

Issue 135

PS

1964 Series

THE
PREVENTIVE
MAINTENANCE
MONTHLY



Beardhead!
wds - maintain
wds - needs
daps - dsl - dsl
dps - dsl - dsl
dps - dsl - dsl
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Connie



The INGREDIENTS OF

If you ever get by postponing with the ladies in the rear, hell and oak, how hell's able to live out those great colors, he'll probably tell you that the secret's in the ingredients. (And if he's not honest sort of guy, hell allow us how the best something to do with it.)

One definition gives this definition of ingredients: "Any of the things that a mixture is made of."

And preventive maintenance sure is a mixture of ingredients: People, Parts, Programs, Plans, Time and Training.

Covering all one ingredient doesn't do the preventive maintenance picture any real good—the matter here must split it into "training" your equipment right from the start, the work of the ingredients fit into your preventive maintenance scheme of things? Well . . .

1. People—

You've got to have the right ones in the right job.



2. Parts—

They're needed if you're going to keep your equipment up to snuff.



3. Plans—

You can't tell what's where without a program, and your maintenance and supply records—the right ones and the latest ones—are your sure bet to what goes where and how.



4. Tools—

You can't put the parts, components and what have you where they belong and perform maintenance without them.



5. Time—

Without it, all else goes spinning . . . maintenance is a matter of time, too, and it takes its place in the mix . . . and the schedule.



6. Training—

On the job, this is something that is always going on. You're never too old to learn . . . and you never know so much that you can't learn some more.



READINESS

PS

Special to you, because it's the only one in the industry that's been around since 1945, this magazine is the most authoritative source of information on the latest developments in the maintenance field.

14 PREVENTIVE MAINTENANCE MAGAZINE
14400 N.W. 22ND STREET TALLAHASSEE, FL 32310

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Get your copy of this magazine today! It's the only one in the industry that's been around since 1945, and it's the most authoritative source of information on the latest developments in the maintenance field.



KEEP YOUR GAS...

HIGH

AND

DRY

FULL FUEL!
ALL THE JOBS
PLANNED
ALL THE WAY!



KEEP THE FUEL HIGH!



You can have around a million vehicles that had a gas line freeze-up! If so, you probably found the driver motor, under his hood. If it's not there, thought, this means he forgot to keep his gas tank filled high—and his gas dry (free of water).

Yeah, gas line freeze-ups can be mighty irritating. The only way to stay clear of 'em is to apply some new waxes to an old principle: a pint of prevention is worth a gallon of cure.

DRINK INSURE

While we're on the subject of prevention, you come first. Since fuel and the alcohol you may add to it both evaporate quickly, anything coming in or down comes with you until it's all

Evaporate, you can prevent gas freeze-ups!



rapidly. If it happens to be here this, you'll see one of the questions, seven cases of freedom on record.

Water sticking to no protection either, since fuel-related sticking here is able to include you from the cold... and become a dry forest, besides. Change clothes immediately if you spill either fuel or lubricant on them. But run immediately may be better enough to prevent trouble. The only real way to be safe is to be thinking all this.

BE YOUR OWN

The big troublemaker does add water to your gas is condensation. You get it in every type of storage—uninsulated, 11-gallon drums, 7-gallon cans... even in your vehicle gas tank.

In, if you leave your vehicle at the end of the day without filling 'er up you've a big air space in your tank. And, sure as death, when it's parked outside and the temp drops overnight, the moisture in the air in there's going to condense into droplets of water. Then you're in for it—in crystals in the gas which clog the fuel lines.

In actual your equipment often to keep the gas tank's air volume low. The more fuel and less air volume in the tank, the less condensation you'll get. So try to keep the tank close to its full as much as possible.

That's the reason why you want to eliminate that air space in the tank by filling 'er up at the end of the day's operation, too.



BE YOUR OWN

Course when grade of fuel you use can make a difference in whether your baby will even start the year. A winter grade gas is the one you want. But if you get your fuel from the P.O., likely as not they'll be serving the proper grade.

When using winter sensitive gas (MOTOCRUISE type 1) would grade the gas too warm or hot. When the gas is brought into a warm shop or build-



ing it warms up and loses its extra qualities, then the gas will act like regular gas. The first sign of this can be heard starting over when the engine is warm but before opening temperature.

The same principle goes for diesel fuel. You want to use winter grade, FF-PWR, D-2, or the wax in this fuel won't clog the fuel lines and lines.

If you fuel from drums or cans, you want to check the labeling for the right grade.

KEEP CHANGE READY FOR EMERGENCY

No matter what type of truck, heavy or van you haul from, chances are you don't have a filter separator (unless you're in an air-aid) to take the water out of the gas. And, when you pour the gas, you're also pouring in a certain amount of water with it—due to condensation.

Your emergency procedure is to use a charcoal filter. The filter will hold the water and let the gas through to your tank . . . but at a much slower than normal refueling rate. In whatever you can do to keep fuel free of water during handling will help keep the use of a charcoal stick to a minimum.

If you must drain your fuel through a charcoal stick or other type device to remove water, be certain you drain off all the water electricity by grounding the device to the vehicle . . . and the vehicle to the ground. Otherwise you're risking trouble.



To guard against this water freezing in your vehicle's fuel system during extreme cold weather, you can do this: Dump one-half pint of Grade 1E de-watered alcohol for every 10 gallons of gas, into the tank before you add the gas. TM 9-307 (17 Sep 59), page 11, or TR 1960 147 14 Dec 59, page 4, is your authority.

It is to be put in and tested before. For 24-726, Grade 1E.
FOR 2821-242-1411 get a 1-gal can.
FOR 2821-242-1412 get a 5-gal can.
FOR 2821-72-4704 a 5-gal can 1-gal can.

Give a month, drain off anywhere from a quart to a gallon of fuel from the tank. This will get rid of any water or foreign matter that may be present.

The biggest mistake is made when a civilian tries to take a short cut by adding alcohol direct to his bulk supply of gasoline. Adding alcohol direct to gas drums or a tank truck won't work. The alcohol must go into your equipment's gas tank just before you get it.



As for the gasoline itself, try to use nothing lower than 88 octane grade, class C, in your engine and related equipment.

Keep gas caps and drain plugs on tight. This is to keep the dry weather-borne snow from slipping through any line opening.

Another point: When you pour the gas, guard against blowing snow as it doesn't get into the tank opening. And be sure your tank cap is put back on tight.

FOR 2821-242-1411 get a 1-gal can. FOR 2821-242-1412 get a 5-gal can.

Of course if you're in an air-aid and you get water or other contaminants in your Av-Gas or JP-4, you can't rely well pull over to the side of the road and drain out the fuel lines. Your fuel has to go into the filter-bleed.

For this reason your M10C, M117C and GMC Model HC 415 tractors have their operators right on them to take out the water. Well, if you're out in the field and don't have the use of any mechanical filter, you can take the water out by using the old chain-oil cloth in an emergency. Like it says in your Dip-50 or TM 15-1150 (1945-50).



One other point about contamination of fuel tanks. With only one grade of Av-Gas (115/165) you don't have as much possibility of contamination as you did when handling all the lower grades. But there has been at least one case of some ops filling up his tank with JP-4, and then using the same tank to haul Av-Gas... naturally the contaminated Av-Gas had to be rejected. So you want to be sure to use separate transporters, or compartments, for each type fuel.

TOP FUEL TANKS

Whether your vehicle is an air tank, or an ops, almost all of them have either drain pockets or plugs on the bottom of the fuel tanks... and for a very good reason.

Water being heavier than fuel, it naturally settles to the bottom of every tank—it'll take a little longer with JP-4 and diesel fuel, but it'll settle.

So after morning drains of fuel, leave them until for about 24 hours before using any of the gas. Then use only about four-fifths of the drum. This way you won't get any sediment or water. You dispose of the last fifth in the drum according to local PCB regulations.

You want to be sure to let the water drain out of your tanks. Your maintenance manual says that you be on where the drains are and how often you should use them.

But on tracked vehicles, you'd have quite a time taking out and putting back drain plugs in filter tanks. So you drain water from the fuel filter instead—at least daily. And don't forget the primer and heater lines, too. If you need to take water out of the fuel tanks slowly, there are a hand pump to reach the bottom of each tank on tracked vehicles.



The same water tapping applies to fuel in storage. TM 30-200 114 top 311 "Fuel-tank Handling/Operations," can fill you in on the many points involved in the handling and storing of fuel.

So—... as simple as when you come in contact with fuel, you'll accomplish your mission, when you keep your gas tanks high and dry.

SAVE THE INSTRUCTIONS



Many winterization and heater kits for tactical vehicles have their instructions packed right in the kit. The instructions usually have schematics, diagrams, photos, data, etc., for the installation, operation and maintenance of that specific piece of winterization equipment.

The big news here is that these instructions are not replaceable through the Army publication supply system. You get one set with the kit and it's intended to stay with that kit for keeps.

After you've made an installation, keep the operating and maintenance instructions handy for day-to-day use.

Put the installation portion in a safe place... don't throw them away. When it comes time to remove the winterization equipment you may need the installation portion again to help you along.

When you're repacking the kit for the next season, one of the items that's got to go into the package is the complete set of instructions. Do this and the next guy that gets the kit won't be left in the dark.

If your instructions do get rolled or lost, see the TM 5-2811-series technical bulletins. They also cover general installation and operating instructions.

DID YOU GET YOURS?

A RECENTLY IMPROVED CLIPPING FROM THE 1144344 BOMB EQUIPMENT, BOMB MAKERS FOR YOU IS ALSO CHANGING 2 TECHNIQUE TO THE TAIL.



FOR 2-5100-284-12

There are many 10-ton M121 and M125 truck operator manuals being used without a real important change. Every TM 5-2500-284-12 should have a Change 1 18 Jul 60 tucked inside its cover. Initial distribution may not have given your outfit enough to go around but don't let that stop you. Get one and go over it before you get behind the wheel of your 10-ton job again. This change covers driving cautions and procedures—that'll keep the checks and flywheel from disintegrating and come flying up into the air. In a nutshell, keep your RPM under 1000.

M35A1 CLUTCH CONSERVER



The clutch on your M35A1 2½-ton (modified) truck is plenty strong enough if you use it right . . . but, it won't take beating up.

It'll fall after way less use if you make a habit of wearing out its normal gear.

So, naturally, since you're a good driver you wear off its first gear under way and all machines in moving forward. That's the only way you can make sure your clutch'll live out its normal life span.

TRUCK TRACTOR MARKINGS



Dear Half-Ace,

The sketch in AR 740-2100-1, page 21 shows the truck tractor's registration number and US ARMY stenciled on the back of the cab. The only similar place to stencil this information on the M35 truck tractor is on the cab's canvas. Doesn't this seem contrary to proper care and maintenance of canvas?

Sgt R. L. B.

Dear Sergeant R. L. B.,

You're right. Stencil markings do not belong on canvas.

Fig B, page 11 in AR 740-2100-1 does show the markings on the cab's canvas . . . which is usual. If you look over the AR sketches you'll notice that all markings are on metal surfaces. This includes

cases that all markings will be on a metal surface.

The markings on your M35 truck tractor should go below the canvas on appropriate cast metal surfaces of the cab just like paragraph 9c(3)(4) of the AR says.

DON'T GET X-ED

If you've got a 14 one wagon trailer with an "X" on its identification plate, forget it's there. The "X" got dropped long ago, so you might as well drop it, too. To keep your trailers and their jobs (TMs, TBs, BTRUs)

The "Only" way makes a trailer "M" by OCTOBER 1994 back to 1994.

up on clean, keep track of your 14 one job list or—

The Old	And	The New
14001	_____	14001
14002	_____	14002
14003	_____	14003
14004	_____	14004

The new trailer "M" designation and their OCTM number increases. 800-822-1066 #11.

WIPER TALK



If you've replaced a bad wiper arm on one of your commercial trucks or trailers? Or maybe just the wiper blade got replaced.

Hold on . . . before you go straightening 'em to see how they work—think.

Watch, if they're vacuum operated you can hand-power them to see if they're positioned right, but if you've got an electrically actuated wiper—look out!

Blowing 'em by hand (instead of by

power) will only damage the motor eye plastic gear in some units or the det to the linkage or bolts. Always use the jacks for the job.

Another thing that can make back with the system is running 'em on a dry windshield—this puts a big load on the unit.

If you're lucky enough to have a new vehicle with overlapping blades, be sure you always mount them the same way they were before taking 'em off. If you don't, they'll fight each other.

M38 TRUCK

You a little confused about how to position the trailer lights when you make turns on your M38 or M38A1 4 one truck?

Well, it's all spelled out in the Change 3 (June 89) in TM 9-809.4 (Apr 88). TB 9-809.4 (May 84) called for

it to be done a different way but the latest word is that the spring will be worked out to the left.

If your M38 or M38A1 turns has it any other way, have it changed. No sense getting pissed on a thing like that when it's so easy to prevent.

TALK



RTI



So you just got a freshly depossessed wheeled or tracked vehicle—and the driver keeps dying on you? What gives?



It's possible the culprit could be the guy who didn't read Item 9 on the vehicle's DD Form 1307, "Processing and Depositing Receipt for Migration, Storage, and Issue of Vehicles and Spare Engines." It might be you.

The small check in Item 9 will clue you that the fuel tanks had been clogged

with PE 2 generator oil. And it means that you have to fill through hell to dilute the PE 2 so it won't clog up the engine's fuel system.

Some fuel tanks will may have some fuel in them from the time they left



the manufacturers. It's always a smart thing, in such cases, to drain them completely before you put new fuel in. The old stuff may be right fueled up.

If you don't fill your tanks full when the 1307 tag has a check in Item 9, you won't get a good enough dilution, and you'll run into troubles.

Now, RTI (read the instructions) on the 1307 and with much less fat and meat, you'll have a real live jet.

BEFORE YOU WASTELY ASK
THE MAN BEHIND THE ...

HOLD YOUR HORSES!



There's been a lot of mistaken
accounting of the M50 M51 to the M51 L
to-day truck using the old M50C pul-
verized gun mount—some good, some
bad.

There's even been some speculation
about an M50 in the works to show
you how to mount the M51C in general
to keep mounting up the truck chassis.
Don't believe it!



The word, from the horse's mouth,
is that the M51C mount is definitely



yes. In fact, M50 9-1129-114-20-11
112 Aug 550 will give you the right
pulverized mount for your M51 L to-day
mounted M50.

The correct mount is the M51, P/N
10881124, P/N 1000-000-1808, and
it's used with the M51C gun mount,
P/N 10000041, P/N 1000-000-4400.
The M51 won't mess up the truck chassis.

So, saddle your horse with the M51.
It's just made to keep your vehicle in
the pink.

Get
More!

CRACKED CROSSMEMBER

SUPPORT



Here's good news for those 2½-ton trucks (GM10 series) that've cracked their No. 2 crossmember. They're to get a better brace.

If you've got any of the following trucks, which were manufactured before 1974, your support dealer can install the new crossmember per TS 9-

1000-200-0811. 113 Feb 68.

Cargo trucks: M34, M35, dump trucks: M47 and M19, maintenance trucks: V17A/MTQ and V18A/MTQ, the coaches M40 and M58, truck tractor M48, the van M18L, the tractors M60 and M18, the crane trucks M44, M41 and M45.

STOCKAGE LIST CHANGE

Dear Half-Mart,

We just received our copy of TM 9-1500-119-20P, Consolidated Authorized Organizational Stockage List of Repair Parts for Tank Automotive Material, dated May 67 and it indicates that distributors are no longer an item of authorized stockage.

The old copy of the TM dated May 67, listed the distributors on pages 63, 64 and 64; the new TM doesn't show them at all.

Should we turn to the distributors we now have on the shelf which the old TM authorized?

WPC B. B. E.

Dear Sergeant G. B. E.,

Yes.

The distributors are no longer an authorized stockage item at organizational level. They're now going into the HF TM.

When an item appears in your basic -MIP or Ord 7 manual (with or without the *) and is not listed in TM 9-1500-119-20P, it can be requisitioned or had from your direct support unit or an exchange bank for immediate use only.

Replacement of a distributor should be done as a last resort, most of your distributor troubles can be put right by using the Parts Kit (spare distributor), that's listed on pages 187 and 118 of TM 9-1500-103-20P (Nov 67).

BEAT ALL IN BENT LEAF,
WALKER BRAND, VEGGIE, LEAF - 100% OWN
GAIN, FRESH, BENT LEAF,
ALL-STAR, BENT LEAF, BENT LEAF,
BENT LEAF, BENT LEAF, BENT LEAF,
BENT LEAF, BENT LEAF, BENT LEAF,
BENT LEAF, BENT LEAF, BENT LEAF.



Half-Mart



Dear Biller,

This fix will save time for anybody with an M5 (just mounted on a M4A, M4A1 or M48C tank). The fix you gave in PG 117 on page 18 will work fine but it takes nearly two hours to about 15 minutes for our method.

The problem is to get the pump temporarily out of action during road marches so you don't heat up the oil reservoir.

You can make out the pump shaft like you say, but our way is simpler and quicker. Here it is by the numbers—

<p>1 Roll lead pipe (cut to length) into a lead piston.</p> 	<p>2 Bring a 2 1/2" rubber mallet, take the upper flywheel cover off the pump.</p>  <p>Remove plate off the oil reservoir at the back of the tank.</p>	<p>3 With a pair of pliers, pull the rubber key out of the pin in the control valve and pull them across the pin and washer.</p> 	<p>4 Wrap the pin, washer and key in a piece of paper and place it in the oil reservoir.</p>  <p>5 Put the cover plate back on.</p>
--	---	--	---

That's all there is to it. You can get your dozer back action and out of action without spending nearly half a day messing with the pump shaft.

Woj. B. Wozan
 Armer School
 Ft. Knox, Ky.

(Ed Note—Great idea, Ed. The design boys are working on a way to eliminate this problem entirely but for now your fix is the best in view.)

IDLE TALK

It may look like you're just sitting there, but you're not. You're working hard.



Now you talk

Now when the fuel valve is the answer you've been looking for on starting up your 1974 engine earlier on those cold, cold mornings.

The trick lies in the proper fuel valve adjustment on your 1974's carburetor. If you're way off on this adjustment, Mister Nature will make life miserable for you when she drops it on the pumpkins and the only way out is to correct that adjustment your self.



HERE'S THE WAY TO DO IT:

First, turn the choke to all the way on the carburetor's fully open.

Then, get your engine fired up to 1200 RPM (that's the "idle" setting) by turning the throttle stop screw to an out 1/8" (it's right on the bottom. You'll be seeing' the electrical carburetor #10 1070-120-1790 that's in your No. 1 Carburetor Tool Kit for the RPM setting job.

Finally, adjust the fuel valve screw 1/8" (that's exactly a 1/8" in clearance between the screw head and the fuel valve cone on the choke lever.

Doing it just like this oughta make those cold morning starts a real bit more cheerful . . . try it.



INTEGRAL GUIDE WEAR LIMITS

Door Half-Mask

What are the wear limits on the integral guide for the track used on the M11 and other members of the light tank family? In the old TB 9-2080-200-14 (Aug 58) on page 45 and in the new one (Oct 63) on page 17 it says one eighth inch—that doesn't sound like very much. Is that all they can wear down?

Cpl J. B. K.

Dear Corporal J. B. K.,

You are so right . . . when it comes . . . The new TB 9-2080-200-14 (Oct 63) states this plainly on page 17 under the integral guide is worn down. See item (3)—“Measure guide wear so that it is less than one eighth of an inch remaining thickness, by inch” inch thick at any point.



NOSEY LUG



THE BALL BEARING IN GREEN GIVES EYE

For M113 PC loaders—

Anytime your favorite M113 Personnel Carrier's due a replacement engine (Chevrolet Model 71M, FSN 2801-670-0001), be sure ahead of time to make sure the engine number's been checked against TB 9-2000-214-1171 (30 Mar 65).

The TB tells you how to grind off a cast lug on the cylinder block when the lug'll interfere with proper alignment of the starter.

The TB lists a couple of pages of engine (and engine component) serial numbers.

WITCHEE SWITCHEE



... In you're ready to cut off the engine on your M114 or M114 carrier?

OK, but take a second to check out the way you've been doing it. You may be turning off the master switch first, and this is **SMARTE** practice—for you.



If you flick the master switch first, the engine'll still running ... which means your 100-amp alternator is still flooding the juice. This can knock out the master switch on the M114 and cause the vibrator and regulator on both vehicles to go haywire.



You also have to be careful you don't accidentally flip the M114 master switch to OFF with your thumb during operation.





CHECK THE OFF—
WRITE 'ON' IN . . .

"OPERATION CHECKOFF"

MESSAGE TO ALL AIR TYPES

"Operation Checkoff" is part of an industry-wide effort to reduce the size of aircraft checklists—and it starts the minute you read this.

Its purpose is to get your ideas down on paper on which inspection items to eliminate from each aircraft's checklist or— . . . which items can safely be moved from daily to intermediate or from intermediate to periodic inspection items.

Based on experience, you know which items you worry about and which ones you ignore on preflight or maintenance checkoffs. So pass your common sense down to us by submitting "on, on."

Wally Whitcomb
Ft. Meigs
Fort Cox, Kentucky 40111

I hope you won't be looking for an air-transport checkoff clearance, because I'm capturing heavy inbound traffic. Please don't feel ignored if I just tell you I got your letter and thank you. As the old wall has said: "Write 'em up! Mail 'em out!"

الخطوط



The direct exchange part supply system is just about the best set up that's come along since the advent of instant coffee. Almost any dealer will tell you he's been able to keep his vehicle rolling with "instant parts" (swapping bad parts for good ones).

You air type should also be able to help keep your birds off the deadline list since Change 2 (15 Aug 82) in AEC 71.3-16, "Transmission Book Control and Supply Procedures," came off the press. Page 70 of the A.E. gives you the green light to get convertible air items by direct exchange.



CHANGE 20-01
 MAY 20, 1982
 A-1000
 TRANSMISSION BOOK CONTROL
 AND SUPPLY PROCEDURES
 SEE PARAGRAPH 70
 TRANSMISSION

But before you dash over to supply for a replacement starter, fuel pump, valve cover, governor, distributor—or

what have you—there's a couple of pointers to keep in mind.

First off, you want to be sure which part is this. You can do this by carefully checking your bird. Substituting one part after another trying to correct a faulty engine can waste a lot of time, not to mention the extra dollar gases.

Next, check the selected items list in your work to see if you can direct exchange it. If the part is on the list you're in business.

Finally, check the COP on your bird to find out what the birds part has on it. You want to take off all the necessary parts such as covers, hoses, clamps, and fittings, so they can be put on the new part. After all, you don't want to wind up on the store end like one mechanic who turned in the radiator of his (JCM's) Jeep, with the drain cock and filler cap still on it. When he drove the replacement he got the radiator, minus the drain cock and filler cap.

Yeah, "instant parts" have worked wonders for ground equipment. They should do no less for air equipment.

POWER TO SPARE



Dear Editor,

There's been some chatter about the APU in the organizational maintenance A Supplemental, B and C and lots are having enough power to crank up some of the Army's big birds.

Our experience with the Huey (UH-1H), however, has shown us that there's only a timing problem when you let the critical cabinator battery run down.

The battery packs a real wallop when it's fully charged. But it can lose some of its punch overnight. And if the bird isn't flown for some time, or a lot of time, it used during ground checks, it's sure to be the battery won't be up to snuff.

We found that the answer is keeping a fully charged battery in really quite simple. Every morning, before a bird is scheduled to fly, we turn on the battery switch, plug in the APU, and charge the battery for five minutes. These batteries are built to take it, so there's no problem with five charges.



Capt. James W. Cook
St. George, Idaho

Old Note—AFSCM doesn't have any immediate plans to come out with a bigger APU, so keeping the battery fully charged seems like a good deal.

"BOTTOMS UP!"

WE'VE
SAVED
THE
CRAFT.

Dear Editor,

When the wind howls out in the boondocks it can really play havoc with the sounds of a bird engine.

We whip up the dirt and deposit it in the engine exhaust pipe of our Kawasaki KX41-110 and, with an exhaust valve open, right into the cylinder.

Of course, an self-respecting bird can digest dirt well for long without ending up disabled. So, over a hour or two, we got to thinking that maybe we had the solution right in our hands. The lever was labeled like about the right size for the exhaust pipe! And it turned out to be a perfect fit.



To make the cover we cut one end of the cut out. Then we drilled a small hole in the other end and attached a red warning streamer using a hole, nut, and two washers. Polishing the case red completed this handy little process.

The red streamer is the standard reminder of a cover that wants to come off before flight, but even if a cover happens to be overlooked, the exhaust will pop it off at the first cranking of the engine. We've solved the dirt in the engine problem by making enough covers for all our Kawas.



DVD Pella J. Cato, Jr.
Fort Carson, Colo.

Old Man—Chow! Meat! Salad! A Piece Ass! Piss! You can't beat this price for covers!

EYE 'ER- TRY 'ER!

CRASH! FIVE
MILES PER HOUR!
MIL. LOVE SPEED!

THAT BLINDNESS
WAS MY BROTHER'S GUNNERS
OFFENDING ABOUT
ME!

It's been said that a mach doesn't really get into his work until he gets his hands dirty.

The same straightforward principle should be used by a mach when he makes his rounds on a Daily Inspection. After all, how's he going to know if the bird is fit to fly if he open 'er—but doesn't try 'er?

Take the case of a Raven 1044-2MC1 that went back to support for testing out of a vertical. After the cause of the vibration was found and corrected, a head check of the engine means also showed that one of the scabbles was on its last legs, and had plenty of play to prove it. When the scabbler was taken off, several of the rivets were found to be snapped off.



Course there's no telling just how long this bird had the shakes. But if the head gave a little longer, that engine might have been doing the wacky war on its mouse . . . and that could lead to all sorts of revealing developmental

So, when you Daily the engine frame, mounts, and scabbles for damage and wear, make with the muscle power as well as the eyeball power. That goes double when a bird's been out of town.

NO PRIMER NEEDED



Dear Windy,

Can you tell us what we should do with the engine printing system on our News (CM-11) when it goes on the line and we can't get parts for it?

Wgt. J. A. G.

Dear Sergeant J. A. G.,

You're allowed to take it off.

The primer was put on the CM-15L, G, and H models as part of a winterization deal. But the same is gone 4-173, Chap 2, Item IV of TM 11-1120-204-20 (5 Feb 62) says it's not needed on the H model and you can take it off for good when it sets up. That's why there isn't any spare parts listed to support the primer.

The same deal goes for the E and G models. The authority for taking the primer off is, again, your organizational maintenance manual—Chap 2, Item X, para 18-64.

When you actually make with the wrenches, though, be sure you plug all the primer fitting holes in the manifold and carburetor.



THE STRAIGHT POOP



Dear Ffandy,

We haven't been able to identify the drive assembly (straight flight) listed in paragraph 1) of TR 487N 23-43 (12 Dec 42), "Aircraft Condition Components Requiring Material Data."

Our Chief Eng (8-1) TR 33-1526-283-20P doesn't list any such animal. Can you identify it?

April 8, 1951

Dear Specialist E. W. S.,

The drive assembly was put on the TD-122 model only, by MWFO-15.1112. 283.9472 (17 Apr 51). All of the instructions require should have been modified by now, so look for the drive

assembly, P/N 93-08950-000, P/N 1680-880-7870, to be listed in a future revision to the organizational maintenance parts manual.

Handy

UNPLUG THAT HELMET - PLEASE!



That AFB-1 flying helmet you're wearing isn't just a part of your flight clothing. You might say it's part of your aircraft's engine system, too.

So, please remember to pull the jack by hand before you try to push your helmet out the door when standing down. Your headset cord is just as delicate as any other piece of wiring.

Besides, if it happens to be an air-borne helmet situation, a habit of forgetting to unplug the jack can be a life insurance when you're in a hurry, punky.

IDLE ANGLE

Dear Windy,

For those interested!

Talking about making the page shown in Figure 1-19, Chap. 1, Item 19) of TM 15-2130, 20-20 (19 Apr 67), to show the carburetor idle mixture adjustment on our Bird Dog 50-75.

The figure shows a page angle of 28 degrees, while the actual adjustment given in para 1-44) calls about a throttle shaft angle of 31 degrees, when using the page.

To top this off, an old carburetor job shows the page made to an angle of 19 degrees.

In what angle should I put on the page, 28 degrees or 31 degrees?

Byt R. E. W.

Dear Sergeant R. E. W.,

The 0-475-7 engine carburetor is the long gone L-17 used to take a throttle shaft angle of 30 degrees.

But the carburetor in the Bird Dog 0-478-11, -21A, and -21 engine use the 28 degree angle shown in Fig 3-40.

To keep an updated pocket for a revision to para 3-40) of your maintenance job, taking out the 31 degree angle poop.

Windy



OPEN THE



Using 1 Washington, that he came up with a way about "Inland and the Hawaiian Islands."

Maybe you're so confused, but you are right: it's wrong if the people in your neck are working around Honolulu.

(L-17) without taking a real simple presentation.

All you have to get them to do is make sure the front baggage compartment is open when they're working.

TIPSY BIRD



when you mean to avoid in the main, because you, we made up this sign and attached it to the tail end.

Now, when a general comes into the world, he's aware of the bird's unique character at a glance.



The Ground Crew R. Hammoth, R. J.

(Ed Note—A good reminder about the bird's delicate center of gravity.)

DOOR, LOUIE



It sure been having a story making the records of your unit—a story called "Just the Hurdles Machine," and written by "L. M. Fitzgerald."

And don't forget that a "let" may be still a possibility.

BUNDLES FROM HEAVEN

Dear Fido's,

I've searched the Bird Bag (11-17) and Beaver (11-21) manuals for some jump on the weight and size of wing bundles that we're allowed to load, without any luck.

Since we're then making a lot of drops lately, can you tell me in the maximum allowable dimension for a wing bundle?

Allyl T. D. E.

Dear Sergeant T. D. E.,

Can do. As far as weight goes, the operator's manual for the Bird Bag says you can carry 250 pounds under each wing, for a total of 500 pounds per bird. And the operator's manual on the Beaver allows you 500 pounds per wing, for a total of 1000 pounds per bird.

But for guidance on the size of the bundles you'll have to go to Chapter I (11 May 44) of TM 10-500, "Air Inventory of Supplies and Equipment General."

Chapter I, Section II, para 26, says a bundle on the Bird Bag should not be over 500 square inches frontal area, and 60 inches in length, per wing. So you could wrap up two 50-in long bundles and hang one under each wing for a total of 500 square inches of frontal area.

The frontal area limit of a bundle on the Beaver is 500 square inches under

each wing for a total of 1000 square inches per bird. The recommended length of each bundle is also 60 inches.

Greater you may split up your load by hanging either two or four bundles on your bird, but the total allowable weight and dimension will always remain the same.



You'll find that TM 10-500 and others of the TM 10-500-series read hardly when it comes to loading and rigging an aircraft. If you don't have the ones you need, check your letter index, Ed Pamphlet M-4, and order on a Ed. Form 17.

Allyl

SO WHAT'S EXCESSIVE?

AND ONLY THE
OIL PLUMBING.

Dear Wally,

Why does this Malvern (CRJ-44) T31-L-1 engine that's using 1.3 pints of oil an hour, is this excessive?

Para 11 of TM 31-484-4 says to "remove an engine if the oil consumption exceeds the range of an aircraft." But everyone there says that particular paragraph applies to crop engines only. I assumed that this applies to all aircraft engines and would like to have your opinion on this.

—G. M. S.

Dear Specialist M. T.,

Even with your know-through design, guess it is in a chapter dealing with engine, any engine should be removed when it starts to hold down the aircraft's mission capabilities.

How much oil that particular engine consumes is not so important in itself. The big question is: Will the aircraft be able to accomplish all its mission without being consequently restricted either on duration of flight time or in the choice of flight paths due to local geography?

If neither the aircraft nor engine exceeds any anything specific on this, you're allowed to follow a general guide, such as TM 31-484-4.

Just for a comparison, the specs on a brand new engine (3-8 hours) allow a max oil consumption of 1.3 pints an

hour. But a right new engine (and not with several hundred field use hours on it are two different engines. There's really no need to be that restrictive on a used engine unless your mission requirements are very strict.

That outfit usually begin paying attention to oil consumption when it gets up around a quart an hour—and may not get around to replacing an engine until consumption gets as high as 1.4 pints (3.1 gallons).

But then their missions and loadings are not the same as yours. So it's up to your own maintenance office to make the final decision, based on how badly that 1.3 pints an hour rate affects your Malvern's mission requirements locally.

Wally



The heart-warming story of a soldier and a weapon named "FRANK"

"FRANK" was a child of military necessity... born out of research and development her arrival was cheered by all...



The daughter of modern warfare she was the ultimate in weaponry... and advanced design.



Dependable, efficient, sturdy tested parts—she was a model of great performance.



But to the soldier who first saw her... she was just

BEAUTIFUL!



... Beautiful in the kind of stark way that has always captured a soldier's heart ... so, it was not at all surprising that with FRANK and the soldier—it was there as first sight....

YOU'RE
GONE AND
BABY.



... And the waiting took place the next day.

AND
DO YOU
FORGIVE
YOUR
MOMENT
FORGIVE
BE YOURS.

SUPPLY



... TO GIVE YOU AND MARCHING
WITH OTHERS OR GIVE
TO THE FIGHT ?? ??

I DO



... THEN I KNOW
YOU MUST AND PLEASE!

SUPPLY



... And as they lived in military life ... to the soldier she was the most beautiful thing in his life. Her performance was flawless.

LOOK AT THAT RECORD BOOK!



And the soldier's love grew to a point of pure passion ... he published her with loving tenderness until she died like a hot eagle on July 26th ... an arrow in the eye escaped his eye.

WAS SHE DEAD?
BEFORE SHE DIED?
DID SHE DIE?

NO!
SHE WAS
ALIVE!



And as it seemed that this love affair would go on forever ...

AH! ALL I GOTTA
DO IS SAY "JOE"
THAT LAST EXERCISE
DROPPED HER DEAD.



Joe's Dope Sheet



This romance that he's got with his gear
is something of which you don't
sneer.
'Cause when the going gets rough,
She'll deliver the stuff,
And that sort of deal you don't
quest.



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

Then one day a small house appeared in the distance of their life... whether it was because the novelty was fading or just age wasn't clear... all the soldier knew was...

THE ONLY
CONCRETE LINE
I'M USED TO...
FRANCE



So... the soldier began to make unauthorized modifications...

AND IF I PUT A
SUPERVISOR
ON THE PHONE
I'LL SCUP ME
UP...



But she was never designed to be a business and now she began to have attacks of nervous laughter...

I KNOW WHAT YOU
WANT TO DO... WITH ABOUT
A BUNCH OF MONEY, YOU
WANT TO START THE BUNCH
OF TECHNOLOGY CALL



It's clearly that was not the answer for the next day...

CRASHING THAT
BUSINESS!

THAT'S
THE ONLY
THING TO
DO NOW...
HONEY!



Yes, something inside her was wrong . . . and with each trip to the shop for some of their early games soon grew dimmer . . . now she couldn't see David . . . he thought of OTHER, younger women . . .

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.



One day they suddenly blew the whistle for operations "down here" . . . the soldier was scheduled to be changed out to some command of his own on the other side of the globe.

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.



BUT THEY DON'T . . . he went with friends as she was in a way he was glad, for after all he had trained with her . . . besides he really didn't know how sick she was inside . . .

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.



. . . And as in their first, far real action, together she killed him.

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.

WELL I WOULD
THAT WAS PROBABLY
THE BEST THING
I EVER DID
FOR ME.



When soldiers get out of the hospital . . . the first thing for them was to find friends who were recovering too . . .

HOW IS THE SARGENT?

JUST NEEDS A LITTLE MORE REHABILITATION. SARGENT'S GOOD AND WELL.



HOW DOES SARGENT FEEL ABOUT HIS CURRENT POSITION?

HE'S VERY SATISFIED. HE'S ENJOYING HIS CURRENT POSITION. HE'S ENJOYING HIS CURRENT POSITION. HE'S ENJOYING HIS CURRENT POSITION.



HOW DOES YOUR CURRENT POSITION AFFECT YOUR PERFORMANCE?



PERFORMANCE IS ALWAYS FAVORABLE IN YOUR BEST INTERESTS.



And so . . . they lived happily ever after

You can see them on the post every day . . . not so slick as the new jobs, perhaps, but a match for anything in performance . . . there are thousands of these stores like this wherever men and equipment live together . . . this has been one of them.



FIREPOWER



IT'S URGENT!
IF YOU HAVE
YOUR OWN



NO. _____
MWO 9-1889-204-5071
MEMBER OF THE NEW MESSIAH GUN CLUB
MACHINE GUN, THE NEW MESSIAH GUN CLUB, WEL-
DING THE MOUNTING BRACKET TO THE RECEIVER

WELD, IT'S URGENT!

If your M16 or M16C machine gun sports any serial number from 50,000 to 57,500, make sure support gives it a treatment of MWO 9-1889-204-5071 (26 Aug. 85). This is an URGENT that welds the mounting bracket to the receiver. It'll cut down on breakage of the trigger housing mounting lug—

and could save your skin!

As a further precaution it would pay to check all your M16 Machine Guns (regardless of serial number) in the trigger housing lug area for evidence of cracks. The MWO may be applied to any weapon showing evidence of cracks.





JUST A LITTLE

You'd better believe it . . . a Hawk minute does have its own pointing work and its usual handling can be more than a bit stress to go anywhere—except in cages.

A sudden case of this "right angle" happened while the crew was using the bird with the main lifting cable on a crane-rigged hoist. The cable and its weighted swivel hook proved company and that left the minute with one place to go—down.

Maybe you don't know it . . . but the main lifting cable has a swivel adaptor—with a detent in the detent—that screws into the swivel hook. And



there's a hole in the weighted part of the hook—a hole that leads to the detent in the adaptor. At least it's supposed to lead to the detent.

A nut goes into the hole and is turned into the detent with a 3/16-in. hex-head wrench. And that's what keeps the cable and swivel hook from separating. Now you know.

If you ever need to assemble the swivel hook to the cable, you can fiddle around until you finally get things lined up or the nut goes into the de-

SETSCREW



tail. There's an easier way, too.

Before the parts are put together, take a cold chisel and make a 1/16-in. or 1/8-in. mark on the adaptor—mark above the detent and in line with it. Then . . . use the swivel hook onto the adaptor. For strength the set screw has to end up. If the hole doesn't line up with the mark on the adaptor, give the hook a slight twist in the direction that will take care of the situation.

You're all set to stick the nut in the hole and tighten it with the hex-head wrench. Unless you goofed in putting the mark on the adaptor, the point of the nut will be sitting in the detent.



To be on the safe side, take a wrench to the adaptor and see if it comes loose from the swivel hook with a little rapping.

It'd be a good idea in the future—like now—to disassemble the swivel hook and cable so you can mark the adaptor right away. You might forget it if you wait until you take 'em apart the another time.

You won't need to give a second thought to whether the swivel hook is secure once a nut and a set screw, P/N 2090-077-0000, get into the supply system.

No matter what kind of hook you have on the end of the cable, tho' . . . you can want to check the cable for broken strands before you lift any animals.



NO PRIZE - BUT

You know those pictures where you're supposed to guess how many things are wrong in 'em? And maybe you get a prize for getting the right number of mistakes.

Even right? Well you'll see a picture of a Hawk A9V MFG.31 CW illuminator that has only one thing wrong with it. There's no prize for guessing what it is, but your name will be a winner if you come up with the right answer—especially if you and the rest of the gang in your factory don't do what the man in the picture is doing.

Figure it out? Right. The guy's using the illuminator wrong here in a head-



hold to using the machine around. And if that's not a sure way to get a good hit in the machine here, nothing is.

The thing that looks like it doesn't quite make up a head—just a fraction of a fraction of an inch—can drive the illuminator the distance it will be able to make a target. What the change in the shape of the lens does, of course, is drive the electrical beamlighting of the illuminator out of whack.

The word is spreading, though, about a deal that might call a halt to people using the machine here in a head hold—something wrong on and below the lens.

What you do is correct the words "Caution Do Not Touch Illuminator Head" below the lens. Use the 1/8 inch hole for "Caution" and the 1/4 inch hole for the rest of the warning. You might also cut out a 1/4 inch square and have it pointing at the machine lens.



And stand—do, look again—the words "Caution Do Not Touch Head" on both sides of the machine lens.

You want to do the standing with the white banner you cut the machine work on the inside.

THE WORK YOU SAVE

Oh... so Section I of TM 9-41 (9-58412) has wrap up cleaning your Hawk machine. But there's one bit of info you won't find in the TM, and that's what you do about salt water spray that hits the fabric.

In real use. The trouble you meet may be your own.

First, all textile components must be protected from salt water as much as possible. That figure.

Painted surfaces that get sprayed with salt water ought to be washed down with fresh water as soon as possible—

before the stuff has dried if you can get to this time to save other gear. Washing down means going easy with the water—use using a hose with any kind of pressure behind it.

When it comes to machined parts, suspended mechanical components or painted mechanical parts that water might find up, try using fogger-type emulsion to get rid of the spray. That's right... fogger-type emulsion.

TM 9-41 (9-58412) gives you a gallon can. It's listed, along with other salt corrosion, in Table 18 of the

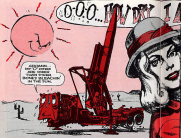
GROUND, Vol. 1-B (1 Apr 54).

What you do is mix in a rag with the fogger-type emulsion and then wipe away. Nothing to it.

Maybe you'll mix a quart or two of spray in your cleaning, to keep your textiles protected for any sign of rain or corrosion that might show up later. It's a good idea, of course, to be on the lookout for rust or corrosion on machine what might cause it. If you come across any, take care of the situation the way it says in Table 2 of TM 9-41 (9-58412).



O-O-O... HOW DRY I AM



THE DRYER ATTACHED TO THE MACHINE

GRINDS TO SIZE

THE DRYER ATTACHED

Reasons!

The backing Drying Tower has the moisture and the moisture have turned into clean-burner agitators—as you're grinding the granules out of the inside of the tanks and U-tubes.

The fuel!

Labor, fuel, labor.

First—just before you start working, extend the agitators about three more inches. Then wipe them down with a rag soaked in the hydraulic fluid, FSM 9058-210-8888. That's listed in your TBM 9-1-44-500-112P/1.

Now, start the agitators and things will go to slick and smooth as a stone, two seconds right.

Develop this PFI habit and you'll find your Ferguson a lot easier to get along with.

Backing Drying makes your Ferguson splash-free, dusty and dangerous! Normally, a couple of feet open in the PFI club will reduce the moisture in a hurry. But if your Ferguson Ferguson just happens to be a lot, carbon or another shale—it's gonna take a little more PFI than that comes down on the machine.

The backing Drying in quantities that are backing up a stream are the rest on the interior of the U-tubes, messenger jacks and rear leveling jacks on your 9058-4 Ferguson backing station.

Like other your backing station's been set up a spell—with the jacks and U-tubes extended—the exposed agitators set in prime dirt and dust collector before they run as dry as the flakes. Right?

Then, when the water order comes and you start retracting the agitators, you suddenly get a heavy feeling that you're making the dust like old coffee maker, off on a line grinding bit . . . and that's all the rest.

You're so right . . . all's not well—in quiet.

SIGHT IN ON THIS

DOIT: WE'VE HAD A LOT OF
WARRANTY CALLS ABOUT
MISSED LIGHTS!



Then repeat your baby blues check in on the following maintenance tips:

1 When installing the power supply battery check the 32-42 battery, be sure the wires in the rubber slip fits the slot in the cover before closing the cover all the way because if you don't position the wires in the slot, the cover will not close. It's a major job to get in new wires.



2 As you close the magazine light in its case, place the rubber cap(s) in its case in its slot in the same position it'll be in if you were using it. If you bend the cap(s) and keep it stored that way for a day or so, it'll hold the same shape you stored it in.



3 Don't over-tighten the plastic caps of the 32-42 battery, work with the magazine light just snug - not up. Over-tightened caps can break when you try to remove them.



4 To keep the lens free of damage from sand or dirt in high winds, let the rubber window cover the light when you're ready to use the light. But if you're when you're finished using it. Otherwise, blowing sand'll make the lens look like you took a hammer to it.



DOIT: You saved us!

M107 PUMP POOP



The engine-driven hydraulic pump on your M107 3P 115-mm gun or your M118 3P 81st howitzer giving you grief?

There are two ways to keep your pump pumping:

1. Secure your power takeoff switch in the OFF position when you're detaching your vehicle to and from heavy sites.

2. Don't operate the pump at an engine speed of over 1200-RPM except when you're placing or lifting the spade.

3. Put the power takeoff switch in the ON or OFF position only when you have your foot off the accelerator and the engine has slowed down to an idle.

Do these three things, and you shouldn't have any trouble with your



REVERSE PIN

This won't put any English on your Dury Coolest, but it'll save an important glance.

The lock pin (JEM 1009-TT&CO08) that secures the transmission of the 115-mm excellent M107 on the left side of the carriage gets beat up hard by the right mount bracket when the weapon's at high elevation if you install it from the rear.

So, turn the pin around, and the carrier's off.





IT'S YOUR TIME AT THE WHEEL! WE'VE LEARNED SOMETHING!

Interested in a tip or two on a tipsy or two?

Well, lay on the cables and roll on eyelids downy while some old-timer snidles on the AM/FM-21 and 21 radio set.

Here's the story on storage . . .

TUNE AND GO

To avoid the hassles when you are out, plus the hassles back of your support people, empty all of the gas from the gravity feed gas control of the FM-222/U generator in 2-white-powder form contact. If you can get out the last drop, do it. It's a good idea, too, to take the cap off the can and let the can sit out before you store it.

You know, you read, that the generator, gas can and antenna pedestal of the radio set stored in the same case. Period! Just the kinds honey situation needed for this weather remedy.

Like us, Farris from the worsted gas can may throughout the case. After awhile, the fumes get into the hood of the antenna pedestal. The car-like embroiling in the hood will turn liquid gas.

Then the gods start raining. It goes down into the motor, gas and battery of the antenna pedestal. An untidy mess results.

TIPS ON THE

TIPSIES

JUST TIPSY! DON'T LET YOURSELF GET CARRYAWAY!



The pedestal has to be dismantled and cleaned by your support. It's time-consuming, dirty work. If the gods roll up, it could be expensive for you. One thing more: Your support won't share anything complimentary your way. Another thing: You just might need your raincoat and you won't have it.

Now, store this and hang on for a second storage tip.

BEAT UP THE STORAGE

This one's on the other side of the radio set case—the antenna pedestal. See that white arrow on the rearward section of the pedestal? And that double white arrow on the base section?

Before moving the pedestal in the case, lay up the two arrows. With the arrows looking at each other, the pedestal's ready to be moved. Getting the pedestal in at any other position is downright difficult. Furthermore, it won't fit.

To make for taking the stress off the storage set, USE UP THE SET-UP

While you're setting up the radio set, take an extra second before you push the antenna pedestal into the frequency converter-transmitter. Be sure the participants of the frequency converter line up with their holes in the pedestal.

Mounting the components together with gaskets included can keep up the pace of the SET-UP job. You need that jack, Jack.



KEYT BLOOT

Right smack in the middle of the not-adjustable and unnecessary category is the removal of the mounting screws on the rear of the antenna reflector.

Like you, I should never have to take out these screws. They stay—like glue. And the antenna element would be fast-forwarded for support if the screws weren't there. It would be the reflexion.

Just love's the sticky part. If the screws get loose, they can't be replaced. They're not in the supply system. What's worse, new reflectors come without the screws.



SEE THE COILING AN ANTENNA OVER A LITTLE MOMENT!



TOP THE HOT

Another "unnecessary" bit. The step-out on the antenna pedestal hole clamp doesn't have to be turned—no removed—to fix the clamp.

The nut is factory adjusted for proper clamp tension. Which means you've just gotta work the latch to get the clamp on or off. Let the nut alone.



Also, you have a problem similar to the mounting screws on the antenna reflector.



IF YOU REMOVE ANY OF THE SCREWS ON THE BACK OF THE ANTENNA REFLECTOR, YOU CAN'T GET THEM BACK IF YOU DO. AND YOU'LL HAVE TO REPLACE THE REFLECTOR WITHOUT THE SCREWS.

If you *ever* have trouble getting the clamp on or off, grab a look at page 2, para 6-2-2, of Change Form TM 11-5440-230-01. It spells out the right kind of latching and unlatching of the clamp.

Even if you don't have trouble, grab a look at the TM. You might find some other stuff in there that'll make your difficult job a little less difficult.

And speaker' of tips, you got anything good at Hitachi?



There's no real good reason for it, but some guys go all out when they wrap the W3804, W3808 and W3809 cables around the PL-211 (TPS-15) real chat console with the AN/TPS-15 console. You know . . . they pull the cables around the reel so tight you think they're trying to make room for a couple more cables.

The way things are . . . when you put the connector on each cable into the reel and then start winding, there's a loose head just beyond each connector. It's something that can't be helped.



WHY DOES IT



They'll do a job—don't.

That's about all the story with the connector used on cables like the one that runs between the PL-411U generator set and AN-2115 amplifier-detector power supply used with your AN/TPS-15 console.

There's something here long this kind of connector can go on the "school of hard knocks"—the one you get from dropping the connector on a hard surface or rough handling in handling it up or disconnecting it. One day, the

But you make matters worse when you pull on each cable to make a tight wind. That kind of stuff gets even more of a head in the cables . . . and then the wiring inside gets so heating.

So go easy . . . the wrap'll keep the cables in place—even if they are wrapped loosely.



(maybe sooner's you think) the connector is going to break. And that's when it will have had the worse.

In other words . . .



OH, COURSE, I'VE GOT TO BE CAREFUL!



As you know, some power cables are built with a wire mesh running back a ways from the connector. This wire mesh keeps the connector and cable from passing company from contact

The rubber sleeve'll do a good job as long as you remember you're not supposed to make like you're twisting a cow by the tail when you remove and reconnect the cable. Otherwise, it'll pull loose from the connector.

If the sleeve does pull away from the cable—the machine from which you are your support unit has the job of replacing it.



pulling and twisting. And it helps take strain off the cable when it's connected to a piece of equipment.

Then you have the cables with a rubber reinforcing sleeve instead of the wire mesh—like on the W2000 cable and with the ADVANTAGE cable set.

When you're handling this kind of cable, you have to change your ways—when it comes to the business of pulling and twisting.





The WDM cable that runs from the AM-273 amplifier-detector power supply to the AM-173-10 cables set may give some guys a hankie and a hankie.

When shakedown is in the natural free play in the cable connector that goes into the cable set.

Maybe they get a bad picture on the "A" scope and so they start to jiggle the connector. And if the scope straightens out, they figure they moved the connector just right.

Could be the connector was the culprit. More's likely, tho, it was broken wire in the cable that the jiggling brought together again. And any kind of pulling on the cable will show that something's wrong inside the cable as the scope picture goes on the beam again.

So when you get into this situation, don't fret around. It's time to call on your support unit.



YOUR SB-22/PT GRAB-BAG

INFO FOR
"REMBRANDTS"
AND
"DOODLERS"



It's a good idea—having that traffic diagram board on the floor of your SB-11/PT portable field workstation. You can roll on a plane just what you go where.

Some operators also use it as a blackboard. You know ... to practice drawing planes with a pencil or chalk.



And then there are the guys who go for making permanent drawings. They use something like the tip of a screwdriver to scratch the permanent on the traffic diagram board.

Maybe you think your support people don't get stuck up when they go the switchboard in for repair and don't

feel that they have to spend time getting the board back in shape. They expect you to wear out, but nothing less damage than didn't have to happen ... that's a different story.

Practice may make perfect, but it's better you should practice making good, clear traffic diagrams. Leave the scratch to the people who get paid for doing it.

And speaking of our work, in addition to the old-fashioned stuff of doodling, there's a modern way of killing time—"electrical doodling."

The operator sits at the switchboard ... and soon and again he becomes done so full. So what does he do? He takes



up "electrical doodling"—like he pulls out one of the plugs and releases the cord into all sorts of shapes. Or maybe he pulls out a couple plugs and practices knot-tying with the cords.

It's a great way to pass away idle moments, but it's also tough on the wiring.

There's another "game" that doesn't do the plug or signal lighters any good. That's the one where you pull out the plug and then let it fly back into place. It's bad enough when the plug is pulled

back to the switchboard on the straight and level. But when it's pulled back and released at an angle, it's murder.

Trying takes a beating with because opens the brass of the switchboard



... and there's a chance that it might trigger a signal light.

So, pass the word on all lines ... keep the doodling to paper and pencil only. It can last—and last—on your equipment.





The guy who's on the ball will put a small loop in the end of the wire or will double a length of it—to make it easier to get the wire through the heavy rubber gasket in the side of his 58-10/FT portable field switchboard when he's looking up a line or down.



That's all it takes to get the wire through without doing a lot of forcing.

In other words . . . don't use something like a screwdriver to push the wire through. The gasket is tough, but it's not made to take the kind of punishment that the blade of a screwdriver can dish out. All you have to do is attach a few strands of rubber and all sorts of junk can get inside the switchboard.



GENERAL AND SOPHIS



RIGHT IS TIGHT

Close your MIT before you start work . . .



Use only clockwise cap, for
CLOSURE ONLY, with the force
you feel has a hand around the
screw.



STOP! STOP! STOP!
DON'T TURN CAP
FOR NO REASON, TIGHT

OK



Use only clockwise cap, for
CLOSURE ONLY, with the force
you feel has a hand that is
smooth on the inside.



STOP! STOP!
DON'T TURN CAP
FOR NO REASON, TIGHT

Remember! If you are starting work
with your outboard motor, if you
are not -- THE HARD WAY LEAD.

BATHING CHANGE

Hold it! Stop the warm, soapy water.

From now on use only a stiff brush dipped in cool, clear water to clean the carrier for your MIT fold protective mat.

The carrier carrier doesn't take too kindly to the washing treatment recommended in FOM 21-15, paragraph 4. The warm water and dipping method can warp the fibrous material in the carrier.

In the new, skip the info in paragraph 30, TM 3-1240-20-15 (Mar 61) when you go to clean this carrier. And, make a cleaning area somewhere handy . . . clean MIT carrier with damp brush and cool, clear water only.

CLEAN
COOL
WATER
ONLY



RULE OF THUMB



Point us out no point!
Lather us out in labor!

There are two questions that you face from time to time when you're buying or using one of your hand tools.

A rule of thumb is better in this—

Coated handle handles your weight and the blow of. For 60-3-51431 I dig it. This is the new kind of tool you get in the wooden parts of your life. It's tough too. It's not a rule to get the edge off the wood. It handles as much, and as much as you do.

Hand tools get a lot out of following the general purpose, generally, special. For 60-3-51431 I dig it.

HOW ARE YOUR EXPERIENCES TO BE HELD—

Emergency should and can should! You point your pointed tooling by pointed according to the local law, rule with this OED standard, and safety regulations.

POINT YOUR POINTED TOOLING BY POINTED ACCORDING TO THE LOCAL LAW, RULE WITH THIS OED STANDARD, AND SAFETY REGULATIONS.



Hand tools assumed no pointed or blades should be pointed according to AR 716-2800-1. You can get a gallon of the wood glue OED stained by asking for 60-3-51431-2800. Or, if you want 2 gallons, ask for 60-3-51431-4180.

If your OED-blades you should assume they all your month's work, here are some things to have in mind—

POINT YOUR POINTED TOOLING BY POINTED ACCORDING TO THE LOCAL LAW, RULE WITH THIS OED STANDARD, AND SAFETY REGULATIONS.

POINT YOUR POINTED TOOLING BY POINTED ACCORDING TO THE LOCAL LAW, RULE WITH THIS OED STANDARD, AND SAFETY REGULATIONS.

POINT YOUR POINTED TOOLING BY POINTED ACCORDING TO THE LOCAL LAW, RULE WITH THIS OED STANDARD, AND SAFETY REGULATIONS.



The standard jaws and cutting edges should not have point on them.

Drills, jacks, saws, chisels and wrenches shouldn't have point on the places that have to be held.

Rounded grips shouldn't become point slugged and smooth so that you can't get a good grip.

Before you point window handles, check them over to make sure they don't have cracks or flaws.



If you know that your work isn't going this way, it's a good idea to go to work the wood handles in wood glue, OED liquid 5%, before you point or all too. For 60-3-51431-2800 will get you a 2-gallon out of OED.



IDENTIFY-CONTROL-RESPONSIBILITY
CONTROL YOUR TOOLS

CONTROL

YOUR TOOLS



IDENTIFY... INVENTORY... BE RESPONSIBLE. You need at least three steps to make a good control program for your outfit's tools. But it's easier said than done. Just how do you go about putting words into action? Well let's start with identifying your tools.

IT'S EASIER TO

Components of each tool set or kit are listed in individual supply manuals. Since these DM's are only distributed down to your local maintenance supply support people, you won't get any copies at using unit level unless you ask for them.

To you ask for them through the provisions of AR 15-1, "Military Publications—General Policies." Part 70 tells you to requisition a needed pub you don't get on initial distribution by using a "Special" DA Form 17.

For a pub to be "needed," according to para 15a(1) of the same AR, it has to put some responsibility on, or require some action by, a company level commander... or involve one of your privileges as a soldier. Is anybody responsible for not using up tools that a "need" to know when the issue DM says about a particular kit or set.

PLAN THE "WIDE NET"



The DM containing your tool kit is marked in the space labeled "Catalog No." on your DA Form 2062 Blank Receipt/Issue. It should be followed by the date and include the latest changes to that DM; else revisions and changes will alter the contents of the original kit listing.

If your supply support doesn't show you kit block changes, you'll be dealing up with overages or shortages you don't

even know about. The only way you can do your own checking is to keep up with the issue DA Form 230 series of DM indexes which are being consolidated in the 230-6.

HOW YOUR PICTURE!

When it comes to taking inventory, pictures are worth a couple-three lines of non-technical description. But some GM's have clerks and some don't . . . while some GM's show the same tool you've got on hand and others don't. Well, don't sweat it. If some of the pictures are missing, ask the man using those tools. And if some look different, consider them as "or equal" substitutes.

Relying on your supply store type is usually safe and every tool is a wonder, unless he's after bad maintenance



man's experience. You can't add paper to hardware and expect a solution. So if your supply man is strictly supply oriented, let it go as fast. Head to your best maintenance man to help inventory all tools . . . even better, get several maintenance people to help.



THE SCROLL SHEET



Once you piece together a complete tool kit, make your own pictures of the components by outlining them against a contrasting background. If you like, fill in the outline with a colored silhouette.

What kind of background material you use is a matter of convenience. If you happen to be operating out of a fixed shop and have the room, you can make up a blinged tool board like this one.



WELD TOOL BOARD
GET A COPY OF ANY
SCROLL SHEET OR TOOL
BOARD BY MAILING
THEir NAME AND ADDRESS
TO: WELD TOOL BOARD
1000 WASHINGTON
BULEVARD
WASHINGTON
D.C. 20004



This type of display can be moved up against the wall and locked, then lowered to a level position by locking a supporting rod or bar under the overhead rail.

It allows each mechanic to lay out his cards and kit by placing each card over its allowance.

CONVEYER R. BITE

An indoor type, window card board has a certain amount of slats from the inspector's viewpoint, but you can't have a camera card spread for all around you. Painting or gluing the same allowances on pieces of canvas allows you to move pictures in less space and makes for a lightweight, portable display that can be held out on a portable ground, company coat or livestock area. Any half-way flat surface will do—indoor or outdoor.

You'll find that even the most inexperienced man in your unit can inventory a complete rod kit accurately with a tool camera . . . and inspectors will give him better, too.

DON'T LIST COMPLETE KIT

Change 1 to AR 720-15 (Older 421, "Supply Procedures for TOE Units, Organizations and Non-TOE Activities" says to page 15b(11) that hand receipt numbers will just show quantities of items shown, over or under. No more listing a complete kit set or less by item.

NAME OF EQUIPMENT OR SUPPLY		QUANTITY	REMARKS
ITEMS RECEIVED FROM THE SUPPLIER		THIS IS TO BE MAINTAINED IN THE UNIT AND NOT TO BE USED FOR OTHER PURPOSES	
DATE	QUANTITY	REMARKS	
1954 APR 15	100	100	
1954 APR 16	100	100	
1954 APR 17	100	100	
1954 APR 18	100	100	
1954 APR 19	100	100	
1954 APR 20	100	100	
1954 APR 21	100	100	
1954 APR 22	100	100	
1954 APR 23	100	100	
1954 APR 24	100	100	
1954 APR 25	100	100	
1954 APR 26	100	100	
1954 APR 27	100	100	
1954 APR 28	100	100	
1954 APR 29	100	100	
1954 APR 30	100	100	
TOTAL			

Kit used for inventory of equipment and supplies. No more listing a complete kit set or less by item.

1. This form is to be used for the receipt of equipment and supplies. It is to be maintained in the unit and not to be used for other purposes.

2. This form is to be used for the receipt of equipment and supplies. It is to be maintained in the unit and not to be used for other purposes.

Would You show Your Face
 as Conviction of Your Department?



If you received a complete kit, the side of the kit is lined as a single item on the hand receipt. No more is required. But if you're authorized only part of a kit, such as under some TA, then you need an invoice to list the exact contents item by item.

When you're supposed to have a complete kit issue, but an inventory shows an shortage, the hand receipt holder initials the 2002 to cover the property book office. And there a shortage would be the responsibility of the hand receipt holder, the FPD initials under shortages to show he knew there is when the issue was made. If both shortages and shortages show up in the same kit, due to FM additions and deletions, they both go on the same invoice.

HAND RECEIPT FOR WEAPONS

Para 11a of the same regulation points out that company, battery, troop, platoon, detachment, section, subunit and unit leaders can issue the property they have already signed for down to smaller units. So, for better control, any platoon leader or section chief can have an individual mechanic sign for a tool he issued to the platoon leader or section chief by the FPD.

However, the regulations also say that this type of hand receipt issue has to be approved by the property book office after first going through your own unit commander. That's just in the situation there's got out of hand with all kinds of unauthorized paperwork floating around.

ISSUE TOOK YOUR OWN

When individual mechanics sign for their own, each tool has become an individual's responsibility. If each tool has a patch of color (paint or tape) marked by each tool in their box, misplaced tools will find their way back on the right tool box cover and sparker.



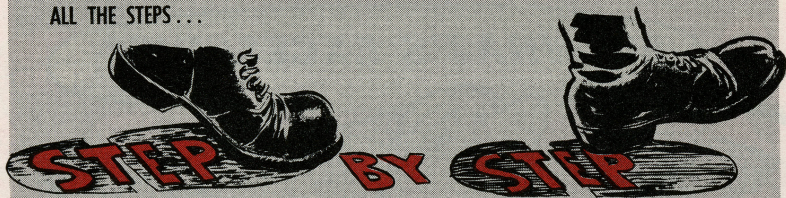
WHAT'S YOUR IDEA

There are a lot more ideas kicking around the field from unit to unit on keeping track of tools. If everybody'd use their ideas here, the same way, we might be able to have up a great tool control program or using unit level. Appreciate any thoughts you might have. Write if you get the chance.

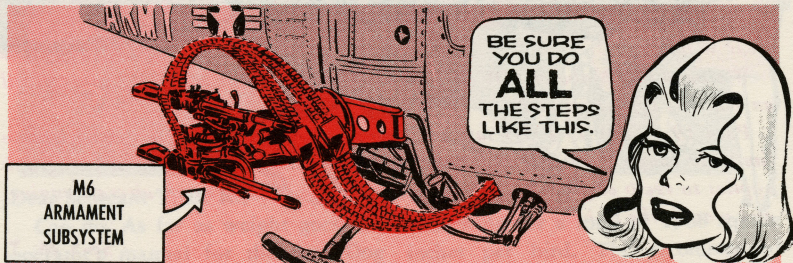
John Smith



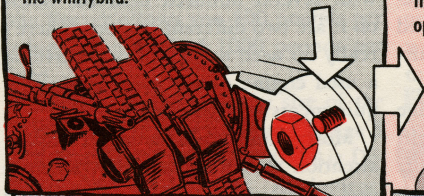
ALL THE STEPS . . .



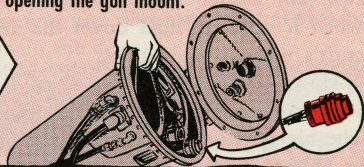
Take the right step first—and everyone after that the way you're supposed to. 'Specially if you want to keep from damaging the electrical connector of the M6 armament subsystem when you're removing the mount from your Iroquois.



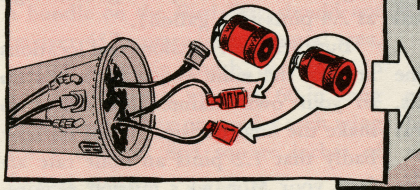
STEP ONE: Remove the eight nuts, eight bolts and 16 washers holding the mount to the whirlybird.



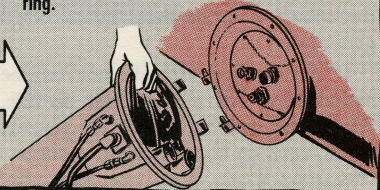
NEXT, swing the gun mount part-way open and disconnect the electrical connector from the aircraft receptacle. Now you can finish opening the gun mount.



THIRD STEP: Disconnect the two hydraulic connectors from the aircraft receptacles.



LAST STEP: Remove the gun mount from the hinge pins located on the gun mounting ring.



You might be able to do the whole job yourself if you're the muscle-type. But play it safe and easy by getting a buddy to lend a hand.

Cornie Rodd's BRIEFS



ALL AIRCRAFT... REPORT!

Aviation units better grab hold of their new AF 710-12 (17 Dec 82) which supersedes AF 710-1208-0 for preparing your Aircraft Inventory, Status and Flying Time Report. The new system requires daily recording, using a 24-hour day, beginning at 0001 hours 1 Jan 84. You still use DA Form 1352 which is being revised. The AI makes some changes to the form. There are some new definitions, reporting procedures, assignment codes and prescribed aircraft availability rates.

GRIP THIS ONE

Grab on to a new Gripper, Road Creek, for your AF 837 and 8112 call. prepared artillery jobs with the P29. 2640-732-2771. The old number, P29 2640-732-2711, won't hold it.

WASHIN' CAUTION

When you give your M40, M40A1 or M40A2 tank its Friday night bath, be sure you keep the engine running. That way, if some water gets through the engine compartment doors and into the exhaust system, it's not so likely to give you a hydrostatic lock.

THE KIT & KABOODLE

If your files-the rules are it is a good chance you get more's a little more, you might want your support groups that you'd like to have their members proof the founder and founding articles into whatever kit distribution boxes. The story on doing the reworking is in TR 9-1448-252-04/100 (17 Sep 82).

LOOK, MA, NO FINGERS!

The cooling fans in the engine compartment of the M108 (T19821) and M109 (T19827) SP howitzer have already chopped off the fingers of several soldiers. **Be real careful!** See page 12 of the next issue of TR for more scoop.

U KNOW WHAT

Getta 2-type 10—the make the Browning Machine Gun's 10 948 (4 Sep 81)? There'll be no more, no less, about what that "U" stands for if you know about page 226 of AF 210-1. The 10 gets a "U" when there's no 14s or 15s for the equipment—or when no link job is planned or it's been used by a different commodity command (see article).

right now

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