

Issue 183

PS

1961 Series

THE
PREVENTIVE
MAINTENANCE
MONTHLY



THE LION
AND THE ROYAL
MAINTENANCE
MONTHLY

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YOUR *BLUE STREAK* REQUISITIONS



You know the story about the guy who called "well" so many times that when the real McCoy for our other line, actually paid any reward while absent. Then there's the one about the guy who bumped off the guys who was giving out with the golden eggs.

Well now ... they're good points to remember when you're sitting, parked or guided inside guys go to fill out a Blue Streak requisition for an Ordnance, Engineer, Signal or Quartermaster form.



Blue Streaking is a good deal ... you get what you want—less, less, and double less, you can get in the bad habit of having your support unit with a Blue Streak for just about anything and everything. That includes things like automatic hand-to-hand, armor

and weapons. Or you can try off a Blue Streak for an item to be supplied you already have. That's no good either. The point is that Blue Streaks get special treatment from supply. People snap what they're doing so much as to



You suppose your support unit is working on a routine requisition from another branch in your formation when your Blue Streak comes through the door like a bolt. That's all right if you're in bad shape for the past few requisitions. You know ... an emergency. But if it's not, you're loading up the other units by maybe delaying their requisition. And you're wasting money because it takes more than a little time to process a Blue Streak.



When you come right down to it, does your organization maintain, you have to be in two directions to live off a "legal" Blue Streak. You want to be on Operational basis or a Law-Out-of-the-basis.

| OPERATIONAL BASIS | LAW-OUT-OF-BASIS |
|--|---|
| <p>You are "Operational Basis" when the item is needed to replace a destroyed material or existing equipment ... and to make it operational again. You also should be able to make the repair yourself.</p>  | <p>"Law-Out-of-Basis" is used when your allowance of an item you need to keep the major item from being destroyed is shown on a list for working. The exception is an item that can be repaired by your unit or your support unit in a hurry.</p>  |

BEFORE YOU FILL 'ER



There was in a right smart lot of scraps in TE OILS 100-4 (10 May 51) for your field maintenance. That'd be paragraph 1, section 1d1.

In case you're stopped by it, it says you want to clean the filling and draining plug in the vent mechanism . . .

and the oil when empty the plug goes in to



And . . . on the 18 says, you can clean the cavity by using a piece of lint-free cloth wrapped around the end of a dowel.



The dowel doesn't want to be more a $\frac{1}{8}$ inch in diameter. Use another piece of lint-free cloth for cleaning the plug threads. Do the cleaning before you add any oil.

Maybe you don't think you'll come across any dirt or stuff. That's been an assumption you've been doing the cleaning all along.

WASHER NEEDED

When about your support unit man comes around, ask him if he has the word about the spacer in the M79 manual for the M16A1 160-mm round, less rifle.



To put the thing on the table, pass the word that all that needs doing is to weld a 1/2 x 1 1/4-in. flat washer (FPM 9310-013-0100) on to the spacer—making sure the hole in the washer lines up with the hole in the spacer. After the welding's done, the unpainted part get hit with black oxide paint.

If the hole cable (M16 P/W 7807101) and washer get in each other's way, try grinding 1/4-in. from the outside diameter of the washer.

ONCE ONLY

It's the same ... the first and speaking around once in cleaning your small arms. And here it is.

After you've fired the weapon, you clean it once only. You do the cleaning the way it says in your FM and then put on lubricating oil—PL Special if the temperature is above 87° ... and LAW when it's below 87°.

Now ... if a your weapon gets used just for drills, training, classroom instruction and the like, you clean and oil it the same way after you're through handling it. In other words ... that's like it's just been fired.

And if you don't use your weapon for a long time ... then you clean and lubricate it—also if it's just been fired—every 90 days. Course ... if it needs



a cleaning once, don't wait for the 90 days to go by.

There's one catch in this business of cleaning your small arms once only. Being's how it's a one-time deal, you want to make sure you do a damn good cleaning job while you have your mind on the cleaning materials.

You can see the official word on this one-time cleaning in the lubrication orders for the weapons once the LO's hit your unit.

Connie Rodd's "DON'T WASTE AIR"



Air brake noise

Some older drivers have been beating down our head with the words when they tighten the bolts on the air brake chambers of their trucks and trailers. This cuts the diaphragm gaskets and sometimes causes a leak.

The bolts need to be tightened up just enough to make the diaphragm airtight ... you can say check this by covering the whole chamber with soap suds and seeing if you get any leaks.

The trick is to tighten it bolt-tightly and not push the diaphragm out of shape.

WORTH CHECKING
ALL AIRBRAKE CHAMBERS
CHECK FOR
DAMAGE
OUT OF SHAPE



DAMAGE

You can't afford to have any leaks, but making with the muscle is more likely to cause leaks than prevent 'em.

VEH's valves leaking?



Are the valves and hoses from leak valves on your MBI tank necessary while the leaking? The answer can be found in the book in the book in VEH-6475 in Fig. 118, page 214, TM 9-1120-204-10 (May 50). Your God name supports our reputation a new and under TSN 3158-107-1204 and put it in for you.

Leaving your bowstays

WELL, MAYBE
YOU SHOULD NOT
BOWSTAY THEM
BUT I THINK THERE
YOU DON'T NEED THEM



So....there's still a lot of head scratching going on about the right way to install the gear valve assemblies on the H2S HP 181-mm bowstays.

The big headache comes when you try to figure out how the four leaves get put in each of the slots on the tube.



FIRST... put three identical leaves (7206247) into a slot on the bowstays tube and hold 'em in place.

NEXT... slip the fourth leaf (720 6248) on top-of the three leaves with the tapered part of the leaf facing up... **AND** then line up the holes in the four leaves with the two holes in the tube.



AND now force the leaves with the two No. 8 x 1/4-in. rubberhead screws and two No. 8 internal-head lock washers. That's it.

Install the rest of the assemblies in the tube like this and you've got it made.



Take the high level or take the low—the important way gig you either way.

Before it is too late, that's the way it is when you're checking the oil levels in transfer and transmission of the M20 and M20A1 Japs.

The transmission oil filler plug is about 1 1/4 inches higher than the transfer filler plug.



So, when you're filling those two gear cases like it tells you in TM 9-801 5-2 (21 Aug 54) for the M20 and TM 9-801 5-2 (21 Mar 54) for the M20A1, you fill 'em to plug level. And that puts the oil level in the transmission about 1 1/2 inches higher than in the transfer.

So far, you're holding a put hand in the high-low game.

But—like it tells you in TM 9-801 5-2 (2 Aug 54), if there's one around—the transmission and transfer as your running vehicles are connected by shafted passages so the oil can circulate from one to the other and back again.

Naturally, after a bit of travel with the vehicle, some of the oil from the higher pool in the transmission goes to the transfer and doesn't come back. First thing you know, oil levels in the



two gear cases are the same.

That's when the important hits you... with too much oil in the transfer and not enough in the transmission.

Obviously the oil in both of those gear cases can't be kept exactly at filler plug levels when one's higher than the other. So, here's your practical way out.

Fill each gear case to its own plug level when adding new oil every 11,000 miles or so.

Make your oil checks and maintain the oil level during regular maintenance services at the transmission plug only.

A little extra oil in the transfer is something you can learn to live with, 'cause the transfer can take it.

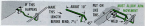
Watch that stamper!

You want to make a stamp? Do it at your brother John's job, but not in the engine compartment of the 350 1/2-ton GP gun or the M113 in its hoistway.

When you're working in the hull about the engine's pulley, step like an egg, and don't put the weight of your legs on the push-pull brake system control.

Your step is that control where the solid rod slides into the tube, and it'll bend 300 pounds—which is what you'll pay for a new one on a statement of charges.

Once it gets bent, you can't straighten it up again so it works right—buh, bye, no longer.



Now there's a way to fix this so even a headbashed and head-bowed machine mechanic can't stamp the life out of this control lever.

If your CO approves, you can weld a gusset for the lever, like in the picture.

Get some 1/2-in. diameter steel rod—FPM 5418-106-1011—and cut it into two pieces, one 18 inches long and the

other 1 1/2 inches.

Make the welds like the figure shows and you're in business.

Play it cool when you make these two welds—have your fire extinguisher ready, and protect the area around the work with an advance blanket. If you are a safe soldier you'll never be a sorry soldier.

Knock it off

Here's a fix that'll take the sweat out of changing the fan belt on those Clark Pliantbeaters that have little dropup for slipping the generator.

Take off the generator. Then take the upper cover out of the generator mounting bracket and saw it off like so:



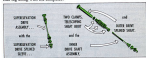


When the support unit man (climbs into your crashed vehicle with his car remote your MIGHTYbulletin computer to send it back to the depot for repair ... pass this word along to him.

Tell him that the linkages also want to go back with the computer. That way all the parts'll be together.



And, to make sure nothing gets left behind, here're the parts of the linkages that tag along with the computer:



And, seeing's how the linkages go with the computer when it's sent out for repair, they also want to be with it when the computer goes back to your world.

HERE'S THE LAST...
IN EXERCISING THE STAFF.

RECOIL MECHANISM



The lesson would from the people in the social business says it's best to move the large plates of the SPAT's social mechanism every two months—*it*, that is, the gun's not been fired.

And the job can be done safely with nothing more'n your elbow-grease and the hand pump.

So on your copy of PH 85, page 12, cross out the item on exercising the SPAT and make it read: there is no need yourself of this new way of doing this mighty important thing.

You'll be moving only the large plates in the weapon's hydro-spring social mechanism, but every six months (if the gun's not been fired) the mechanism will be given an exercise by your Obedience support unit which will move back the small and the large pistons, plus there's a shortage for a good measure.

Your last monthly routine goes like this:

1. Loose gun at non-alignment.

PH 85/86

2. Open the needle valve to release the slumping pressure. (This breaks the indicator pin out and free in guide.)



3. Check fluid level in the reservoir (the dip stick should read 1/2 full).



4. Close the needle valve.



5. Now start pumping to build up slumping pressure. Keep the pump going until the indicator pin is fluid with in guide. (It's usually this about 1/2 stroke to get the pin back.



ABOUT 45 STROKES...

6. Take a long breath, realize your guide, and give the pump 150 more strokes. With the last burst of pumping you'll lodge the large plates into thing like 1/2 inch—and the movement will give the total indication (break the fluid all the way and then the indicator pin should be in guide).



7. Open the needle valve again to release pressure and back to its unslumped position the indicator pin if it again protrude from its guide.



8. Your last step, obviously is to close the SPAT with normal operating pressure... to close the valve and free the hand pump with the indicator pin attached in the guide once again. (It's toward your starting stance, and you're done.

PARDON THIS PLUG

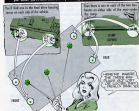


If you think I'm plugging the best drain plugs on the M113 APC, you're right!

The best drain plugs have gotta-ripout . . . gotta-ripout . . . gotta-ripout . . . in its place and right before your M113 makes like a heavy boat. Otherwise, it can sink like a lead submarine.

There are seven plugs you'd better check—over just the thing is, but the thing is right—while you're on hand before you take your M113 into the drink.

Four of them are similar—R6 (130-004) R60. Two are totally unique along the way, in shape or right now, but though you'll not mistake, when you drain your tank, drain out all you can get for service.



The other three are big ones—R60 25-007 130-008. They can really sink you too.

You'll hammer with you and crew under the hull. Course you'll take all safety precautions, make off, make blooded, and all this that.

The bottom you're OK, on these big ones, take a half-pinch hammer and tap—lightly—in the back end and the shape of the screw. It should be right and well covered in the opening.

The best drain plugs are pretty much. The front plug lets you get in the differential drive. The center one, which is easy to open because it is close to the big hull screw cover plate, is removed when you want to drain the center one. You use the right, rear plug to drain the side.

These best drain plugs all work alike. To take one out you focus the



best-headed cap-screw—one of the T10's also calls it a lock nut. The screw goes into an oblong retaining bar, or catch, forces the screw and screw and slide it sideways until the assembly is free to

drop out. The retaining bar comes across the hole, one end first.

When you replace the plugs to seal the oblong opening that is created in the hole and then tighten the cap screw until the cover is seated tight. Tap it around gently with a hammer to get it in the right place and to make sure it's seated tight. Also make sure one end of



the retaining bar goes against the leg on the edge of the hole.

When your M113's in operation there's a good bit of flexing and vibration. If the retaining bar is the loosest off-center, it could loose up and let the whole assembly drop off.

And that's a mighty big hole left open to let the drive in. You could sink if the plug's off when you have a hard big push.



LANYARD ADJUSTMENT



As you're sitting in the assembly building at your Nike site, and you're looking through TME 5-5814-2 when you hit page 125c110 in section II of chapter 4.



You read that the propulsion assembly lanyard on your Ajax missile gets adjusted for Nike play on both sides of the flange on the boost thrust ring assembly. And that gets you to wondering . . . does the rear self-locking hex



nut gets adjusted to 14-16 from the machined edge of the flange or from the nominal center of the flange?

The answer in a nutshell is that the adjustment is made from the machined edge of the flange.



BENT ON DAMAGE



The Black leader can run back and forth all day—loading and unloading missiles. And it'll be all set to go back on the job the next day.

It's light and tough—but it's just as strong. So . . . if you drop some missiles on the launcher and then forget to re-load them, the leader's not going to raise the missiles and launcher off the ground as you go to raise the superstructure before backing off. Not on your life.



What'll happen (and it has more'n a few times) is that the superstructure components—like the pole assembly, transfer arm, etc.—will bend from the strain. So—release 'em once they're on the launcher.

CRADLE SONG

Dear Editor,

For a long time we had no place to hang those two handsets used at the control indicator cabinet (located in the launching section of our Nike-Hercules unit). They got kicked, banged, and sometimes bugged up.

So we fixed up a cozy cradle for them. It's nothing more than a thin board set on the right across the top of the control cabinet. To hold the board in place, we fastened a short block at either end—in the whole works hangs down like a frame over the cabinet.

That's it was just a case of slapping a cradle out of some heavy wire (or even longer if you have some handy) and fastening the cradle to the wood. It works fine for us.

L.P.A. J. R. Harrison
APO 331

San Francisco, California



(Ed note—A real handy solution. That cradle can also be used at Nike-Apex installations.)

DOING A SPARE JOB



When making your maintenance checks on replacement chassis at your vehicle site, it's a good idea to keep your mind about you so you don't slip up some place along the line.

First, make sure when a part shows up back, tag is right then to put it for a working over—whether it says on the tag or goes in your support unit.

Whenever you do, don't let it get back on to the shelf in some form. You may think you'll remember it, but there's a good chance it'll be forgotten.

Let's say a chassis gives you a hard time and you can't spot the trouble. You put it on the shelf without tagging it and replace it in the equipment with a good one. Pretty soon the replace-

ment develops the same kind of trouble, so you call on your support unit for help. They decide to replace the chassis ... reach up on the shelf ... grab the best one you put there ... and put it in the equipment.

Naturally, the same trouble occurs the guy in the line. And maybe he's talking to himself because of all the time he's wasted—for no good reason.

It's easy to see that you can't go wrong in taking a few minutes to tag a bad chassis.

Speaking about replacement chassis ... when one reaches your work by way of your support unit, check it out. If it doesn't come up to snuff, turn it back and ask for a good one.

TIPPING TRAILER TIP

Maybe you run your Harco equipment around on two-wheeled roads all the time. No one would say if you do.

But if your work sets up shop on all kinds of ground, then you want to keep your vehicle moving down the page.

Probably it hasn't happened to you ... but when some guys disconnected the XM500 police trailer from the MCAC truck, the trailer tips backwards. That's because the wheels and the height of the police make the trailer top heavy ... and when you're on rough ground, the trailer has a rough time keeping its balance.

There's a caution note in paragraph 5b (1) of TM 9-2140-215-14 that tells you to be sure to put the rear leveling support jacks in the support position before you unhook the trailer from the towing vehicle.

And to make sure you put it in your case doesn't forget, get into the truck and put this warning in front of the lifting and on each side of the 4-frame and on top of the 4-frame members.

CAUTION: WHEN BEING LIFTED BY
PLATE LIFTING DEVICES, LIFTING
STRUTS MUST BE USED.

GET YOUR KICKS —ELSEWHERE



OK... as you look in your TM and right smack in front of your face with pictures—it says you must put Hawk loader by putting the dial in neutral and then pulling on the parking lever.

If the lever doesn't want to come back, don't—and don't—get in front of the lever and give it a push with your foot.

The lever is not moving for a good reason—and shoving it with your foot's not going to do anything except make things worse.

Uhh... when the lever won't move, set it if you forget to put the dial



in neutral. If that's not the answer, call on your battery mechanic and let him take a look at the motor linkage to see if he can spot a jam up.

And if the mechanic can't spot the trouble, he'll get the word to your support unit.



Don't make... sure well enough about... you make it. There's a man, but of parts to the Mike-Horvath XM50 make sure that you don't want to fiddle around with.

There'd be the ring, gears, belt, adapter and igniter.

If the parts need repairing or replacing, it's really a job for your support people.

FUEL FEEDIN' FACTS



Any one* hand with flame throwers will tell you that the portable are best refueled from a 5-gal drum, with the aid of the MIRA-1 filling kit ... or, even from a 5-gal can.



In a pinch, of course, he'll go along with portable's grade* their aim directly from the M4 service unit ... too, he'll quickly warn you about the dangerous business of controlling the fuel flow simply by working the pump lever.

To safely refuel portable's directly from a powerful M4 you have to control the fuel flow by partially closing the mixing-rack discharge-valve like it says in para 34g TM 3-1840-204-12 "M4 Service Unit."



Doing it the wrong way—trying to control it with the pump lever—will damage both the pump and the igniter circuit. It's the quick stop-and-go jerks (as you guess the pump lever to deliver the short squirts in order to fill a portable's small tank) which bring on the ready damage.

THE RIGHT WAY

TM 3-1840-204-12 says to gradually close the mixing-rack discharge-valve until you've turned the flow down to the pressure you need to safely fill a portable's small tank.





All keepers of radioactive test samples had best check into this tale of urgent Chemical Corps MWD's right away.

They have to do with proper identification (tagging) of test samples in the field with special tags and checks. You get the tags and checks at Headquarters, U. S. Army Chemical Center and Chemical Corps Materiel Command, Army Chemical Group, Maryland ... via mail.

The modifications affect these test samples:

1. MWD 001 01 05 Sep 60 Radioactive Test Sample, Catech 60, Gamma, 60, MWD 001 004-004-004, 001, and Radioactive Test Sample, Catech 60, 60, MWD 001 004-004-004, 001.



2. MWD 001 01 05 Sep 60 Radioactive Test Sample, Catech 60 - Gamma 60, 60, MWD 001 004-004-004, 001. One piece of Radioactive Test Sample, 60, 60, MWD 001 004-004-004, 001.

3. MWD 001 01 05 Sep 60 Radioactive Test Sample, Catech 60, Gamma, 60, MWD 001 004-004-004, 001.



There's also an urgent MWD 001 01 05 Sep 60 for Radioactive Test Sample, Catech 60, Gamma, MWD 001 004-004-004, 001, but this one will be taken care of by field or depot maintenance. If you keep this test sample on hand give your field maintenance outfit a call about it.

U. S. Army Chemical Center and Chemical Corps Materiel Command

BE IT EVER SO HUMBLE



Not fancy. Not money. Not even too/comfortable, sometimes.

But your JVC/J&J Shutter is "home" to the family of electronic products who make up the JVC/J&J 26.



And the 266 provides the JVC/J&J 26 with a snap starter for carrying out its communications mission. All it takes is a scan to some simple preventive maintenance to help keep it shipshape.

A careful look inside and out will serve that purpose. It'll help you spot trouble wherever it starts on ugly land.

It's an easy check to pull—whether your foot is cock rigged or hand. May as well move inside then...

Inside



FLUORESCENT LIGHTS—
Fail to light; loose; tubes missing.

INTERNAL WIRING—Insulation frayed,
damaged; loose; wire damaged.

CLOCK—Not working; runs fast or slow.

FLOOR—Cracked, flaking.

ELECTRICAL OUTLETS—
Loose; plugs unable to seat right.

FLOORING BOARD—Missing; not work-
ing; folds down; loose; fasteners missing
or loose.

FLOORING—Dust collected; dis-
turb; damaged.

**WALLBOARDING FOR
DOOR**—Frayed; missing;
loose; strips missing.



ABC DEFENDER—
Missing; loose;
damaged for weighing
or re-billing.



**CIRCUIT
BOARD**—Not making
positive contact.



So much for the inside story. Time is vital: that a clean atmosphere every day will keep the dust from settling—especially on electronic equipment where it can run some dangerous experiments. Meanwhile, on the outside . . .

Outside

FEED-THROUGH HOODFASTENERS—

Buttons worn out, cracked, loose, bolts loose, metal cup loose, missing.



EXTERNAL GROUND CONNECTOR—

Bolt, broken, corroded.



SCREENS—

Bent, broken, loose.



HOLD-DOWN ASSEMBLY—

Bolt, loose.



WINDOW SLITTERS and LOCK SWITCH—Slacks, loose, won't move smoothly on runners.

LANDS POLES—

Missing, loose.



SHELTER SURFACES—Fast cracked, surface bent, damaged.



NUMERICAL PLATES—

Not readable, painted over.

Mast Bracket MP-05-A, Mast Base MP-03-B

Mast Base Bracket MT-007/GRC, Mast Base MP-76

**NOOSE WRENCHES
and GRABERS—**
Cracked, leaking, repair.

MAST BASE—Ceramic
insulator cracked, dirty.

GASGAGE BOLTS—
Loose, rusted.

Be careful
don't get
stuck
when
pulling
back
the
mast.

When
checking
the
mast
base
insulator
be
careful
not
to
over-
tighten
the
bolts.

WRENCH SPACER—
Split, rusting, missing.

MAST BRACKET—
Seri, rusty, paint
chipped.

CLAMP—
Loose, missing.

LUBRICATE with 05-08 mas-
table and/or parts.
Rings
Latches
Cabinets, runways.

SHELTER VENTILATING BLOWER
and INDOOR FAN—Rise off shelf
and lubricate. Check for looseness.

DOOR HINGES
(inside and outside)—
Loose, fail to secure door.





IN THE NAME
OF CHRIST—J.
E. FLANNERY'S
HAPPY BIRTHDAY
DINNER OF THE
BAND NEXT
MONTH...

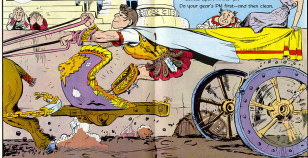






Joe's Dope Sheet

Young Flopus, with chariot a-gleam
Found that squawish was not on the team.
Fast polish and spit
Comes apart in the "pit"—
Do your gear's PM first—and then clean.



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

And
now
back
to
our
story.





And so, down through the
rugged passes swept
Battle-The-Horn! Swiftly,
with accuracy mobility, they
brought the outcome...

And they fell upon the well equipped Romans with terrible effect...
and when at last they returned to the dusty steppes—they left be-
hind a shaken Empire.

CAN'T BE SER PALESTO
WARR... PLEASE, TELL ME,
HOW LONG WE CAN
HANG THE CLAND FOR
THE ON DEPT AND
SUPPLY BACK IN ROMAN?

E. Plutarch learned nothing from this lesson. In battles to come he
made the same mistake in maintenance... Thus began the decline
and fall of the only Roman Empire...

QUESTION AND ANSWER DEPARTMENT



POOPED PADS

Dear Staff-Sarge,

We've been pigg'd for longer transfer mounting pads on our M11 trucks even with the nuts as tight as the threads allow 'em to go.

What're we supposed to do—get new pads? Or are the inspectors just not allowing for "give" in these mounting insulators?

Sgt. J.B.R.



Dear Sgt. J. B. R.,

Those mounting insulators under the transfer supports are made to take a special bolt that's threaded on the nut with six down (not so far).

That's so you won't put too much pressure on the insulator. Part of the purpose of those insulator pads is to let the transfer move a bit.

So...the mounting insulators shouldn't need replacing unless the transfer sags or is out of alignment. And no one's likely to let your pads be squeezed so much so that they're still loose after the nut's down as far

as they'll go.

About the best way for the tightness of the nut is to make sure they can't be turned by hand... nor by a two-fingered twist with a wrench. In tightening they get 62 to 68 foot-pounds of torque.

One other thing you've got to remember: Those nuts should be the self-locking kind. If they're not, you'll need some lock washers or lock bars, like the ones in para 110(c)(1) of TM 9-60.22 (17 Dec 54).

Handy-Handy

NO DYE NOW



Dear Staff Sergeant,

What's the ESN for marking compound (E) green—U.S. Army Spec 4-1.1112?

It's used to restore the original color to the protective mask covering. It also makes them water-repellant, mildew-resistant and fire-resistant.

PFC C. Y.

Dear PFC C. Y.,

Marking compound for use on canvas or web equipment is not. Change 1 (2) Mar 40 in FM 20-12 says do not use dioxides, yellow lime soap, cleaning fluids, or dyes on canvas items or webbing or you'll get discoloration.

Never keep this issue book in mind because it wastes the days in the Tilt's that say to use the marking compound.

Handwritten: **NO DYE NOW**

DUMP THE RUST



Dear Staff Sergeant,

Our master officer insists on having all M1's dump trucks parked with the dump body up on safety hooks.

Reason is not it would be safer to keep the bodies down when you run. What's the story on this?

Cpl J. A. G.

Dear Cpl J. A. G.,

There's no need to a safety hook for keeping an eye peeled for safety. It can be risky to go poking around under the dump body when it's raised.... without safety hooks.

Use the master officer's right. Those M1's should be parked with dump bodies up on safety hooks to help them off whenever and hold down rust.

Handwritten: **DUMP THE RUST**

WHO HAS THE NIPPLE?



Dear Sgt. Dwyer:

Out here in the barracks, a man can't drive over to a local plumber and pick up a few parts for a piping job.

Is it need to know who supplies which FBC #730 fittings and specialties. What's the camp as responsibility for these parts?

Sgt. W. B.

Dear Specialist W. B.:

You'll find the numbers on FBC #730 fittings and specialties in AR 701-4750 (29 Dec 61), and Change 1 (17 June 62).



As the AR tells you, the Corps of Engineers is responsible for specs, standards, and engineering for this whole class of parts—but not for all the actual buying, making, and supplying.

In FBC order, AR 701-4750 lists each item that is not the responsibility of Engineers. This list of exceptions includes an FBC (Item Responsibility Code) column, so you can see which each service is responsible for the parts you need.

Simple as picking peppers. If a Class #730 part isn't pegged in your DDC, check it out in AR 701-4750 and find out which service is responsible

for supply.

Sgt. Dwyer

| Item | Service | Remarks |
|------|-----------|---------|
| 1 | Engineers | ... |
| 2 | Engineers | ... |
| 3 | Engineers | ... |
| 4 | Engineers | ... |
| 5 | Engineers | ... |
| 6 | Engineers | ... |
| 7 | Engineers | ... |
| 8 | Engineers | ... |
| 9 | Engineers | ... |
| 10 | Engineers | ... |
| 11 | Engineers | ... |
| 12 | Engineers | ... |
| 13 | Engineers | ... |
| 14 | Engineers | ... |
| 15 | Engineers | ... |
| 16 | Engineers | ... |
| 17 | Engineers | ... |
| 18 | Engineers | ... |
| 19 | Engineers | ... |
| 20 | Engineers | ... |
| 21 | Engineers | ... |
| 22 | Engineers | ... |
| 23 | Engineers | ... |
| 24 | Engineers | ... |
| 25 | Engineers | ... |
| 26 | Engineers | ... |
| 27 | Engineers | ... |
| 28 | Engineers | ... |
| 29 | Engineers | ... |
| 30 | Engineers | ... |
| 31 | Engineers | ... |
| 32 | Engineers | ... |
| 33 | Engineers | ... |
| 34 | Engineers | ... |
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| 37 | Engineers | ... |
| 38 | Engineers | ... |
| 39 | Engineers | ... |
| 40 | Engineers | ... |
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| 88 | Engineers | ... |
| 89 | Engineers | ... |
| 90 | Engineers | ... |
| 91 | Engineers | ... |
| 92 | Engineers | ... |
| 93 | Engineers | ... |
| 94 | Engineers | ... |
| 95 | Engineers | ... |
| 96 | Engineers | ... |
| 97 | Engineers | ... |
| 98 | Engineers | ... |
| 99 | Engineers | ... |
| 100 | Engineers | ... |



Dear Sgt. Dwyer,

Revised-out voltage regulators are coming in a patch of deadline time on meters and gauges.

We believe the damage is done by water that leaks into the regulators through the damaged connector cables. Can you give us the wrap on a rubber-covered cable we could use on our regulators?

CHUCK E. F.

Dear Mr. E. F.:

Non-killing of regulators could be one of those crimes where the pollution-fighting party didn't necessarily do the dirty work.

So before you pin the whole crime on the twisted cable, why not check out other causes of rust in the regulators?

hours for operating time as they up overnight shipments.

Those twisted cables are waterproof and they should've given you trouble earlier they have broken seals. They've needed to help suppress radio interference.



The water might be leaking in some other way. Through a bad cover gasket, for example, or a loose cover. Or from steam cleaning.

Your vehicle might be a buildup of condensation that collects when equipment cools around while the weather flows hot, cold and humid. It could be that your rig isn't working enough



Your best bet is to keep the regulators over-dry and dry and cover a month remove the cover and clean them up inside.

Here's a tip on replacing voltage regulators.

Replacement units don't necessarily come with the correct gap setting for your rig. So you'll want to check 'em out like it says in your TM before they reach trouble in your generators and batteries.

Sgt. Dwyer

WHO SEZ YOU CAN'T?

Dear Half-Mast:

I've heard some discussion as to whether you can or can't weld non-ferrous (aluminum and magnesium) metals. Can you settle the argument?



Dear Cpl. S. L. M.,

There's a new welding set that'll do the job. It consists of a MIG (Mixed Inert Gas) gun, voltage control box, welding container, and pressure non-purged gas regulator to be used (with the international 500-amp arc welding machine with 115-volt AC or DC auxiliary power) for welding non-ferrous parts.

The set's called Welding Set, Arc, Inert Gas Shielded, FM 541-591-0418.

It's now part of the Test Kit, Automotive Maintenance, Organizational, CM (Publication 1, 3rd Ed., Supplemental, FM 494-714-8743, LHM 9-4-8943-AM1, and Shop Inv. Welding, Field Maintenance, FM 541-591-7346, CM 9-4-3434-AM1).

The welding set is an Engineer item, so order it from them.



LIGHT COVER, PLEASE

Dear Half-Mast:

TM 9-130-111-20P (January 1974) does not list the left stop and taillight door (cover) on page 47 with either taillight doors for the 3-axle.



The part is listed in the first 7 591, 6-744 as FM 410-712-6430 11-004, 1500000, 00000, Machine and remote tail and stoplight, w/ferrous, w/3-axle stop and taillight).

Do we or don't we get it?



Dear SP/SG (A, G, E),

Just got word that Chase, Machine and remote tail and stoplight w/ferrous, Assembly 1 (left stop and taillight), FM 410-712-6430, is an authorized item.

Seems as though when the hole was transferred from Section II of Chd 7 591, 6-744 to TM 9-130-111-20P that cover (door) was left out.





DA form

2206

Revised 1978, 1984, 1985, 1986



In part for the AD, the maintenance and up-keep items which are not charged against a vehicle.

1. Tires, tubes, batteries, the chain, white wash, antifreeze and your own. (Note: although a vehicle isn't listed for these replacement items, they do get recorded on the back of a vehicle's old form 2206. This info. is important to the management people. That's why when a vehicle's actual base value goes up to \$100 to \$1,100, the Department of Administration Transport Management Agency, last George B. Smith, Maryland ... the it says in part 10 of the 22-000-1 (Aug 78).

RECORDS
22-000-1



2. Cost of processing and deprocessing a vehicle.
3. Storage maintenance costs.

4. Cost of repair is assessed special equipment based on current, vehicle, house, etc.
5. Key labels, and other operation PM checks performed by the driver, and any other maintenance which can be easily done, for example, tightening a loose wire during ordinary stop, without need of a work order.
6. Cost of modifications. Further labor over the cost of the items listed are chargeable, for example, installation of a radio, or a heavy-duty quarter ... at even a "day home" on the use of a police truck, are not chargeable.



Are you paying your administrative vehicle not to picture too much? You can if you give everything you give 'em on DA form 1306, "Repair and Cost Record for Commercial Design Vehicle."

That's right DA Form 1306 keeps track of repair costs which are charged against a vehicle's authorized repair expenditure limits. It sets all manner of when it comes to keep spending money on maintenance of other vehicles ... when to retire and replace 'em. You might say it's actually with the owner of the serviceable life of commercial design vehicles.

No-in all fairness to take full credit-it's who to know vehicle maintenance costs are recorded on the form-and which are not.

If you have any doubts about any of the entries on your 2206's own's the time to make a close look at 43 799-1306-2 (21 May 79) "Expenditure Limits for Repair of Commercial Design Vehicle."

Get figures?



In part for the AD, the other following items are chargeable against a vehicle's authorized expenditure limits:

1. Total cost of repair parts taken exchange quantities or non-exchangeable are used, the exchange cost of and materials will be charged.

2. Cost of all repair material to have a vehicle rate and materials.

3. Cost of all about vehicle listed, but a 10 listed "About Vehicle Label Charge" for more info on this.

4. Cost of inspection time on authorized maintenance and repairs.

5. Cost of all about labor listed time a vehicle, and also they provided work on a vehicle.

The shop gives a vehicle clean service—as required by the inspector on DA Form 2118 "Parts Slip and Work Report"—and records the work for same on the work require form. This cost, however, like the inspection cost, is not posted on DA Form 2306.

At the 1,000-mile or annual inspection a vehicle's no-charge services include heavy service and lubrication, plus wheel and brake inspection . . . as

listed in Items 14, 15, and 16 in the inspection guide.

This PM inspection also calls for an engine run-up job (Item 17 in the inspection guide). Is this maintenance work or a repair expenditure, and it is recorded on the vehicle's 2306.

A vehicle's also charged for all parts and labor needed to fix any problems the inspector may find during a no-charge (regularly scheduled) inspection.



ABOUT DIRECT OVERHEAD LABOR CHARGE

A survey of motor pools resulted in this simple formula for figuring direct overhead labor charges.

Divide by two the total daily salaries of

2

1. ALL FOREIGN technicians reported
2. CIVIL REP
3. SUPV PERSONNEL

(including parts and procurement clerk assigned to repair parts supply room)



Divide the result of the above by the average number of job orders prepared daily. This figure will represent the direct overhead cost for each job order.

The result of the direct overhead labor cost plus the mechanic's time (hourly rate) plus the cost of repair parts used is the amount which is posted on the DA Form 2306.

$$\begin{aligned} & \text{FOR EXAMPLE} \\ & \frac{\text{1 mechanic} \times \$10.00}{\text{2000 hrs} \times 2} + \frac{\text{1 parts clerk} \times \$8.00}{\text{2000 hrs} \times 2} = \text{.005} \\ & \$10.00 \times 2 + \$8.00 \times 2 = \text{.005} \times 2000 \\ & \text{20.00} + 16.00 + 10.00 = \text{.005} \times 2000 \end{aligned}$$

REPAIRS LIMITS

To find the expenditure limits for various types of commercial type vehicles you use the Table 1 on page 7 of AR 740.2000d. Life-long repair costs allowed each vehicle represents a given percentage—listed in Table 1—of the

original cost of the vehicle. The price used originally is the vehicle's contract price, or the price listed in 200 P-3-2000, minus 5% exchange which is included in the pricing guide price.

Repair limits are also based on a

vehicle's age... either in years or equivalent age in mileage.

Derivative-value limits for all vehi-

cles are also based on a vehicle's age, and this, too, you'll find in Table I of the AB.

HOW TO RECORD FROM DA FORM 2218 TO:

The organizational maintenance shop lists all items, parts and costs on the DA Form 2218. From this Form Card (from any DA Form 2218) it's up to you to fill the figures which belong on a vehicle's 2206. Once you get the items side by side it's no guesswork.

VEHICLE MAINTENANCE

| ITEM | DESCRIPTION | COST |
|---------|-------------|-------|
| 1 | Spark plug | 1.00 |
| 2 | Spark plug | 1.00 |
| 3 | Spark plug | 1.00 |
| 4 | Spark plug | 1.00 |
| 5 | Spark plug | 1.00 |
| 6 | Spark plug | 1.00 |
| 7 | Spark plug | 1.00 |
| 8 | Spark plug | 1.00 |
| 9 | Spark plug | 1.00 |
| 10 | Spark plug | 1.00 |
| 11 | Spark plug | 1.00 |
| 12 | Spark plug | 1.00 |
| 13 | Spark plug | 1.00 |
| 14 | Spark plug | 1.00 |
| 15 | Spark plug | 1.00 |
| 16 | Spark plug | 1.00 |
| 17 | Spark plug | 1.00 |
| 18 | Spark plug | 1.00 |
| 19 | Spark plug | 1.00 |
| 20 | Spark plug | 1.00 |
| Total | | 20.00 |
| Remarks | | |

DA Form 2218

DA FORM 2206

VEHICLE MAINTENANCE

| ITEM | DESCRIPTION | COST |
|---------|-------------|-------|
| 1 | Spark plug | 1.00 |
| 2 | Spark plug | 1.00 |
| 3 | Spark plug | 1.00 |
| 4 | Spark plug | 1.00 |
| 5 | Spark plug | 1.00 |
| 6 | Spark plug | 1.00 |
| 7 | Spark plug | 1.00 |
| 8 | Spark plug | 1.00 |
| 9 | Spark plug | 1.00 |
| 10 | Spark plug | 1.00 |
| 11 | Spark plug | 1.00 |
| 12 | Spark plug | 1.00 |
| 13 | Spark plug | 1.00 |
| 14 | Spark plug | 1.00 |
| 15 | Spark plug | 1.00 |
| 16 | Spark plug | 1.00 |
| 17 | Spark plug | 1.00 |
| 18 | Spark plug | 1.00 |
| 19 | Spark plug | 1.00 |
| 20 | Spark plug | 1.00 |
| Total | | 20.00 |
| Remarks | | |

DA Form 2206

ARMY AIRCRAFT

IF HAT FITS... **LOOK BEFORE YOU INSTALL**



You can't blame everything on Murphy. Don't use his name pulled.

It happened on a Starway (11-11) being modified for a TCTMD (Time Compliance Tech Manual). The fuel line hose, P/N 1560-787-6844 (P/N 683000-162-6160) had to be disconnected from the fuel booster pump, P/N 2915-624-1547 (P/N 616007-208-050).

Murphy's cousin was perching around the fuel tank area inside the fuselage when he came across an odd spacer stamped 22041 69-1 (P/N 1560-640-6164). Being a gangster type, he discovered this spacer was a perfect fit inside the female part of the pump where the fuel line connects up. So he installed it. One of the best places of garbagemen to roll down the runway where maintenance manuals were ignored.

Just a quick look at the Starway parts list (-20P) would've shown him this was a Spax, Flare engine drive shaft. As the maintenance guy, this spacer belongs to the drive shaft. Chances are it fell down from where it belonged, due to sloppy maintenance. Murphy's cousin was lying near to the disconnected pump and fuel line... so he made like a Boy Scout.



You can see that handling this space in the fuel line does a superior job of maintaining fuel flow... a positive guarantee to prevent your chopper from operating in a manner in which it is accustomed under full power conditions.

Instant incident? Maybe so, but keep an eye peeled for Murphy's results. He's the banger breaker who can identify and handle any part you throw at him without chafing the breaks first. He's got too many buddies agreeing with him that "It's part for, install it."



THE SUN SHALL STILL SHINE IN



It was great for while it lasted, but the fuel supply's come down. There'll be no green plastic umbrellas or colored bubbles to make a shady hole of the front (H-1) engine.

Now that there wasn't a delivery. Justing on requests from your multiple types, the aviation people at the Transportation Material Command took a long, hard look at the situation. So did a couple other high-level agencies.

They all were concluded that there isn't enough need at the moment to introduce umbrellas or colored plastic glass bubbles into the Army supply system.

So just forget what P&S said on page 18 about getting in touch with TMC for permission to use green transparent plastic shades. And keep your bubble clear of paint, wax, whitewash and mud like that there.



Some of the 3-HP Military Standard Engines, Model 14000-1, have earned an excellent heavy reputation. They gulp down more oil in four hours of operation than many of their bigger brothers.

Come a time when you gotta do something about it—you can't change the oil level dropping to an unsafe level between checks.

Sooner-or-later, continue to check your engine every four hours of operation and bring the oil up to a safe operating level—just like you do now. However, put down the amount of oil that the engine consumes in a 10-hour period.



If it uses more than two pints during this time, and since you can't give it the rest, put the word along to your support unit and have them give you another engine.



Caterpillar Model 140 engine, J5N 2815-675-6-805, is supplied as a replacement for the D6000 engine on the Cat D-7 tractors.

Only one trouble.

A generator group doesn't come with the engine assembly. If you want to

equip your tractor with lights, then you'll have to acquire it or buy the generator group, part number C11801 115675, which includes all the necessary drive parts you'll need.

The generator group will set you back about \$300.

LOOK-A-LIKES

By any other name, the John Incorporated Model MG-100 and the Hol-Car Model CE-51-AC/W60 5.8KW generators would still be twins.

They're identical except for the run-up or housing. While the TM 3-1115-239 series manuals apply to both models, you can't use the "P" manuals for replacing parts on the housing like doors or latches.

The John Incorporated Model MG-100 and the John Reiser Model CE-C-15AC-1 10-KW generators are like peas-in-a-pod, too. You'll find that TM 3-1115-204 series covers both of them.

The John Model used to be a TC responsibility, but—like the Hol-Car and the Reiser—they're Engineer items now.



LOOP THE LOOP



Loop... loop... and loop again.

That's what you want to do before you raise the boom on your Quickway crane.

A careful operator will look twice when he's raising the boom out of the cradle to make sure that the boom cable doesn't catch on the drive wrap axle on the engine.

If the cable snags the retractor, you could lift the gantry, retractor and air cleaner along with the boom.



TAKE
CABLE
ON
WRAP

It has happened.

To keep the cable out of the way, we loose the spring and clamp it to a cross member of the boom so the cable doesn't loop under the boom.

For a quick fix, you can tape or wire the cable to the boom.



TAKE
CABLE
ON
WRAP
FOR
QUICK
FIX

CLEAN ROLLERS



Operating a quarry can be a pretty rough job. No one is making anything on yourself.

But, that's just what you're doing when you let stones and gravel pack on the conveyor bringing and return rollers on your rock crusher.

Sharp-edged stones and gravel can rip the rubber belts on your rock crusher to shreds. You can add to the life of the belts on your crusher by

making it a point to check and clean these rollers every time you shut down.

This helps run down the wear and tear on the belts.



GAGE IT RIGHT

IT WON SHOW FULL
UNTIL YOU SHUT UP



As part of the before-operation PM on your Hyster Model J110-F1D air compressor, you check the air compressor oil level gage and make sure the needle reads **FULL**.

So far, so good. But, when you start it up, you find the needle flips to **ADD OIL**.

You can't add oil until you drain the

air receiver tank, so you shut the rig down. As soon as you shut down, the needle moves back to **FULL**—you're back where you started.

So... oo... oo... as long as the gage reads **FULL** when you're shut down, you're OK.

But, be sure you check it before you start up.



Sup... huh... uh... uh... uh...
no... long!

As any smart operator knows, there's a time to lay hold and a time to let go.

And, you want to remember this when you grab the starter on your 45 K/W Kure & Bowditch 1 generators. When you pull the starter handle out, you got to let go in a hurry or else the engine fires.

Heavy hands make for heated starters.

This 45 K/W portable-power rig built up speed real fast. If you hold the handle out after the engine's running, the starter stays engaged and chews itself to bits.

It sure wouldn't hurt to install a big warning light under the starting handle on your 45 K/W—just to cue the crew doesn't get around. Using automatic pull on the starting control would also clue night-time operators to the issue.



FIRST PULL THE PLUG



Tellemeter devices are "PUSH PULL".

So you always pull the power plug before you open the side panels on either the Hunter or Bowditch Tellemeters, to replace tubes or do any other inside service.

Meanwhile, plug is double safe for all concerned by installing this warning on all Tellemeter side panels—



DON'T HOOD
WALK YOUR ENGINE HOOD



You can wind up with a lot more headaches than you imagined for if you play with the carburetor on your small gasoline engine—like the ones on your lawn mowers, string trimmers and blower vacuums.

The engine may sound out of tune to you, but if you don't have the go-ahead to adjust the carburetor, it's better to keep your hands off it . . . and call for help.

And, even if you've got the OK to adjust, don't think twice before you start fiddling. If you're not sure you know what you're doing, go slow, man, go slow.

LET 'ER BLOOM

①

Check out the governor linkage before you spin a carburetor and start twiddling. You want to see that the linkage is operating smoothly and that it's not bent or binding.



②

Some parts for the air cleaner, too. After all, the engine needs to breathe.



③

Use the cylinder casting for the mix ratio, too, to get a good idea of the proper fuel ratio.



If you check it out and you're still got troubles, look over a TM for your rig and follow the adjustment routine like it says.

ADJUSTING

SMALL ENGINES



LET'S GO SLOW

The carburetor mixes the liquid gasoline with a lot of air on its way to the engine cylinder. Now, in the mixing process, the liquid gasoline is turned into vapor. The carburetor's job is to vary the proportion of gasoline to air in that mixture of varying thickness or richness are supplied to the engine to meet your needs.

Adjusting the carburetor is like walking between economy and power. Starving the engine for the sake of economy will only cost you money in the long run—because you'll have to up. On the other hand, run rich a slow-running gasoline. Throttle gasoline down the piston and slowly drain down the cylinder wall into the crankcase.

When you run too rich, it's the

same as pouring a rock in the engine. The heavier the mixture, the more air it gets. The more air it gets, the higher the flame, and the hotter your engine runs.



With too much heat, you start to run into late models. At the higher temperatures, the oil thins out, you get less sealing action, and your pistons get heavy than it can stand on the fourth of July. The upper cylinder wall gets no help which causes damage to the cylinder walls and piston rings.



THE FUEL MIXTURE



When you adjust your carburetor, keep your eye on the altimeter. If there's no needle, you're getting the right fuel mixture. A white, overcast needle means you're working with a lean mixture while black, heavy smoke shows that the mixture is too rich.



Listen to the sound of the engine too. If it's running smooth, after reaching normal operating temperature, then an adjustment is needed. A good way to do

this is to put the engine under load, then adjust the main fuel adjustment to the point that the governor moves the carburetor butterfly shaft to the minimum throttle opening.



SAVE THE BROWN-NOSE

Again, don't fiddle, if you don't have the green light to adjust the engine or you don't know what you're doing. If you've got the go-ahead, use your TBO as a guide . . . otherwise, sound off for help.

This will keep both you and your rig from being burned.

CIRCLE LUBE



Lubing the sticks should be part of the operator's DAILY PM on the Hyster-Walker Model 40 road grader.

To do the job, use OIL 30 when the temperature's expected to vary above $+32^{\circ}\text{F}$ and OIL 10 when the temperature ranges from $+32^{\circ}\text{F}$ to -10°F . When the thermometer lies between 0°F to -32°F , use SAE.

Never drain off more everything. Remember, you don't lub the sticks with pins or needles or the gear teeth on the inside of the sticks.



COME CLEAN, MEN!



There're a few things you might to know about that new 34-1998 portable toilet-worked both sides that's been lauding birthday cake in your toilet bowl.

One of the first things you gotta do is watch your big line when you're loading or unloading the water heater.

If you're not could you could say all the things between the hot pump and hot line. This is one of the hardest parts of the whole act.

Another part that you'll take it on the water inside is the glass in the lower right hole. The real secret, though, when the old one gets broken, what is the one. THE 34-1998 will get you a reasonably well strong enough glass.



These both sides are so simple to run it's easy to get carried on the job.

The main way to keep yourself alert is to study the safety tips inside the front cover of THE 34-1998-10 (Just 34) every time you touch this baby. Especially the one about purging the heater.

Here's what to look out for:

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Before you light the burner, check the electrodes to see that they light up. You do this by poking through the electrode sight glass in the burner head. There should be a continuous spark jumping between the electrodes.



If the burner fails to light properly—even though you have the right fuel pressure and the fuel valve is open—take care. There's a supply of fuel now build up in the combustion chamber... enough to explode the water heater once the fuel finally ignites.

Here's what to do if the fuel doesn't light immediately when the fuel and solenoid valves are opened:

Shut off the burner fuel supply valve and let the unit run till the blower has had time to clear all the fuel out of the combustion chamber exhaust. This'll take about 15 minutes.



Another thing, if you turn on the water pump switch and nothing happens, double-check the pump. It should turn clockwise—the way the arrow points on the housing. If it turns the wrong way, get your mechanic to rearrange the wiring so it turns the right way.

Could be, too, that the water pump isn't set under water the way it should be.... or it's clogged. You've got to watch these problems. They're not meant to keep out all foreign matter that can damage the impeller.

To get rid of this problem, use the methods suggested in TMI 92-0110-181-18. Use rocks to make a protective barrier in front of the valves, or hang the valves from a tripod made of tree branches.



STROKE
AND PUMP
IN WATER
TO
PRIME



It's important to have both the service valves and water pump valves in good condition at all times. Do extra deep look-overs while doing before-and-after-operation PM on any piece of work done with pump failure.

And speaking about the pump... it'll need two or three minutes running before picking up prime. It takes about a gallon of water to fill the prime port.

So, don't waste time. If the pump doesn't prime itself right after you start it, your prime is. Very simple. Just remove the quick-coupling connection from the prime port and pour in a pint of water.



Incidentally, if your shower unit doesn't have an bypasses, no problem. Follow the monthly and semi-annual maintenance schedule. These are the same as the 100- and 500-hour checks, you know.



Be careful you don't make leaks out of your customers. If the water gas burner's 120 degrees and the unit doesn't run off reasonably like it should, act quick to shut it off by hand.

You do this by reducing the fuel supply to the burner and increasing the cold water to the manifold. In other words, turn the fuel control valve clockwise and the water blower valve counter clockwise.

March, if the automatic temperature control doesn't work right, you give it a good eye-balling and get a new one, if need be.

Setting it over somebody's bathtub around a bath unit... the operator and every guy who uses it. The gas meter and the engine generator's grounded before you use it, and use that it's at least 10 feet away from the water heater and 10 feet from the shower area. That generator could get a guy in the shower.

Q1) THE WATER HEATER IS PROTECTED



When you use an open flame at the bottom end of the water heater during and right after operation, it's hot enough to burn you. And make sure it's cooled off before you go handling it.

THE WAY A GUY SHOULD



IF YOU CANNOT GET THE GAS LINE TO WORK, DON'T WORRY. IT'S NOT A PROBLEM.



Of course, you never operate the water heater in a closed building. Let's you pipe the exhaust gases outside. And you never clean the bath equipment or parts with gasoline.

And while you're in it, remind the guys against making mistakes of themselves on the shower stands. They're not built to take it.



Q2) TRANSFORMER IS

If you have a unit with the General Electric ignition transformer, here's a fix that'll give that transformer a longer life. All you have to do is sharpen the blunt ends of the electrodes on the burner burner in N_2 gas points, like the next page shows.

1. Disconnect the fuel line from the line of the burner head.

2. Disconnect the two lead wires—the electrical ignition transformer—to the burner electrode.

3. Remove the three 1/4-in. brass screws and lock washers and then take the burner burner main electrode tubes from the burner head.



4. Take the electrode from the water heater burner nozzle and electrode holder.



5. Use a file or grinder to grind the electrode tube ends to 1/4-in. points.



6. Now replace the electrodes and position the points in their direction.

This operation will reduce the crest voltage and overload on the transformer to 7,000 or 8,000 volts, which it can handle with no stress.

Like was said, though, this fix applies only to General Electric. Power units won't need any messing with. They're equipped with heavy duty electric transformers.

BE-IT YOUR OWN

There's plenty of job-loaded whitewash to help you keep the 35-1958 and its generation on the ball. TM 10-4148-206-10 (Jan 60) contains operator's PM and trouble-shooting charts and the 28-4149-681 has the MAC (Maintenance Administration Chart). For the same dope on the engine generator get hold of TM 1-6111-208-10 (Feb 60) and its 20 (May 60).

Y'know, a portable back unit's likely to be one of the few heavy-type pieces of equipment you'll have when the going gets rough. Every Joe in the unit has a right and a responsibility to it.

Meaning, of course, with you.

CONTRIBUTIONS

ADD A HANDY HANDLE



Dear Editor,

When operating your crane, there comes a time when you have to move both the main hoist-control lever and the load-hold-control lever with one hand. This makes it kind of tough on guys with a small span.

We got around this by adding a handle to the main hoist-control lever so even a little guy can grab both levers at the same time.

To make the handle, all you have to do is scrounge a couple of small scraps of 1/4-in. steel, a couple of cap screws and nuts, a 1-in. hole, and a small piece of hose to fit the hole.

Weld the hole to one piece of steel. Then, drill a couple of holes in the steel for the cap screws. Now, bolt the metal to the main hoist-control lever about three inches from the top.

There's your handle.

Of course, this is not necessary on all models and it may not be possible on some.



W.C. Wilbur Enterprises
44th Street, E. (Cass)
Fort Hood, Texas



Dear Editor,

I was glad to see you mention on page 116 of PM No. 98 about those evil air conditioning filters being in the Nike-Mercedes truck trailers. You may not run into trouble if you don't know they're there.

And to make sure the maintenance personnel in the IFC area don't overlook the filters, the guys at that site in this area straffed the word "FILTER" between the two wingnuts.

Ray Richard
Camp Kilmer, New Jersey



WHEEL ZIP...THE JOB'S DONE

Dear Editor,

We've liked our maintenance job that used to take a lot of time.

Age, accidents and what have you have a way of putting holes in the excess foot covering the leveling jacks on our Nike-Mercedes trailer and missile cradles. The real rub comes in taking the foot one off and putting on a new one.



It means taking time to disassemble the roller...raise the leg.... and so move the base plate. Then when you have the new foot on, you do everything over again in reverse.

What we did was have our support unit split our foots and sew in a zipper. Now it only takes a few seconds to take off and put on each foot.

A.A. Simon
APO 318

San Francisco, California

SHORTED STARTER SWITCHES

Dear Editor,

Quite often when we're asked to replace batteries in 2000 and 2004A1 Jags we find the batteries are OK, but the charge has been drained by a short circuit in a master switch.



This happens when contacts in the master switches wear, and metal powder mixes with corrosion inside the switches. Organizational mechanics assume the batteries are bad without checking to find the cause of the trouble.

There's at least two ways to spot these grounded master switches and save a lot of battery changing:

1. **Test the voltage while** near the contact terminal where the battery cable is attached before starting the engine. If it's across a battery the engine's cold, there's a short in the cable.



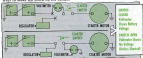
2. **Remove the battery ground cable** and disconnect battery and replace cable from the starter switch terminal. Then connect a voltmeter in series between the battery positive cable and the master switch and replace the battery ground cable. Any movement of the voltmeter needle will show there's ground loss in the switch.

The switch can be replaced and the batteries recharged if necessary.

Paul A. Brown

Paul Casman, Cole

Oil Viscosity—Both tests are good. The "feel" test is simpler, but doesn't show as sharp a peak on the trouble. The voltmeter test can help locate a bad contact adjustment and also tell you if the switch has a short. Here are two different ways to make the short on the switch.



Another test that's almost as easy as the switch "feel" test: Turn off all electrical switches and disconnect the battery ground cable at the battery. Touch the cable a few times to the terminal you're just removed it from. If there's a short in the system you'll get a small arc. That this won't tell you where the short is.

Connie Rodd's BRIEFS



Pants for Cows

Got a pants problem with your Cows model 416, 421, 1 steam cleaner? Your pants manual is TM 9-4540-140-300-0 1 Oct 68, and it has PMA's for the items needed to keep 'em cleaning. The cleaner's the one wearing PMA 4540-300-0789.

It's a fact

Let's set the record straight. People who are reinforcing concrete-to-wooden walls and handguards on weapons want to remember these numbers. PMA 1000-003-0033 gets the 1/16-in. dia screw ... and PMA 1000-019-0046 is for the 1/4 in. dia screw.

Acting back

Watch that truck when you're backing into a loading dock to pick up supplies. The dock's built so the tail hits the dock—even lightly. Could smash the tailgate hinges or bend the gate so it won't shut. Move back to large vehicles, unless you have a helper to stand by as signal man.

Safety check

This is the word on Orl. Form 481 for Q maintenance and spot check of wheeled vehicles. Item 3, Safety Devices, means all the safety devices—whether they're listed in another place on the form or not. You must be able to check 'em as operating right before you take the vehicle for a road test. Course, the same also goes for a wheeled trailer if that's what you're checking out.

The right book

Next time you need specific info on stuff for cleaning, gluing or stamping, for sure you look in TM 9-547 Oct 68 "Materials used for Cleaning, Preserving, Alleviating, and Correcting Distresses Material And Related Materials, Including Chemicals." It supersedes TM 9-1807, which used to give you info on the above.

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

Your Keys

TO
MAINTENANCE



If you don't have these maintenance "bibles", order them on DA Form 17 from your publications section.