

Issue 187

PS

1969 Series

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

BN (D S)

... IT WOULD BE  
JUST BETTER NEW  
THING TO MAKE IT  
AN OOOO ALL NEW...

Carl Fisher



# LEANER AND MEANER M551 GENERAL SHERIDAN PART I

Your M551 is fast—45 MPH top speed.

It's a double predator—either 152-MM conventional armor or the Hellfire missile can take out its taddy target.

Designed as a recon vehicle, it has so much punch it is also an assault vehicle. Round-bottomed it is the most heavily-pancaked vehicle ever built, and it has more armor penetration than some vehicles twice its weight.

Combat tested it weighs under 17 tons and outdoes and outpaces the M41 tank twice and the M56 (CMAT) assault gun, which it will replace.

The Sheridan has all kinds of battle goodies, like an electrically-operated brush which works with steel instead of tracks and gives the loader a lot of time and stress. 'Course if he needs the exterior he can also operate it by hand.



It just takes a few minutes for the crew to turn the M551 into a tank by cranking valves and streams and it can be turned back into a recon vehicle just as fast.



THE  
VEHICLE OPERATOR  
HAS A BUILT-IN  
DASH SCREEN  
FOR HIS  
VIEW. YOU CAN USE A  
SPINNING  
LAUNCHING  
ARMOR PROTECTOR  
TO PROTECT  
HIM.



The vehicle commander has a luxury based on very few tracks, an electrically-operated turret... But he's not enjoying it in order.



**TRUCK ARRIVING** — If the track gets too loose it can slip against the bottom of the sprocket and puncture it.



**TRUCK ARRIVING PITS** — The track's tread can get replacement in PMS 4700-111-2004 (114000-042). Loose is okay when you adjust the pressure or you'll get hit with flying gravel.



**REAR TRACK** — Unlike front or rear in UK, foot-castles, this where you work on the sprocket, backing the track on the front makes your work a lot easier.



# TRACK TO PIGS



**REARING HEAD** — Tongue on the track pin retaining nut should be 1.25-1.50 thick. Loose nut cause extra wear to:



force the track pin and the backing above and make it hard to get the shoe off. Remember, there are cottered nut-locking nuts. If you have to take 'em completely off, throw 'em away and put-on new ones because they lose their "hold" once they're taken off. These nuts are identical with the ones on M1157/M11544 vehicle track.

**HEAD WHEEL** — The all-roller plugs were not used on some early M551's. These plugs are likely to take up, and the centers will round off when you break 'em loose. Remember, they are not up to you to work over 12.14 lbs. it weighs. If they're on the pins, replace with the head steel roller to all-roller plugs, PMS 4700-277-0000 (11410000-2). You can still do head steel because each plug has 4 teeth make an 8 tooth.



**TRUCK ARRIVING PIG** — If the track will come it up against to stop you won't be able to get any more track tension, to pull a track block.



**TRUCKS EXTRACTION** — For an dropping the vehicle—it's not a new one.



**DRUCKS HEAD** — They have a bad habit of picking up wire—copper wire, leaded wire, all kinds of wire—no work for it. This wire gets wrapped up and settles in the rubber gaps of rail PMS 1150-711-1070 making it bad.



**DRUCKS HEAD** — The new ones every time you remove or install the drive sprocket. The all locking nut will not lock again or nearly once they have been taken off.



HERE ARE SOME TRACK FACTS!

### WHEN TO REPLACE TRACK SHOES

**TRACK SHOE GUIDES**—When both guides are missing on a single shoe, replace the shoe. If 2 guides in a row are damaged, replace the shoe. (Missing causes wear 75 per cent or more of the guide pins. Damaged means missing. Missing means 1/2 of the guide is missing or the guide is bent or due to interference with other track components.) If a hole is worn in the inboard or outboard face of the guide it's not considered damaged unless the guide is on weakened shoe or track.



**SPEAKER OPENING**—The shoe should be replaced if the speaker opening is worn or less 2 1/2-3/16 inches or more. Get your grade company mechanic to make you a T-shaped GO/NO-GO gage with the head of the T exactly 2-1/16 inches. Then you can check the opening real fast!



**SHOE TRACK**—If 20 or more guides are missing, the entire track should be replaced. When in an emergency, you can replace track, separating track shoes so you don't have 2 or more shoes in a row with missing or damaged guides.



### THINGS TO WATCH FOR

**TRANSMISSION OIL**—Your transmission does not lose oil the way an engine does. If the transmission oil level is above low, there may be a leak. If you can't find a yourself, get your mechanic to help. To keep from overfilling, remember that the oil should be at the upper limit on the operating range shown on the dipstick only after the engine has been out of operation for several hours.

—ALL TOPS  
CHRYSLER!



**DRIVE SHAFT**—Like the TM says, draining the water out of the primary and secondary fuel lines is a daily before-operation. The drive shafts are subject to breaking or torn Van cut files. Use a container to catch the water and fuel because if you let it slip down into the engine compartment it's hard to get out . . . and it could start a fire. Insulate the drive shaft so they don't vibrate against the engine release manifold.



**AN OIL LEAK**—When your transmission hand pump handle is locked, engine vibration could pump up the excessive transmission pressure would break the gage. (All new production vehicles have a metal guard to keep the handle from vibrating loose.)



**FUEL TANK TIPS** — Both fuel tank shut-off valves have on each side of the vehicle must be in the OPEN (pulled all the way out) position before you fill the fuel tanks. You also need both filler caps OPEN so you won't be able to fill completely the 2 fuel tanks on the vehicle. You can use either the left or right filler cap, whichever is handy, but they both have to be opened regardless of which one you're using.



**WREN TIPS** — Engine compression screws drive plug holes will break if they're over-tightened. They need only 21 lbs.-ft. torque. See it says in Ch 2 to TM 9-1350-206-12 (Jan 65) on page 5-16.

### TRUBLE SAVERS

**POWER CABLE** — Keep it tight. If it falls off, enough heat can escape to melt the water-resist cable covering.

**WIRE PROBLEM** — Check your generator. Wires contacting daily. Replace the belts in a month or when the pin is within 1/4 inch of becoming out.



**NO WATER IN TURBINE** — No water hose, even a low pressure hose, can be used inside the turret. The first reason is that there's too much required upland and electrical turret drive equipment. The second (and ever better) reason is that the conventional means usually can't take water.



**ENGINE OIL LEVEL**—Check before you start the engine and again when you reach operating temperature the way it tells you in your vehicle ID, which is Appendix IV of your LTZ.

To take a reading, pull the dipstick completely out, wipe it off, and stick it

back in side-to-side, making sure you get it all the way down. Jamming it in that way could give you a false high reading. You need to wait at least 5 minutes after the engine has been turned off so you don't get a false low reading.



**ENGINE OIL PAN**—The J 381 hole covers will release loose debris you look them down right. If either one vibrates off, oil will be thrown out and the engine will heat up, and may catch on fire. You can see either hole but the one near the engine oil level is more convenient. A new cap with a bigger gasket (Dorman Direct No. 73423-10000) has been designed to solve the vibration problem. Order it at 1-800-368-7140000. Crews are working around the clock now to manufacture to replace the filler caps.



## TIPS FOR THE DRIVER



USE "YOUR BRAINS" FIRST BEFORE USING THE ENGINE'S BRAKING ON HILLS.

You'll get on fine driving the MY11 if you always remember unless the engine is running you have no steer. The controls are worked by air pressure and with the engine OFF you've got no pressure. Never turn the engine off and then try to steer. Brakes work even with the dead engine.



**GOING DOWN HILLS**—With a truck you can go down a hill with your foot off the accelerator but not with the MY11. On gentle grades use the accelerator a little bit when you start.

USE THE ACCELERATOR A LITTLE BIT.

On steep hills go down in low gear and use your brakes too, even so, when you start use the accelerator.

**CRASH**

**BACK OVER**—The rearview hatch cover is heavy so make sure it's locked in either the open or the closed position before you start the vehicle. A loose hatch cover won't feel very good if it hits you in the back.





KEEP IT LOCKED.



IT STAYS LOCKED ON ACCIDENT!



**SHIFTER LOCK** — If you have to disassemble, do it gently and at low speed. Never force your shift lever, the transmission has a shift inhibitor to prevent against high-rpm speeds. Forcing a shift lever can loosen the internal assembly at the mounting bracket in the driver's compartment. At the best this means the whole cable will have to be replaced. At the worst you could run over some body because your shift lever would show NEUTRAL when you were actually in gear.



**HAZARDOUS INFORMATION!** — The hand brake spring loaded and it can break, the driver's feet if it hits him. When it's released from either the left or right hand, locking brake the spring snaps it forward with a lot of force. If the driver has his feet in the way (and this has happened) he can get badly hurt. So keep your feet clear of the handle.

KEEP YOUR FEET CLEAR OF THE HITCH HANDLE!



**LABEL LOCKS**—Be sure the lugs are holding the cables out of the way. Otherwise, when the turret is retracted, the cables can get broken.



SCREW UP ANY OTHERS WHEN PULLING THE COIL EXTRA-DEEP HANDLE WHEN ALL THEY WANT TO DO WAS SCREW OFF THE HANDLE

On later model vehicles above Serial No. 58, the first water guide handle will be covered with a metal safety cover. On early vehicles your Fleetway company mechanic can order the parts and install this safety cover, RCM 3118-877-8938. For now, this note just you know what you're looking before you pull it.

## COVER AND COMMAND

**POWER SUPPLY**—On your gun and turret control units, when you flip the switch up and the **POWER** light goes on, the **POWER SUPPLY** lamp on the missile run (check-out) panel will also come on for just a second and then flick out. This is normal and shows your batteries are OK. However, if the power supply light stays on it means your batteries are weak and should be recharged or changed, before you try to fire a missile.



**TRANSMITTER (XMT) DOOR LOCK**—Check this when (particularly when opening in rough terrain) to make sure the transmitter door is closed. It has a many holes of jiggling open which lets the lenses get dirty. Keep mud and dirt out of XMT's door microswitch. (Note: This door has to be in operating shape because you can't shoot a missile when the door is closed.) To lock or unlock door, be sure to turn the handle.

**184411 PERISCOPE**—This is only for night work, and bright sunlight will damage it. If you want to headlights in during the day use the normal dial with the pinhole and also use the dark filter.

Always close the enemy power window cover when using the periscope at night. If your M41 is not equipped with a enemy power window cover plate, tape a thin piece of plywood over the window to keep the reflection of the turret lights from entering the periscope.

**PERISCOPE — NIGHT**



**PERISCOPE — DAY**



**1841 PERISCOPE ADJUST**—The elevation and azimuth adjusting screws should not be moved too far to the left or right. When you're adjusting one of these screws, stop when you feel a resistance, or you'll break the cable. If the screws jam, a LIGHT tap on the housing near the place where the adjustment flexible cable goes in will sometimes work it.



**VEHICLE BUTTON**—The buttons on the top of the gunner's and commander's operating handles have no function. They should not even be used as a thumb rest. The front trigger is for everything—the crew machine gun, missile and conventional rounds.

**184211 POWER WINDOW**—Either the gunner or the commander should be in full seat when the enemy power window is in the 'ON' position. Reason: To be able to take action in case of a runaway turret.



OFF? NO  
TURRET CONTROL  
IN 'ON'... I GOT  
A RUNNING TURRET!





**SHIELD PROJECTION SYSTEM**—After making sure that the M174 grenade projector tubes are not on the ground, the TC will press the **FIRING SWITCH** in every position of the vehicle track. In every position the shield pins should extend about 1 1/2 inch. If the system's not working right tell your mechanic. (Note: Wait about 4 seconds between firings for the system power supply to recharge. If you try it sooner and the system won't work, this is not a defect.)



**SHIELD PIN  
SHOOT UP  
ABOUT 1 1/2 INCH**



**EXPLO. CONTROL**—Never turn the explosive power switch on for longer than 3 seconds at a time, because the motor in the mine will burn up if it's run continuously. (Caution: It just takes a second or so to spin the explosive completely around.)



**PADLOCK PREVENT**—Never move the padlocks on the loader's track by unlatching it through one of the track padlock eyes. If this is done, part of the padlock shackle can get caught under the explosive, which will be sprung and damaged. Like wise, don't unlatch it on the explosive beltwise because then the padlock could clip the explosive vision blinder. Keep it inside the vehicle when not in use. In addition this padlock can be used to lock the engine grille doors and keep the casing from opening them and ending in a grenade.

**STABILIZE SCOPE**—The scope should be taken off the machine gun before you try to dismount the gun. Otherwise you're likely to break the mounting brackets off the scope.



**DISMOUNTING AN M1**—Before dismounting the M1 machine gun, the elevated tripod must be disconnected at the quick disconnect. *Caution:* Dismounting the gun is a job for 2 people. If you try to do it alone you are likely to drop the gun and damage it.



**UP OR NO UP**—Both the gunner and TC should learn to back off quickly when they get the gun into either UP or DOWN as far as it'll go. In the stabilized mode the signal reverts automatically when you reach the end of the line and you're not so likely to do any damage. In the non-stabilized mode, if you keep on "driving" the gun against either the UP or the DOWN bump stop you can stall your mechanism, damaging not only it but also the motor generator and the power supply.



A high-pitched whine from the motor generator tells you the mechanism is about to stall, so back off right away before you stall bearing insulation, which is the most ripe.

To back off you let go of the handle (which will spring back into neutral) and then you turn the handle in the opposite direction.

It's not a good idea to turn the handle quickly from one direction to the other without having it stop for an instant in neutral.

Until you get familiar with the controls it might be a good idea to operate only in the TTAB mode to prevent this "end of the line" driving of the gun.



**PAID BONUS**—Don't building up under the "heel" of the palm which can keep it turned on even when you let go of it. Check this often and when you need help, call on your company mechanic.



### MINUTE NECESSARY



**LOADING MINUTE**—The delicate part of the minute, the part that has to be protected at all times, is the nose, not the heel as it is with CONY cones. As you load them the opposite way, passing them into the vehicle bottom end first, always protecting the nose.



You wear CONY cones nose down in the turret side racks. Put the nose of the second in the plastic nose support. Minutemen are stored nose up.

**MINUTE WITH CONE**—If a minute has a distorted nose cone, don't put it aboard. It's safe to handle in this condition but might be dangerous to fire.



**SHOULDER UP**—When you put the minuteman in the turret racks place down on that when you grab one for loading you won't want any time spinning it around to get the top lined up the way you want it.

**NEED SHOT**—After you press the firing trigger it takes the minute nearly a second to get started. This delay does not mean anything is wrong.



## LOWER'S LAZERS

The steps you follow in loading under the minute in the conventional sound are normal. Loader's routine except for 3 delays . . .

**CONVENTIONAL SOUND**—1. After you fire in **WINDUP** (up) position, if you leave it in the **WINDUP** position the combustible cartridge case would be positioned — danger.



2. After firing, check for burning particles and if there are any push them out of the chamber before you load another round. There will rarely be any smoke but burning particles could set a round off. The pressure relieving system is designed to take care of the chamber position.

**WINDUP SOUND**—1. Put the spring lever in the **WINDUP** (down) position before you load the round. If it is in the **WINDUP** position the spring won't set off.



2. You've got to load the round in the bay fit into the bayway. It won't go in any other way.

**WHEEL RACK**—The adjustment of the ball storage minute racks is critical. Too loose, and the rounds slip out. Too tight and you can't get the rounds out when you want to. Ask your mechanic to adjust 'em so it takes a force of 150 lbs-ft before the minute starts moving.



**WHEEL HANDLE**—If you leave the manual handle handle engaged in the spindle when you open the hatch by power, the rapidly spinning handle could hurt somebody—probably you. So make it a habit to flip the lever handle out of the B handle when before you operate the hatch electrically.



**FIELD FEEL**—When firing, correct aim and correct range your firing probe needs to be checked about every 50 rounds.



**IMPROVE AIM**—No stopping on the backseat. It moves easily.



### CONVENTIONAL AMMO

**THE 12 CARTRIDGE CASE**—Sparks from a cigarette, an electrical short, any kind of spark can set this case on fire. **NO SMOKING IN THE VEHICLE.**



**AMMO INSPECTION**—Look over your ammo every week (every other week at the maximum) for softening of the cartridge case, oil stains or discoloration spots. After inspection to establish the case may turn yellow and that is OK, but rounds with discoloration should be considered bad and not fired.

The cartridge case will break if you step on it or hit it with a sharp object. When loading the rounds be particularly careful not to break the cartridge case against the screen on the case rack.

[Note: You can lose a round even if there are some small holes in the cartridge case.]

**SUPPORT STAND**—Have the polystyrene cases packed inside the cardboard containers with conventional rounds. Use these cases to position the rounds when you store 'em close down in the turret ready racks providing the pressure are not already a part of the rack. You store 'em that way to keep the weight off the gun which is not real strong. Bladders are stored near up. Later vehicles have adapters included as OVE.



NEXT ISSUE  
Willis, don't miss  
**PART II!**





## NO-SWEAT STAINS

It's a common fault when you find carbon water around the edges of the ball-joint connections in the exhaust pipe system on your MITSUBISHI or MITSUBISHI APC's.

It's due to a natural seepage of the exhaust and is no reason for alarm . . . no gips, no coals!

The ball-joint makes for easier positioning of the pipe inside the power-plant compartment and absorbs some of the vibrational stresses.

Of course, if the stress puts the joint, it's time for a change.



USE  
THE  
PINS.

## BUSHING NEWS

DON'T  
USE  
FORCE

Do you have one of the MITSUBISHI models, an MITSUBISHI bridge transporting? In either, an MITSUBISHI, or the MITSUBISHI? Here's something to check . . .

The upper pivot pins on your friction shock absorbers take a lot of bumps and the pin can enlarge the 2 holes it fits through.

A little play in these pins can become a lot of play and run out the holes.

Check this often and if the holes are starting to go, get your direct support to raise 'em out and put in bushings. The bushings for this job are not listed in the supply manual yet but they can be ordered as P/N 2150-040-2119 (P/N 1190098).

The late model MITSUBISHI models and bridge haulers and MITSUBISHI come with bushings already in the holes. If

they get worn and drip out, support



MINUTE OF IN HOLE



NOISE

Just  
that's  
not  
the  
way  
to  
do  
it  
you  
can't  
force  
it  
in  
there  
it's  
not  
the  
way  
to  
do  
it



may have to build up the hole with a little wood and then run it to the right size before new bushings can be installed.



## REPAIRING HYDRAULIC HOLES

If the hydraulic system on your M108 or M99 recovery vehicle is "happy" you're not going to worry about it.

If it's "unhappy"—leaking, sluggish, without pep—you're back to trouble.

Things that make hydraulic systems unhappy are dirt, water or air in the hydraulic oil, too much or too little oil, wrong kind of oil, leaks in the hydraulic lines, hydraulic oil filter clogged.

Your machine team will tell you how to avoid most of these things, but the hydraulic oil filter can sometimes slip. Unless you read your manual and sharp you won't know when they are or how to take care of them.

### HOW HYDRAULIC FILTERS

The main external hydraulic oil filter for the M99 is under the rigger's seat and you have to climb the rigger's high entrance hatch and it takes on the same place before you can get on it.

Even so, this might be checked daily when you check the main oil reservoir dipstick—where it makes a separate access panel just to the left.



# HAPPY HYDRAULIC SYSTEMS



There's a valve indicator on the filter which is supposed to show you when it needs cleaning, but it won't always work. So, if you think it's dirty, open it up and see.



Take the nut screws out with an Allen wrench and then you can pull out the filter. You clean it like any other oil filter. Clean and dry all parts. Replace unserviceable items. Use the new gaskets.



After you put it back and tighten the nut screws, get the hydraulic system under pressure and watch the filter for leaks before you put the nut back.

While you have the rear end of the way, check the methacryl transmission (PTC) dipstick. It's important that you

## USE LOWER PRESSURE



have all in this because otherwise your transmission could heat up.

Your mechanical transmission oil filter is to the right under the same access panel and you should look it over



for leaks. Generally, however, it gives an trouble and needs only its regular quarterly cleaning.

The main reservoir hydraulic oil filter catches dirt and gum, but less refined particles are removed from the hydraulic oil by a bank of magnets in the main oil reservoir.

You may not know about these magnets they're not mentioned in the 130 or 30 TM for the vehicle. However, these magnets are all on a single plate that your wrench-bearing support mechanic can easily take out and clean for you without having to drain the tank.



On the 130T the main hydraulic oil filter is in the hull under the cab. This filter has an indicator button in its base. Whenever the indicator button sticks out about 1/4 inch this means the filter element is clogged, and the flow of hydraulic oil is being bypassed.

Remove the filter element, clean inside the can and put in a new element the way it tells you on page 1 of LO 5-2128-158-11 (2nd Ed).

The hydraulic reservoir indicator is under the hydraulic oil filter screen on the right rear of the cab roof. The reservoir is all the way at the bottom of the cab wall, and you have to pull it up.



Once you get it up, clean it with acetone and dry it before you put it back.

A handy thing to know is that the gasket you take off to get to the filter is sometimes too thin to keep oil from dripping down into the hydraulic oil. So a lot of mechanics are using 1

gaskets, one on top of the other on this position. If you need 'em, these gaskets are Datsun, compatible with most models (33000011) FAX 2620-091-0081, page 17 of TM 5-2030-208-50P12 (Mar 81).



DAZUN  
FAX 2620-  
70-400

When you're cleaning the filter, make a good look at the filter pressure tool.

If you spring a leak in a hydraulic line on the M78, you can use this tool to plug the cut hole in your hydraulic oil reservoir so you don't lose all the oil.

### DOES ANYONE WANT TO BUY?

Don and want get into your hydraulic oil mainly in 2 ways, both of which you can prevent.

1. When you check or add oil, don't crowd the hole that is on the dirt or water drops down into the oil.



One of the biggest causes of leak-up hydraulic systems is working the system too hard and too fast before the hydraulic oil gets a chance to warm up.

It's called "hydraulic oil" because it's oil in the hydraulic system but, as you know, it's just plain OIL. In cold weather—check your OIL, they may call for OIL.

Take all the time you need to warm things up. The times suggested in the TM's are minimum times. Take longer if you need it.

Even in hot weather it's not a good idea to engage your hydraulic system when your engine is at a high RPM. Make it a rule to warm and bring over to engage it when the engine is turning over or more than 800 RPM.

2. The spins themselves up on the input screws get dropped to the dirt and when they've got back they transfer the dirt to the hydraulic oil. It just takes a second to connect through the way that's supposed to go, then it's over's happen.



# M113 RAMP DOOR DOPE



Nobody wants to get crushed flat by a ramp. Yet if your vehicle belongs to the M113/M113A1 family and has a ramp you may be taking most of a chance on this door you think.

On almost half the vehicles you can open the ramp door with the inside handle without putting the handle in the full DOWN position. (Cover when you do this the inside ramp door handle is not in the full UP position and that little bump on the inner handle is not keeping the ramp from falling.)



Now if you the ramp door has been opened this way on the bump on the inner handle is not keeping the ramp secure. If the ramp locking handle is in the un-locked position you have absolutely no ramp safety catches. All it would take is for somebody to accidentally hit the ramp lever and the ramp would come crashing down.

This will never happen, though, if you do these 2 things:

1. Always keep the ramp locking handle in the locked position when the ramp is up.



2. When opening the ramp door with either the inside or outside handle, pull the handle as far as it will go DOWN for the outside handle or UP for the inside handle so the bump on the inner handle gets into position as an added safety to keep the ramp from falling when the ramp door is open.



# MISI OIL FILTER FACTS

Can your PM  
win at the ready.

There's a  
"Tom Nod" on  
the loose!

Who is he?

He's the guy so famous he over-  
tightens everything in sight.

He greases and tightens a screw here,  
greases and turns a nut there and has  
sweat down to a pulp.

If you see him mulling with a M11  
engine oil filter element, M11 29-40-812-  
814, you better get him down to PM  
size. Otherwise, the next guy will end  
up with operating and mechanical oil  
grains.

You'll find the best method of install-  
ing the 1/4-ounce mesh oil filter on page  
2-105 of TM 9-1129-114-30 (Aug 68).

The M11 oil filter is the disposable  
kind. All you have to do is turn it with  
your hand counterclockwise to remove,  
and clockwise to install.

Important thing to note: the seal  
has not been cracked by over-tighten-  
ing, causing an oil leak after full pump  
pressure gets on.

Smart move here is to get handy PM  
into action.

As soon you operate the engine and  
check for leaks after you have installed  
the oil filter element.

Just to ease a "Tom Nod" was look-  
ing over your shoulder, you can whip  
him up by hitting the compressor seal on  
the filter element before you put it on.

This'll make the job easier for every-  
one the next time.



1. USE COMPRESSOR  
TO INSTALL



2. USE THE KEY



3. SCREW ON—HAND TIGHT ONLY



# OVERCHARGING KILLS BATTERIES



Adding water to your battery is the tricky option for a troublemaker — if it takes an awful lot to do the job, you'd better find out what's under the hood.

Your lead-acid battery's bound to need a little water once in a while to keep the electrolyte up — it'll leak over the tops of the plates. And if you're in the land of pure tin 'n' yuckums, you're a little better than other guys because water is your electrolyte.

But if your batteries are gulping water like there's no tomorrow, something's wrong!

## ASK BRYAN

It could be a leak—like a crack in the case—where you'd probably spot that pretty easy. Besides, your battery would soon run down and you wouldn't be able to charge it back up if your charger was conventional with water.

Recharge! Then you can just fix your battery back then your battery's available when it comes to overcharging. So you get a mechanic's quick to check out your charging system—especially the voltage regulator. It may be set too high.



**GET IT RIGHT!**  
When it rains, the old-time **BRUNNEN** is a 24-VOLT SYSTEM SHOULD ALLOW YOU TO RECHARGE ON ANY PLAN OF THE SYSTEM YOURSelves is.



Ambient Temperature	Substrate Reading
Above 80°F	21.0 to 21.5
67 to 80°F	20.5 to 20.8
Below 67	19.8 to 20.1



If your regulator is set higher than it says, you've gotten get over charge of your batteries . . . so get your support to adjust your regulator to a lower setting . . .

On the 100-amp system, your acid electrolyte is sulfonated.

Your regulator setting's a matter of life or death for your batteries.

Overcharging is the biggest cause of battery failure in hot weather — like in Southeast Asia where the temperature averages 90° and often goes to over 100°. Your battery's positive plates swell, buckle and crumble. Give it long enough and this swelling can bore right through the top of your battery.



## READY TO GO?

Have you got the right electrolyte in your battery? If you're in the tropics and you've got available electrolyte in your battery, you're in for the same kind of trouble you'd get from overcharging — ruined batteries.

Your electrolyte in the tropics should have a specific gravity of 1.200 to 1.215 when your battery's up to full charge. Better check it out with the hydrometer in your kit. I. One more thing! See us make sure.

Available electrolyte (P/N 4815-240-0004) for 1 gallon has specific gravity of 1.200 — necessary for tropical operations. But you can use this electrolyte in the tropics by mixing 1 gallon with 1 quart of water to get 1.200-1.205 specific gravity.

**RECHARGE KIT**  
**BRUNNEN** 24  
**1 GALLON**  
**FOR 14.95-19.95**  
**1.200 SPEC.**

**WATER**  
 1 GAL. 1 QT.

If you're changing to tropical electrolyte in a battery that's already in service, make sure the battery's up to full charge before making the switch. Then, after you've changed to the 1.200-1.215 MFBR electrolyte, put the battery on a charger. When a specific gravity reading, taken at 30-minute intervals, shows the battery's fully charged, it's ready to go back into your equipment. Batteries with diluted electrolyte for tropical use should be marked for identification by painting a 1 inch white dot on top.

OK, so your electricity is what it's supposed to be. And you figure you take good care of your batteries, following TM 9-6140-200-11 w/Ch 1 (Jan 62) right on the letter—



You keep getting 'a sharp look-up-right and down.



You make sure there's a light cut of felt on these connections to light all around.



You work your battery top area with baking soda 'n water and even 'n good after.



And you keep a close eye on that electrolyte level, adding clean water when needed to keep the plate-covered and protected from oil.



But if you're really ragged carrying water, your battery's trying to tell you something!

Maybe you're drowning out your batteries call for help.

JUST DO SOME-THING BRICKLE.

ADON! ALL THOT WATER DON'T SURVIVE IT!



ON THE FRONT

## DRAIN ANTIFREEZE?

AND  
DRAIN YOUR  
ANTIFREEZE  
TOO!

Dear Mr. Editor,

What's the latest dope on antifreeze in engine cooling systems?  
Do we drain away the antifreeze come spring or keep it in?

Yours S. W. P.

Dear Mr. C. W. P.,

Thank you.

TE-158-03118 (Nov. 68) now applies across the board to engine cooling systems (automotive).

It says antifreeze will not be kept in the cooling system through warm weather. Be sure to use rust inhibitor in the warm weather like the TE says.

This goes for all liquid-cooled engines.

*Haystack*

## RETURN TO STARDOM

Look what's back on the scene. It's none other than plain old non-vented fuel tank cap (FM 2948-750-04.1B). Our non-vent cap gets a starring role again since new trucks have fuel tanks vented by a pipe and valve assembly.

Although you should be able to keep this cap on full-tank all the time, you never can tell when your tank vent system might plug up. So, to be on the safe side, wear this cap to full-tank only for loading and unloading operations. Turn to vent-tank for normal conditions.

Pressure or vent-type cap, FM 2942-140-9758, will still be around for vehicles without another fuel tank venting system. This cap has a vent adjustment on the neckband.



REPAIRS  
EASILY  
DIAGNOSABLE  
AND  
REPAIRABLE

# HOW'S YOUR POWER OUTPUT?



There are power output checks for your ANSICO-100 radio set, and there there are power output checks. First off, forget the rest on page 44 of PA 105.

For proper adjustment and ideal power output, stop in synchronous point on a meter with TEST METER reading and correct reticle setting.

To adjust driver amplifier tube plate current, do this:

Set the RT-60 SERVICE SELECTOR switch to SER-DR. Set the AM-140 FROM PWR switch to ON. Give the tube plate current four minutes to stabilize. Then, under amplifier's TEST METER switch FROM VOLT. Wait's the meter scale swings between the 2000 on the scale and set the HV REGT switch to TUNE.

Now, set the TEST METER switch to DRIVER CUR. Adjust reticle DARRA for a meter reading between

Two off the RT-60 SERVICE SELECTOR, and the AM-140 FROM PWR switches off. From 40 and 41 of TM 11-5810-520-02 give you the story in detail.

As for this adjustment on PA tubes 1A14A-V1 and V2 for best power output, page 41 of the -12 gives you the word.

Underline this, though: The TEST METER reading should be center scale, same as for driver amplifier tube plate current, and the TEST METER switch must be on PA CUR.



Remember, you gotta get a center scale reading, between the gears.

In the gears, on the side of it, etc., means you've got less than full power output . . . and more adjusting to do.

And, ah, don't forget to document cables as per TM instructions . . . especially the RF drive cable on the amplifier.



the two gears position. That'd be center scale, and there's where you get best power output.



ANSWER...

## NO SCREWS TO USE?

Can the knobs for my accessories for the C-8888 control unit on your AMF ABC 14 radio set?

Well, that can spell later than this in the kitchen.

If the screws for the **MODE**, **SQUELCH**, and **VOLUME** knobs didn't fit knotted right with the knobs, here's a way or two of getting by—

If you've got a good selection of common hardware, you may be able to make a good match threadwise and lengthwise.



Or... you can remove the needed screws from salvaged control units.

In an absolute pinch, it's possible to field-fix a too-long screw by cutting it off with a hacksaw to the right length. The **VOLUME** knobs use 2 1/8" screws, the **MODE** and the **SQUELCH** knobs use 2 each of a 1/2" screw.

The same hardware can also groove the head of the screw, if need be.

Keep in mind, though, this kind of field-fix' takes something through, regardless of the length of the screws.



## KEEP A CAP



Does a replacement cap for the charging coil of your **IM-55/UD**, **IM-5/UD**, or **IM-10/UD** radio come? Try this old standby:

Slip on a homemade cellphane or cloth cap. Anchor it with a rubber band. This'll keep the dust down and help you dodge faulty readings on your pocket detector.

Coolest, it's how to protect the cap you have—they're not in the supply system.

# JUST FOCUSING IN

Whether there is on a continuous roll, a Minolta's Minotar, or a 13mm heavy truck with your KX-12 (2) still camera.

You'll probably get some good photos, too—especially if you treat your loyal photographer right.



HEY—YOU GOT ONE OF THOSE NEW FOCUS-ON-TOUCH CAMERAS, DID YOU?

WELL, YOU KNOW, I GOT A TIN ON IN MYSELF—CHUCKLE?

ARE YOU SURE ABOUT THAT?—NO, NOT AT ALL!



One thing to watch is sliding your camera's lens assembly without ratcheting the track all the way forward.

This can cause bending or breakage of the range-finder slide, that all-important metal strip between the viewing bracket and the camera's prism that delivers a spring to the rangefinder tube assembly.



# IN

WOW! A TINY TALKER SAYS—

YOU COULD GET A TALK—



It never hurts to check yourself on proper sliding procedures for your camera:

Remove the cable release if it's attached and move the track lock forward to the unlatched position.

Check to be sure the front standard assembly is centered and leveled to its normal position and that the chamber is wiped.

Back the track forward as far as you can.

Unlock the front standard locking lever by centering it between the tracks, push the front standard assembly back into the camera body and lock it in position with the front standard locking lever.

Hold the camera in the palm of your hand with your fingers pointing forward.



Push down on the front with your thumb. At the same time, rotate the camera but not both hands.



Slide the lens assembly to its closed position.



Rotate the focusing knob forward to lock the lens assembly in place.



And here is what . . . when you walk the chamber, the working ring should be centered about a quarter inch beyond the point where you hear or feel a positive click, to get a full work. Do this, please!

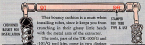
Improper walking can good up your camera release and break circuit connecting.

Change the lens, then focusing it for the second eye.

For the main thing is, you've got a professional camera there, and the professional ability to use it. Make the FBI professional, too.

## HERE'S ONE WAY TO TICKLE A TUBE

Next time you're about to tickle a tube into place, don't make a lump of 'er because you failed to use the bumper . . . the rubber bumper on your bucket-type tube extractor, that is.



That foamy cushion is a must when installing tubes, since it keeps you from cranking in their glass tube leads with the metal arm of the extractor. The tube, part of the TE-1000U and -1000G and kits, come in two choices: 7-pin . . . 7 and 9-pin. To figure out which is which, eyeball the metal arm which clamps the basket. Each end will be stamped. The job with "7B" and "9B" is for 9-pin tubes, naturally, and you use the "7C" and "9C" model on 7-pin tubes. Simple.

"B" and "C" also show on which end of the extractor is supposed to connect or install.

Since you've already discovered that the adjustable arms are great for reaching tubes at hairy angles, you might like to add "bar" tubes to your matching list. The extractors are great for those, too.

20/TE-12 leads to tubes . . .

## COLOR-CODE CONNECTORS

To add color to your life and ease on your equipment, color-code the ends of your CX-4112 cables and the corresponding connectors on your RT-104 or RT-145 receiver-transmitters. Paint or plastic tape'll be OK. Never heated glue and marked-up connectors.

Without color, trouble bubbles when you try to connect the CX-4112 back-wards (male to male) on the MR-1700 matching unit or mis-match the female connectors on the RT and cable. That's how J-100/310 connectors on the RT cable and J-100 connector on the matching unit are headed.

# FSN's TO CLEAR THE BINS

Carrying slip ball slip, metal plate support, FN 296-429-873, Page 43, W 704-9111-094-071.



Mounting hardware for the slip include lockwasher, FN 219-139-2713, machine screw, FN 226-726-882, for washer, FN 229-079-2211.

Washers element, FN 290-88-079.



Sleeve nut, FN 296-116-741.

Washer and spacer nut, barrier, machine screw, FN 293-409-136.



Adaptor for machine nut, FN 800-830-219.

Connector plug electrical 2/29 FN 293-993-083.



Feeding nut for microwave nut, FN 271-943-421.

Shield ring cog, wire rope nut, FN 209-95-402.



Shield bottom cog, wire rope nut, FN 209-95-402-011, Page 1, W 11-294-264-237-094-02.

Mounting hardware for watch machine screw, FN 296-126-749, lockwasher, FN 219-139-2713, flat wash, FN 229-079-2211.



DO YOUR LVL 18-80/01 PHYSIC WORK BY LIFT-UP... THE HAND-UP FROM THE COMPLETION, ABOUT 200... DO THERE'S A HAND-UP FROM THE STOCK MARKET, ALL CLEARED THROUGH THE ARMY MARKET, FOR FILE (AARV)!



I've recently started an internet course!



# JOE'S DOPE

## THE BROKEN LOOP



ANOTHER  
?!

YUP!

ANOTHER  
LOAD OF  
REPAIRS  
ITEMS CAME  
IN... BARRIED-  
UP IN TENTS  
BEYOND ANY  
RECOVERY!



Friday the 13th 0000 hrs

...Drove into support shop yard to see evidence of that shipping  
collapse. Not remembering my exact... Starting critical...

SO WHAT THE  
SHEEP, CORRECT?

THE ARMY SUPPLY SYSTEM COULDN'T  
ON THE BEHIND AND BE USE  
OR UNRELIABLE PARTS AND  
MAJOR ITEMS THAT COME IN  
FROM THE BRIDGE UNITS TO  
KEEP UP THE FLOW OF  
REPAIRS STAY  
GOING BACK TO  
THE TROOPS.





YOU SEE, THE SYSTEM PROVIDES WHAT I CALL "STANDARD" COST TO NORMAL WARE-OUT OR CORRECT LOSS... THEN AFTER SUPPLY MEN FIGURE OUT WHAT WILL COME BACK FROM THE FIELD FOR REPAIR AND RE-USE, THEY KNOW HOW MUCH MORE I HAVE TO BUY!

SO WHAT... SO IF THERE IS ANCE PRODUCTION GETS OUTTA THERE, THEY CAN REPAIR AND THE TRUCK ON THE LINE IS INSTANTLY BEING ORDERED FOR RE-ORDERING.



RIGHT, SO...

SO IF THE REPAIRABLE REPLACEMENT ITEMS DROP OFF... UNDER THERE WE CAN REPAIR WITH EXTRA DAMAGE... THEN, DON'T THE SYSTEM WORK DOWN?

WITH THE GUY WHO NEEDS A FEWER PARTS AND REPLACEMENT EQUIPMENT RIGHT... CAN HE HELP REPAIR MOST BY FIXING SO THE THING HE TURNS IN GETS A GOOD CHANCE TO BE RE-USED?



Saturday... the M3 trucks

I indicated a battery maintenance area outside their shop and by using the old "standing-in-the-station" trick, I remained undisturbed.

AS I AM A GOOD ENGINEER TO REPLACE THE CURRENT ONE THAT WE BEEN LUCKY WITH?

HEY BRODER, THE BUS ROAD IT'S AND GET IT OVER TO SUPPLY SHOP-ROOM?

HEY!





Saturday 0945 hours

...having caught subjects red-handed | Took corrective action.

HOLD ONE... GOWER  
BOUND AND LET ME  
KEEP FOLLOW THE  
ACT OF PROSECUTOR.

YOU WERE  
PUNISHED  
IS A FBI  
SHOW SHOW?

YOU'VE  
BETTER BELIEVE  
IT... WERE, YOU  
TALK THE UP?



# Joe's Dope Sheet



Be careful with returnables you pack. No support can fix you to come back! Note they've loaded trucks by some careless brute it affects YOUR supply—or its lack!



HANDLE AND PREPARE RETURNABLES WITH CARE

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

IF YOU WANT TO DISPLAY THIS ADVERTISING ON YOUR BULLETIN BOARD, OPEN GRAPHIC, LEFT IT OUT AND PUT IT UP.

FIRST, DETERMINE THE FEED'S PURPOSES. BACK-TAKE A COMPLICATED ROUTE!



BY FEEDER... BY AIR OR BY TRANSPORT...



AND ALONG THE WAY THEY ARE LOADED, SHIFTED, CLASSED, SAVED, AND SORTED... NO, EVERYONE SHOULD HAVE TO SEARCH THE WIDE CASE... THE CASE STARTS WITH YOU!



OUT HERE YOU'RE NOT EATING PROBLEMS!



WATERBURY MEAT SAUCE

MEAT SAUCE

MEAT SAUCE

SO YOU PLAN AHEAD... SAVE EVERY LEFT-OVER THAT'LL BE USEFUL AT SOMEONE OR THE OTHER (SEE AIR LISTS, PACKAGING, AND PACKAGING MATERIALS).



Y'NEED LIKE CONTAINERS, BITS OF PLASTIC AND CLEANING STUFF!

REMEMBER... MANY REPAIRABLES ARE PACKED IN METAL, WOOD AND PLASTIC. REPAIRABLE CONTAINERS ARE JUST BARE PURPOSE AND HAVE CONVEINENCE, THEY ARE IDENTIFIED "AS USUAL CONTAINERS - DO NOT OPEN" AND ARE COVERED BY FEED'S, AIR LIF-12 AND THE WOOD.



REPAIRABLES ARE COVERED BY FEED'S



NOW YOU AND BOB  
NOW REWIND PARTS AND  
PACKED WHEN THEY  
COME IN... SO YOU  
LEARN HOW TO  
PACK THEM GOING  
OUT!

HOW ABOUT  
WE STAY  
FOUNDED BY  
CORPORATION  
BOXES FOR LATER  
USE.

WOULDN'T BE SMART  
TO HAVE SOME OF  
THOSE BOMB  
PLAYBOYS GO  
SHIPPING OUT  
BUTTERFLY PARTS!



NOW BEFORE YOU  
REWIND A REMEDIABLE  
PART BACK--CLEAN  
IT UP AND COAT ITS  
EXPOSED PARTS WITH  
APPROVED OIL OR  
GREASE.

THOSE  
LUB OILS...  
OILS...  
OILS...  
CHECK IT!

NO NO DON'T SPEAK  
OF OIL ELECTRICAL  
PARTS... PUT THEM IN A  
WATERPROOF BAG TO  
KEEP 'EM DRY!

HOW  
ABOUT?



HERE, YOU MAKE SURE  
YOU'RE USING THE RIGHT  
TYPE OF GREASE BOX FOR  
THE TYPE OF PART!

WHAT'S  
IN THAT  
BOX?

ONE  
MAYBE  
ABOUT  
A BOXES  
IN  
CORNER  
WENT!



CHOOSE A BOX THAT IS STRONG ENOUGH...AND THE SOIL TYPE SO WATER DON'T RUN OFF AROUND.

PLANTING AND CULTURING THE SEEDS A BOX ARE IMPORTANT BECAUSE A SEED CAN BE BROKEN UP (DAP IN TRAIT?)

BEFORE YOU PLANTING THE SEEDS IN A COMPLETED BOX.

AND WHEN SEEDING IS OVER, KEEP THE SEEDS PROTECTED AND DON'T LET THEM GET WET.

SEEDS COLLECTED FROM SEA AREA MAY BE GIVEN TREATMENT TO KILL THEM OF DISEASE ORGANISMS. SEE US ON 40-44.

BE SURE CONTAINER SHOWS THE RIGHT STOCK NUMBER, AND THE NAME OF THE SEA AND THE ADDRESS CLEARLY.

BEYOND HUNDREDS, THERE ARE YOU!

CALL REPORT

FROM THE  
**Connie Rodd**

## HANDLING ILLUMINATING AMMO?

Replace 'em easy-like. That's the way around when you use the cartridge container to protect the propellant charge from MIA water if you're illuminating cartridge.

Spelled out the master says: Never let the base of the cartridge hit hard on the bottom of the container.

If the metal disk (which normally supports the base end of the cartridge with rest of the container, in case you replace it in its original position . . . ) points down.

If the point of the metal disk is up, and you slip the cartridge into the container that way, the point on the metal disk can act like a firing pin. As you can imagine, lighting the propellant in the container would be kinda messy for you.

And, any time you must replace the cartridge be sure to slip it into the container base end first, so the base seats into the metal disk.

That's it, VETERANALLY SPEAKING!

Remember, use Illuminating Ammo!



# THE M564 MTSQ FUZE

Anybody can forget.

So, if it's been a good while since you've set an M564 mechanical time and temperature fuze, here's a quick tip on your technique. The number scale along the side is in Fig 1-17, TM 9-1100-109 (Apr 67).

Also, the scale on the M564 may be a little different from other scales you know and well. For example:

On the M564 the lower cap rotates. Its 0-to-100 scale is its 1-second increments, and the increments are numbered every 5 seconds. The cap rotates clockwise only.

The stationary number scale is located on the fuze body assembly, and its graduations are in tenths of a second.

For a day setting of 5.5, you work it like this—

1. Turn out the seconds by turning the lower cap clockwise until the 5 is over the 0 on the number scale.



2. Then to set the fraction (tenths) of a second you use the number scale, just continue to turn the cap clockwise until the 5 on the number scale lines up with the cap's graduation, which is shown and is the immediate right of the .5 marking on the number scale.

You'll end up with the scale reading like this:



The 0 on the number scale is exactly midway between the cap's 4 and 6-second graduations.

And, in lining up with the cap's graduation on its right, the number's 5 just happens to line up with the cap's 0.

If you want to set a temperature setting only, or the fuze for 100 seconds, like this: line up the 100-second mark on the fuze lower cap with the 0 mark on the number scale.

And, remember, you never set the fuze on on the 5 (shipping) mark.

You gotta know exactly how to set the scale. A wrong time setting could be embarrassing . . . not to mention disastrous.







# GO AND FIRE YOUR M2

OPERATING WITH 20, 30, OR 50 CAL. (FOR 102, 120, 137)

Some operators don't feel around. They make sure their 50-cal M2 machine gun's trigger stays locked before they feel out. You can't afford extra time when you're flying.

All 50-cal machine guns have barrel M2's get headspaced and closed the same way, no matter if they're on a tripod, track, tank or other base. Only difference is you'll need outside help from a buddy to move the barrel if it's in a tripod or tank or tank.

Here's the sequence:

## HEADSPACE

If your headspace's not right, the 50-cal won't lock. If it's too loose, the weapon won't extract.

## TIMING

If your weapon won't lock, the timing's early. If it won't fire, the timing's late.

They say your 50-cal gun doesn't have a very sluggish . . . the working parts've less than speak . . . and the lock won't lock? Or you gotta repeated ramming way less than you think . . . the barrel's a mess and your buddy's possible arm is a sling? Again, your headspacing's either too tight or too loose or your timing is off and you'd better get with it, fast!

1. Lift the cover and extract the bolt assembly and barrel extension back as little ways till the barrel locking spring's contact in the hole in the right side of the receiver.



2. Hold the bolt right there — either by sliding it 20 mil away/ back between the receiver block and the barrel extension or by getting a buddy to hold it for you — and then move the barrel all the way into the barrel extension.



3. Measure the barrel 2 inches behind



4. Guide the weapon to make sure the thing ain't sliding through the face of the bolt when it's got in the way of the gaps. (at the working parts get forward slowly. Don't press the trigger.)



5. Pull the bolt assembly back far enough to separate the barrel extension from the receiver block by about 1/4 inch.



6. Lift the receiver out of the way and then check for tight or loose headspacing by trying both the 20 and 30-00 ends of your gaps in the hole between the face of the bolt and the rear end of the barrel. Take the gaps from the center of the slot each time . . . and never from the gaps.

If it's too tight—the 60 end won't go in the slot.



**TO GET HIM IN THE HOUSING,**



Lower the boom in one-inch (2.5 cm) lifts, checking with the 60 end of the pipe after every lift . . . all the 60 end will slide in easy up to the pipe's sliding stop.



If it's too loose—the 60-60 end doesn't fit.



**TO GET HIM IN GOOD HEADSPACE,**



Lower the boom in one-inch (2.5 cm) lifts, checking with the 60-60 end of the pipe after every lift . . . all the 60-60 end won't enter at all.



**A troubleshooting hint:**

Make sure you lower the metal link or retract the bolt assembly before each slack up (line up the locking spring leg with the bolt in the side of the receiver . . . so that you'll be able to turn the boom).

## REPAIRING WEAR & TEAR

**Rule Number One: Never break apart without a gage unless you're in a real pinch!**

1. Lift the cover and retract the bolt assembly till the barrel locking spring/legs are centered through the hole in the side of the receiver.



2. Force the barrel into the barrel extension as far as it'll go. You should be able to move back the rear end of the barrel inside the barrel extension.



3. Remove the barrel 4 inches behind.



4. Slowly let the extracting or charger handle go till the swelling parts are all the way forward in battery.



5. Now test your rangers. It should fire OK.





As soon as you get the headspacing OK, test your gun's timing. If the timing's too late, the loading parts will get damaged. If it's too early, your weapon will fire 2 rounds and then quit. That's because the extractor won't go far enough forward to pick up the third round.



1. Lock the gun by rotating the bolt assembly all the way to the top and release slowly forward. To prevent disturbing the battery, don't press the trigger!



1. Rotate the extractor and retract the bolt assembly all the front end of the barrel extension about 1/4 inch from the trigger block.



Now stick the M16/M17 gage in and let the barrel extension close slowly on the gage.

2. Press the trigger (without a round).

If the timing gage does not release, repeat step 1. Then insert FTH gage and press trigger. The timing gage should release. If it does, timing is correct and no further adjusting's needed.



However, if you have late timing—The firing pin won't release when the FIRE gate is used.

Or if you have early timing—The firing pin does release when the NO-FIRE gate is used.

### TO CORRECT EARLY FIRING AND/OR LATE FIRING:



1. Remove the gate and rock the gun to bottom. Remove the headplate. Turn the adjusting nut to the left . . . all the way down. Run the FIRE gate in position.



2. Move from the adjusting nut to the right or up 1 click at a time, pulling up on trigger (use other mode stick). Repeating this all the firing pin will release.



Now your timing should be right.

3. Lift up on the rear end of trigger bar with your finger. The firing pin should not release.



4. Move from the nut 3 more clicks up. Firmly compress/release the gate, replace the headplate and check the timing as outlined in steps 1 thru 3 on page 52.



### DON'T FORGET THE RELEASED ON TARGET TYPE:

Great. Now your M2's headpated and timed. However, on the lower upper there's still one big step to make. Adjust the released so that the released plunger is the proper length on the in job.

This adjusting business is the same for all motor type BIP's, no matter where the submodel's located.

Now, before you start adjusting the submodel, make sure it's attached properly and sub-primed, like your weapon's TM says it should be.

Now, for adjusting:



- 1** Connect the power source.



- 2** Push the adjusting cap clockwise from the right toward the OFF position as far as it'll go.



- 3** Cook the weapon and slide the BIP gauge between the barrel extension and the trigger block.



- 4** Turn the adjusting cap to the left toward the OFF position and try to fire, using the firing button, not the trigger trigger. If the firing pin won't release, keep on turning the adjusting cap toward BIP one notch at a time, trying to fire at each notch till the firing pin does release.



OFF ... ONE NOTCH AT A TIME ... UNTIL THE FIRING PIN RELEASES

Remove the cap. Cook the gun, replace the gun and gun trigger leather. The firing pin may not release. If not, continue as before until it does release. Look for the first firing pin release just might be later "cause of the repeated ramming of the submodel plunger against the trigger lever. Revert to adjusting cap toward BIP another 4 more shots. Over slide until

- 5** Now remove the weapon and — with the BIP gauge still in position — press trigger button. The firing pin will release — and no further adjustment's required.

OK, now your submodel's all set. Reprime the cover and put the electrical fire control line switch in the OFF position.



Safety  
only

## OLD STORY, EVER NEW?

You're right. If you're talking about the need to check your M14 or M14A1 rifle to be sure it's locked before you put the safety on. That's what it says on page 1-2 of TM 9-309-115-20 (May 87).

If you go to put the safety on with the rifle unlocked, you can hear the tip of the safety. That's because the safety tip rides against the bottom of the slot in the hammer ... and pulling on the safety can break the tip.



One thing that does you about a broken tip: The firing mechanism gets jammed. Another thing: You try to put the safety on but it says no.

TP CASE BRASS



## 60-MM MORTAR AMMO

From the wood—The M16A111, 60-MM TP training cartridge for the M1 and M16 mortars is not authorized for use being ... unless troops are in battle areas less than 100 yards from the line of fire. Because you have the right thing today — BT 60-L-4 (Mar 87), with Ch 1.

## PURGING KIT, ANYONE?

Your artillery guys authorized to purge and charge your own fire control equipment need 2 parts which don't use the pump on Purging Kit, FM 4901-005-1110. TM 760-110 (Aug 87) with 1 change tells you how to use it. SC 4901-005-CL-110-115 [in 60] gives you dope on component replacement and expandability. Keep a copy of each handy.





## OUTSIDE THE FOO

**DRY BRACKS** — All dry, straight, loose, not adjusted right; pins damaged; wires; cables or cannon plug not secured in lock.



**ELECTRICAL CABLES AND INTERFACES** — Cables cut, badly frayed, broken, no contacts plus lead, bunched, corroded (be sure steel plugs are in there when the cables are not connected).

**SUSPENSION LINES** — Not more than two breaks showing.



**FRONT AND AFT AIRINGS** — Bent, cracked, but in any way that'd keep 'em from falling with the support of the skin assembly, latches closed, bent, loose, bent or straightened (a couple drops of Loctite on the latches every so often will keep 'em in good humor.)



## INSIDE THE FOO

**WHEEL-AXLE FITTER** — Gear teeth worn, stripped, broken, bent; sprockets cracked; guides bent, welded areas cracked, broken; conveyor wheel cracked, wheel gear teeth stripped, badly worn; bearings pitted, corroded; balls and rollers flat or broken; screws damaged; steering crank bent, working surfaces badly worn; wheel support cracked.



**LET UNIT** — Gear teeth chipped, cracked, spring pin holes in sprocket and gear too big; gears metal-bushed, cracked, badly worn in spots; gaskets cracked, bent, fluted; bearings surface-cracked, pitted, corroded; belts and rollers flat, fluted, corroded; intake or cage damaged; shaft bent, bent.



**AMMO FEEDER** — Not closed tight. It'd better be pinned and bracketed and tight or it's apt to vibrate loose and get battered flat by spinning gear. Bearings cracked, bent, worn; turn easy, stresses pin and chain damaged; gear teeth chipped, cracked; push rolls dented, nicked; rollers badly worn; sprocket teeth missing; spring holes worn too big.



**ELECTRIC DRIVE** — Not mounted securely; motor dirty, adaptor and connector loose, damaged, dirty.



**Point** — Never dunk the unit into the bucket or boiler on the electric drive in cleaning solvent for a quick cleaning job. You could lose the sealed bearings and seal-lip!

**MOTOR OIL** — Service dirty, used adapters set ground light to gun and yoke assembly; gun bell mount worn (and a few drops of SAE 1 on it when installing the gun)—It's water soluble. Wipe off these parts after start-up. And, remember, the H&H Model's gun has a complete servicing kit every day—or after every 1000 rounds fired.

**GUN SUPPORT ASSEMBLY** — Drains and breaks in beam and yoke, paint chip-out, rust.



**DRUM & DRIVE ASSEMBLY** — Drum tight, won't work right; wrong lubricant; rolling wheels adjusting (see page 214) in gun —USE: rubber shaft not plugged in tight and lubricated; shaft damaged.



**DRUM ASSEMBLY** — Drum or rollers when turned by hand.

When Takers-drum covers, place it in the coil tank, run the coil unit speaker by hand (obviously) to work the mechanism the drum. It should turn and go to flat as you want it to—smoothly, no binding or jamming. If it

does this, you can check for the drum unit and coil assembly are installed OK, are fitted right and in good working order.

But, if you run into any binding, jamming, and so forth, don't waste any time. Get that drum into your support shop.

**BATTERY & CONTROL ASSEMBLY** — Support assembly damaged, won't slide out easy; control panel broken, cracked; parts loose; damaged; loose; electrical switch-action not positive; hard to operate; loose; missing; locked; lamp burned out; wiring harness badly frayed; insulation burned; battery box cracked, corroded; cells leak; fan or electrolyte; lead replacing; and bottom of battery cover missing; damaged.



Can't emphasize enough that you keep close tabs on the battery. This means keeping it clean, checking the cells regularly (the electrolyte level should be about 1/8 inch above the top of the cell plates when fully charged) and checking the battery voltage with a voltmeter before every session.

**Water thing:** Keep the main plug in place at all times except when inspecting or adjusting the electrolyte level. Else, the air will dilute the juice!

Checking electrolyte level by eye is not easy when the cells are in the battery box. So, unless you can see the cells, try one of these methods—on all 22 cells, too:

**Cell Installed** — Use plastic or wood—see manual, and use a lead pencil either—and push it down to the bottom of the "V". The end of the "tipstick" should cover one wire. If it comes out liberally, you need more fluid. **CAREFUL!** The potassium hydroxide electrolyte only if it's available!

Remember, the electrolyte level should be at about 1/8 inch above the cell plates. That's for just one battery in a fully-charged cell. If it's above that level, remove the excess with a clean syringe that's never been used for a lead-acid battery. You can get a syringe from your battery shop.

ELECTROLYTE SHOULD BE ABOUT HERE!



**WARNINGS:** If you spill any battery fluid on your hands or any other skin, flood the spots with cold clean water and report to the doctor to your nearest medical unit.

**Cell Removers**—Check the cell weights or eye level. You'll be able to see easy if it's low or high.

If the fluid level's low, which you'll add electrolyte, if it's handy. But in a pinch you should use distilled water (keep friendly with your nearest medical) or pure rain water or plain drinking water, in case water. However, if the battery's been topped over and the cells are dry, turn the battery in to your local battery shop—the gun is the best! Never fan with it yourself.





Minne makes time with the baby when he finds her just right. Working . . . you've got to synchronize the 4 assemblies—drum cover, tail unit, gear and leader—that carry around through her delivery system. If one of these assemblies is out of sync, Minne's liable to have a convolution. You time the individual units as you install 'em, and then check regularly to see that they're still lined.

First, make sure all 4 timing pins are in shape for their important job. If the pins get sluggish or stick or wear's obvious, the drum or roll unit, say, might not rotate and feed—and you're out of business.



So eyeball the pins regularly for bending, rusting or damaged parts. Keep 'em clean. A few drops of 3-in-1 on 'em every now and then makes them real cooperative.

Now, about that slow-yo timing on installation, here's what you do:

1. **Down Down** — Push in on the timing pin and turn the drum till the pin goes all the way in.



2. **Down** — Push in on the timing pin and turn the barrel till the pin hits home.

3. **WUB-LUB-LUB Ponder** — Push on the timing pin and turn the barrel till the pin goes in all the way. Now, withdrawing the barrel pin, install the barrel in the gun . . . and watch that the gun pin and barrel pin will go in at the same time.



3. **Ball Ball** — Turn the gears of the rail unit assembly till you can push in timing pin in all the way.

Now assemble the rail unit to the drum and double check that the rail unit timing pin will go in when you push the drum pin in. You gotta watch this. The drum has only 2 timing pin holes, while the rail unit has multiple. When times the rail unit pin will go in when the drum pin won't. However, the whole mechanism moves actually in time unless the rail pin will go in at the same time you push the drum pin in.

Now, barrel data: After you've checked each separate pin, make sure you don't run that assembly till all 4 pins have



been tested. Else you'll load up the works and have to start all over again.

After you're all through, double check that you can push all 4 pins in all the way . . . and that they'll pop out in neutral position when you remove your finger.

OK, that's the timing story for when you're installing the 4 assemblies.

When it comes to loading, remember this: You have to disengage the barrel from the rail unit every time you load. Then, after loading, you have to re-engage the rail unit and barrel and then connect the barrel to the rail unit — back in time.

Incidentally, you always turn the gun barrels in the firing direction to "prime" the feed system.

**Tip:** Here's a quick check for timing pin damage after a weapon's been serviced and you look like shooting conditions. Check the timing in all 6 positions (from each barrel). If you find binding or something at any position, you can bet some parts have damage!

... But I hear you, maybe.



Furthermore, whenever repairs or replacements have been made, it's a



good idea to run 21 dummy rounds through the system (with power OFF) to guarantee the final system, gas and so on, are all working OK.

Incidentally, any time you have a jam you should automatically replace the standard coil spring gun (FM 311-214-2307) that biases the spur gear to the double-dash shaft in the feeder.



### HOW THE -18 IS DIFFERENT

Big difference between the -18 and the -18E1 is electrical—mechanically they're alike. Both operate the gun from the gun battery only. Both use the aircraft battery for stored voltage and battery charging power. Both guns will clear themselves.

However, the -18E1 uses the aircraft battery for a special added purpose: For power starting the gun—a surge that has about 2 1/2 times of a second. This is where the adapter cable for the -18E1 comes into the picture. It allows both guns to be adapted to the same aircraft cable.

Also, the -18E1 can fire at the dual rate of 2,000 or 4,000 shots per minute, while the -18 can fire only at 4,000 SPM.



Two toggle switches on the -103's instrument control panel handle these special features—the High-Low being an indicator switch that's preset before takeoff and the ACFT BATT power main switch.



HIGH-LOW  
ACFT BATT

OH, AND THERE'S  
LITTLE  
DIFFERENCE  
BETWEEN  
THE TWO  
MODELS—  
BOTH NEED  
GOOD  
CABLES.



However, remember to get that cable adapter installed right—and never try to take it apart. This is strictly a support chore.

A couple other things to remember, though, when you've got the -103:

Keep the doors shut until it's almost  
parked. The cabin's pressurized, so the  
air on the battery when starting the gas up  
can be dangerous down on the tarmac.

...AND LEAVE  
THE SAFETY HELMET  
FASTENED! ... DON'T  
TOOK THEM OFF!



### COULD I BE A JAGGER?

Don't get mixed up on the use of the "Records In Pool" and "Total Records On Pool" monitors. The first registers the records loaded, the second sums up the records going through the system, but makes no distinction between those fired and the dummy rounds or "jamming" rounds you run through the loader. You can mean the "Records In Pool" but use the "Total Records On Pool."



FOLLOW  
ME TO THE  
NEXT PAGE FOR  
A COUPLE OF  
TIPS!





**Reminds In Pod**—Safety aside, after loading, turn the cover knob to at least 10-15 more than the usual reminds in the system. This way all the reminds should get fired when the gateway clears the system before loading. **BUT** don't let your life on this. Always retain away MTH like you know it's got live ammo in it. Something could go wrong, this being a man-made thing!

**Total Reminds On Pod**—Use the two board figures and Table 3.1 on page 3-7 of your 412TH as a "guide" for inspecting and replacing parts. **OWEN**, that is, not here!

For sure, the two figures are approximate, at best. For two, the parts may not wear out according to the schedule in Table 3.1. But, it does make sense that they'll need closer watching when they get certain age and mileage in 'use. And that's the purpose of the monitor and table—**to** help you keep your system right up to snuff!

**Last Tip** Although you're not required to keep reminds on parts in placement, some sharp minds keep a simple "diary" for each KMR they have (usually just a page for noting the serial number of the system and the date and the "Total Reminds On Pod" reading when a part gets the procedure mentioned in Table 3.1. Good idea, no?

### MAKING THE WING LUG

**GRRR**

Here's how:

1. Remove the aircraft-grounding pad cable assembly from its receptacle on the pod.



2. Remove the pad ferrug.



3. Rotate the handle slightly opposite to being straight to release being gas tension.



4. Check that all vents are closed from the gas.

4. Remove the cooling water and heating water from the BCG gas.



**Important!**—When your Colson's carrying several substation under its stability wings and in its nose, it's extra smart to safety 'em all immediately when the ship comes in. A good way: Have 2 guys approach the dropper from opposite wings and safety each system — either launcher and/or machine gas — as they walk toward the cabin.

READY...  
SET...



GOING  
FOR COLSON.



## WHA AND BWA

**Loading** — Don't forget, you put the nose ball in the loader assembly with the open side of the double loop first. Then watch your fingers loop/catch of the loader sprocket as you crank away. And, slow down your cranking as you approach when the drum's almost fully loaded to keep from damaging the narrowest wheel in the drum.

**Trouble-Shooting** — This is worth more than 10¢ if your substation ends up in the middle of the heating system. Get very familiar with Table 3-4 of your -12 TM for trouble diagnosis and care for more concrete ailments.



**Live By The LG** — Read all the live print in the LG on pages 3-3 thru 3-5 of the -12 TM and never fall off on doing what it calls for — when it calls for it.

**PIERS** — Here's the ones you need:

**Substations** — TM 9-1800-117-11 (Nov-67), TM 9-1800-117-10F (Dec-67), TM 9-1800-107-10C (Feb-67).

**Tools and Equipment** — Your substation -10F TM and the back pages of the -12 TM show you what you need to be up to snuff.



When you spot dirt around the main rotor grip seals on your boomless Huey, never clean the seals.

Put a filter gauge, or even a plastic card, around a seal to try to get dirt out, and you'll have a Kamuk—a real leak. That you've got to replace the seal for real!

Just replace the grip reservoir on the PMS.

If you have oil seepage from the grip follow these hints:

1. Replace the seal oil, during a 1-hr flight, the grip reservoir oil level can't be seen.
2. Change the seal to a shimper that has been idle over 24 hours and you can't see any oil level in the grip reservoir.



## SWITCH 'EM

If your OH-68A gives you the green light to change main rotor blades on your Cayote (OH-6A) remember this point.

The photograph shows that a new blade doesn't have a vibration absorber.

When you remove the old blades take off the absorbers—put 'em on the new blades.



# CHANGE 'EM AS NECESSARY



Dear Woody,

What's the story on the auto meter control valve listed in step 3, part # of our Charlie model FM 20-1029-028-00-100-00?

Are they 1000-hr time change, or condition based?

Dear Specialist J. E. J.,

They're condition items that get replaced when they don't pass inspection.

The 1000-hr time change applies only to the Baker model Huey control valve.



J. E. J.

*Woody*

## HANDS OFF!



Anytime you pilot and mechanic climb into the Huey-Cobra pilot's seat watch it. Never pilot your hands on hour-meter valve, FM 20-1029-028-00-1, or give yourself a headache or you'll crack it for sure!





GENERAL & T-  
SUPPORT

## ELECTRICAL CONNECTOR TOOL KIT



You don't have to be a magician to open the metal case for your Electrical Connector Tool Kit, P/N 5110-874-0036, and find it empty. But it takes a good man to open it up and find it filled with the necessary electrical connectors for his equipment.

The kit is made up of a metal case, P/N 5110-771-9019, and three tools: Collapsing rod, P/N 5110-111-5099; three connectors, P/N 5110-797-8499, 5110-797-8494, 5110-854-0710; and wire stripper, P/N 5110-268-4124.

You have this kit in both the organizational No. 1 Connector and No. 1 Connector tool kits.

If you're not sure of the type of connectors that are kept in the case, these pictures will give you an idea. There may be other electrical connectors not listed here. The ones you keep in the case depends upon the type of equipment you have. You find them listed in the parts manuals for your equipment.

Get 'em by their P/N's and manufacturers:

5110-111-5099 ELECTRICAL CONNECTOR		5110-797-8499 ELECTRICAL CONNECTOR	
5110-797-8499 ELECTRICAL CONNECTOR		5110-797-8494 ELECTRICAL CONNECTOR	
5110-797-8497 ELECTRICAL CONNECTOR		5110-854-0710 ELECTRICAL CONNECTOR	
5110-797-8494 ELECTRICAL CONNECTOR		5110-268-4124 ELECTRICAL CONNECTOR	
5110-111-5099 ELECTRICAL CONNECTOR		5110-771-9019 ELECTRICAL CONNECTOR	
5110-771-9019 ELECTRICAL CONNECTOR		5110-771-9019 ELECTRICAL CONNECTOR	
5110-771-9019 ELECTRICAL CONNECTOR		5110-771-9019 ELECTRICAL CONNECTOR	
5110-771-9019 ELECTRICAL CONNECTOR		5110-771-9019 ELECTRICAL CONNECTOR	
5110-771-9019 ELECTRICAL CONNECTOR		5110-771-9019 ELECTRICAL CONNECTOR	

ORDER  
PART  
ON  
CALL  
NUMBER



FDL-024-000 SHANK, ELECTRIC	
FDL-024-001 CONTACT, ELECTRICAL	
FDL-024-002 CONTACT, ELECTRICAL	
FDL-024-003 CONTACT, ELECTRICAL	
FDL-024-004 CONTACT, ELECTRICAL	
FDL-024-005 CONTACT, ELECTRICAL	
FDL-024-006 CONTACT, ELECTRICAL	
FDL-024-007 CONTACT, ELECTRICAL	
FDL-024-008 CONTACT, ELECTRICAL	
FDL-024-009 CONTACT, ELECTRICAL	
FDL-024-010 CONTACT, ELECTRICAL	
FDL-024-011 CONTACT, ELECTRICAL	
FDL-024-012 CONTACT, ELECTRICAL	
FDL-024-013 CONTACT, ELECTRICAL	
FDL-024-014 CONTACT, ELECTRICAL	
FDL-024-015 CONTACT, ELECTRICAL	
FDL-024-016 CONTACT, ELECTRICAL	
FDL-024-017 CONTACT, ELECTRICAL	
FDL-024-018 CONTACT, ELECTRICAL	
FDL-024-019 CONTACT, ELECTRICAL	
FDL-024-020 CONTACT, ELECTRICAL	
FDL-024-021 CONTACT, ELECTRICAL	

FDL-024-022 SHANK, ELECTRIC	
FDL-024-023 SHANK, ELECTRIC	
FDL-024-024 SHANK, ELECTRIC	
FDL-024-025 SHANK, ELECTRIC	
FDL-024-026 SHANK, ELECTRIC	
FDL-024-027 SHANK, ELECTRIC	
FDL-024-028 SHANK, ELECTRIC	
FDL-024-029 SHANK, ELECTRIC	
FDL-024-030 SHANK, ELECTRIC	
FDL-024-031 SHANK, ELECTRIC	
FDL-024-032 SHANK, ELECTRIC	
FDL-024-033 SHANK, ELECTRIC	
FDL-024-034 SHANK, ELECTRIC	
FDL-024-035 SHANK, ELECTRIC	
FDL-024-036 SHANK, ELECTRIC	

KEEP ALL COMPONENTS CLEAN AND DRY!



FDL-024-037 SHANK, ELECTRIC	
FDL-024-038 SHANK, ELECTRIC	
FDL-024-039 SHANK, ELECTRIC	

FDL-024-040 SHANK, ELECTRIC	
FDL-024-041 SHANK, ELECTRIC	
FDL-024-042 SHANK, ELECTRIC	

You can get the items up to this point as a kit, FDL-024-070-1500, on listed lead only. When you need to replace any of the items, you order 'em individually — not just a whole kit.

Exhaust Cap "I" Cap Wts 12, 14, 16 PN 024-043-0004	
Exhaust Cap "J" Cap Wts 12 PN 024-043-0005	
Exhaust Cap "K" Cap Wts 14 PN 024-043-0006	
Exhaust Cap "L" Cap Wts 14 PN 024-043-0007	
Exhaust Cap "M" Cap Wts 14 PN 024-043-0008	
Exhaust Cap "N" Cap Wts 14 PN 024-043-0009	
Exhaust Cap "O" Cap Wts 14 PN 024-043-0010	
Exhaust Cap "P" Cap Wts 14 PN 024-043-0011	
Exhaust Cap "Q" Cap Wts 14 PN 024-043-0012	
Exhaust Cap "R" Cap Wts 14 PN 024-043-0013	

Exhaust Cap "S" Cap Wts 14 PN 024-043-0014	
Exhaust Cap "T" Cap Wts 12 PN 024-043-0015	
Exhaust Cap "U" Cap Wts 14, 16 PN 024-043-0016	
Exhaust Cap "V" Cap Wts 12, 14, 16 PN 024-043-0017	
Exhaust Cap "W" Cap Wts 12, 14, 16 PN 024-043-0018	
Exhaust Cap "X" Cap Wts 14 PN 024-043-0019	
Exhaust Cap "Y" Cap Wts 14 PN 024-043-0020	
Exhaust Cap "Z" Cap Wts 14 PN 024-043-0021	
Exhaust Cap "AA" Cap Wts 14 PN 024-043-0022	
Exhaust Cap "AB" Cap Wts 14 PN 024-043-0023	
Exhaust Cap "AC" Cap Wts 14 PN 024-043-0024	



If you've ever tried to put a patch on a wood surface, you know it won't work. Things won't stick to wood very good.

A patch won't stick to your old lapelle fabric make for the same reason—wood. The patch and the make have hydrocarbon wax on 'em, and a patch won't stick until you've buffed the patch and the place to be patched.

After you've done a good buffing job, make sure you wipe all the dust off the patch and the make.

Before you apply the patch, clean it with methyl ethyl ketone, FSN 6810-281-0783, 1 gal.

Always use the patching material and compounds furnished with your make. Repair materials and compounds of the different manufacturers aren't alike. Even though you use the same patching methods for the make, you can't mix the materials and compounds.

## HOL-GAR PLUG FSN

The correct FSN for 18-MM spark plugs for your Hol-Gar 18K70 5100-gps engine is FSN 2810-281-2112. Make a note to replace your TM 1-8111-340-20F (Sp. 64) —and will support as they can put it into their 75F.



## ONCE OVER - BUT NOT LIGHTLY

GIMMIE!  
LET'S JUST  
WIP IT  
OFF AND  
RUN IT.

I'VE GOT TO  
CHECK THIS.

You wouldn't think of trying to drive your interlocking machine with a wheel missing. Of course you wouldn't. But you may be doing something that will ruin your equipment just as fast. How so?

The new equipment you get may well be prepared for shipment and storage. That means certain things have been done to that equipment to make sure you get it in perfect operating condition.

Maybe the clutches and brakes have been checked, belts removed, and the cooling system drained, or other things could have been done so that equipment would get to you in good shape.

If your equipment has a diesel engine, see if the crankcase dipstick has a special warning tag on it. The crankcase might be filled with preservative oil instead of the lube called for in the M.O. If it is, be sure to go by the directions on the warning tag before you start 'er up.

You'll be playing it safe if you check your depreciation guide (I.M. Form 119 or DD Form 1107) to make sure each item has been depreciated. That guide should be attached near the operator's controls.

When the people get your equipment ready for shipment they fill out one of the forms so you'll know exactly what they've done and you'll know exactly what you have to do before you use it.

That guide should stay with the equipment until the first scheduled maintenance service. That way you'll have all the info as your fingerprints for reporting failures, deficiencies, or shortcomings caused by improper processing or depreciating.



## FLOATING TIME

Fuel Issues is the life of your LARC lighter—our team is here to help you keep it from floating away.

Any Issues—anywhere in the field—can be ignited by an electrical spark or be sucked into the diesel and cause an over-boost. And over-boosting may set us up for an explosion. PWR... LARC... and maybe you, too. To keep from turning that LARC and yourself into a choker:

1. Never use the LARC IV, XV or LX to carry volatile fuels that are not listed on the LARC's fuel list. Always check manufacturers for leaks and possible pressure hazards while stored.



2. Keep the LARC's away from any volatile fuel lines where volatile fuels or oils may be spilled or leaked. If there's any accidental spillage that flows the engine until the spilled fuel is flushed away.

3. Never use any of the volatile fuels or oils like gasoline or JP4 in a storage around the LARC's for engine power.



## BOMB

4. In any accidental spillage: flow down the engine—flush off the area with water—and wipe dry. And don't start the engine again until you check all fuel areas for any fuel or oil that might have seeped through dark lunch coats or dark cover coats over the fuel tanks.

5. If there's any trace of volatile fuels or oils in the field, shut down the engine. Turn the LARC's engine off, and keep the engine shut down until you...



The best protection is prevention. Never close with fuel or oil—never spill 'em.

Keep a check-up on the leaks and a check-up on the working around the issues from the field. If your team can't tell you, there's an LARC's, combustion gas, portable, PWR 2000-201-0001, PWR 2011-1-1700 Type 3, listed on page 27 of SC 2001-1 (JANUARY).

It can warn you when fuel issues are in the field that could lead to a fuel fire-start.

## CHECK YOUR LANTERN



Invest in your portable lantern. PWR 2000-1700-0001 because it won't open up any pressure issues here—but very little light.

If it's not made by Auto-Park Mfg. Inc., it just may not work at all. There is no your support and they'll send it to the Defense General Supply Center, Richmond, Va. on an exchange basis. TD 700-011-5 (EIR. Egan), Jul. 68, gives you the work-around.

## PLAYING WITH FIRE



Any time you over-pressurize the tank or tanks on your M1 burner—or turn up the flame too high—you could be playing with fire!

The pressure gauge reading on your M1 burner should be 18 to 20 PSI (instead of 20 to 30). You find the change in **THE 10-7448-204-13 (Feb. 68)**.

High heat caused by high pressure can melt the solder on the pressure gauge, leaving you up for a flash fire or explosion.

When you're using that hand pump, keep your eye on that word **SAFE** on the pressure gauge. Once the hand reaches the letter **R**, you've got enough pressure. That'll keep the pressure out of the danger zone when the burner gets warm.

When you turn the flame up so high that it goes around the jet instead of directly under it, you may be asking for trouble by overheating the solder.



NEVER TURN THE FLAME OF THE BURNER UP TOO HIGH!



## UPCOMING ESC™ CHANGE

Read all about it in **AR 150-11** (13 Aug 68)! New ESC™'s mean will be on the way with industrial component ratings of **GREEN-AMBER-RED** instead of **B** through **D**. But don't mix out those ESC's in your equipment logs till the new types arrive.

## Connie Rodd's BRIEFS



HEY, CONNIE! NO  
DOT'S PROBLEM!



?

### *M/M Training Required*

No one operates an M/M 16-ton truck unless he has Form 148, Equipment Operator's Qualification Record, where he's qualified. OSHA Cr 283-21 (2nd Ed) gives the word — training in safe operation of this vehicle is required before you take the wheel. Hatch, this goes for other vehicles in the OSHA series 16-ton truck family, too.

### *Longer Oil Change*

Your Semboles (3-8) needs should do your thing — engine oil change — every Periodic Instead of every Intermediate. That's provided, of course, your item has been modified by (PAC) 35-1130-201-203 with Cr 2 (27 Aug 88).

### *M/R Respirator*

Replacement cartridges and repair parts are not stocked for the M/R point spray air filtering respirator (POM 4340-817-2030). When the kit is not longer serviceable you just get a new respirator.

### *Handy How-to Handbook*

For quick and easy how-to answers on such things as PM, OMR, unit supply operation, guide info, TARRANT SOP, etc., you now have DA Form 780-2 (3rd Ed, Commander's Supply and Maintenance Handbook). The pocket-sized book is loaded with sample forms.

### *Generator Max. Rate*

That article on the loads that cover off PM says 174 watts' max'd for Power, not (PAC) 22A(10) only. It was for all PM ops whose work is solely on power generation.

### *Too! M Too Soon!*

Hang on to your copy of DA Cr 270-24 (1 Nov 87), Army Subcontractor Document System. Its expiration date has been extended to November 1989 by HQ, DA Letter, ROEPP-17 (16 Nov 88). Subj items FC-70 Structure Ceilings and Conversion, Quarter TOL. The word will fill you for your command channels.

Would You Stake Your Life <sup>with a 200</sup> on  
the Condition of Your Equipment?\*

# FILTERS FILTERS



THEY KEEP  
LIQUIDS CLEAN  
AND FREE  
OF GRIT!



THEY KEEP  
MACHINES,  
ELECTRONICS  
COOL



THEY KEEP  
AIR CLEAN  
AND FREE  
OF DUST

ALL YOU DO IS...  
**KEEP FILTERS CLEAN**