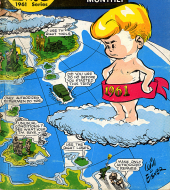


Issue 97

PS

1961 Stories

THE
PREVENTIVE
MAINTENANCE
MONTHLY



THERE'LL BE A SHORT DELAY...

While everybody concerned with Army Equipment takes a precious moment to realize that this year all needed Organizational Maintenance is done right and on time.

Issue 97

PS

1961 Series

THE PREVENTIVE MAINTENANCE MONTHLY

AND SINCE CURRENT
EQUIPMENT IS
BEING MAINTAINED
ON SCHEDULE...

REPAIRS ARE BEING
MADE TO ALL
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Walt
Eisner

RACK



How you do. A real deal for you guys who have to keep both M1 and M14 rifles mixed together in an M1 or M14 rifle rack. Or keep just the M14 in the rack.

Here... the rack'll hold either rifle without changing a thing. Trouble is... a guy needs a handout for the rifle scope, mounted forward, plus a little lower here, can stick off with any M14's that's in the rack. And things get a little hairy around the company area when a weapon disappears.

The deal is to have the rack handle's they can hold either the M1 or M14, or a mixed batch. And it can be done—with the help of your support unit. All you have to do is pass along the specs that you're going to read now.

For, though you want some 2x4's to be used, you'll need enough to get a piece 2 1/2 inches long, plus four pieces that're at least 2 1/2 inches long for each holding bar.

7 1/2 x 4"	1000'
2 1/2 x 4"	1000'



Now you're ready to make the holding bars, take them off the saw and, well, the rest is the four studs and leather pad from each bar. That's it, they're ready for building a rack you'll use later on.

'EM UP



Now you make the four short pieces of bar stock and get ready for some experimenting. While you can probably get away with making each piece 2 1/2 inches long, it would be better to make it 2 1/2 inches long. The extra length don't get under a close tolerance, so depending on the piece 2 1/2 inches long, you have something to play with. You can change one of my own.



OK... Be all around each piece to get rid of any rough edges, and then you're ready to use the 2 1/2 inch piece, you'll be up and down the rack as well as the.

Then before the time to start assembling the rack, thinking for us, you can set up things for making.

Get yourself some 1x4s and clamp the short piece to the holding bar.

Here are the approximate dimensions you want before you figure down the clamps.



Now slip some 1/2-in. thick pieces of wood or metal in the bottom of the saw rack—where the slots form in, this step, the M4 is going to have a hinged metal plate that'll hold it in lock to its length. And the slots'll help take some of the load.



Next ... with a rack of M4's on M1's wheels, get the locking bar in the rack. Put this bar in the right-hand slot first, then move it over to put it in the left-hand slot. By putting the bar in the left-hand slot first, you'll find that one or more of the slings—there can be called support brackets—will hit the M4 right.



OK ... as you slide the bar in the right-hand slot and you find one of the support brackets hits on M4 right, the reason, because the slings that hold the brackets and cover them a little bit—in the right or left—whatever you need.



Moving the brackets up is no sweat. To come down means you probably have to use all a piece of the bracket. You may even have to move the long piece of bar stock away from, or toward, the rack. But the brackets ought to come pretty close to hitting the center of the long piece of bar stock on the tubular slings.

Now get the long piece of bar stock on the top of this support brackets to see how it fits between the bottom of the M1 rights and the top of the M4 rights. This is where you find out if you have to raise or lower the support brackets a bit or two.



Case's Road's

TRUCKS TO TRUCKS

Take 'em easy



A smart driver always uses a guide to help him when he has to back up his Nike road tractor.



The guide stands where he can see both the driver and the drawbar and signals you to stop before the drawbar hits the bumper of your prime mover.

If you try to go it alone you may jackknife your vehicle, bang the bumper and drawbar together, and damage both of them.

When you're hauling up a Nike trailer, your guide keeps you from taking more than a 40-degree swing.



On the air-hydraulic jobs, turning more than 30-degrees in either direction can snap off the brake hose which runs out of the fifth wheel cone. If you swing the drawbar all the way under the end of the trailer you're almost sure to break it off.

Don't go 'circumlocutory' the brake hose because each time they're pulled apart, some air escapes from the system. Won't be long till you've got a bleeding job to do. That again, some other job jockey could forget to reconnect it and take off with no brakes at all.

To prevent the hose when making a turn or backing up, all M50 Air's short serial number 1111 got a fix. A strap was welded to the support rail, ... limiting the turning radius to 40 degrees.



BE, DON'T GO TRYING TO GO THE LONG WAY! SWING HIM TO FACE AS YOU GO BACK, OR YOU'LL BREAK THE HOSE. HIT THEM FIRST, TAKE 'EM EASY WHEN BACKING UP. DON'T GO A SNAKE.

Save the loads

No doubt about it—your vehicle's pneumatic tires can take a lot. They're cold, firm and rugged. They hafta be strong to put up with those heavy loads, shocks, bumps, ruts, rids, dampers and how they'll hit while using military loads.

But a whole lot of the built-in strength is lost when rugged tires get worn or scuffed or degrading job their own way with the wrong loads.

That kind of hacking and jabbing leaves the tire's head—the part around the rim. When a head's damaged, the otherwise good tire is likely to end in self being tossed on the nearest salvage pile. That's when many good tread and carcasses wind up just because their heads are damaged.

That's a way out, too, TM-3-1575-1



you can avoid most tire loads
and use the best way to avoid

gives the ramp on the right side and use of pneumatic tires. It tells you the best way to mount and demount tires is with the equipment you'll find at your support unit. By doing just the changing job with the gear found there, you'll find the work a lot easier and safer . . . and it's less heavy for those heads, too.

Remember, too, you can save the tires with the best tire changing equipment around if you don't use it right.

Prevent gaskets



Some gaskets wind up the gasket, FMV 1575-241-0140 that goes on the oil filter assembly (FMV 1543-587-314) for the M24 (Army Main). They're being put on backwards.

After the filter's cleaned the in part FMV 1543-587-314 (July 1971), be careful how you stick the gasket back on or it'll go wrong.



Once this happens, the filter'll get the leaks and may cause the oxidation of an engine.

They go on with the flat copper side headed to and against the oil pump housing. The beveled (underside) side of the gasket faces up against the beveled underside of the filter head. Put it on this way . . . you're in business.

Wet cargo floor

Rain washing down the cargo on your BUICK 18-cu-ft because you don't have enough covers to cover it?

If you're short all or part of the covers for this truck, there's no need to strain your eyes reading the page for truck numbers. What's fixed 'em is the Old T or B. And TOL 9-2932-286-289's not gained you.

Here's the merchandise and numbers you'll need to get 'em:

BUICK, 18-CU-FT, 1893 LATER BODY, FOR 13-40-773-024 (REPLACES NO. 764678).

BUICK, 18-CU-FT, 1893 EARLY BODY, FOR 13-40-773-023 (REPLACES NO. 762702).

It's not a regular issue item, but if you need it you'll have to test in a special jurisdiction with your DMV. It's only listed in Old T or B, 1771.

BUICK, 18-CU-FT, 1893 LATER BODY, FOR 13-40-773-170 (REPLACES NO. 764678).

These items are in the depot waiting. But until you see 'em fixed in official garb, it may be best to explain your need by listing the why-how on your registration.



If your wheeled vehicle's hard to move on the brakes gear just as you come to a halt, a fuel fire has no need. A fuel fire may also mean a defective, dry or badly adjusted wheel bearing or a dragging brake. But if a fuel's too good after a stop, it could mean your brake's not working.

Best guard duty



These real important steering knuckle boots on your 2H-400 67143-model tractors ask for no special favors.

They're tough and they can take a lot of road gruff as they guard the highly polished surface of the steering knuckles and the front axle housing.

But, like with everything else, there's a limit to the abuse they can stand and still do a good job.

All you're expected to do is keep a watchful eye on 'em for cleanliness . . . especially when you're out in the field. Believe those rubber boots of any-colored mud, mud grime or grease. Keeping 'em clean will help 'em do a better job—they'll last longer, too.

And if you find the boots material separating from the upper or any large cracks, it's time to replace the boots.

Smooth and easy does it

Gently, please. Scooping fuel and heavy on your vehicle's gas pedal when its radio is working is risky.

When you "poot" the engine while the radio's operating, there's always the chance that the voltage regulator won't regulate quite enough and will let a little surge slip through . . . especially if there's a high resistance in the system, a few or defective battery or your regulator's on the blink.

And a little surge can do different kinds of damage on different kinds of wires with the same result: No-communications.

It goes without saying that you always turn off your radio before starting your engine. This way you keep any voltage surge from burning up the radio tubes.



THE 250,000-BTU HEATERS



Sometimes they look like pushovers with a kind of and sometimes like octopuses with the govt. But make no mistake about it, these 250,000-BTU heat heaters are the kind of heat-weather friend every owner would like to have.



Causes, please, they go by different names . . . Alcon Glow, United Heat, Vige and Herman-Nelson. But all of 'em have one thing in common: They're the "meat" when it comes to heating or ventilating a large room, garage, hangar or the like, or the inside of a truck, boat, plane or cabin, or even a tunnel.

That BTU, in case you wondered, means British Thermal Unit. The amount of heat it takes to make one pound of water one degree hotter.

Keeping these guys happy is no great chore, either. Their needs are simple: The right kind of fuel . . . a change of oil when they need one . . . a good workup or rebuild . . . just the things called for in the jobs.

One thing you gotta remember, though: These heaters can change from a "friend" to "foe!" quick as a flash if you don't treat 'em right.

A good rule of thumb on these heaters is that every deficiency that lowers fuel in the burner—like a leaking line, tank, gauge, etc.—is a safety deficiency. And this type deficiency can be fixed in other besides the heater.

Tell you what you do: Next time you pull your weekly maintenance give your heater a careful going-over with this important guide in hand. It comes follows the MAC (Maintenance Allowance Chart) in TBI 18-4526-200, 20P (4 mg 58). The various deficiencies are in **bold type**. Fix 'em yourself if you can, but if you don't have the go-head to fix 'em, call in your support people—fast.



THE REAL WORKERS TOOLS ARE IN THE TOOLBOX

TOOL POUCHES—Operational and maintenance tools including mounting strap, screw, nut, pin. (See text's "A" for correct list of tools.)

ACCESSORIES, DRAG PLATE, EQUIPMENT—Mounting system, (See text's "N") for tool case (12-3000).

FUNGUS, RECORDS AND FORMS—Mounting, time, weights, made-out, wood, (12 up to date. (Should have TM 30-200000) 12-30, 20P and the CO, along with the 24 Form 4-76 (wood joined) and the most recently completed inspection form, DA Form 10-30.

LEAKS—Oil or gas leaks on ground to seal out.

To check for leaks in the safety air system, open the manually open and burner fuel shutoff and ordering valves around the fuel tank and disconnect the safety tap valve if any gas gets through to the burner, you'll know the diverter's shut. Safety support, don't try to fix it yourself.

To check for leaks in the ventilation chamber, shoot two or three coats from your head into the access door. Smoke should pour out of the duct. But if smoke comes out of the duct, too, you'll know the combustion chamber's hard out or badly rated. Shut the engine off quick. Then run—don't walk—for help! It means poison gas is going through the ducts!



GENERAL

TOOL & TIPS



APPEARANCE



PAINT (Fuel control, burner fuel control, main fuel shutoff)—Black, yellow, Reddish-brown, blue, orange, don't work light.

SMELL—Cap missing, broken, **Smell** missing.

Open the pump every day. Fuel shutoff to do it easier. Contact the burner, outside the burner tank. Then give the burner burner and valve the off, and to it's right, higher than the engine end. The way the pump won't be able to pull in the far end of the tank.

ENGINE ACCESSORY

Missing bolts missing, loose, etc.



OUTSIDE SURFACES—Rubber, black, steel, brass, etc. Dry, smooth, clean, paint, clean, normal. Body with broken. Body bolts and nut missing, loose.

LEVELING

Make sure that more than 5 degrees while in operation.



SMITH TAP MARKS—Don't mark, hole.

START ANY
MOTORCYCLE?

THE

ENGINE

AIR CLEANER — Oil helps to absorb dust particles. Oil filter pleats are cleaned frequently (Check L&L, 1000cc version) and OIL for leaks!

CRANKCASE INTAKE VALVE — Loose, needs wear plates.

SPARK PLUGS — Cracked, loose, dirty. Loose around head for seal and ground.

SPARK PLUG BRASS — Loose, noisy.

ENGINE OIL PUMP — Made Tappan. Semi-seals connections broken, frayed.

BIRING — Loose, noisy.

MAIN PIVOTS for take and Exhaust — Dusted, loose, gas legs leak, split, both loose, missing.

FLEXIBLE MAINFOLD GASKETS TO BE — Loose, leak, broken, badly rusted, loose connections.

CYLINDER HEAD AND GASKET — Cracked, loose of compression leaks around shaft, gaskets and gasket while engine is running.



CRACK CONTROL ASSEMBLY — Needs **oil**, won't work, too tight or too loose.

IGNITION SWITCH — Needs work.

STARTER ASSEMBLY — Heavily cranked. Can't handle, wear. Pulley breaks **the spring action**. Switch needs oil.

IGNITION (ENGINE) WIRING — If the engine makes it starts or won't respond quickly to start, use something's rotten in Denmark. And if it starts it sputters like a hot date, **spark** means it's looking for the inside. Report anything suspicious to your support guys right off. Here's some symptoms to look for:

IGNITION WONT START — floor lock in carburetor. Could happen when you're starting the engine while it's hot. Or could be the plug needs attention.

IGLES TOO FAST OR SLOW — Carburetor needs adjusting.

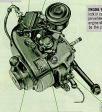
NOISES OR KNOCKS — valve sticking.

OVERHEATING — blocked or dirty, low or changed.

OIL LEVEL GAUGE — **Level too low** (no level) than 1/2 in below full mark of gauge. Needs changing. Check oil every time you fill the gas tank. Set LI for right OIL or OES.

CRANKCASE GASKETS — **Loose**, or could **leak**.

CARBURETOR — Cracks, dirt, or valve position linkage system loose, wear. Throttle and choke cables stick. (shut eyes like take water and pool in carburetor).



STACK (with spark arrester screen, exhaust outlet)—Welded, square tubing; leave carbon deposits in screen; replace dirt, packed, non-welded, shiny. Cover board, attached.

CLIP, TORCH AND SCREW MOUNTING—Silver pipe work, asbestos mat.

6 AND 12-IN. ODD ASSUM-BLED—Dents, standard, cut level. Adapter end of 12-in. duct not fastened to van. Converter's arm, adapter being spaced. Frings and-in. assumed attached.

FUEL FILTER—Rely, loose, holding, non-porous.



FUEL GAUGE—Screen mesh, mixing, guard level, screen form, not on right.

AXLE ASSEMBLY WITH REFLECTOR BUSHING—Lower bush, pin retaining ball lower, mixing. Mounting brackets to seat.

HEATING AIR FOR—Loose, heavy, rubber, fibrous.

WHEEL AND WHEEL AND SPARKING COLLAR—Collar wire, wheel tube collar pin, regular mixing. Rubber line, body, work on some models.



BURNER

6-IN. VENT ADAPTER LINE—Orange, covered, break clipped.

FUEL TUBE ASSEMBLY—Leads, body, burner, body, burner.

SAFETY LIMIT SWIT—Body and clip, lower, for duct to terminate.

ENGINE FUEL LINE—Leads, connection, leads.

FUEL LEVEL GAUGE—Glass, wing, inside, glass, burner, body.

MAIN FUEL SHUT-OFF VALVE—Fitting, glass, not, burner, should be wing, can't, but when, other, burner.

UPPER 6-IN. VENT LINE—Orange.

FILTER ASSEMBLY—For use, fuel, line, burner, leads, element, very, dry.

WIND WHEEL AND POINTERS—Lead, leads, leads, not, but, a, then, stuff, burner.



BURNER WHEEL—Heavy, leads.



BURNER AIR SHUT-OFF FOR FUEL GAUGE—Heavy, can't, work, right.

UNUSUAL SUBMERGATION—The burner tube should be a yellow, sharp-tipped flame about six inches above the flame spreader and should be about the same all around the spreader. If the burner's noise, soot-light or exhaust, something's gaffing somewhere. Here're some clues to what could be wrong.

FLAME TOO HIGH—Loosed stack, combustion air blower or clogged combustion air duct closed, low engine speed.

FLAME TOO LOW—Clogged fuel line or pump, dirty filter. Or maybe you're just low on fuel.

FLAME WIGGLES—Clogged vapor system of the steel burner fuel line, or burner's nozzle, dirty or loose at old gasket at bottom of the combustion chamber.

DUCT LOCKING CLIP ASSEMBLY—Spring too tight or too loose, rusty.

TRANSITION PLATE—Steel burner tube bent, bent pin in, or air hole at burner body, too tight, rusted hole.



COOLING SYSTEM

WATER COOLING HOUSING, RADIATOR, PUMP—Dirty, missing, broken.



CYLINDER SPRING (Water Relief)—Loose, missing, broken.

NEVER-EVER'S FIRE HEATERS

Here are some things you don't do around 'em—and, if you want to remain warm, friends with them.

1. Never run the engine without the governor spring attached.



2. Never remove the oil filter plug or adjust the heater while it's in operation. You could start a flash fire or explosion.



3. Never put very cold oil in a hot crankcase. Could crack the block.



4. Never use gasoline to wash parts.



5. Never use wire or metal tools to clean fuel nozzles or other holes.



6. Never try to regulate the fuel with any control but the burner fuel mixing valve, air adjuster (or temperature control) with any control but the air discharge damper handle. (Use this only in freezing or below freezing weather.)



7. Never run the heater indoors without first extending the exhaust stack outdoors. The stack should be high enough to release fumes away from the location of the parallel intake fan. (Otherwise carbon monoxide will be carried through the exhaust ducts into other buildings.)



8. Never squeeze or block the exhaust ducts. Small amounts of back pressure combined with the temperature in the exhaust and duct system ... and likely burn the ducts.



9. Never try to get additional heat by connecting the ducts or other controls to the exhaust stack. You'll get no for money.



SOLDER SUBJECT



Microsolder, Flux Microsolder, Translucent. All kinds of new communication gear these days. And it calls for more skills to maintain your gear.

Primarily, new soldering techniques are needed when working on these tiny components. To be on the safe side, it would be a shrewd move to have a reading lamp on TB 465-122 (8 March 61).

So what's in it? Well, for one thing, Chapter 5, Section II talks about "Soldering Printed-Circuit Assemblies." The

tells you exactly which size and type of solder . . . which soldering iron and soldering aids to use . . . and the correct technique needed when attempting to join on printed circuit assemblies.

Other soldering info, too. Come to think of it, a repairman in too much of a hurry with a soldering iron could easily mess up the printing in the circuitry if he doesn't take time to check TB 465-122.

Before you plug in your iron, check your equipment's Maintenance Administration Chart for your authority to repair.



REEL PROBLEM—REAL SOLUTION



It's A Real Deal.

That's the word on Change 2 (aka 89) or TM 11-1248.

Because it talks about a problem facing just about every unit in Uncle's camp that rolls out WD-L/TE wire. Usually, the problem's not rolling out the wire—but rolling it back in again.

The idea, of course, is to recover those 1/2-mile lengths of telephone wire ... punch them back into their various arms ... and wind up with a ready-to-use MS-800A/G wire dispenser.

Once you shape up the home-made wire reel described in that Change 2, you'll be ready to roll.



SCREEN YOUR TROUBLE



The lights are out ... the projector is running ... and the maintenance crew is in trouble.

And the instructor is passing along some solid info on maintenance. But even as the instructor points out a few things on the screen, he himself may have forgotten a lesson or two about those BM-1 or BM-5 screens. Or any screen, for that matter.



Which is. Never use anything as a pointer that'll leave a mark that'll have to be washed off—nagans, chalk, silver pointers, etc.

Any time that water or chemical has to be used to remove spots from those BM-type special surfaces will be permanently spoiled. Wash 'em clean up, of course. 'Til the lights go out and the projector is turned on.

HORN OF PLENTY



Any time a radio operator puts an ear to the horn of the *Ammono*, AA-673, TPO-11 on his Tippy-Over Garage (A.M./TPO-10) there's a chance he might hear a new note or two.



And it could be coming from the IFF antenna reflector elements inside the horn's cone. These reflectors are cutting more than 100 rods averaged side-by-side that aim the IFF signal.

If they are broken or loose or otherwise out of alignment—then the strange sounds will come from the gear trying to read the signals! And anyone with a wrench and too much pressure on the external cap nuts that hold these rods in place can scramble the signals and the whole operation.

What goes on is something like this: tightening these nuts on the outside of the horn cones can tighten the reflector rods inside to nuts and shift position.

This happens because the cap nut is tightened already on the (shorter) end of the rod itself. The much greater one really snags the rod—causing it to fall over against its neighbor, the fall against the cone's lip.

This leads to a flat in the lead horn cover just in front of the IFF antenna

to correct an angle. If this would cause your IFF antenna and associated signal to end up way off the beam—but you're in a jam. Which results in wild errors. It's a shared maintenance man who looks from his horn cover then to pull a similar procedure maintenance check.

And next time you're tightening around on the Tippy, feel the reflector and nuts on the outside of the cone. If they're snug—and the set's been humming along OK—put on to something else.

But if they're loose, it takes only a

minute to lift the cover off and spend a few more minutes snugging up the nuts. And since these nuts will be slightly visible while you tighten their nuts, there's no risk that they will be stripped off or wind up out of alignment. The result will be every note from the horn.

Of course, when you're connecting the IFF RF cable to the horn, never apply too much pressure. Finger tight is fine. The main reason could ruin your IFF dipole antenna or it makes the reflector—making the whole work into a scramble.



DUST MUST

A "must" for dealing sometimes is "don't."

A word of explanation about this.

Twisting a knob across the panel of some portable radio-



equipment, if a warning, or a sign, or a sign of dust—but the sign was the frequency setting. First to see the dust job'll after the equipment is shut down.

BEFORE AND AFTER



Has your Corporal made you into a head-scratching situation with your BR-400-70 and BR-400-70 hamradio? Some one could get some batteries ... and it would be had a warning tag attached to them. You know the owner is telling you about changing the battery.

The tag didn't look right to me, so I got to be used that and then, here-though ... they didn't say the same thing.

One tag read this way: "Warning. Remove screws and gaskets from front panel before charging. Insert front plug supplied before charging."



"The other one said: "Warning. Remove screws and gaskets from front panel before changing. Insert front plug supplied before charging."

The "before" and "after" tag was the sharp-eyed guy in TM 11-414 and he found out that the tag that said to put the front plug in before changing was right. And it will be.

Dear Billie,

What you said in #5000 about the H-5000 Header came through 1+5. But here's another angle on keeping those headers cool.

As it hangs in its cradle on the H-5000/TSC, the microphone end of the header set of wires sags into the exhaust vent on the control panel. And it gets plenty hot. Hotter than it should.

So we just hang the H-5000 at an angle—while that microphone end hooked around the side of the receiver during operation. It's just about an ounce, and keeps the hot breath of the exhaust vent off the microphone elements.

Anytime the set is shut-down—we let 'er hang straight down.



#504 John Wardlaw
SFD 676

(500 Water Cool, Large, wire and vent.)

EXTRA LEG

A back wheel support at the right place always comes in handy.

And sometimes it's downright important.

Like whenever you're setting up a PL-2500G or PL-3500G in the field. Each of these units weighs over 2,500 pounds—which is close to capacity load for the H-5000 cargo trailer.

So always make sure the support leg at the rear of the trailer is lowered into position and secured. Take care of that simple operation as soon as you've forward the same wheel in position.

Without the leg, the trailer might just go into a roll (or even close somebody climbs into the rear section. And



in any event, the leg helps reduce vibration when the units are carried around sparse your walk, too extra gig.

STRICTLY UNDER THE TABLE



When it comes to under-the-table desks, there's one worth checking on your AM/COM-45.

Trouble is, a man usually has to get under the table to see what kind of a deal he has . . . good or bad. The thing to check here is the TT-564/00C (Performance Transceiver).

It sits on an aluminum shelf inside the desk, along with the rest of the Agony 45 components—and the whole works has to hang on tight when the heavy desk takes off your money. Or signature.

The aluminum base that the equipment-organisms is bonded to really has to do a holding job. And the TT-70 is held in place because shelf-by-four holes with their accompanying lock-washers and flat steel washers.



The bad part of the deal is that sometimes these flat steel washers are left off the equipment. Just never get put on. Not on all Agony 45's, but on some. When that happens, the lock-washer comes directly in contact with the aluminum shelf.

And its sharp corners tend to cut right through the aluminum base when the humming and vibrating starts.

Check under the shelf to be sure these four washers are in position—and in each corner. A quick look so bad will tell the story. If any are missing, reach a hand into the file and come up with

WASH, S&S, and, if it's not, PA 511-514-402. Or any other that'll fit, for that matter.

With these in position, just set up, have the desks from down 'til dark without risking a tipped base or loose mounting.

LONG-RANGE IDEA

Dear Editor,

RC-112 antennas are real great for extending communications with the JMWAVE radios over a long distance. However, not enough of these antennas are manufactured for use in all extended range radio nets.

You can make 75, 80, or, with three leads and four threaded RC-112 mast sections, the antenna should be about eight inches long.

The three mast sections of three mast sections to the one so that they form a 45 degree angle with the base plate of the one. A diagram is your best bet for building.

This field-expedient RC-112 was designed by PFC Randolph Langworthy of the 67th Signal. It is electrically equal to a normal RC-112 and can be used in a similar manner.



With a small pair of tin snips, make a hole in the bottom of the one so that it will receive the antenna mast (see 48-1). Then you mount it in the mast section.

The completed antenna can now be mounted on a pole or other device so that the attached ground plane mast sections clear the ground by at least several feet. A 10- to 15-foot wooden pole does a good job.

Thought you might like to pass the idea along.

Captain George Duglas
In Charge OR
APO 616

(Ed note: SP4 Dr. Captain. An excellent field expedient and one to keep in mind when the real item can't be had. Units that have a permanent need for the RC-112 shouldn't hold their breath by filling the gap with a substandard gadget, no matter how good, that if mission and tactical considerations make use of an RC-112 desirable, initiates a recommendation for a change to the TOE. And while you're waiting for a changed TOE, you might get 'em authorized temporarily under Change 1 to AR 717-3 dated 4 May 55.)

1000-GALLON WATER DISTRIBUTOR



With the arrival of Cold Mean Winters, equipment like your water distribution tank special handling. While normally you wouldn't operate your distributor at temperatures below 32°F, it has to be protected and there are several exercises that should show up billing on your cold weather PM program.

WATERING

1. Flush the unit completely after use. You do this by opening the valves and running the water tank and pump thoroughly.

147077 0000

01.00 0.00



CONTROL VALVE 147077 0000

01.00 0.00

PUMP, TANK 0000 147077 0000

1. Flush out the pump housing, control line, and discharge line with clean water.

2. When you are done lubricating and inspecting Cylinders, Engines, Transmissions, Switch 1 Switch 147077, Set 147077 about 1/2" through the pump to force out the water remaining in it.



4. Fill the upper fuel tank to set down the weather combination. (The water in fuel lines freezes and forms an crystals that'll plug fuel lines and carburetor jets.) Fuel is distributed in multiple strokes at the rate of one-pull to every 20-pull of fuel. You use the upper for several minutes to distribute alcohol through the fuel system. This'll help keep the combination from freezing and clogging the fuel system.



1. Locate the exit end of the weather rating system, building, or fill as a windbreak.

JOE'S DOPE

THE BRIDGE OVER THE RIVER "Y"

"Yeah! ... That's where they want it ... and it being close they don't care. So, we're gonna' set goals at 10:00 for a New Year's present ..."

"Why? Cause this bridge is right in the enemy's hard part, that's why ..."



"Man ... It's already got things dropped across, and with them heading the other end ..."

"... It's gonna' be pretty close, good close. You can't see the bridge from here, but you can see the bridge ..."



"SO YOU'LL GET THE BRIDGE IN CASE WE CAN'T GET IT ..."

"I WANT THAT BRIDGE BECAUSE WE CAN USE A BRIDGE TO GET TO THE BRIDGE ..."



"It's not enough ... There they were and I hear there's plenty of Jerry stuff right behind 'em. All we can do is to be ready ..."





That's life, you might need a ... T-26 operators and mechanics did a great job keeping old gear in shape at some deadline.



TOM
THANKS FOR THE INFO!

THANKS FOR THE INFO!



THEY
THANKS FOR THE INFO!

THANKS FOR THE INFO!



why thank... that's what I'll have to make sure you're in the top priority class coming up!

THANKS FOR THE INFO!



ANOTHER

THANKS FOR THE INFO!

THANKS FOR THE INFO!



AND A THIRD

THANKS FOR THE INFO!

THANKS FOR THE INFO!

THANKS FOR THE INFO!



THANKS FOR THE INFO!

THANKS FOR THE INFO!



OH DEAR!

THANKS FOR THE INFO!



THANKS FOR THE INFO!

THANKS FOR THE INFO!

Joe's Dope Sheet

Use DA Form 574a to let support know when you replace or put a new attachment or component on your equipment so THEY can STOCK accordingly!

OH YEAH, AND HOW WAS SUPPORT SUPPOSED TO KNOW THAT YOU HAD A DIFFERENT TYPE CABLE CONTROL UNIT ON YOUR DOZERS?



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

ER... "LADDER"
GUY... 1973...
1974-1975.



WHICH IS NOT
ENOUGH, BUT OUR
HEAVY BIDS ARE
SCRAMBLING THEM,
BEFORE THEY
IT DOWN.

WHAT ABOUT THE OTHER
CONTRACTS THAT WE DID
NEW MILITARY OPERATIONS
COULD NOT LAST LONG, WHEN
MEANT NO RIGHT NOW.

AND WITH BIDDING MUST
WENT TO BIDDING, THEY
CANNOT REPLACE THEM.
BID-CHANGING THEM'S
MORE FREQUENT.



NOW... CONVINCE
EXPLAIN.



YEAH-
NOT DIVING,
SAY...
SAY...

THEY DECISION WAS
A DIFFERENT MAKE A
MODEL THAT BY ONE
THAT CASE WITH
THE CHANGE... AND?



BUT DOES
ANYBODY ELSE ARE IN
WITH A B-T&F... GO
HOW THE BIDDING DID
I KNOW TO OTHER
REPLACEMENT
PARTS FOR IT...



HOLD THE FEET,
CAPTAIN. LEAVE-
CHECK OUT
GROUP, IF FIND
OUT THE BODY
THESE.

On 11 May
1967, I got
shoved down
by some
incoming F-4's
remains...



WAKE UP! YOU ARE
MOVING FORWARD, AND YOUR
CREWMEN WILL BE CAPTURED
UNLESS YOU MOVE TO
THE REARWARD.



I KNOW IT'S NOT IDEAL, DO
MUCH GOOD NOW, SIR... BUT
I'LL BRING YOU IT DOWN TO
THE REARWARD IF YOU
DON'T BY 5 O'CLOCK... WE STILL
DON'T HAVE TIME
FOR THAT, SIR.



WE'LL BE STOPPED
BY THE BRIDGE.
SIR, SIR, THE
LOOKOUTS!

BRIDGE,
SIR.



Remember
... all
... another scene
was needed
... across from
... whenever an
... aspect of the
... story ... that
... left us with
... and
... they? They
... didn't ...
... long ... when ...

WELL, LET'S START ALL OVER
AGAIN, AND GET THOSE
D-TAGS WORKED UP ON
THESE GUYS. IT'S THE
LAST CHANCE, AND WE'VE
GONE THROUGH EVERY
ONE OF THEM, SIR!



SIR,
SIR!

WELL,
SIR!



IT'S TIME TO
REPOSITION,
SIRRY
SIRRY!



HIT THE
BRIDGE!



CLICK



WELL, IF THERE ARE
QUESTIONS ABOUT WHY
D-TAGS ARE
IMPORTANT...

HEAVY TRUCK PROBLEMS

Dear Mail-Man,

Local state police tell me our 30-ton trucks are too big for some of their dirt/pet gravel roads. I remember reading an Army Regulation on military vehicle size and weight limits. Can you tell me where to find this info?

CWO M. M. F.



Dear CWO M. M. F.,

You'll find AR 11-462 (11 Nov 59) has the info on moving events of overweight vehicles, etc.

This AR limits to one that no vehicle bigger or heavier than allowed by state regulations will move over public highways without permission from the state authorities.

To get this permission, except for local roads, your transportation officer

file our DD Form 1355 (Request for Convey Clearance) and 1356 (Request for Special Handling Permit) like it says in the AR.

The AR also applies to long distance movement of 30 or more vehicles in a column or the dispatching of 30 or more vehicles per hour to the same destination over the same route, even if they're not oversized or overweight.



COVER YOUR ROOF

Dear Mail-Man,

Our Nike-Mercedes site took a beating from a windstorm not long ago. And when it was over, we found our ripped truck radome covers and a couple of busted fiberglass rods that support the covers.

The problem is . . . how do we get new covers and rods? I don't see them listed in TM 9-1410-100-200's.

1st T. E.

Dear Sergeant T. E.,

They're in TM 9-1410-100-200's 14 Dec 59—that's the issue. The cover's listed under P39 1410-104-0490 . . . the 144-in long rods under P34 1410-103-7482 . . . and the 200-in long rods under P34 1410-111-7483.



RETRACT AND USE JACKS

Dear Half-Mast,

The way I read the safe-load data plate for the M&C beam—Fig. 11 of TM #8028 (11 Jan 51) and can increase the safe load for the beam by using a three-part line. Right, long?

I need this extra lifting capacity for inside jobs.

Mr. E. A. A.

Dear Mr. E. A. A.,

The answer is NO, as the right data plate tells you. But there is a way.

Fig. 51 of TM#8028 lists the M245. Fig. 60 gives the safe-load data for the M&C. Change 1 (11 Mar 50) under TM was this straight. It's also a good idea to check this against data plates on the vehicle to make sure they're right.

Your M&C data plate tells you when to use the three-part line. But a three-part line just divides the load between the different parts of the line and helps make the lifting smoother.

No matter how many parts in the line, the beam carries all the weight. So . . . you make the safe load limit for



the beam by retracting it and by using the outriggers and beam jacks.

Make sure you retract the beam and place the outriggers and beam jacks just like the TM and the data plate tell you.

Trying to increase the beam capacity just by adding parts to the line will get you nothing but a loaded beam.

Half-Mast

NO SADDLE FOR DEAD HORSES

Dear Half-Mast,

In #53 you show some cable clamps put on clip way.



Dear Lt. J. P. B.,

The TM is absolutely right. Clamps should be put on this way because they give more holding power.



The D-170 says to do it this way.



In what place, please?

Lt. Lt. J. P. B.

I . . . oh . . . er . . . guessed in #53. You never put the middle (U-bolt clip) over a dead beam (beam end of cable).

Half-Mast

HERCULES, TOO

Dear Half-Mast,

In F2 issue 88 you showed how to make a tool that could be used when you want to raise the Nike-Apex launcher without a vehicle around. What do you think of using the tool on our Hercules launchers?

ASgt S. L.

Dear Sergeant S. L.,

TS 5-1488-158-10/7 (15 Apr 68), which talks about hydraulic system checks and air-bleed procedures, tells you to put an empty launching rail on the cradling arm before you raise the launcher. But, if you have a tool that'll push down the rail in the T-track so's you don't have to use the launching rail ... then you're in good shape. And the tool in issue 88 will do the job on the Hercules.



Make your pin a red flag or marker—12 inches is a good length—to be handy to remind you the tool's on the track.

Half-Mast

GABLES DIFFERENT

Dear Half-Mast,

What is the difference between the ramp door hoisting cables for the M35 Armored Personnel Carrier and the M99, 4.2 inch, Self-Propelled Mortar? And can you interchange them?

CWO J. W. S.

Dear CWO J. W. S.,

The M99 APC takes a 3/4-in cable, the M99 Mortar needs a 1/2-in cable, and they're not interchangeable.

The cable authorized for the M99 has a maximum breaking strength of 21,000 pounds and goes by the name of Linkage, Cable Hoists, Ramp Door Hoisting, P/N 2148-192-0084.

For the M99 you need Cable Assembly, Ramp Door Hoisting, P/N 2148-853-1861. Its maximum breaking strength is 14,000—not heavy enough to handle the M99.

Half-Mast



WELDER'S LENS



Dear Mr. Editor,

We find that the lens (OSH 4248-273-8000, Chem-Coop) for the welder's helmet doesn't always give good eye protection.

We've used some of these lenses that worked fine, but on a recent electric welding job, two welders suffered severe burning of the eyes. They had to make a quick trip to the dispensary, and the welder pulled them off the welding job.

Apparently this lens is OK for some people, but not strong enough for others.

Can you tell us why some aren't supplied with several shades of eye shields for the welder's helmet?

Dear Mr. Editor,

The lenses from your reader's survey in shade Number 10, it's OK only for welding and cutting jobs using from 75 amps to 200-amps.



For jobs using more than 200 amps, welders must use lens shade Number 11, 13 or 14. Lens Number 12 (OSH 4248-273-8000, Chem-Coop) is available in supply. And your supply says your reader can order the darker lens (shade Number 13 and 14) on local purchase from the International Union.

Mr. H. E. P.



In case your shop doesn't have TM 9-137, "Welding Theory and Application" (19 Oct 54) might be a good idea to ask your publications people to get a copy so you readers can have it.

Also, check with your nearest Chemical supply store for a copy of Federal Specification GGG-11-201a (19 Feb 55). This'll tell you which shade of lens to use with the different strengths of light you get from different arcs.



SNUFFER WON'T SNUFF



Why bet on the long shot when you can bet on a sure thing? And that would be a long shot if you walk your MHA of flame detector unheeded, make a wrong turn-around in a minute without weighing your needs for extinguisher.



Could be that you wouldn't need a full extinguisher but it's a sure thing when you check it before you go and make sure there's enough carbon dioxide to snuff the flame.

The empty and full weights are stamped on the valve body as you can

see by weighing the extinguisher just how much carbon dioxide's left. The 5-1048-108-18 says there are about 125 lb. of stored foam in a full extinguisher. So if, for example, the extinguisher is half full, you have half as many foam lb.—about 62.

WHIPPING ROSE

You'll get a whipping if you don't load the warning.

No doubt's no whipping post around these days but the secondary fuel vent hose of your MT41-6 Bane thruster manifold, main ammonia burner mounted will do the job.

When the pressure in the secondary fuel system is being vented, have your helper get a good grip on the vent hose (outside the nozzle) or it'll go jumping around, and if your buddy's in its path he'll get a lashing.

Something'sam picking up some work get somebody to hang on to the hose tight before you vent the container.



KEEPING COMMERCIAL CYLINDERS OUT OF THE FIRE BY COMPRESSOR...

HIGH RATING

When you use the MT41-6 Bane thruster manifold, main ammonia burner mounted will do the job.

Keep commercial cylinders away from the compressor on your MT41-6 Bane unit. She's too powerful for them now.

Change 2 to MPWD 1-541-05, 1-110 (2nd 77) increased the compressor's pressure delivery rate from 1,000 PSI to 1,200 PSI. And most commercial cylinders, as you well know, are rated from 1,000 to 2,000 PSI.

To pass the word along, promote The MT41-6 Bane's compressor to be promoting mechanical flame thrusters. His on



using for for charging commercial cylinders.

Something else you can do is pack up your MT41-6 Bane commercial cylinder filling line assembly (MT41-6 Bane 1-541-05/1-110). Mark it "DO NOT USE", and run it as usual.

MASK MIKE-PLUG

Your M14 gas mask (PN 240-300-8700) may have a female connector plug on its microphone cord.

Take a quick look at your M14 right now . . . if the mike cord has a male connector plug for your Signal support unit know about it right away. They'll fit it up with a female plug. That's what your M14 needs so the mike can be plugged into a combat vehicle's inter-com system.

If your Signal support unit isn't handy, any first class mechanic can get it OK to perform this simple surgery on the cord. The female plug the cord needs is PN 9845-416-4000 (Fig 1).

Only a few M14's got out with male plugs, but check yours right now and be sure yours is OK. Latest production masks have the female plug.



M241 PORTABLE FLAME THROWER

You're bound to run into trouble sooner or later if you work in water—the spring case assembly of your M241 or M241-7 portable flamethrower is no exception.



The inner ends of the spring case assembly are coated with a special preservative oil which gets dissolved when you dunk the assembly in solvent. When you get out in the assembly—and it's hot it.

When you want to clean the assembly you wipe the outside with a cloth that's been soaked with solvent. But remember you take it with PE special after you've cleaned it.

ARMY AIRCRAFT

DO NOT
REPLACE BY
ANY OTHER
TYPE UNLESS
SPECIFIED



CHOCTAW CHECK

Recall those last inspection of Choctaw (H-34) main landing gear tubes yet? TMC message TCMAC-8H-34-83-0000H went out worldwide asking everybody with one of these tubes to make a magnifying inspection of the tube IFM 24025-8012H in a one-time deal.

So come news periodic, pull back the left and right tubes, like the -J says, and replace any bad ones. For every bad tube you find, there's supposed to be a CR (DA Form 1279) on its way to the engineering people "in memory of."

"TMC Message, TCMAC-8H-34-00-0000H told you when to do it and how. TMC Message, TCMAC-8H-34-00-0000G gave you additional instructions on how to carry out the inspection more thoroughly together with added information for a one-time deal. So, if your Form DD 829 does not show you have complied, Do It Now!"



DON'T FORGET THE UR!

THE BIG AFTO CONVERSION

Dear Half-Bro,

I ran by PM [?] that a new numbering system is going into effect on Army aircraft publications. But I still haven't seen any of them. Meanwhile, what's the story on using TO's put out by the Air Force? Is there going to be a list put out on which ones are authorized for our use and how can I identify them under the new system?

It's no secret that a lot of us just follow our boss in the field—are using whatever we can get our hands on for info, which leaves an wide-open for a good shooting down. Personally, I figure this is better than endangering someone else's life by printing my own work.

DN E.C.E.

Dear SP-6 C.B.,

Things are finally coming YER, with a good high priority system coming out of TC to clear away the clutter on publications. Besides the new multi-part manual system (TM 11-series), there's a big AFTO conversion program underway.

TC realizes that the limited TM 1-series didn't cover all the necessary TO's that could be useful to Army aviation. So it's making another big scale conversion from the AFTO to the TM

1-series. Since putting them into the Army publication system is multi-part manuals would mean converting the TO's. TC's handling up the conversion by making in the interim TM-1 numbering system.

For you, this means less trouble identifying them, because they'll show up in the Army index with a TM 1 in front of the AF number. Of course, the publications that cover more than one form of TC air equipment may also show up

as TM AVW's. And some of the joint equipment publications will be under Engineer control, while others will go into some under Signal Corps responsibility. So they'll be listed as TM 1's (Eng) and TM 1's (Sig) in the Army index.

These AFTO's being converted by the other six services will be changed over directly to the multi-part numbering system. But the limited TM 1's used for the companies' handbooks and other compliance work become TM 20's and AFPO 10's immediately. Eventually, the TM AVW's will be expanded by TM 5's.

Could it that AFTO you always wanted permission to follow is already printed up as a TM 1-series pamphlet and you don't have to—because this quick and conversion has been going on since

the beginning of 1958. They're showing up in bundles in the latest DA Form 501's, "Index of TMs, TF's, SF's, LF's and SWP's," and its changes.

An even quicker way to keep up with them is to ask your local publications work room people for regular copies of the AG Publications Change Bulletin. They make a good cross reference with the Index Index, because the Bulletin says just one weekly . . . and drops right at the top of the Bulletin that you can ask the work making out your DA Form 13-series (Request for Initial Distribution of Publications and Blank Forms) right you request the Bulletin.

Half-Bro



HOW TO GET AIRCRAFT PUBS

Accident investigators do not—repeat do not—approve leaving the witness or mechanic involved until they do not follow the manual because he didn't have it.

It's a pretty sad story when there aren't enough of each -1 to go around for individual members of aircraft... or the -2, -4, -5 and -6 copies are low and the indexes... or nobody's seen the latest TM changes or revisions. (See PMS for the dope on the new 3-part manual numbering system for aircraft pubs.)

NO PUBS... NO GO—

Besides being a familiar story, it turns out that the cause is usually the same each time it happens. Everybody's so tied up with his own job he doesn't have time to understand how the Army system of ordering publications works. This means you'll keep embarrassing you can't do the job right without the pubs.

The closed cover seems to be caused by a necessary front arising from the difference in characteristics of the two forms used to order publications. The one being used here is the DA Form 17 (Regulation for Publications and Blank Forms). It's only used for regular and special types of requisitions.

Besides the DA 17, publications mechanics also use the DA Form 11-series (Regulation for Initial Distribution of Publications and Blank Forms). This series is used for initial and change types of requisitions.



The big difference between the two is that the DA Form 17 has the specific publications needed, while the DA Form 11-series indicates a quantity for each type and category of military publication.





THE 11-5 FORM
ALWAYS HAS
A "TOTAL" COLUMN.

THE 11-5 FORM
ALWAYS HAS
A "TOTAL" COLUMN.



DA 12

DA 12-1: GENERAL INFORMATION

1. THIS FORM IS TO BE USED FOR THE PREPARATION OF THE 11-5 FORM BY THE UNIT COMMANDER OR HIS DEPUTY. IT IS TO BE COMPLETED BY THE UNIT COMMANDER OR HIS DEPUTY.

2. THIS FORM IS TO BE COMPLETED BY THE UNIT COMMANDER OR HIS DEPUTY.

3. THIS FORM IS TO BE COMPLETED BY THE UNIT COMMANDER OR HIS DEPUTY.

Breaking it down further, the particular form Army aviation people are concerned about is the DA Form 11-5 part of the series. This form is used to estimate the total number of publications

your local stockroom figures it needs to support each type of aircraft located in your area . . . and they've got to get the information from the horse's mouth to be accurate.

DA FORM 11-5, (PREVIOUS EDITIONS OBSOLETE)		11-5		11-5	
UNIT INFORMATION					
UNIT	TYPE	QUANTITY	REMARKS	DATE	INITIALS
101	101	10	10		
102	102	10	10		
103	103	10	10		
104	104	10	10		
105	105	10	10		
106	106	10	10		
107	107	10	10		
108	108	10	10		
109	109	10	10		
110	110	10	10		
111	111	10	10		
112	112	10	10		
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246	246	10	10		
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248	248	10	10		
249	249	10	10		
250	250	10	10		

DA 12-5

BY THE WAY—

The form is further broken down by maintenance sublevel. So when it comes to filling in the "Operator" and "Crew Member" instructions" column on the

11-5, do they know through command channels how many of each -4, -6, -10 in the new numbering system) you need to cover each type of aircraft

you've been issued anti-aircraft publications are cheap compared to the cost of the blank—why not order a personal copy for any aviation who want them?

The next column on the 11-5 is "Organizational Maintenance Instructions" or . . . how many copies of the -2, -4, -6, -25 and -26P should be hanging around the hangar for your organizational mechanics and supervisors. The same kind of figuring goes on at higher echelons for the "Field Maintenance Instructions" and "Depot Maintenance Instructions" columns.

ON TO THE DEPOT—

Then the 11-5 goes up to the AG pole depot to advise those people how to set up initial distribution on your job installation . . . or when to change it. A change is real simple. The local stockroom just makes out a new 11-5 and attaches it to the basic DA form 12, which is used at the command or crew sheet.

With the right figures on the 11-5, there should usually be enough pole sent down to your stockroom for automatic initial distribution to all units. But if you don't get enough of a particular new job to fill your units requirements, then you have to order more from your stockroom on a DA 17. That forces the stockroom to go back to the depot with a DA 17 of its own.

ORDER PLINTZ—

Actually, this procedure is a waste of time, because enough copies listed in the proper column on the 11-5 will make sure you get enough to go around the first time, along with the other aviation materials being supplied out of your

The final word on distributing pole belongs to your commander. So let's up to his G-3 to let the stockroom know the man on operations' manuals 1-171 while his G-4 will show the way on the maintenance pole. But all they pass on to the stockroom is a figure for each applicable column on the 11-5. This figure's based on the G-3 or G-4's experience as to how many copies of a type of publication will cover all the aviation functions, companies, and detachments your stockroom supplies . . . together with what you will want.



stockroom. Then you and your stockroom will be able to cut down one of the DA 17 to merely ordering replacements on pole and Mark Forms that have been lost, worn out or used up.

Instead of using a DA 17 to tell your stockroom you're getting too little or

too much of a publication, it's a lot easier—and more permanent—to tell your G-3 or G-4 you'd like the ID changed on the ID-5.

Don't forget that your ID requirements can change due to actions such as receiving a new model or type of aircraft, losing some old models or types, increases or decreases in your TOE or TA equipment and personnel . . . or being assigned special missions. The more the need goes on your pub rackman, the more the ID-5 can be changed.



YOUR SPECIAL ID—

Many times the best ID formula won't always give you all the publications you need all the time, the DA IT is still used to fill in the gaps. For example, a Special acquisition on this form should be used to get you the needed pubs after an incomplete ID-5s you might be a newly activated unit wanting to be everything you need to get started . . . or maybe establish new pub requirements for a special "one-time" job you've been assigned. Then you'd use the DA IT.

1. TITLE OF PUBLICATION (If not known, give the title of the publication you need)		2. DA FORM NO. (If not known, give the DA Form No.)		DA IT
3. PRIORITY (If not known, give the priority)		4. DATE (If not known, give the date)		
5. QUANTITY (If not known, give the quantity)		6. COMMENTS (If not known, give the comments)		
7. DISTRIBUTION (If not known, give the distribution)		8. ACTION (If not known, give the action)		
9. APPROVAL (If not known, give the approval)		10. DATE (If not known, give the date)		

Of course, every "Special" needs some sort of justification. When you don't think any of the reasons mentioned so far are the right ones, check AR 118-2 (1 Apr 55) for a guide. Para 33 defines a "needed" pub and para 40 explains both the standard and alphabet distribution formulas you find at the tail end of general and administrative type pubs.

Naturally, no DA IT is going to do the job correctly unless you pay attention to the instructions on the back.

BETTER RECORDS MAKE

There was this bright young sergeant who was sitting in a canteen. He caught so many fish he decided to mark the spot so he could find it the next time out. So he made a big X on the bottom of the boat.

Trying to pull maintenance in the Army without records is pretty much the same thing. You not only don't know where you're going, you don't even know where you've been. There's just no guarantee "boats of minutes."

Used to be, an informal eye would have had them would do it . . . but no more. The Army's become too professional and complicated for the run-of-the-mill approach to record keeping. No longer are leaders about to you've got to keep 'em . . . and keep 'em right!

The big problem is that you've got so much to do records to keep track of and not many people who understand them. The only way is to sit back and think for a minute about the whole thing.

KEEP THE BOOK

One of the big mistakes you can make is thinking such forms has to be captured or maintained in some publication. Not so. Every form assigned a Federal Department of Army, COMUS or field army, or installation number carries its own authority . . . with your commander deciding on its use.

RESPONSIBILITY

Each commander's maintenance responsibility includes "records" (Change 3, 11 Dec 58 to AR 780-50).

The same commander knew the two word letters conditions are never exactly the same throughout the entire Army, which a large command or individual army area, or even from one post to another. So forms are filled out differently in some cases to fit local maintenance needs.

If you're not sure exactly why a certain form is used you can't be sure you're filling it out right, right? Trust US . . . then listen carefully.

BETTER MAINTENANCE



ELABORATION

If nothing's been written on a particular form, lower ratings come down on the ball. In other words, without a signature, date, time, local SOP, bulletin or memo, you're on your own. But you'd O. If somebody shows you doesn't like your way, he'll write up his way . . . and that becomes your way.



WRITE THEM



NO MORE

Without a written guide, just remember that records should show information on the condition of your equipment . . . to the people who have to buy new equipment can figure about.

Good records also show reliability, or how well the equipment's behaving.



1. History of the maintenance needed both in time
2. If trouble is always equipment things, reports of the equipment
3. What tools are needed
4. How many of which parts parts to stock at replacement level.
5. Percentage of problems in each item.
6. The cost of maintenance.

Records changed and modifications applied . . . so if you get the equipment from another unit or transfer or move in you'll know what's what.



ACCURATE AND CLEAR



Remember records are a waste of time . . . they don't give the information they're supposed to and may create more harm than good.

IF THAT'S ALL SHE'S ASKING

One form can't hold all the needed info without getting too long or complicated. So it takes a few to tell the full story. That's why some forms are:

- 
1. **History type records** . . . list modifications, component changes, overhaul, expenditures, etc. They tell how things have in a sense, depending on equipment size and number of parts.
 2. **Operational type records** . . . guide you in selecting equipment for your use, show normal and unusual usage patterns, tell you when to schedule maintenance.
 3. **Inspection and tests type of records** . . . get your maintenance on a scheduled basis for an even workload distribution, let you profile equipment availability.
 4. **Inspection type records** . . . don't let equipment go too long without a checkup, give you follow maintenance info.

Along with operational type records, but less directly connected with maintenance, there's plenty of unassociated types. For example, parts records show you how your supply situation affects your maintenance and related activities. Unsatisfactory reports on equipment, reports of injury, statements of charges, accident forms, etc., are cross-references useful for your safety maintenance files to help explain unusual situations.

Licensing and qualification records for operators prove that only an checked personnel use your equipment . . . and they're responsible for its reliable maintenance during equipment operation.

LEARNING THE HARD WAY

Prevent record keeping is one of the best incentives for correct inspection. But inspection can also be helpful. If you're doing something wrong, you'll get flagged. At the same time, you can ask for a check on correcting the gig. That's part of the inspector's job.



THE MTRB UNIT

Each overall Army responsibility for equipment belongs to one of the nine unit services, see your support unit. Rained them down the word service in the title unit service. You can get information in the maintenance of forms and records through the individual unitary programs of the various unit services.

Your head-G-4, or S-4, through channels, is the maintenance policy source. And then there's Sgt. Hall-Main.

Here's the list of maintenance and many associated forms used at organizational levels:



ARMY

- DA 21-184 Daily Reporting Record of Motor Vehicles
- DA 285 Report of Incidental Accident
- DA 401 Preventive Maintenance Report
- DA 408 MM (Maintenance) Equipment Report
- DA 479 Operational Equipment File (Paper File)
- DA 501 Work Report and Job Order
- DC 6 Report of Damage to Property - Report
- DC 111 Vehicle and Equipment Operational Report
- DC 214 Preventive Maintenance Schedule and Record
- DC 217 Preventive Maintenance - (on-site Office - For Units and Services)
- DC 794 Electronic Vehicle Report
- DA 7021 Recommended Changes to DA Technical manual parts list or supply manual 1, 2 or 3

ORGANIZATIONAL - FIELD USE

- DA 441 Quarterly Maintenance or Spot Check for Wheeled Vehicles - Wheeled Tractor
- DA 442 Quarterly Maintenance or Spot Check for Tracked Vehicles - Tracked Tractor
- DA 1745 Tracked Vehicle and Equipment Operational Report
- DA 1746 Quarterly Maintenance or Spot Check for Government and Fire Control
- DA 1747 Current Work File
- DA 1748 Equipment Status and Condition Report
- DA 1770 Report of accomplishment of Ordnance Modification Work and Release Date
- DA 1796 Report Date Record of Commercial Grade Vehicles

Always refer to the
 "Index" section
 of this manual

INDEX

- DA 4-27 Also-Service Attachment Control Manual System Daily Check Sheet Acquisition Radio System
- DA 4-28 Weekly Check Sheet Acquisition Radio System
- DA 4-29 Monthly Check Sheet Acquisition Radio System
- DA 4-30 Daily Check Sheet Computer and Recorder Group
- DA 4-31 Weekly Check Sheet Computer and Recorder Group
- DA 4-32 Monthly Check Sheet Computer and Recorder Group
- DA 4-33 Daily Check Sheet-Warehouse and Supply Truck Radio Systems
- DA 4-34 Weekly Check Sheet-Warehouse and Supply Truck Radio Systems
- DA 4-35 Monthly Check Sheet-Warehouse and Supply Truck Radio Systems
- DA 4-36 Equipment & Inventory Control Manual System Radio Daily Maintenance Data Sheet
- DA 4-40 Radio Preventive Maintenance Data Sheet
- DA 4-41 Inventory Daily Maintenance Data Sheet
- DA 4-42 Inventory Preventive Maintenance Data Sheet
- DA 4-43 Computer Daily Maintenance Data Sheet
- DA 4-44 Computer Preventive Maintenance Data Sheet
- DA 4-45 Radio Set Daily Maintenance Data Sheet
- DA 4-46 Radio Set Preventive Maintenance Data Sheet
- DA 4-47 Also-Service Attachment Control Manual System-Air and Oil Servicing of Auxiliary Power Supply-Checklist
- DA 4-50 Fuel Servicing and Operational Control Sheet of Auxiliary Power Supply-Checklist

Check out the latest DA Pam 510-2, "Index of Blank Forms," you'll find a complete list of military correspondence forms, which run through almost numerically, in DA 4-150.

INDEXES

- DA 104 Work Sheet for Preventive Maintenance and Technical Inspection of Engineer Equipment
- DA 1200 Engineer Equipment Operational Record
- DA 1211 Worksheet for Preventive Maintenance and Technical Inspection of Special Purpose Hydraulic Excavators and Booms
- DA 1-21 Preventive Maintenance and Technical Inspection of Air Servicing Equipment
- DA 1-22 Shop Job Order Register
- DA 1-23 Record of Engineer Equipment Requiring Repair Parts Support
- DA 1-23a Change in Record of Engineer Equipment Requiring Repair Parts Support
- DA 1-27 Equipment Data Worksheet for Engineer Supplies and Equipment

CLASSIFIED

- GA 10-101 Workshop for Technical-Handling Equipment—Preventive Maintenance Service and Technical Inspection
- GA 10-102 Army Parachute-Leg School
- GA 10-103 Regulations and Technical Service Manual of Technical-Handling Equipment (Paratrooper) and Special Purpose Vehicles
- GA 10-104 Workshop for Special Purpose Vehicles and Equipment—Preventive Maintenance Service and Inspection

UNCLASSIFIED

- GA 20-101 Manual of Operation for Mechanical Smoke Generator
- GA 20-102 Manual of Operation for Mechanical Flame Thrower
- GA 20-103 Manual of Operation for Portable Flame Thrower
- GA 20-104 Manual of Operation for Power-Driven Demolition/Loading Apparatus
- GA 20-105 Manual of Operation for Mine Suits, Gas Parachute (Collection Structure)
- GA 20-106 Manual of Operation for Working Improving Plant
- GA 20-107 Workshop for Preventive Maintenance of Mechanical Smoke Generator
- GA 20-108 Workshop for Preventive Maintenance of Mechanical Flame Thrower
- GA 20-109 Workshop for Preventive Maintenance of Portable Flame Thrower
- GA 20-110 Workshop for Preventive Maintenance of Power-Driven Demolition/Loading Apparatus
- GA 20-111 Workshop for Preventive Maintenance of Mine Suits, Gas Parachute (Collection Structure)
- GA 20-112 Workshop for Preventive Maintenance of Working Improving Plant

SECRET

- GA 11-101 Maintenance Check List for Signal Equipment—Communications Security Equipment
- GA 11-102 Maintenance Check List for Signal Equipment—Signal Equipment, Radio, Direction Finding Radio, Carrier, Modem, Modulator & Teletype
- GA 11-103 Maintenance Check List for Signal Equipment (Telephone Set, Handset, Receiver, and Cordset)
- GA 11-104 Maintenance Check List for Signal Equipment (Manual Telephone and Telegraph Control Office)
- GA 11-105 Maintenance Check List for Signal Equipment (Telephone Unattended Staff)
- GA 11-106 Maintenance Check List for Signal Equipment (Teleprinter)
- GA 11-107 Maintenance Check List for Signal Equipment (SST and Motion Picture Camera)
- GA 11-108 Maintenance Check List for Signal Equipment (Photographic Developer, Projector, Dryer, Control & Projection Printer)
- GA 11-109 Maintenance Check List for Signal Equipment (Radio Receiver—Set and Battery Component)
- GA 11-110 Maintenance Check List for Signal Equipment (Flare Apparatus)
- GA 11-111 Maintenance Check List for Signal Equipment (Signal-Generator Unit and Key Unit, Plug-in-Device)
- GA 11-112 Technical Bulletin Report—Signal Equipment



TRANSPORTATION TRUCKS

- 26 1396 Repair Into Record of Commercial Engine Failure
- 26 2218 Post Slip and Work Required

AM

- 24 1051 Army Aircraft Inventory, Status and Usage Data
- 24 1095 Installed and Spare Aircraft Engines
- 24 1097 Installation of Aircraft Identification
- 20 700 Aircraft Inventory Record for each Armed Service
- 20 700-1 Aircraft Inventory Record Equipment List
- 20 700-2 Aircraft Inventory Record Storage
- 20 700-3 Aircraft Inventory Record Certification and Records of Transfer
- 20 701 Aircraft Flight Report and Maintenance Record
- 20 701-1 Aircraft Flight Report and Maintenance Record—Aircraft Flight Report
- 20 701-2 Aircraft Flight Report and Maintenance Record—Aircraft Inspection and Maintenance
- 20 701-3 Aircraft Flight Report and Maintenance Record—Delayed Carrier Emergency Use
- 20 701-4 Aircraft Flight Report and Maintenance Record—Aircraft Ground Idle
- 20 701-5 Aircraft Flight Report and Maintenance Record—Accidents/Incidents
- 20 701-6 Aircraft Flight Report and Maintenance Record—Aircraft Inventory
- 20 701-7 Aircraft Flight Report and Maintenance Record—General Status Classification—Winged Aircraft
- 20 829 Historical Record for Aeronautical Equipment
- 20 829-1 Historical Record—Federal Aviation Compliance Record
- 20 829-2 Historical Record—Significant Historical Data
- 20 1275 Documentary Report

RAISE CRAFT

- 24 10-007 Marine Craft Daily Inspection and PW Service Record
- 24 10-008 Marine Craft PW Service Index
- 24 10-009 Marine Craft Substation Record
- 24 10-010 PW Service and Inspection Worksheet for Marine Craft
- 24 10-011 Boat Repair Checklist for Marine Craft
- 24 10-012 Waddy Battery Test Executive Marine Craft

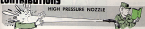
RAIL

- 20 401 Daily Inspection Work Sheet for Motor Maintenance Cars
- 20 401 Quarterly & Annual Inspection Work Sheet for Motor Maintenance Cars
- 20 402 Daily Inspection Worksheet for Diesel/Electric Locomotives
- 20 403 Monthly & Semi-annual Inspection Worksheet for Diesel Electric Locomotives
- 20 404 Daily Inspection Worksheet for Locomotives & Power Units (Form)
- 20 405 Daily Inspection Worksheet for Locomotive Coaches
- 20 407 Monthly & Semi-annual Inspection Worksheet for Locomotive Coaches

Happy Maintenance !!

CONTRIBUTIONS

HIGH PRESSURE NOZZLE



Dear Editor,

Let's show you don't get enough pressure from your washback hose to do a good cleaning job on your tank's exterior.

We came up with two ideas, either one of which will get more work done in your tank.

Take your choice of either picture. Either one will do the job. But the beauty of the nozzle in the second one is it's adjustable—use pressure with the pipe cap on and nozzle with it off.



The Wash Back Gang
Fun Head, Force

(Ed Note—Looks like your rig would be a big help in getting that slummy clay off your tanks. One thing you gotta remember, though. High pressure water is like rubbing alcohol. "For external use only". Use it all you want on hull, exterior and tanks, but not inside the tank. Like TB Owl 240 (4 Jan 54) says, oil/water indicators, signaling and fire control instruments, ain't built to resist high pressure water. The pressure drives some water into the gaps of the instruments and corrodes them. If this pressure does it, you'd right it ought to save you a lot of time and work. ... so, close the hatch and use your pressure hose on outside surfaces only. Don't make any, too, that the water pressure's low enough in the hose can take it. Don't use the high pressure nozzle on engine compartments, submersed vehicles, or guided missile equipment.)

NAME IT

Dear Editor,

We get our share of men just out of mechanic's school, and we don't expect them to be pros at their new jobs.

One of the hardest things to teach a man is to remember the difference between one bearing and another, not to mention the parts that make up each bearing. Any mechanic who doesn't know a part from a hole in the bearing is more from it than of it. Hazard, not a help.

So one of the best ways I've found to tip me off as to what's making me O.K. on his men and who's not was to scrape together a "disgus" collection of every part and thing some "scaree doc" or such gives mecha'nics when he's been repairing it.



I use the same deal for the older mechanics every now and then, too. I figure that a good mechanic ought to be able to not only name the parts he should be able to tell me where it goes and what it does when it goes there.

Some give for every different kind of diameter, kind and rating I can get

my hands on. . . not to mention common hardware items like nuts, bolts, squares, shims, and clamps. If that man can't tell me where to use them, when to use them and how tight they should be—he needs one of my personal re-lecture courses. I don't want him finding around with my equipment and I

know by heart what he's doing.

Next, I grab hold of his tool box and go through it tool by tool—making him aware, when and how each one's used. A little question every now and then helps keep him on his toes.

Then I hit him in another weak spot—knowledge of the manual. Naturally, I don't expect him to remember things word for word . . . just in what section of what manual he can find the answer. There's nothing pricier, from a maintenance point of view, than a shopfull of disgraced manuals covered with greasy fingerprints.

One of the best clues to his a man is about the time he's thinking about his promotion and efficiency record—ask him hard, for his own good. If he got one more Blaggin's Drawers, I know he's a man I can't rely on to tight upon until my teeth do something about it.

After all, a man who doesn't know how to use a torque wrench the right way, or doesn't know where to find the right settings, is no more to blame than I am for not getting it across to him.

I've been pulling down on him when he's not looking checks for spare time and getting much better maintained equipment as a result. So I thought you might like to hear about my methods.



SFC E. Gibson
AFD 717

Old Man—There's an old shop hand that says "A good mechanic is more likely to use the wrong just or the wrong tool than an experienced one." Even the gear system might speed up the "greasing" process, right, a bit?



PS INDEX...GET YOURS!!!

PS INDEX

The first Index to PS Magazine just came out.

It covers the first six issues of 1968—PS #1 through #6.

It's being distributed through your regular publication channels, and you should get one copy of the Index for each three copies of PS your unit gets.

A new Index will be coming out every six months. Each one will index the same six issues of PS Magazine.

THIS WON'T TIRE YOU

Dear Editor,

Changing tires is sometimes a pretty rough deal, but I've worked out a system that takes some stress out of it.

All you do is fill a spare tire with HB hydraulic fluid and squirt it where it does the most good—between the tire and rim all the way around both sides.

After you give the tire this treatment you can slip it on or off in half the time with half the work and no damage to the tire.

HB is one of the few lubricants safe to use with rubber. It's so safe that it's in contact with rubber in brake systems.

**IPC Marine, L. Business
Navajo Army National Guard**

(Ed Note—Easy, it helps, Garry. But why not hard-to-get and expensive PB when soap solution or bar soap is easy to get and works about as well. You'll find the dope on the soap in para 43 of TM 9-283-1.)

THREAD LAYER

Dear Editor,

We have come up with a modification of the wheel bearing nut wrench that should make life a lot easier for mechanics working on any of the GM1-series 1/2-ton trucks.

The problem is that the nut gets warped as it heats and there's not enough room to get your fingers in there to start it straight.

Our solution is to weld four steps evenly spaced about a quarter inch from the top of the wrench. These steps are half an inch long by 1/4-in deep. They hold the nut straight and the nut and wrench stay together.

**Glenn B. Egan
Tombala, Wash.**



(Ed Note—Couldn't like you have a good idea there, Glen. However, if you just do the steps by filing (soldering instead of welding, they'd be easier to get out if you must) perhaps took a few more of your improvement.)



Handpicks shipped

Don't look now, but the handpicks, an experimental tool that's needed on your 1200cc lawnmower M1 A1 and M1A1 variants was left out of Q&A 7, Q&A C-1P. There's an allowance of two handpicks per mower trim or combination. An expendable item, it's Hand-picks, PMA 4700-017-0993.

No break off

You .30 cal. machine gunners who've been told about heavy barrel type chamber benches . . . you're interested. They're still on short shelves just waiting to be called for by the number PMA 1303-508-2589. The manufacturer is Bush, Chamber Cleaning. They were left out of your supply manual by mistake.

Ground's fire area

Did you get change 1 to PA 23-30 (21 July 1962)? It tells you that the M21-series fire seat with the M1, M21 and M30 positive seal procedure can use the primer holder of the base assembly and strike assembly Spring. And, as it takes off, the primer holder'll break up into fragments that'll travel up to 18 miles inland 30 yards. The change to the PA has some other wrap worth reading.

First aid for rubber

First's good because you'll fit the cold-weather boots and pneumatic mattresses so they you can carry it in your tent or bag. Works like a fire patch and is good for small punctures and tears. PMA 8028-043 7420 gets you one from the GAC.

As you were

The GA Form 2816 Recommended Changes to GA Technical Manual Parts List or Supply Manual 7, 8 or 9 is now used for reporting an unsatisfactory job on a stock, requests material. You'll find this in Change 4 dated 1 Aug 62 to your TM 2P-3 (L).

Winterized gas

For happy motoring in freezing temperatures, drain your fuel tank or fuel pump pump, add a quart of denatured alcohol to a 10-20 gallon fuel tank on your rifle. Then add 1/2 pint to every 10 gallons of gas when you get gas later. And every time you drain water, alcohol from the tank or pump shut over again with one quart.

Use Denatured Alcohol, Fed. D-1-7006, Grade B, PMA 4813-543-7413 for 1 gal; PMA 4813 200 0907 for 3- gal, and get it from Chemical. For more details on cold weather motoring read up on TM 9-287 Sept 59.

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

THERE'LL BE A SHORT DELAY...

While everybody concerned with Army Equipment takes a precious moment to resolve that this year all needed Organizational Maintenance is done right and on time.



KEEP TRACK OF CURRENT
ISSUES AND
TRENDS

STAY ON TOP OF
THE LATEST
TECHNOLOGICAL
ADVANCES

KEEP ALL THE
LATEST AND
BEST

DO NOT MISS
ANY OF THE
LATEST AND
BEST

KEEP UP TO
DATE ON
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