. Depending how a machine has it hooked up this:



For an emergency stop, make like you're removing fish from a barrel.



STOP



STOP



7. In telling the operator to move or lower the blade, act like you're drilling a hole in the left hand with your right thumb. Left hand up means unless indicated left hand down means lower.



8. To move the blade to the left, stick your left thumb toward your right hand.



9. Movement to the right is gained by your right thumb toward your left hand.

10. Move the machine toward you by giving the command like this. Move the arms away by moving your hand slowly.



When here at the right place, use the stick sign.



11. You've got him stopped. To show that all rolling motion of the machine should be stopped and the blades held, clutch both fists overhead. . . . like a football sign men signaling a touchdown.



12. Cut the angles by resting your hand back and forth across your throat.



13. There's one for the operator. He shows he understands his quarterback's signal by giving him a casual salute. Nothing says he is real unhappy—just a wave.

FM 21-63 with TM tells you how important signals are:

"Signals may produce disaster if not given correctly and distinctly or if improperly interpreted."

Remember the signals. You should know 'em as well as your social number.

LEAVE IT ALONE



Dear Sgt. Green,

A statement of charges has brought up that old soldier's law again. If you're not a regularly assigned operator on a piece of equipment, leave it alone.

One of our E7 soldiers parked his Car, put on the brakes, and put the clamp over on the right-hand steering brake to hold it. Exactly as he should.

Then some green-operater got up on the machine and drove off without realizing that brake. Never knew how he managed to do it, but he did. Drove that Car around for about an hour with the brake locked.

Now he's paying for a steering clutch and steering brake. It's a real kick in the wallet for him.

He learned it the tough way, but now he knows that if you're not assigned on a piece of machinery, leave it alone.

Sgt. R. J. A.

FIXUM PD110. KEMO SABEI!

Now, the guy says, I know the DD-Form 110 Trip Ticket is the only way to keep daily preventive maintenance up-to-date on military Engineer equipment.

Now, he says, every time we use a dual-manned generator or compressor a DD-118 goes with it, and gets filed out according to ROP. We cover out the stuff that doesn't apply, like brakes and steering, and make all those check marks. So we're keeping up our daily maintenance, right?

Wrong . . . or at least only partly right. Since the trip ticket is the only daily written record of daily maintenance on military equipment, it's got to have more changes than making one thing that don't apply.

YOU ADD AND REMOVE ITEMS FROM THE DAILY MAINTENANCE SECTION IN THE TB OR TM THAT ARE NOT ON THE TRIP TICKET.

Write the item in the open space in the PREVENTIVE MAINTENANCE SERVICES section in whatever column apply—BEFORE, DURING, AFTER.

Most of the time, you'll have enough space on the trip ticket to add the additional maintenance checks. (They're in blank spaces under BEFORE, some under DURING, and those under AFTER.) On the Helmer generator for instance, the additional checks are:

Before: no using equipment that has so many daily services they won't fit on the 110! Answer's easy. Monograph these daily services right out of the TB or TM and staple the list on the trip ticket. Take a little extra to cut that mess, but remember . . . this is the only written record you have of daily preventive maintenance services.

Suppose we take the Helmer generator as an example in filling out the 118.

DD FORM 118, 1-64 (Rev. 1-64)

Generator, Helmer, 110, 110, 110, 110		110, 110, 110, 110	
DATE	TIME	LOCATION	REMARKS
1-17-64	08:00	110, 110, 110, 110	110, 110, 110, 110
1-17-64	08:00	110, 110, 110, 110	110, 110, 110, 110

DD FORM 118, 1-64 (Rev. 1-64)

Generator, Helmer, 110, 110, 110, 110		110, 110, 110, 110	
DATE	TIME	LOCATION	REMARKS
1-17-64	08:00	110, 110, 110, 110	110, 110, 110, 110
1-17-64	08:00	110, 110, 110, 110	110, 110, 110, 110

BEWARE THOSE CABLE KILLERS



Cable on heavy equipment is the money in a quiet game. It's expendable, and it'll go under or float. But a smart operator makes it last as long as it should.

Which means that good preventive maintenance will let cable outlive what the boys upgrade call its life expectancy. To do it another way, any good operator knows that cable knowledge and close time are dropped down by current operation and daily inspection.

First place to look for trouble is at the drum. Naturally, you'll tell that overlapping and wiping action happens when the cable wraps.

That wiping action causes the cable to fray and fraying and kinking are cable killers.

Fraying is usually caused by a horn or unbalanced drum . . . or a drum or operator roller that's binding or not turning freely. Look those drums and rollers. That'll stop the cable from chafing and fraying on the drums.

Kinking is caused by bad operation of the cable control. Mostly, that's the result of faulty adjustment of your cable control clank and brake . . . allows one cable to unwind from the drum. If you're doing that, check the TM and get the right adjustment.

It's obvious as a discipline on paying that you've got to have the right size cable. It's too small, and it could snap. Too big, and it's tough on your equipment.

Your 8-1/2 operator checks will tell you when the cable that's wrapped around the drum most is gone. That's the time to cut off the worn-out part, pull in the same amount from the spare reel, and hook her up again. Much, always be with the cable's strong property.

(Just how dangerous a frayed, kinked, worn-out, or improperly arranged cable can be is told in a booklet by the Bureau of Mines, R. A. Allen, Editor.)

FRAYED



KINKED



TOO SMALL



TOO BIG—
HARD ON
EQUIPMENT



There was a young
cable named **CORN**.
Who **sneak**, frayed and
kinked up one mom.
He suffered a **queen**,
And perished in two in—
Now his delivery is
angel **NEW BORN**.



On 150 KW Gens here are some...

Cummins and Goin's

"HEY, GENE, YOU'VE BEEN
ASKING A LOTTA QUESTIONS
ABOUT THE 150 KW GENS.
GAINING LOOSE, THE BEST OF
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The Right Height

Dear Sgt. Doves,

We had one of those unaccountable, all-day, whenever-happens events when one of the boys took a Cat skinned on a low-boy under an underpass that didn't have quite enough clearance.

The Cat looked like somebody was trying to stick it into a sandwich.

To prevent that happening again, we figured out this fix.

Mount an ordinary hardware扶pole (or something like) on the right front end point of the tractor or truck you're using to load the Cat. Rip the扶pole so it sticks up about 8 inches above the load.

Approach doubtful underpasses slowly and watch the pole. If it clears, so will the Cat. If the pole almost-but not quite clears, get a ground guide out there to take you through.

Course, if the pole doesn't clear at all, you go somewhere else.

SE SK



Don't Fool With Diesel Fuel

Dear Sgt. Denny,

One of our boys is in the hospital with burnt buttocks. He didn't think diesel fuel was anywhere near as dangerous as gasoline.

Happened while he was trying to weld up a diesel fuel tank to carry kerosene in the field. He was very surprised and burned slightly over when the weld blew away and put around his head.

It's easy to think diesel is a lot safer than gasoline because it doesn't take fire from a spark like gasoline does.

What this boy forgot is when diesel has been heated, like running against a red-hot weld, it's got the explosive power and heat of gasoline. That's what scared him and slapped him in the hospital.

Any time you're welding on a diesel fuel tank, give it exactly the same treatment you would a gasoline tank. Steam is not so much full of water, and he might have there's no heat left in it.

Once it gets hot it'll come up and be just as dangerous as gasoline.

W. L. H.



CONTRIBUTIONS



ROSE BLOWER

Dear Editor,

The guys in supply won't get us longer on what with our always needing fuses for the missile hydraulics and launcher hydraulics in the Nike 1 launchers.

Seems the Tekatite relay miniature joint in the master-control-relay expand after a time. That means the contact don't seat right when the relay is energized. So the fuses are blown by the excessive juice running through the circuit that have been closed by the improperly seated contacts.

But, there's a way to beat the problem.

CONTACTS



Remove master-control-relay joint assembly. Then take off the contact protecting cover. Use which of the contacts slide against its pressure-support-post.

FILE HOLE



Work a file along the inside of the mounting holes until you get a fine fit.

The solution lies in these burned contact points and an article's camel hair brush to get rid of them. Reassemble the parts and you're in business.

Cpl Gerald F. Allen
Marines, H. J.

(Ed Note—That's one way to save time and keep us operating sharp. I don't see another way, though. Use the new relay that Ordinance has for machines with serial numbers running from 1000 to 1958. Its Ord Book No. is Y005,LT 00508. The new relay is hermatically sealed, which is another way of saying it's oil and moisture proof. Course...you've got yourself a good fix if the new relays are slow in getting to you. It's hot damn's blowing from.)

SAGGIN' SPLASH SHIELDS



Dear Editor,

We've been having a slew of our G49's (see 11), not making coming in with the front bumper cause splash shields saggin' into dump-drawers

etc. (Manufacturer's Part #YT-1285-108, and you can't get 'em, no amount they're not stocked by Ordinance.) So, you gotta fix your old ones up. We weighen 'em out and then weld a 1/2-in.-thick bar across the back of the flange. No more sag.

WO Robert B. Phillips
Jefferson Barracks, Mo.

(Ed Note—stands to reason, if a part will bend at jointed, it will bend after repair, unless you reinforce it. Better get in a LTR right away for the right people to see.)



SAFETY PIN

Dear Editor,

As you probably know, the safety-catch pins provided for the 4745-series truck plates present a considerable problem.

When the time comes to hook up a trailer load, you generally don't have pliers and screwdriver handy to spread the catch pin after you shove it through the plate hole. You can't spread it with your fingers, and most of the time, if it's not spread, it comes out on you instead, leaving you with no safety on your plate hook. Besides, if it's spread right, you still can't take it out without tools when you want to drop your load.

We've solved the problem with a pin built up out of 14-driftage welding rod (Ap. No. 5 wire, or even a heavy nut banger will do.) We shape this pin just



like TR-3-804.J shows for the Jeep, but we make it king-size for the GMC.

This pin can be slipped into place and locked with the fingers alone, yet it holds just as well as any catch key.

We attach 'em to the little chain, same as the catch key was, so they'll be there when we need 'em.

Walt E. E. Stevens
Jefferson Kentucky, Mo.

(Ed Note: Just so. No question about this clip being easier to use without tools than any catch pin, and it will hold safely too.)

IT'S IN THE BAG

Dear Editor,

We have established an S.O.P. that'll keep those required forms in our vehicles at all times. An envelope is carried in the vehicle which contains the following forms: (Standard) Form 91, DMV Form 310 and the purchase info order for the vehicle. DMV 7110-230-447 will get you this kit in by 90 in envelope.

Elmer E. L. F.

Paul Lewis, Wash.

(Ed Note—For a water-proof envelope print F2549 81-274-2100 Bag, Paper, use Hatched Kraft, flat-bottom type, green-print, water-proof, J475-P-117. Standard 1 grade at the best price.)



Connie Rodd's BRIEFS

Play out

The latest...now you're to take that stylized housing chain play out of all your life-size/miniatures, unless you're looking or operating in real muddy terrain. Think it is your glove compartment for when you need it.

Feeds down and holler!

A raring back howl can push a child-shaped like situation, or knock him off as it wind flow. Look commanders and gunners when you're going to travel it—make sure the driver is clear and his seat is down. Then, **SOUND OFF**... let him and everybody around know what you're going to do, so they won't get their supplies in the way.

Make peace

Come...you know the M21 .50-cal pack hanger outfit is for you with pack animals. But, unless you have some boot-legged friends grinding nearby, you have no use for the hangers. You can turn 'em in as extra equipment—the hangers, that is.



Cracks must go

It used for you almost all gaps before filing, and when cleaning the bracketback, check the bracketback steps for cracks. If you find any, call on your support unit to replace the steps.

Rusty cleaner

Hold it a minute, pal, before you pour that engine cooling system cleaning compound (P/M 4830-171-P107) into that radiator. Word is that the stuff, if used too much, can go a long way toward rusting the metal surfaces of the cooling system. You shouldn't use it for routine cleaning when you drain or add anti-freeze. Use it only when your radiator is clogged or your cooling system rusted.



TIGHTEN

TIGHTEN



TIGHTEN

TIGHTEN



TIGHTEN



TIGHTEN

