

J. Shively
200

Issue 55

PS
★

1957 Series

THE
PREVENTIVE
MAINTENANCE
MONTHLY



W. W. Carter

Potent - When Maintained Right

Black Sea's got two mighty important things that make his military forces potent: You and your equipment. Just how potent depends on the condition in which you keep yourself and your equipment.

For you, there's training, exercise, rest, good food, and all the things you do to keep in tip-top shape.

For your equipment, there's one big thing that's the real key to how good your equipment is—and how well it'll fight—Preventive Maintenance. It's the right kind of care, cleaning, lubing, adjusting and handling you give your tools.

It's knowing and following the left and right of your equipment's TM, LG and supply manual. It's knowing your equipment's needs and how to use them right. It's following all the details of the right kind of operation of your equipment.

That's right... Preventive Maintenance is how you keep the World's Best Equipment the best. So, with your equipment (and yourself) in top shape, you'll be ready to do your job... no matter where or when.

Watch! A real potent Army.



Be Your



Here's a handy guide you can use when you're checking over your truck. You'll see that there are the things an inspector will probably hit when he goes over your vehicle.

The pictures show the G42-series 2 1/2-ton truck. You can use the items when checking over your G44 1 1/2-tonner. They'll put you on the right track.

For the Driver



The tools you'll need for this are a tape measure, a tire pressure gage, a hydrometer, a pair of pliers, a screwdriver, and a differential plug wrench with an optional adjustment wrench.

RODS—Examine springs when loaded. Report and replace: missing, broken, bent.



WHEELS—Check working. Loose. Any cracked, checked.



BUMPERS—Check, loose, broken. **WIPERS**—WASH—Check. Test, check.



ICE TOWERS—Get out. **WARRANTY**—Working. Inspect, set lights.

WARRANTY—Check. Loose, broken.



Own Inspector

WHEELS—WIPERS—Check working. Loose, broken. Check or broken when. **WARRANTY**—Check, checked.



GENERAL—CHECK APPEARANCE—Check. Test lights.



ICE TOWERS—Check. Working. Loose, broken.



ICE TOWERS—Check. Working. Loose, broken. Check.



ICE TOWERS—Check. Working. Loose, broken. Check. Test lights. Check. Test lights. Check. Test lights. Check. Test lights.



WASH PLUGS—
Dirt, loose, coated



BRASSER VENT HOSE—
Insulated, vent, plugged

BRASSER VENT HOSE—
Insulated, vent, plugged



COOLING SYSTEM WATER—Dirt, scale, set
to level and replace cap gasket missing



CHANGED OIL—
Level too low or
too high, don't
check by eye
immediately
after stopping!



NEW CRANK AND MAIN BEARINGS—
Plugged looking, oil set in seal track,
for more than 1/2" deep

**CARBURETOR and
EMERALD**—
Dirt, loose, bad



NEW THROAT and CARBURETOR HOSE—
Leaky, bad seal ring, bad seal in
throat in new neck, specific gravity
below 1.275 at 90 degree temperature,
and up starting in plugged,
corroded, bent, and gross

VALVES, CRANK, CRANK BEARS,CLARIF—Plugged with a ring, looking
wrong, bad in broken

LEAKAGE TO OIL—
Dirt, loose, coated

NEW BELT—Incorrect adjustment, cracked
in wear, proper adjustment (24",
1/2" to 1/2" deflection (24", 1/2")

WHEEL and CONTROL HOSE—
Leaky, loose, worn

POOR POSITIONING—
Dirt, wrong, loose

NEW CARBURETOR—Incorrectly adjusted
(proper adjustment 1/2" to 1/2" deflection,
but worn or cracked, oil leakage dirty or
plugged



THE PUMP—Broken,
cracked, coated

WATER PUMP and HEAT CONTROL—
Broken, loose, faulty, incorrect
control setting (24.00-24" and
more long, 24 position, 24"
and lower long, 24 position, be-
tween 24" and 24" long, 24.00
24.00 position, 24.00 close to
all closed for winter cold

STARTER MOTOR—Leaky,
dirt, loose, disconnected



IGNITION—Leaky, dirty,
loose, disconnected



OIL, WATER and BRASSER—
Dirt, loose, leaks



**WATERPUMP, WATERPUMP HOSE and
HEAT CONTROL**—
Leaky, missing



If You've Got A Winch



DRUM—drum, fly, hook, hoisting gear
Supports load to feed down or across beam

DRUM—drum, wheel, gear, sheave,
nut block, hook or drum, lifting

DRUM AND SLACKING WHEEL HOUSING—
Supports take level beam for load
to PDC before from top

DRUM DRIVE SHAFT—rotating shaft,
drum from drumhouse above shaft



**DRUM LOCK POWER
HOOK—**hooked,
impulsive, not labeled

DRUM WHEEL HOUSING PDC—
take level out of level plug

DRUM PULLER—fly, covered
with gear, mechanical

DRUM SHAFT—for winding right turn. 1. Push
drum control lever to disengaged. 2. Pull out
drum lock power hook, when fly beam is dis-
engaged. 3. Pull PDC lever to Control Manual.
4. Pull cable from drum. 5. Drum control stop
releasing or turn to take pull is stopped. 6. If
drum power not with, doghouse needs adjusting.

DRUM CONTROL LEVER—Control
operation freely, load, hook, only

ADJUSTABLE VERTICAL POSITION LOCK—
Wiring, rated, impervious.

HANDLE—Wiring, lava,
impervious, broken.

WHEELS TILT ASSEMBLY—
Wiring, rated, impervious.

HANDHELD—Impervious, breakable,
break to travel on full application.

STEERING WHEEL—low, WORN,
Impervious, lava, broken.

WHEELS SIDE-PLATE LOCK—
Wiring, rated, impervious.



HYDRO-MATIC PLEAS EYE—Loading, im-
pervious, head block with headlock of light,
motor engaged, transmission gear visible
at 1-1 light range and engine running at
idle.

HYDRO BOARD—Springs, low, low, im-
pervious, adjustment boards to a point low
less 2 inches from floor, left gear under
pressure.

ACCELERATOR PEDAL—Lava.

PISTON LINE—Low, a low,
Block with engine off.

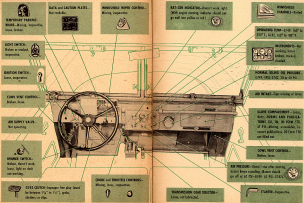
ENGINE CASE—Wiring, rated,
impervious.

**DRIVER'S SEAT
ASSEMBLY**—Broken,
steel to air profile.

SEAT WATER CYLINDER—Loading, top
up to level for head to tilt.

POWER STEER—
Electric motor,
Wiring, rated.

SEAT—Low, none, head.



SEWING FOOT
 Sewing foot
 Sewing foot
 Sewing foot

SOLE PLATE
 Sewing foot

SEWING FOOT
 Sewing foot

SOLE PLATE
 Sewing foot

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BLADE SHARP and HOLD CONDITION—

loose, broken, frayed, bending



ARMATURE BAR—

loose, loose, improper
knot, knot (single knot),
knot should be in, not
below level of other plug.
Clogged brushes
and spring bars.



FORWARD HOOD—



TAIL PIPE and CLAMP—

loose, worn, cracked, dented,
dropped, bent



ROTOR and CLAMP—

loose, worn,
cracked, bent.



BRUSH PIECE—



SHAFTS and COMMUTATOR ASSEMBLY—
loose, or
shaft loose, commutator parts loose.

**UP POINTS—DOWN, wrong, inverted
DOWN, back or long or true**



**DOWN—UP—DOWN—
Inkcap, base, hubcap**



**UP POINTS, DOWN
DOWN and UP—
Inkcap level
Should be one inch
below top of
tire plug.**



**UP POINTS, DOWN
DOWN and UP—
Inkcap level
base, hub**

WHEEL, BUBBLE, CLIP, TRACKS—

Ink should be used, base 4-hub,
base at mixing wheel—tip, broken
base, 4-hub, base, base,
4-hub, base, mixing.



For the Mechanic

To work around and your inspection—will just to make sure your work is really working, with you—have your normal vehicle shop check these things out for you:

1. Wheel bearings—base, whether, not properly fixed
2. Brake linings and shoes—wear, not opening right, wear
3. Spark plug gap—should be .015 inch
4. Distributor breaker point gap and breaker point gap should be .015 inch, base spring tension should be 10-20 oz.
5. Engine drive belt linings—base, base, not synchronized
6. Carburetor—properly adjusted
7. Steering—proper adjustment, under, steering
8. Steering wheel adjustment—should be base 1 1/2 to 2 pounds per.



Explains how to pair
two sets, they...



Match Your Batteries

As you know, whenever you have to replace a battery in a vehicle, you replace both of 'em. But this doesn't mean that you have to discard either or both. Instead, you get them checked over, charged fully, and matched up in pairs for re-use in a vehicle. This is done by your repair shop.

Let's see how they go about it.

First, they go over the batteries to be sure they're clean, dry, not cracked, and that the bonding on the RTN's are tight. And, of course, they make sure that the level of electrolyte in the cells is OK.

When the battery's ready to charge, they charge it fully and carefully according to IRI 9-3417, being sure that it stays on the charger until they get no rise in specific gravity at three readings taken an hour apart.

Then they carefully check the specific gravity of each cell. If there's a difference of more than .01 gravity points between cells in any one battery, it's sick and won't be used.

Now the battery is recharged and fully charged. They'll match it with another fully charged battery to make a team for installation in a vehicle.

To do this, they'll use

Extron, P/N 800-124-1711
800 load box 117-6129



or use the 800 low voltage load box P/N 800-124-1711-00.

On top most service equipment they happen to have in their shop. They hook up the low voltage circuit meter so that they can draw current from the battery through the load bank, and at the same time measure the voltage. They draw half the rated capacity of the battery(s) to compare for the RTN's, 20%

compare for the RTN's about 20 seconds, to allow for equalized differences and in the battery output become constant. When they read the voltage, which will be somewhat less than the no-load voltage.

They match the batteries in pairs which have an evenly equal voltage in pair style, within the number of batteries they have to hand. The closer the voltage are, the more evenly matched the batteries.

Here's an example of what looks on four RTN's.

There's no perfect match, but you can really see that the best teams would be No. 1 and No. 2 for one pair, and No. 3 and No. 4 for the other pair. This second pair may not be working in the first pair, but it's an odd one out that pairing them like this will get you better service than pairing No. 1 and No. 2 and 3 and 4 would.



Here's another actual test: these RTN's were checked at 20 ampere draw. They came out

You can see that the proper team would be No. 1 and No. 3. Even tho No. 2 is getting dangerously close to the end of its useful life, this No. 2 might be paired up with another battery in the 2-cell group, but only for a vehicle that's not subject to emergency call, and that won't be needed in cold weather—where winter, better have it in.



Now, when about make's these things applies. It's best to keep all 4 feet of your work battery matched as closely as you can for the same reasons. This will make the best of work, but it will save batteries.

Conveniently, of course, all these tests must be made with the voltmeter leads connected directly to the battery posts, by probe. If they are on hand, and not in the cabinet, pile voltmeter's with charge.

Connie Rodd's

"SHORT 'N' SWEET DEPT"



Spread up

Every time one of your batteries dies young or is dead something it shouldn't, why keep it to yourself?

The details of this flip can be put on red-wood run by the design people—the ones who make those batteries. By knowing themselves, the design people will be able to make better batteries for you.

Your voice as better batteries is the UER (Det. Form 484). It tells the people up there just what's happening on your batteries under the conditions you're operating.

Here's how to get this pump to the right place when your battery makes out too good:

1. Get a UER and fill it out like it says in AR 709-10 (Nov 50), telling what kind of area you're in — weather, terrain and so on.

2. Get the service date stamped on all batteries off the run. If you're using the old UER Form 1 dated 1941, put this date in the "Total Time in Use" box. Get a new 484 dated 1944? Then, put this service date in the "Details" column.

3. Send the whole blood-circulation to the Chief of Ordnance, Department of the Army, Washington 25, D. C., ATTN: GRIFF.

Best holder



Best can work equipment just as bad as water-pouring tanks does. It may be slower, but the destruction will be just as complete.

But did you know that when you can't get to the run for awhile, because of other important chores, you can own the equipment with rust-remover and that'll hold it until you can get around to it? FOM 8008-251-2549 will provide you with one gallon of Rust-Removing Creaming. FOM 8008-251-2544 will get you a five-gallon can.

Before applying the seal, rub-break or sand those loose flakes of rust. The coating will last about six years.

TM 9-1807 gives you all the steps on the rust-preventing coating.

Remember! The coating is only temporary. It covers the rust with a soft film that won't act as a base for paint. When you're ready to paint, you've got to clean the treated area down to bare metal.

The thought of all that extra work didn't you want to be sure you haven't done to paint the equipment right away.

Keep off

An armored division took a long hard look at its M19 Armored Personnel Carrier recently and found that a third of them had been transmission control rods, HCMM-83413-65 and G180-85413-67's. "Guess why? 'Cause o' big feet. Top, the boys had been 'sampled' around in there like a herd of mules.



Now you're no mule, likewise no jockey, so all those points marked where you drop your handholds when you're slipping' into the saddle of the M19. But maybe some of your gang can't quit so busy, so please to remind 'em about not stepping, standing or snuggling on those control rods.

The situation is going to improve, however, because there's a new device coming that'll protect those rods.

Less light

Guess the light — but it ain't helping the gunner to get on target when he aims through the M19 vision periscope in the M19 and M19A1 tanks.

The light comes from the gun-ready indicator and it's a pain in the eye.

But, there's a way to run down the light.

You know that red enamel used on lubrication fittings and oil caps? Regeneration Bag Break No. 81-9475-700-009 and you'll get a pint of the stuff.

When the paint arrives, clean the end of the indicator tube with some dry cleaning solvent or paint thinner to get rid of dirt and grease. Then . . . with a soft brush in hand . . . apply a thin, even coat of paint to the end of the tube.



You can see what kind of job you're doing by painting with the light on. You may need two coats to get the darkness you want.



Bottoms up. That's no good if it happens to be the plunger and rack on your track. Then you end up with a bent rack, and there you lose your ear, better cast an eye on that rack to make sure power is not out of those that've been installed upside down.



THE HOIST'S SPIN DOWN
WILL END



POWER DOWN THE HOIST

After you're all set

The least on your different kinds of workers — the M11 1-ton, the M10 1 1/2-ton and the M108 1 1/2-ton — is that you'll get a safety shield put on 'em to keep the crane operator from looking like a left-hand profile shot of Wason de Mile.

When the crane operator's in the cab operating his shipper, unconsciously he can run his arm on the armature-like shipper cradle when the shipper's up. If it slips his mind to take his arm away when the shipper's lowered, he'll find himself a candidate for a medical discharge. This safety shield will keep him from putting his hand where it doesn't belong.

MWD Dev-Git-WB-Cl-Aug 501 tells your Ordnance outfit to go ahead with the job if it's marked urgent.



Hydraulic hose wear

Take a look at any hydraulic hose lines . . . If the outside layer is worn or frayed, chances are you'll soon be in for trouble.

The reinforcing wire under the worn part is open to rusting, and under hard conditions the hose may rupture.



Take a spin at your hose and fittings every week for top wear and leakage. If your hose is worn or fittings leak, replace 'em pronto.

Read the specs?

The main reason GM's 2½-ton truck manifold cracks is because the studs and nuts get torqued too tight.

When your engine heats up, the metal expands—causes the manifold clamp to collapse, causing little or no clearance between the manifold and its clamps. No clearance and your manifold won't be able to expand as it heats up and cracks off. The solution, of course, can be a crack in the manifold.

Here's how these torque specs save lives:



1. Manifold and stud nuts — 15 to 20 foot-pounds. When tightening up on these, make sure the manifold is held tight close and flat against its gaskets.

2. Clamp stud nuts — 15 to 20 foot-pounds. And NEVER more than 20 foot-pounds or you could collapse these clamps.

Also, that manifold has a control valve should always be set like TM 3-6004 says.

Slipping shaft

Tighten 'em up, men, before you find 'em dragging along behind you. Talking about the gear shafts on your G742 and G743 2½-ton trucks and your G744 4-tonner.

The ones used on these shafts are self-locking. Given they're removed, they won't give the right fit for the shaft needs, so if you've been working on these shafts and removed the nuts, get rid of them and get new ones.



For G742 and G743 series trucks, use flat, self-locking, hexagon 3/4" Stud No. 8021-0000-01.



For G744 series trucks only, use either flat, self-locking, hexagon 3/4" Stud No. 8021-0000-01 or flat, self-locking, hexagon 1 1/8" Stud No. 8021-0000-02.

Now, if you can't get self-locking nuts for one reason or another, bolt your gear shafts up with a regular nut, but please make sure you use lockwashers. There'll be hell you can get your hands on the nuts of the self-locking variety.

What's going on?

It's a pretty hot bed of talk lately about whether you can or can't get these components, push-on nuts and snap-onner caps that hold the instrument cluster mounting plates on the dash of your G740, G741, G741, G742 and G744 trucks. The word now is that you can get the whole shebang.

Go on work it, tho, 'cause you get these parts from different sources.

HERE'S HOW NOT TO GET IT:



REPTILES — For 2741-75-1155-0142 (Reptiles).



PUSH-ON NUT — For 2741-75-1155-0142 (Reptiles, Inc.).



CAP, SNAP-ONNER — For 2741-75-1155-0142 (Reptiles, Inc.). This was broken up Stud 1/8" Stud No. 401-0000-02, and before that it was an Delco-Remy item and used under Old Stock No. 800-078304.

JOE'S DOPE

The Saga of Ammo Mike OR DON'T SHOOT MEY WEAS IN A COOL PEY

LEADING JOEYDOR WAS SHAPLE STREY
PEY. AN ABE DOLLER ASHBY STREY
HE SHAWED THEM IN REAL, BLACK AND BLUE,
THEY BEHAYE SAYS THE WEAS.

HE SHAWED THE BEHAYE
HE LAYE A BLAW,
AND SHAWED THE WEAS BLAW,
THEY OTHER BEHAYE WERE
SHAWED CHECKED,
BUT NOT THE BEHAYE ASHBY!

BLAW AND BEHAYE AND SHAWED ASHBY
THEY BEHAYE HE DON'T ASHBY!
WELL, THEY OTHER BEHAYE SHAWED
ASHBY SAYS A SHAWED BEHAYE.

A LETTER SHAWED IN BLACK
TELLS OF... **WARPEY!**
THE BEHAYE SHAWED
THE BEHAYE SHAWED AT LAST
THEY BEHAYE IN
SHAWED ASHBY THE BEHAYE SHAWED.

JOE

SHAWED

THE BEHAYE SHAWED ASHBY THE BEHAYE SHAWED
THE BEHAYE SHAWED ASHBY THE BEHAYE SHAWED



JOE'S Dope Sheet

What good's the care of your gun,
When the ammo you use is "bum"?
Heed the "late" Ammo Mike,
Check for "burrs" and the like,
And be sure what you check is well done.



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









TARPSICHORE

Dear Half-Mast,

Because we don't have the stock number or manufacturer for our M115 250-ton dump truck covers, our hauler's been able to dig them into our property and driveway inside the night trap.

The staff isn't in the ENCL and we are unable to locate the proper manufacturer and stock numbers. Can you help us?

L. L. P. P.

Dear L. L. P. P.,

You can now get that cover as part of a kit. If you have to order it, the kit's P/N is 2500-034-0211. This kit also has some other goodies, such as cover-tying plates and cables you can use in your dumps to keep seats.

Here's how the kit breaks down:

Body profile brackets, body assembly—P/N 2540-021-0181 00499.

Front end cable brace, dump body sub-protector, assembly

—P/N 2540-021-0181 00499.

Rear end cable brace, body end, assembly

—P/N 2540-021-0180 00499.

Top bar brace, top plate—P/N 2510-103-0170 00499.

Side bar brace, side plate—P/N 2510-101-0182 00499.

Rear end seat, assembly—P/N 2510-021-0184 00499.

Rings, strap end—P/N 2540-021-0177 00499.

Pin, rings—P/N 2510-021-0134 00499.

Box, cover assembly—Caf Truck P/N 18117-0540404.

Strap, bar-end—Caf Truck P/N 18003-0541103.



CLEAN AND RAY

Dear Half-Man,

Some time ago you were talking about cleaning spark-plugs. Remember, you told us to open up the electrodes and file the end of the center wire clean and flat before we cut the gap?

Well, I got's about it—I thought that was so much fun! You know, theoretical perfection, but not for busy men. My golly, last yesterday I was cleaning and checking a set of plugs that I didn't think had anywhere near enough miles on 'em. After scrubbing, they were eating gas at about 80 pounds an the ton.

In fact I've think and to save the rest of a new set of plugs, I tried your trick



You were right—these wasn't one that didn't go over 100 pounds, and most of 'em went to 175. What's more, the engine isn't skipping any more.

BOB J. C.

Dear Sgt. W. J. C.,

Tell you what, you try a couple more of these 17's with you find in P6. World field test of 'em work pretty good. You see, the best grease on Canada's and my hands won't be the best grease on 'em by many, many years.

Half-Man

CLEANING DAY BLUES

Dear Half-Man,

Things have been happening in the painted surfaces of our military planes.

After we use paint thinner to get rid of the grease, the paint becomes discolored and looks like it's cracking. Are we using the right thinner?

LEW. A.

Dear LEW. A.,

There's nothing wrong with using paint thinner as long as you space the cleaning days about a week apart. I've got a hunch your trouble may be with the paint itself. It may not be in good shape to begin with.



Try Durocoat, painted surfaces, purchased CP-1-931, type II 1-16 case, PMS 793A-249-8056. Use a cloth, sponge or brush to apply the stuff. The man'll tell you how much water you should use.

If you still get a dissatisfaction, you can make a couple more. If it's a new weapon, file a USB report. Otherwise, a new paint job is in order.

Haystack

TANK THING LIGHT

Dear Wolf-Man:

We have one new lighting light, PMS 86175-178-2071 (Old Stock No. 37-4-178 11-100) and it works fine on a loaded vehicle. But we can't store the old 1779 anymore in our tanks. Is there any way we can get back one of the old-fashioned magnetic lighting lights, Old Stock No. 41-4-1439?

Lo L. M. S.



Dear Lo L. M. S.,

You're right. The Light, giving power, blue white light, case 4, 11, and 14-100, Old Stock No. 17-4-1274-100 is not meant to store white light.

The old Light, giving magnetic, Old Stock No. 41-4-1439 is going back into the real use, Organizational Maintenance, No. 1 and No. 2 Common. That, as you know, is the light to use in your tanks... in cooperation your power.

UNDER CONTROL

Dear Mail-Man:

It's our changing our main engine generators from 150 amps to 300 amps on our M45 tanks. What control box do we use for these?

Yours truly,
CPTO J. H.

Dear Mr. E. H.:

The only generator control box which will handle the 300-ampere generator in your M45 tanks is the General Electric or Electro-mechanical box, Cat. Stock No. G128-1528504. This box is listed in Cat. T 894-G128 on page 44.



Since this box is listed for issue only when the Eclipse-Picure box, G128-1528504 and the Delco-Remy box, G251-7946000 are referenced, it will be necessary for you to contact your Ordnance support and tell them that you need GE boxes to work with 300-ampere generators.

There are internal differences in the boxes which will not allow the Eclipse and Delco models to handle the larger ampere generators. The General Electric box uses a different method of current limiting, and will work with the 300-ampere job just as well as it does with the 150-ampere model. No change in the box is necessary.

Any of these boxes will theoretically control either the 150-ampere generator or the 300-ampere generator to a limit of 150 amperes. This is supposed to be sufficient power output for the M45 tank's electrical requirements, so it was planned to use up the existing stocks of control boxes, G128-1528504 and G251-7946000 as they were required.

However, field experience has shown that in tanks equipped with the 300-ampere generator, sudden surges of the electrical loads can cause failure of the motor boxes. Consequently, if you have a tank equipped with a 300-ampere generator which requires a control box replacement, and it has either the G128-

7212084 or the GM1-7500000 control box, you should have the GM1-7500000 (GM 1040-721-2821) box to control it. Explain this to your Oldsmobile support unit, and they'll get you the proper box. If your truck engine is still equipped with the 150-ampere generator, any one of the three boxes listed above will control it OK.

Some late-production trucks are equipped with the correct control box, GM 2000-110-4264. This box will control either the 150-ampere generator or the 300-ampere generator just fine.

Since the correct box is not interchangeable on the motor with the earlier boxes, be sure that you get a similar box if you need a replacement.

Halley-Scott

LEAK PROOF

Dear Halley-Scott,

On loading up around the transmission shift lever on our M10 and M10A1 Jeeps has become a problem. Most of our Jeeps are just coming with the shell. What can we do to stop this?

WFO, E. P.

Dear Mr. E. P.,

First off, make sure you never over-filled that transmission. It should be checked at every 10 service—and make sure the tube only goes up to plug level when cold.



Next, take a check on those transmission vent lines, and make sure they're

clear and not clogged. It's a good idea to clean 'em out once in a while, just to make sure there's nothing in there stuffing 'em up and causing a pressure build-up.



Finally, after you've done all this and the tube is still showing up, you'd be helping yourself and a lot of other people if you got those UEN's (DA Form 400) up. Just jot down the trouble and your ideas about it, and send it along to the Chief of Ordnance, Department of the Army, Washington 25, D. C., ATTN: ORDFM.

Halley-Scott

ARMAMENT



GAP FOR A GAP

Here tell some 155-mm M44 self-propelled howitzers have developed a case of "gaps."

The gap is between the base of the projectile and the rammer throwing arm. It happens when the projectile stop doesn't hit the rammer far enough back to lean against the throwing arm pad.

When things are in this shape and you release the rammer mechanism, the rammer bounces forward away from the pad. And, when the pad hits the projectile again, the rammer doesn't seat right.

Defensive it means the midights will as it looks for a fix. Meanwhile, you have checks to see if you have an extra gap. If so...releasing you do, push down on the projectile stop so's the rammer will seat against the pad like it's supposed to. The dummy comes in your checking.

Also...never release the rammer mechanism without using either fire or dummy rammer. Otherwise, you're liable to throw the rammer works into killer.



ELBOW GREASE COMES FIRST

When the Ordnance people told you a 110-man howitzer, you wanted that over to the exposed part of the tube. You'll have some cleaning to do.

Before the piece gets shipped to you, Ordnance runs the tube with our protective compound. The compound—Cosmoline—gets wiped off with a rag that has been dipped in dry cleaning solvent or volatile mineral spirits. Then over a week you smear a light coat of GAA on the tube.

In case you find there's paint or primer under the compound, tell Ordnance about it. They'll get it off and make sure no paint particles build up the trigger and bearing surfaces of the small mechanisms. So give Ordnance the word if you find paint or primer.

NO MORE SLING

You may claim there are always three ways to do things—but there are only two ways to operate the rammer lever on the M44 155-mm self-propelled howitzer. It's either right-handed or left-handed—and it depends on you.

Operate the rammer lever according to the way you use to run howitzers and you won't wind up with your wing in a sling.



Try your left hand. You stand on the left side of the howitzer, face to the rear and stand opposite the breeching. Your own own left hand to turn the handle for rammer/charge and to pull toward the breeching of the howitzer.



If you're right-handed, stand on the right side of the piece—facing the head end of the vehicle and standing opposite the breeching. Then hit the release mechanism with your right hand by turning the handle bar clockwise and pulling forward—toward the muzzle end, that is.

IT'D BETTER BE THERE

Say! Have you been elevating and traversing your 110-ton scullion with ease on your MTZ mount? What is to be sure things stay that way?

Then take a look at that lever in the heavy machinery transmission of the mount. Has it got a lock—where? While you're at it—is the lever the right size? If it hasn't—and it hasn't—then this day you may find yourself with a jammed elevating and traversing group.

THE PARTS YOU'LL WANT TO HAVE (UNLESS YOU'VE GOT 'EM)

Lock, cap hex-socket hd, plus hd,
size-L, $\frac{1}{2}$ "-24-UN-2B x 3.750 1202,
MS-1248.

Washer, lock hd lock, 1/2, plus hd,
 $\frac{1}{2}$ " x 3.750 dia 874 501-110-0111.



LIFT THE LEVER

There's nothing wrong with trying to heat your own case record for replacing the 71-inch Myerwages. But... not when you hang up the replacing hook on the lever height in the process.

Some guys are leaving the locking lever handle in a locked position and then stretching the lifting chain on the hook—by putting the chain over the lever. No... when the weapon is being lifted, all the strain is on the tip of the hook.

Do what TM 3-44 tells you—lift the lever and then attach the chain, and the strain will be where it should—in the middle of the hook.

To be on the safe side... attach on some kind of warning sign to the attaching hook—like "Wash locking lever handle before attaching lifting chain."



WATCH THE THREADS



You'd do well to consider around the back places on your M16-style machine gun that's look at the adjustment scope. Then make an A, B, C check.



A. The scope is tight.



B. The scope doesn't slide around and thread beyond the rear of the buffer tube.



C. And the scope is no more than 1/4 inch below the field level at the rear of the buffer tube.

If you said "Yes" to all three checks, you're OK. If not, send the gun back to Ordnance.

GOT YOUR SPARE?



Field artillery crews take notice. Some batteries are authorized a spare gunner's quadrant (SQ) to keep the piece under when their quadrant is sent to Ordnance for replacement.

You can see this in Ord 76, as you might want to requisition a spare quad-

rant if you work with any weapons listed below. The M2's are listed here for handy reference:

4.2-in M2 mortar	A70
4.2-in M20 mortar	A86
25-mm M41 howitzer	C30
100-mm M41 and M42 howitzers	E11
75-mm M20 and T2 W12 rifle	C74
100-mm M27 and M27A1 rifle	C77
75-mm M48 gun	D14
4.2-in M21 rocket launcher	D70
160-mm M2 and M2A1 gun	B24
160-mm M1 howitzer	B11
750-mm track-mounted rocket launcher	D43

CHEMICAL



Dry Run With Hot Water

Once spring, you get out the tools belts to pack away those old ODP's, but you wouldn't think of wearing the ODP's in the fall without making the tools belts out of the pockets and airing the uniforms.

Maybe you've just got a dozen that's been in "tools belts". It, too, requires a little special attention to get it into good shape.

No matter which dozen you have — the MSA1, MSA2, MSA3 or M4 — it hasn't been the preservationist's dream: you want a spray instead of a spacer.

Here's a very important point to keep after...

Check the processing tag (on the truck's steering wheel) for special notes about the packaging of the pump's plunger cap assemblies. When these assemblies are packed separately, the man'll say so, and you'll find them in a small box fastened to the platform along side the pump's head.



Remove the plunger assemblies from the box and clean off any preservative with dry-cleaning solvent. Now, take the cylinder heads off the pump, and...

Clean the cylinder with a dry cleaning solvent, but be careful you don't scratch the porcelain walls. Wipe dry with a soft, clean cloth.



Insert the cylinder neck into a light tin of grease (Klud, or the grease can will go into place over the tin). Then put the clamps back in and put on the cylinder heads. If the clamps fit give you a run down on taking out and putting in the clamps ourselves.)



Now, the chances are there's a lot of preservative grease on the inside of the pipes that needs to be flushed out. To get on this, pull a before-operation check on the drums and get out to operate.

Fill the tank with water (and/or hot water, if possible). Then pump the water out, put it through the spray bars and the rest of it through the porous drum. It'll take care of any preservative in the pipes and tank.



Then you're all set to finish processing your drum (the poor TM says under the name called "Service Upon Receipt of Equipment." And don't forget that after operation-check, too.

Drums, new mounts!

All track-mounted drums (M4's, M4A1's, M4A2's) were ordered all their old World War II 2 1/2 ton chassis sometime ago. But the M4's giving the drums were chassis, most've changed some units, some requests continue to come in for repair parts to support drums on the old chassis.

Supply's no longer stocking parts for the old drum set up. If your drums hasn't been converted, please listen close—

There's the only way you can keep it rolling:

M4's CML 18 (Jan 55) puts the M4A1 drum on an M4's chassis.

M4's CML 19 (Jan 55) mounts the M4A2 drum on an M4's chassis.

M4's 20 (July 54) mounts the M4 on either an M4's or an M4A1 chassis... depending on where you're located.

The chassis swap is a job for your Ordnance maintenance support units. Some give them a hand right away.



Forms Holder For

Some people sit on form. Some build form in their yards. Others carry 'em in their pockets when operating. Materials Handling Equipment makes them a special place provided on the equipment.

At American Printing Ground, M.D., they solved the form-carrying problem for all their MHE with this simple fix:

MHE



For A Stronger Tube

Dear Gennie,

We had considerable wind and flame and spark arrester trouble on our 10-GPM gas dispensers until we came up with this fix. The flexible tube kept breaking loose from the valve because there wasn't enough surface there to hold it. A real fix indeed.

To us replace the short piece of 1 1/2 inch pipe with a longer section (3 or 4 inches long) and then weld welded the tube hard on. Makes for a stronger connection and safer operation.

Patrolman Department
City School, Fort Lee, Va.



1. Short lengths of pipe (3 inches long and 1/2 inches in diameter) filed up with a heavy-duty grade of hole or welded in the 1 1/2 inch pipe metal hole provided for attaching the holder to a connector left or screw on the MHE.



2. The top of the holder is open, but a covering of metal prevents the holder to keep from being slipping into the hole. This step can be omitted on or covered on.



3. The hole (1 1/2" diameter) is put of Water Truck, or 10" (10" diameter) hole" and 10" (10" diameter) Equipment (Equipment Model) is placed with the carriage and the whole holder held up ready to fit into the holder. The hole is then closed to go back to the machine when your working with it as a unit.

Whenever you see this or make a patch, use of some welding or repairing machine or kind of device you can't find but they come in handy for keeping your pipes, to use to get the job of your MHE, of course.



4. HOLES

OR SCREWS

The hole can be welded or covered into the holder.



5. The holder is placed over to both the hole and the work. The work is then held in place by the hole holder and gets a hole-in-hole covering of water-proof paper.



Dear Geng,

That's really working with that gas dispenser. You got an Unmanned Equipment Repair (EAP) Form (EAP) in on it right away—like you do on any deficiency you discover.

Patrolman

Hand Tools Don't Fade Away



The good old Army man has been that way under changing times, along with pipelines, flintlock rifles, and log traps. An old-timer can hardly pick up a paper these days without reading where a piece of equipment he knows so well as a regular has faded away.

But make the old-timer visit a main morning equipment store will have and will be for a long time—morning picks and shovels and such stuff.

When you're on the end of a long-handled shovel, having sappy dirt out of a ditch, the shovel seems tougher than King Kong. Seems like the new and a few caddy's studies in or near it are.

But hand tools—especially the hammer, hand saw, and maintenance the same as a bulldozer or generator. These weather-

beed be catch it from too, leaves, and while wear and tear.

In most climates, where there's little or no damage of bugs chewing up the handles, maintenance is simple. Just use linseed oil and rub it in good, like on a wire rack.

THE LINSEED OIL



Painting is overrated, according to THE 1-6031 11 Feb '60, but any way from it on rock that's used a lot. Paint makes it weaker, handle knot on wood. Doesn't give enough "slip" for good



handling. It also wears off fast in the spots where a tool's handled most. Oil's on the end and middle of a long-handled shovel.

On the other hand, paint is good for the soil like the new and other tools that are without rust and in or in look good all the time. The rain gets for maintenance fall down on vehicles out in the woods.



Put in more coats, a good dose of linseed oil—applied to accident—keeps the handles in good shape. It also gives you the little "slip" that makes the rest of them green... and gives the blower.

In climates where there's danger of bugs eating up the handles or bugs eggs being laid in the wood, you need insect killer. It brings the egg of the wolf's



ready-made under FOR 6840, 1960, 1960.

The official name-calling is Insecticide, DDT, liquid, 50 DDT. That's under handles in it for bug prevention.



DO IT FOR YOU

If the handles are to be painted, do the shaking before the painting.

Some tools get used around like the hammer's maintenance is a job—done. That's the 'em, ranges 'em, and help 'em up generally. Look your tools over now and then and apply linseed oil, paint, or insecticide as needed. Give tools that maintenance. That's your time to work.



DON'T BREAK THE JET



They do it with the main jet on Model HP Briggs and Stratton engine carburetors. One of these jets is easy to break when you're taking apart a carburetor.

The jet runs from the adjusting-needle valve, right through the venturi and into the venturi on the other side. When you try taking the carburetor apart without removing that jet—the jet breaks.

To disassemble, remove the needle valve and take the jet out before taking the float-bowl off the jetting section.

Same thing with taking the float-bowl down while the carburetor is still on the engine. First, the needle valve comes off and the jet comes out. The bottom half of the carb, with all the various passages, can be cleaned without removing the throat and upper half of the float-bowl assembly.

DISASSEMBLE



REASSEMBLE

To reassemble, put the float-bowl on the throat assembly. Next put in the jet and then the needle valve.

Be careful when putting the needle valve assembly on the carburetor float-bowl. Loosen the valve a couple turns before screwing the holder into the float-bowl. Prevent over-tightening the needle against the jet and damaging the needle valve and seat.

Care for a Cat 12 grader

SIMPLE AS APC'S



Dear Sgt. Oyster,

The cure for a worn center-ship rail on a Cat 12 grader isn't APC's—but it's almost that easy.

A worn-down rail means wobbling because there's too much play between the rail and the center-ship pinion. That play could make a grader slow up tooth when her blade's working on the side of a bank.

To make the rail last longer—just turn it around. That puts the smoother side of the rail next to the road's teeth.

When you turn her, make a 2½-inch cut on the left side of the rail's throat so the center-ship bearing can fit. The cut is real easy. The frame's anchoring brackets fit the same backwards and forwards.

Put Engineers Heavy Equip. Mater. Dep.
Albion Army Proving Grounds, Md.



Dear Oyster,

Nice work. Nothing like an idea that saves money and is also easy to do.

Sgt. Oyster

CONTRIBUTIONS

THE COMMITTEE HAS DECIDED NOT TO ACCEPT YOUR SUGGESTION — THEY THINK IT'S A BOUNDARY CROSSING INTO SUBJECTIVE, PURE OPINION.

A HELPING HAND

Dear Editor,

This annual election day was pretty mixed up when we found our operations being inspected by the DA Form 401, "Preventive Maintenance Service and Inspection for Wheel and Half-Track Vehicles."

Being harassed, swayed by temptation in addition to being short-staffed in the Army, most of my men were looking for the easy way to do maintenance. Instead of using the 401 for its only job—inspecting—they were using it to do their maintenance. Not using the Organizational Mechanics or Maintenance Crew C and D Preventive Maintenance Service table given in every TM led to plenty of problems, because complete maintenance was not being done.

Chief among the many reasons why the TM maintenance table was not being used was because the type it was small to me, especially when you have your head under a hood or you're underneath a truck. Not only that, but pages blow in the breeze, so you lay a windshield screen, drape on them... soon the pages get black from grime and you can't read them. If you want a new TM, you have to wait a month or so before you get it. So, the men just took the easy way and used a nice, clean DA Form 401, which is easily read and followed. The result was that the trucks didn't receive their proper maintenance.



We decided to do a little so-called "human engineering" to relieve a tough situation. We had the table from the TM reproduced in larger size. Then, we put the individual sheets into their own pieces of acetate, clipped the sheets together and had the complete table laid out flat, big and neat. Each mechanic was given a table for each truck plus red and blue grease pencils.

When a truck rolls in, the mechanic takes his guide and two grease pencils, leaving his #1 on the work bench. Right down the table he goes, without any fuss about blotting paper and eye-straining type, checking out each item from the enlarged acetate-covered TM table. If the item's OK, it's checked with the blue grease pencil. If there's a deficiency, it's marked in red pencil. Then, the mechanic goes back to his work bench and puts his findings on the #1. With a rag, he wipes the acetate clean and it's ready for the next truck.



This system has also solved another problem. Our inexperienced mechanics now find it pretty hard to overlook or miss any of the TM paragraph numbers the table calls their attention to for checking individual parts of a truck.

The paragraphs referred to are now brought out big and clear. In, more and more, these men are using their TMs to make a more careful check.



The Boys' Group
Camp Harford, Wash.

SHAVED HEAD

Dear Editor,

Ever try adjusting track tension on your MIF track using just the QJM model? You'll find that open-end wrench (#1-70-1456-21) lined for loosening the adjuster lock nut is pretty far in species here with a slight plus. The reinforcements around the jaws of this baby's perimeter are just too bulky to let it fully seat on the nut.

We found the only way to make it work is to shave off some of the beef. With a cutting torch we shaved the head to half its bulk. This doesn't seem to weaken the wrench enough to hurt anything. And it lets us use it to get the job done.

Mr. S. C. E.



(Ed Note — That MIF track adjustment's been a tough nut. Looks like you've hit upon one way to help crack it. Take care though, shave only where it's needed.)

SWITCH-ER-O-O-O-O-O



Dear Editor,

For those guys having trouble getting a tachometer cable and housing (Ded Book No. 0744-7100011) for their 1-ton M12 wheels, here's a tip.

A speedometer cable assembly (Ded Book No. 0768-7107482) off an M18 Jeep will fit in place of the M12 tach cable assembly. By the same token, an M12 tach cable assembly will replace the M18 speedometer cable assembly.

Although the cable assemblies can be switched, the individual parts can't be. For example, the housing of the M18 speedometer cable won't fit together with the case of the M12 tach. The housing and case of the M12 are both about three inches longer than the Jeep's housing and case. So, whichever assembly you use, just make sure you don't separate the parts — keep 'em together.

Mr. Roger Cervato
Camp Leona, Mich.

(Ed Note — Many thanks for a good idea. Shouldn't have much trouble getting that tach cable or, for that matter, the speedometer cable. But if you do, get ahead and play switch.)

Also

Anyone looking to reduce the stress about emissions on their 2011 car(s) to the lowest safe level, **BMW** Call 877-41-7677 or 800-287-7676 (distance) to make the best of the 2011 and 2012 seasons. Now, the 2012 has been introduced on the 2011's and 2011's come under it.

TPP compression

The latest on that compression business for your 2011 1/2 ton truck engine is that the minimum compression which you should have is 10:1. As for the maximum pressure variation from high to low cylinder, you should only see a difference of 10:1 to 1:1 more.

See your oilings?

When the oil level readings on your truck engine is all level up side get heavy from water, by using a water pump and a couple of light taps to re-engage them.

Off here

Check the pencil hourly for you won't be off here when it starts to entering blacked lights for your 2011 and 2012 1/2 ton 111, 118, and 209, but perhaps numbers when they'll be handy—because here you have 1001 Truck No. 0709-0120090, available here 1001 Truck No. 7010-0120170.

Watch that stuff

You realize you're aware take it easy when handling and operating the 111 (1118) and 209. If you see into trouble—the way one of the shafts sticking—just disengage the word.

Watch that stuff

It's a good idea to keep the thought running through your head—always wear leather gloves when handling those shaft lines on your cables, and never let that line slide through your hands. Close circles in the palm.

Watch that stuff

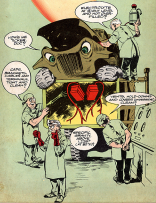
Don't capture your oil gun when lifting the engine out of the 2011 series 1118000. Lifting that engine without jacking up the truck's frame could lead to a hole in that gun. Without a doubt, the oil gun hits the top of the 2011 frame—so the engine is coming out—out there you see.

Exercise it

Most anything'll get ready if you don't use it. Right that, some's true for the hand-pumped cables on your truck's auxiliary engine. About once a month you should exercise that cables—pull it out (or push it in) full length either to the end. And it'll be ready to do the job when you need it.



your *BATTERY...*
the **heart** of your vehicle



MAINTAINING THE
OIL LEVELS IN THE
ENGINE IS VITAL TO
YOUR CAR'S HEALTH.

CHECK THE
TIRE PRESSURE
REGULARLY.

KEEP
BATTERIES CLEAN
AND TERMINALS
TIGHT AND
CLEAN.

KEEP THE AIR FILTER
CLEAN AND
REPLACE IT
REGULARLY.

KEEP THE
FLUIDS IN
YOUR CAR
AT THE
CORRECT
LEVELS.