



# THE PREVENTIVE MAINTENANCE MONTHLY

WHY NOT DRINK GINA A BOTTLE SOME QUALITY BEER!

WELL, YOU'D BETTER BRING THE TRUCK FASTER WHEN YOU BUYER MY VEHICLE!



*Bill Egan*

FOR THE FULL AND COMPLETE  
MAGAZINE INFORMATION

THE  
RIGHT  
PARTS  
AT  
THE  
RIGHT  
PLACE

The Army is taking a good hard look at just what's how many support parts are needed.

It's been found, for example, that 75% of fighting units were too big to haul around. And many parts are stocked in forward areas, where they are seldom needed.



So, with high-speed electronically ordering and fast air delivery possible, the supply "steaks" are working on the idea of having the units out where the fighting is, with the absolute minimum load of repair parts. The carbon-coded items would be further back in support units, with rapidly-coded items back in CONUS.

depots ready to move out at a minute's notice.

The operation is called "Enhancement of Supply Levels," and it's part of the Army's Logistics Offensive.

Your P3, for example, is likely to get processed a lot. The loads of parts your 2501 and 2502 units will get out from a



what are needed right away by the units they support. Even field depots will get their stocks chopped.

With storage based strictly on demand, every unit can manage its 500 factor. It's easy to see a load of brass, and it'll help make sure you get what you need when you need it.

**PS** PERSONNEL SERVICE

THE PERSONNEL SERVICE OFFICE  
1000 W. 10TH ST. SUITE 1000  
DENVER, CO 80202

**IN THE 1980s**

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PS is the only source of all current  
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# THE M102 TOWED HOWITZER



ON YOUR BIRTH DAY—  
WISHERS THE PROBLEMS  
IN YOUR LIFE ARE  
UNUSUAL. YOU CAN  
GET THE ANSWER ON  
MAY 15TH.



Your standard, stretch 19.5MM model howitzer is kind special. What with its aluminum carriage, its vertical-sliding, wedge-type breech block, multi-line rear sighting on the cradle gun ways, permanently lubed components, firing platform — plus other goodies — it really stands out in any military line-up.

PM-wise it's kind special too, but no real news. Here's a handy how-to check-like to help you pinpoint its PM needs.

Keep your M102 as clean and dry as possible. Take care that all parts are free of rust and corrosion, spot paint as needed and take it by its 10. Before you saddle the overall weapon, here's a couple of special PM pointers you'd best know on your skin.

1. Never take the gun away w/o-  
ping. Later will damage the special  
coating on the anti-rustion metal.  
Never take the platform's ball socket  
or carriage pins. They're covered with  
a solid film tube. Lubricant any other kind  
will corrode and ruin the special  
tube film.



WATER CAN  
RUST

2. The weapon has 8 guide rollers and roller-mounted  
locking pins. Look and retighten 'em with care. Keep a  
close check on all chain components. Tighten 'em carefully  
in their brackets. Check 'em well in advance and take  
care with G.A.D. Never modify the pins ... common hard-  
ware can take 'em off their guide rollers or holding  
brackets. However, if a pin snaps in plastic-coated rollers,  
you can use a length of small chain or wire to replace  
the original roller. Just make sure your replacement roller  
is smooth so it'll not snag your hands.



## BARREL GROUP

**BROOD RING** — Inside carbon-fiber-reinforced barrel, needs fitting. Chamber stripped, smoothed. Grooves — mating plates scratched, burned, pitted. Brood mechanism legs loose.



**EXTRACTOR** — Broken, stripped, worn.

**BARREL EXTENSION** — Bent.



**BRASS WELLS** — Cracked, needs fitting. Dry lubricated, hardened, polished, cleaned. (See the L1's Note 1 on fitting the covers.)

**BRASS WELLS** — Cracked, worn, leaks. If metal fits in and out smoothly (firing pin hole worn, etched, burned). Cocking lever broken, worn, spring pin worn, broken, missing, wrong or weak spring. The firing trigger, hole in rear spring, wire, stop pin, spring or weak spring. Bolts or in-bore latches, worn, burned. Bolting loose, cracked, loose, burned. (You need a hobby knife you know the broodblock. It can catch the lock or it slips through the bottom of the brood ring.)



**FIRING PIN ASSEMBLY** — Firing pin ring missing, sprung. Ring pin deformed, cracked, worn. Spring weak, broken, missing. Firing pin also worn, broken. Firing pin guide broken, worn. Spring pin missing, bent. (Disassemble the firing pin group only to inspect for inspection and repair.)

**BREACH OPERATING GROUP** — Operating lever loose, cracked, handle for tool spring pin missing, handle pivot broken, rotating ring worn. If you replace the handle stud, drill the hole for the spring pin after the broodblock is fully closed and the handle assembly is locked. Lever also cracked, not tight. Brood ring cracked loose, cracked. Springs weak, broken. Bolts and covers have stripped threads. Trigger and spring pins, plungers, detent, shafts and pivot arms, broken, loose. Brood and broodblock operating tracks, crank stop and the closing spring/stopbar damaged, loose. Round gun wire, stripped, not lubed, gun cover dented, missing.



Give only half of each gun 1/2 in. use at one time, you have to turn each gun 180 degrees (if needed to get the tool arm uniform in use. If the breechblock will close tight after loading the gun, replace the gun. Always assemble the broodblock and the breach ring exactly as shown in Figures 37 and 40 in the L1 L1.

## FIRING LINKAGE ASSEMBLY

Pivot cracked, worn, not aligned with firing plunger. No spring pin missing. Damaged. Detent plunger loose, bent, in housing hole, barbary loose, missing. Plunger chain cracked, loose, chain bracket broken, rusty. Loose bracket. If handle cracked, missing. (Ring handle) P/N 1001-311-248 gets the right end, 3-look, pulley, roller worn, broken. Clean the contact to about 1/16 in. That way it'll not fly forward and get cracked in the trade during recoil.



It's Easy! LAGUNO



## VARIABLE RECOIL SYSTEM



**BARREL AND PLATE MOUNTS** — Linkage, pivot pins loose, cracked, bent, lost (can be bent, straight). Can allowing loose, cracked pins, can have hole cracked, burnt, worn, missing.

**WELDER AND PIVOT GROUP** — Loose, bent, lag, cracked, set screw missing, cap screw not tight, wires, load-bearing lines damaged, roller support installed upside down (the non-rolling cone must fit 1/20 and 2 down). If the support is upside down the barrel will shake and the shoulder screws will shear. That's those the variable recoil mechanism out of adjustment — and that can damage the recoil mechanism and the carriage. Check bearing caps daily. They must turn freely.

**SLIDER ASSEMBLY** — Loose, leaks, tubes and rails polished, cracked.



"This barrel wasn't too good" (polished?)

**WELDER PLUG** — Loose, leaky, threads stripped, plug's head protrudes above top. Use correct size/fit on the plug. Replace damaged plug. Always protect receiver from contaminants. Clean rear end around the filler plug and wipe off the liquid retaining fuel and the oil filler gun when you add or drain oil. Always pump the oil plug by turning the handle until no more air bubbles show up in the scope. And before tightening the gun works in the 10-hour. Turn the handle to force out any air in the tube. See pages 67-68 in the J2 TR.

**OIL INDEX** — Dirty, stuck, defective, faulty oil return line, obsolete.



**RECOVERY/REPAIR OIL INDEX** — Dented, cracked, pump-plug leaky (check around second-year for leakage). Cover on the air-filling valve loose, missing, damaged. (This cover must be in place and tight. Never fire the weapon without it.)

## OIL INDEX CHECK

Under normal conditions you read the oil index on index. Like so:

THE OIL INDEX INDICATOR	NOTE ON REPAIRS TO:
Read within the line of the normal assembly.	Normal
Indicates fluid.	Minimum fluid is left, but is capable of to normal operation.
Indicates fluid.	Low (bring it back to normal amount with line of normal the weapon will not run at better.)
Indicates all being out.	Low (add fresh normal oiling amount — you will still be out of normal if you fire with the oil index at zero.)
Indicates no-oil/leak.	Examine the mechanism of the gun, check the oil of the weapon itself.



"Remember - always use the LEADERSHIP experience in your actions - defined (No 1 summer)." (The woman is speaking.)

In an emergency, if you have to remove a barrel will be sure to make it through a piece of force or some other function check.

**SCOPE CYLINDER** — Pliers not out of adjustment. For correct adjustment, I adjust the outer locking nut so there's second gap, then lock it off I can't move. If you leave the locking nut too tight will restrict the recoil system when the weapon's fired. Locking nut loose, cracked, thread stripped, set screw missing, broken. Keep close check on the outer locking nut and the spring. If they're damaged or loose the front of the scope will be located when the weapon's fired.



**STUFFING BOX AND FURGE PLUG** — Stuffing box leaking. Packing worn, shot protruding on recoil nut. Furge plug leaking, burnt, worn, plug bent.





**SUPPORT FOOT MOUNTING** — Leave side wings plugged, missing cleaved. Wipe base, rickel, test.



**CRACK  
MOUNTING**

**BLADES** — Examine all base, leaf base, main, leaf clamp cranked, loose, missing. Replace plug rickel, loose. Do support if better later.

**ACTUATOR** — Actuator control feeding base, cranked, starting cover loose, missing. Loose shaft turned rickel, broken. Actuator crank loose, check pin leaf, broken. Please manufacturer please call: FPM 55 (5-805-257) every the right call. With the wrong pin you'll damage the actuator's gear assembly. Please use the actuator to put up the platform sides.) Actuator gear assembly cover loose, screw missing.



**SCREW  
MOUNTING**

**PLATFORM LEVELER** — Center shaft, wear, broken.

## STRONG AND UNSTRONG

When you're setting up to close, drive the platform sides to the top ring of each stake to finish with the top of the stake body on the platform. Always secure the straps to give yourself enough working room with the shingle hammer as you'll reach into the straps and work in for sure. Check the sides often during a firing session to make sure they don't work loose. Be sure to set all 8 stakes on the platform.



To install the platform, push the sides down on the top of each stake to even with the top of the platform. If the platform hangs on a stake, pry the platform up with the coverage staff. Use pins 22 in the TSM for the strap on pulling up sides and preparing the firing platform for travel. Lower the sides and remove them.

Always check around the locking pin area on the supports to make sure the wheels will rotate in the locked position. Safety Note: Keep shoulders away until the suspension assembly is locked in the travel position. Leave pins when you're lowering the platform.

### LEAVE NOTE

The support type for a lot of the stake locking device on your 40000 has Model 1, it will fit in the 40000 ... and, make sure your hardware goes listed on page.

### WARNING

Check hardware, without any signs. Keep the check and in good order.

### DATA PLATES

Keep all name plates, warning plates, instruction plates, etc., on the support lines and make sure they are attached. Get these plates with all to keep you from missing. Remember, the coverage-stake number on the 40000 is used in the evidence-stake number.

### NOTE

How about your support line? (Check your work.) Are they all present and in good shape? The literature called out by FPM and mentioned in Appendix 4 of the TSM.

### FPM

The support's covered by TSM 5-1405-214-12 (Older 800, its computer 40000 400 and 400) (Older 400, and FPM 4-70) (Older 70).

### FIRE CONTROL, LIGHT GEAR

Handle the 40000 fire control and signaling equipment gently. Never bang it or jerk it. Never leave, fiddle with, or dismantle horns, bells, flashes, bells, signs, screens, covers, doors, springs, bearings, etc.

Keep the equipment clean and dry and cover it as soon as when it's not in use. Cover it when handling.

Repair and change fire control equipment as needed. TSM 5-1405-214 (Aug 57) provides the purging and charging SOP. See SC 4900-01-02-114 (Jan 68) for info on the charging and purging kit.

**PIKE CORNER, QUADRANT NO.1** — Carriage support bracket loose, cracked. Oil hardware missing, damaged. Quilt rail mounting bracket cracked, loose. Support window broken, loose. Lens, housing, bracket, missing. Viewing and adjusting screws damaged, not in position. Lens turned out, missing. Viewing slit broken, not lighted. Vial cover missing, damaged. Oil in light tube. Reflector smeared, stuck. Telescope clean tracks.



**WALL QUADRANT** — Cracked, bent, vial broken. Scale not lighted, knob stuck, loose.

**CANT CORRECTOR** — Support bracket loose, cracked. Vial broken, not lighted. Leveling plates turned, painted. Flange missing. Oil well scratched from the weapon. You'll stare up the sights and then you'll be in real trouble. In fact, if you just leave the cant corrector you can change its alignment with the cyclic transducer. Then your reading with the gunner's quadrant will be based up.



**NEW TELESCOPE MOUNT** — Carriage support loose, cracked. Mount bracket cracked, loose. Mount knob loose, bent, broken, missing. Leveling vial broken, not lighted. Oil not missing, damaged. Telescope bracket cracked, its leveling pin damaged. Flange damaged, leveling cover cracked, missing. Screws on mount housing, plates, brackets loose, missing. Service not safety wired.

**W.I. PANORAMIC TELESCOPE** — Lens cracked, broken, scratched, loose, infected with fungus. The objective, reticula, rear, distance-indicator, and gunner's oil levels bad, loose, built into. Adjuster loose. Hydraulic bracket direct-and-indirect loose. Chicks not audible. Window cracked, scratched, broken, hair covers, lathe's, springs, lock brackets, work. Allow assembly limit, allow lock cleared, its spring weak, allow lathe's too freely. Reticule bracket split, hinge scratched, missing. Cap or plug and charging rates cracked, missing, not plug turned loose. Cap or night plug cracked, missing their stems locked, but if it's true and still release the lock plunger and rotate against 60 degrees, so it's parallel with the weapon's tube.



**W.I. COLIMATOR** — Its body bent, cracked, screws missing, cell assembly loose. Rear and front sights, leveling assembly and long leveling lines, partly missing, damaged. Collar scratched, cracked, loose, fungus or moisture in case. Reticule not lighted. Check side by side, reticule and lighted. Check side by side, cross, missing mounting holes and screws. Tripod stability, its legs, adjustment, cracked, broken. Two plates cracked. Collimator cover damaged, cracked. Its catches, stop handle bent, side up, rubber seal ring missing, split, screws, missing rubber seal ring, split, edge of cover missing.



**W.I. POWER SOURCE ASSEMBLY** — Its damaged, won't hold battery compartment cover, catch, handles and electrical plug damaged. Bolts missing, dead. Remote control missing, cracked, loose, bent out, pulled, lead connector loose, damaged. Junction box cracked, stuck not pulled, plug damaged, that or leads probably and pack all components in the W.I.'s storage bin.



**MILAGROW TELESCOPE** — Rings and lenses, inside, lens scratched, cracked, broken, fungus infested, rubber eyepiece soft, cracked, missing, blowing, latch broken. Caps on barrels and changing wheels cracked, missing and plugs loose, broken. Caps on light glass cracked, missing, their covers broken, lost. Oil assembly cracked, dried. For sight and travel turn the Mt II so the sighting beam is the weapon. Be sure the scope sits firmly in the locking key seat.



**MINING PICKS (MIL)** — Coated, markings worn, rollers broken, cover missing, ripped, dented.



**INSTRUMENT LIGHTS** — Light's cover cracked, caps broken, lost. P/N (250075-2500) covers a good tip for both lights. Cases cracked, puffed, electrolyte damaged; keep caps missing, cracked, lamps burned, connectors damaged. Fixings are fused, broken, bands missing, broken. Never use instrument lights from case. The cables are screwed to the battery receptacle in the case, and you'll buy the parts. Batteries weak, dead, missing (keep batteries out of lights when they're not in use.)



REAR END — in the rear and depths of SEA, cannot be used without constant attention!



HEAT AND MOISTURE resistant!

## M101/M101A1 CHART READY

A range correction chart for the M101/M101A1 telescope used on the M101 or M101A1 ground launcher is now available.

Ask for it under PIN 2142-011-0215.

You need this chart for correct ranging when using direct fire.

The chart has an adhesive backing so you can stick it on the weapon whenever it is handy for you.

Here's a drawing that you can use 'till you get the real thing.

### RANGE CORRECTION CHART

Replaces M1, M101A1 & Telescopes M101 M101A1  
Series 10000/Inches M101, M101A1

Range Table M101 Range in	Correcting Range (Meters) Using Table M101, M101A1	Correcting Range (Meters) Using Table M101A1 M101
0	0	0
200	200	200
400	400	400
600	600	600
800	800	800
1000	1000	1000
1200	1200	1200
1400	1400	1400
		Ref No. 2029701

## COMMANDO WHEEL

When you need a wheel for your Commando (CAMVOC or CAMVOC11) Armored Car, use PIN 2150-014-2100, as called out in the Revised Support List (Aug 69), put out by the U.S. Army Tank-Automotive-Construction Center. The PIN in TSM 9-1120-100-100 (May 69) is a goof. The good PIN is the AMDF.



# FOOLISH FINGERS FOUL FINGERS FADACS

It may sound ridiculous but computer "looker" IBM just discovered some years (EVENING) suffer in more maintenance problems with the simplest parts of the system. . . . like tape handling, cable inspection and processor care. Here are some examples:

## IBM IS NOT

Fiddle fingers can find your memory tapes in 3 easy ways. First, leaving the tape clip out of the pocket at you stored in loss the read head of the AM 1500-01 IBM original data reproducer's will wear up the edges.



Second, careless handling of the tape cartridge may let the fan-folded program tapes spill out like a roll of unwinding film. And say looks like some



will make tape handling positions for the read head. This causes wear and tear on the IBM.



## IBM IS NOT (SPOOKY?)



Frayed cables and loose connections may vary enough to open. All it takes is a few swings of the cycle's up and down the cables connecting your (EVENING) to

to IBM and TTY (IBM) interconnect before you power up.



## IBM IS NOT

There's really no reason to power down and then back up real quick. But if you do get caught in one of those off-the-quick-operation, please remember this:

The memory (like inside the (EVENING) needs at least 10 seconds to run down and stabilize itself before you crash it again. Otherwise it may wobble against the read-write heads. And every time against them leads across strips of memory stored at each point they scrape together.





## TURN IT OFF

Some fleet operators seem to forget there's an ON-OFF toggle switch for those 1-KW generators that power the FADAC. In a hurry, they use the power by pushing the button instead of the gas-out lever.



This does 2 things for your generator — both bad. First, it doesn't get the chance to run for 5 minutes before shut down so it can cool off.

Second, this practice forces out all the gas inside the carburetor and pushes gas-lane residue into the carburetor jets. The combination of blocked jets and oxidized fuel-spray doesn't help you to reprime the generator when you try to restart it . . . which usually takes forever.

Tampering with the carburetor adjustment control is another good way to complicate post-restarts. If this control needs constant adjusting, it also needs to go back to support. In fact, leave it alone — OK?



You also don't want to switch 55-gal fuel drums for the 7-gal Jerry cans to use on refueling stops. There's no way to filter out the residue and moisture that collect in these drums. Besides, that 55-gallon fuel supply lasts beyond the normal daily maintenance interval of 5 hours operating time . . . and you might forget to check the oil level and air density according to EO 5-1409-209, 14 Elic 5-6.

The 7-gallon cans, on the other hand,



run out at convenient times for operator maintenance and are also easy to check for fuel contamination.

## IT'S NOT COMPLEX

Taking care of your FADAC actually boils down to doing the regularly required maintenance you find on all your other equipment. The fact this has a computer inside the gas distribution control makes no difference to organizational maintenance. It's not the complicated computer, it's the simple things you forget that turn out the system. Keep that in mind.

# USE EFC ONLY

THE ONLY  
WAY TO GET  
MILITARY RECORDS  
BOUND...

Dear Staff-Mem.,

When TM 9-1000-202-15 calls for confirmation on just the Department Field Change records, use a pull-out page reading between the "continued remaining list" as implied in para starting 9-1-150-1507.

Mag R. O. C.

Dear Major R. O. C.,

Now if you value your life—as well as the life of the rules. When TM 9-1000-202-15 calls for confirmation by EFC records only, no measurement recorded in column 1 of the DA 3400-1 can extend it.

In such cases, disregard the last 2 sentences in para 4-6(1)(g)5. Or by EFC records only, but make sure they're correct.

Update your TM 98-780 by deleting those 2 sentences from para 4-6(1)(g)5 as authorized by DA Mag 250446Z, May 79, and DA Mag 05-20032, Jan 80.

HOW DO  
WE EFC  
RECORD  
ONLY?

When recording military records of  
Department Field Change records, use  
the following table to record the  
date, time, and location of the  
record.

DATE	TIME	LOCATION	RECORD
1979	1000	1000	1000

A column of the table is used only for the date, time, and location of the record and will not be used for the record itself.

Mag R. O. C.



When a ball-buck of party-only may cost worth \$150!

When it's the party everybody has—cut off the chain-adjusting rod on a 2-1/2 inch track!

SAVED IN CUT OF THE DAY!



This "somebody" chain adjuster knows any better or he doesn't want his track-chained for a rotten chain job.

Here's the greatest way: He checks his chain guide line level and finds it's less than 2-1/2 inches.



This means his chain needs adjusting to make up for the die worn chain lining.

But when he slides under his track, he finds the chain adjusting rod won't adjust anymore. The end of the adjusting rod is already up against the chain.



Therefore chain liner. This means the chain lining is closer gone—and it's time for a renewed chain slide.

The die "somebody" built out a backbone and shortens his adjusting rod in the size gap that chain guide line travel back where it's supposed to be.

Then his track goes back out on the road—with practically no chain fac-

ing link between the chain slide and fly-wheel.

Prove your die chain lining's gone and the heavy metal of the chain slide is missing against the heavy metal of the fly-wheel. The bear's visible from below the fly-wheel under from the hole, the damage has been done.

Now his track goes back into the shop—but not for the routine chain job it needed before. This time the track gets a new chain slide, a new pressure plate and a new fly-wheel.

Cost? That's right—just about \$150 on the road!



## 6741 8000 1-100 8000 ... GOVERNOR GUILTY?



Dear Ball-Buck,  
We've been gipped because some of our 8000's have made do more than the

14-400-10000 gear specified on page 15 in the 1-10000 magazine say the above the governor is set too light. The governor is factory set at 1,800 RPM (page 170 of the 1M), and this should limit the speed to 10,000 in second gear.

So where does that leave us?

LEWIS R. F.

Dear Mr. C. E. F.,

The man, that knows you with something wrong—but not necessarily the governor. Maybe your speedometer is lying. Or maybe they're both off.

Since somebody may have compared with the governor and set it higher, you should have it adjusted. The proper maximum reading is 1,800 RPM, plus or minus 100 RPM, and the 1,000 to 1,200 RPM gives in 7.0-10.0M (See 1M, the performance 1M). Your support will adjust it for you.

Thus, if your 1-10000 will show more than 10,000 in second gear, you can be sure your speedometer is on the drive. So you get in a new speedometer.

High Speed

# DEATH OF AN ENGINE

NOBLE

YOU HAVE JUST  
SO SUCCESSFULLY  
TOOK CARE OF  
THE "WHO  
DID IT?"



In every industry  
and area,  
with lots of products to  
sell...  
Gibson's makes  
that you go out and  
buy instead of **BUYING**  
for you!

HEY, HERE'S  
THAT NEW ENGINE  
ENGINE... WHEN  
YOU'RE  
INSTALL IT?

SURE... DEPENDING  
ON PRIORITY...  
IF IT GET THERE,  
I'LL BE GET  
ARRANGED TO IT!

AND  
THE...

THE  
MACHINE

AND  
ONE  
DAY

HEY, THAT  
NEW ENGINE  
I JUST ORDERED  
ARRIVED... BUT  
THE BEST MAN...  
THE BEST!

CAN'T  
UNDERSTAND  
WHY... IT'S  
BROKEN!



## SPOILED COIL?



LOOK...SOMEONE'S PERFECT, BUT HOLD UP! OH, THE MUSCLE!

Dear Half-Mast,

I'm checking the coil tying to keep distributor coils in our M1241 1/2-ton trucks. They crack at the 3 mounting points and in a straight line from top to bottom. One truck, in making up only 78 miles, has had 2 coils that you got me down off the wall?

SP4 W. E. W.



CRACKED COIL WITH MOUNTING POINTS BROKE OFF

Dear Specialist W. E. W.,

Don't worry. The engineers over are working on this problem — and they expect to have a tougher coil pretty soon.

Meanwhile, keep a close eye on those mounting screws — check at least once a week to see if they're still snug. Loose screws and vibration add up to cracks.

Be bold back the muscle on those mounting screws — when installing a new coil and when tightening loose screws. The muscle torque on the screws will crack your coil, too. If you can't locate a torque wrench, give those screws just 15 lb-ft torque (that's inches, not feet).

Half-Mast

## GRAY'S OK

Dear Half-Mast,

There's grease-holding grease in our new M1241 1/2-ton vehicles (M1241, etc.). It's a chemical job and shows up when regular filling forces it out around seals. In this stuff appeared to be pumped from the tube joint?

SP4 L. E. J.

Dear Specialist L. E. J.,

That grey grease is OK. It's special for breakdown of various parts — 12 joints and seals. Just lube as usual — when the new grease has forced out whatever dirt's in the old grease, quit.

Half-Mast

CONCRETE | LI-FOR TRUB...

## SPECIAL TOOL

OSCAR SMITH,  
I WANT A NEW  
TOOL TO HELP  
GET MY WORK  
DONE BETTER,  
AND A TOOL  
I CAN TRUST.



Dear Bill Hines,

Where do we get it—the best of tool exploring tool mentioned in your 12-118, 128  
4-1180-100-10 plus 10?

CWO B. C. H.

Dear Mr. B. C. H.,

You order by FOM 5130-791-0780, listed in Red Gas CH30-B-A 1 Jul 76.

This replace is going to the special tools section of the -30 TM for your 114  
con vehicle.

*Handwritten signature*

## WOULD YOU BELIEVE...?



You'd never believe it, but it happened . . .

This quarter-ton kept whizzing, smoking and spattering . . . and finally died  
with its doors on.

An autopsy was performed, and the "doc" discovered that the oil bath air  
cleaner wasn't filled with oil—more that it was choking off the air. Not only that,  
it had only a inch of oil atop the filter in the bowl.

And, what's worse, that air cleaner had not been cleaned for as long as the  
oilman had become wild . . . like a mad. It slipped out in a big chunk when  
the level was normal/inside down!

How you cleaned your air cleaner today?

How about doing it by the TM . . . or cleaner?

HPV 1/4-TON TRUCK...

HEY, SANTA—  
I ANCHORED  
THE SPARE!

## SPARE TIRE SWITCH

WHY NOT  
THE AUTHORITY?



Dear Red-Meat:

What's the authority for moving the spare tire from the left side of the HPV 1/4-ton cargo truck to the rear in the cargo bed?

OWB, B. J.

Dear Margaret G. R. E.,

All you need is the authorization of your own command. That was the word in TB 750-000-1 (Jan 88), Article 1.1.

Don't go looking in the supply system for some of the parts you'll need, though. You'll have multiposition labor-copies for a lot of 'em.

*Happy Holidays*



## DOOR HANDLE DOWN

Dear Red-Meat:

The right position for inside door handles of the 1/4-ton truck is straight down, if you go by the 274, TM 7-8000-2/Ch 8 & P (Jan 88).

But para 240a(2) in TM 7-8000-2/Ch 3 (Jan 88) says the handle should be "in a horizontal position (pointing toward the rear of the door)."

Which is right?

OWB M. P. C.

Dear Ms. M.P.C.:

Small vertical tracks, the inside door handle should be positioned so the open side is pointed down. Or, if straight down makes the door handle and window handle butt heads, position the door handle so it's pointing more toward the front of the door.

This's in the interest of safety. If the door handle is pointing toward the back of the door, someone may lean on it and open the door accidentally — very annoying if this "someone" falls out while the vehicle's doing about 40 MPH.

*Happy Holidays*







**JOE'S**  
DOPE

**IT'S  
YOUR  
GAS,  
MAN!**

HERE COMES  
THE ONLY HIGH-SPEED  
SPEED DELIVERY  
SERVICE!

WARNING:  
48 HOURS  
LATE!

WAS THE  
ONLY FUEL  
SUPPLY  
COMPANY  
THAT USED  
A GUY TO  
NEGOTIATE  
SO WEIRD  
DEALS  
WASN'T  
STOPPING!

LISTEN TO  
THOSE ENGINES—  
SOUND LIKE  
BEST DRIVING!



HERE'S  
YR MAIL,  
SARGE!

WHO NEEDS  
IT! THE ROOM-NO  
NOT HERE IN  
CROSS AREA!

HERE'S YR  
SUPPLIES, SARGE,  
AS REQUESTED!

WELL WE NEEDED  
THAT FULL  
YESTERDAY  
OUR MESSON'S  
GONE 'N' GONE!



LOOKIN' WE PUNISH OUR  
MESS THAT AN WE COLLECT  
OUR BUSINESS JUST  
DON'T PERFORM LIKE  
THEY SHOULD!

BLAH  
PM  
IF  
YOU  
DON'T  
ME!



PM? WHY  
WANT 'EM?  
THE SHARPER  
PM OUTTA  
IS BEST!

YEAH WE GOT  
MORE FLAGONS  
THAN THE  
BOMBER CITY  
BARBER COUN.



BATTERED  
CRAPITY

HOWDA  
LIKE DIRTY  
PUN!

DIRTY  
CALL  
NAMES!

DIRTY

DIRTY

DIRTY

DIRTY

DIRTY



SHARPEN ALL THE TIME? A  
FINE THING, GOOD REQUESTING  
IN AND IT ALL GOES TO  
YOUR BECAUSE OF  
DIRTY PUN!

THE POL THIN GO TO  
PARALLEL LINES TO  
FELDER CLEAR WATER  
FREE FUEL TO YOUR UNIT!



DIRTY OR CONTAMINATED  
FUEL MAY BE THE RESULT  
OF JOBT PLAIN CANCELED  
FUEL HANDLING.



MANY THINGS CAN GET INTO  
FUEL TO MAKE IT BURN BRUOLY  
OR RUIN IT. SOME OF THESE  
ARE WATER, DIRT / RUST,  
DUST AND LEFT OVER OILS  
(SLUDG) AND BACTERIA.



RESULT... ALL  
KINDS OF TROUBLE  
MAY HAPPEN SINCE  
YOUR ENGINE

NOW BEING  
FUEL CAN  
OR FUEL  
NOISE



## THE 4 SIGNS OF DIRTY FUEL

- |       |          |           |
|-------|----------|-----------|
| SMOKE | NOISE    | ROUGH     |
| SMELL | (WAVE) - | POORING - |
| POW   | NOT      | SMELL     |
| BIT   | ROUGH    | SMELL     |
| SMOKE | POW      |           |
| SMELL |          |           |

WRITE  
OR RUN  
CHECK  
IF YOU  
NEED UP

POINT THIS  
FUEL-UP AND  
I'LL TELL YOU  
HOW TO AVOID  
CONTAMINATED  
FUEL!



# JOE'S Dope Sheet



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

IF YOU WANT TO DISPLAY THIS ADVERTISING ON YOUR BULLETIN BOARD, OPEN STAPLES, CUT IT OUT AND PIN IT UP.

THE EASIEST WAY  
TO AVOID SPILL  
PLUGS IS TO  
**PREVENT**  
CONTAMINATION!

... YOU CAN DO  
THIS DURING FUEL  
DELIVERY AND  
STORAGE.



## HOW TO PREVENT CONTAMINATION DURING STORAGE OR DELIVERY

CHECK FUEL STORAGE TANKS & TUBS  
REGULARLY TO NOT ALLOW RUST.

CHECK SPILLAGE FUEL TANKS FOR  
WATER CONTAMINATION DAILY — AND  
USE THE 1-NEW GASKET METHOD.

BE SURE FUEL  
HOSE TIGHTLY  
IS CLAMPED —  
ESPECIALLY BY USERS.



USE DROPPERS  
FOR EXCESS  
OIL WATER  
BEFORE FUEL  
FOR SPILLAGE.



MARK EXCESSIVE  
FUEL AND TANKS  
TO BE SURE YOU'RE  
STORING THE  
SAME FUEL.



AVOID MIXING LIQUIDS. KEEP USING CONTAINERS  
BE TANKS FOR THE SAME FUEL.

STORE DRUMS ON  
THEIR ENDS... TIGHT  
AS AN UNITS  
AND WITH BUNDLES  
OF 3 OR 4 DRUMS.



NEVER  
GIVE THE  
GUN A  
FIRE  
BREAKER  
OR  
OTHER  
DEVICE  
FROM A  
TOO CLOSE  
VIEW.



WATCH FOR BLANKS AND  
OR BULBS WHEN THE GUN.



NEVER USE  
BLANKS FROM  
BLANKS FROM  
BLANKS.

KEEP ALL FIRE  
BREAKERS AND GUN  
POINTED DOWN  
OR CAPPED OR  
BY PROTECTED  
RECORDS BY WORDS  
NOT BY GUNS!



AN ALL EQUIPMENT  
ON BATTLE, CONTAMINATED  
WITH AN ATOMIC  
EXPLOSION, IT'S PURE  
GAS, DUST?



HOW TO PREVENT  
CONTAMINATION  
AS FUEL IS USED



TOP-ON YOUR  
WHEELS OR  
LUBRICATE  
TANKS AND  
GAS LINES.



WASH THE TANKS  
AND TUBS OF  
EACH FUEL SYSTEM  
DICK BY THEIR  
CONTAMINATION.



DO NOT  
USE  
GAS  
OR  
OIL  
FOR  
CLEANING  
OR  
WASHING.



WASH YOUR  
FUEL TANKS OR  
CONDUCT GUNS  
AND BULBS — OR  
THEY DON'T HAVE  
TO BE  
WASHED BY THE



THE  
M4, M4-A  
GIVES YOU  
POWER ON HOW  
TO MAKE TANKS,  
THE M4, M4-A (M4-A)  
GIVES YOU POWER  
ON HOW TO  
CLEAN AND  
WASH.

YOUR FINAL DEFENSE AGAINST PART OF YOUR EQUIPMENT TO FUEL FILTERS -- TAKE CARE OF THEM!



CHECK THE OIL REGULARLY TO BE SURE IT'S IN THE CORRECT LEVEL



USE THE RIGHT OIL GRADE RECOMMENDED BY CLEARING AND TRY TO DO THE WORK OF CHANGING OIL AND FILTER.



REPLACE THE OIL PAN AND OIL FILTER REGULARLY TO KEEP OIL CLEAN.

CLEAN FUEL AND YOUR OTHER PARTS ARE THE BEST WAY TO BECAUSE A POOR PERFORMING ENGINE CAN CAUSE OTHER DAMAGES, TOO!



LATER THAT EVENING



DIRTY ENGINE, LOOKS COME, CRUDY LIVING.

DON'T KISS ME, PLEASE... THERE IS A GOOD REASON FOR THIS.

HAVE A HEART... I GOT THE MESSAGE.

I GOT A FILTER PROBLEM!

## EASY DOES IT!



**HAHA!**

REMOVE THE  
LAMP TO REMOVE  
THE TRAP  
AND TRAP  
—(S&S)



LIGHT SPRING WIRE  
3/8" LONG  
1 1/2" WIDE  
BENDING WIRE

10-07 0 1/2, 5/8, 3/4 AND 1/2"

Dear Editor:

Whenever we clean the air filter on our Chevy (304) engine (and most other engines), putting it back was a bit of a problem. The filter, P/N 1-8-10-130-04, bends and stays and would hang up in the assembly.

Well, that's the trap it used to be here, before we came up with this handy made tool.

To get the filter back we wear this tool in place.



Place around the rear clamp in one end of the filter. By gently prodding on the filter with one hand, while at



the same time pulling up the tool strap with the other hand, the filter slides easily into place ... exactly like a charm.

Richard J. Mulligan  
Browns AFB, Cal.

*Old Navy—Good going!* Of course, the tool will work for all equipment except the new soft-pulling type which doesn't have the filter.)



## DO THE

## DOUBLE-TWIST



WANT  
IT TO STAY  
UP AND  
SECURE?

I THINK  
AN ANCHOR  
DOESN'T COVER  
LEFT!

WANT  
SUPPORT?  
YOU'RE DOING  
THE WRONG  
WAY!

#### Tip right, but not convenient.

That's the way you should make hardware to keep working, standing, working, allowing you on your back.

Here's how to do the double-twist on a Macy 3.54-18, D&B grade change link, for example.

Latch onto inner wire strand within steel wire, find Spec 999-W-461.

You'll find it, and other link wire for your hole, listed in the full maintenance section of The 91-1 528-110-989-2 9549-000.

When choosing wire follow these minimum requirements. Use 0.020-in diameter wire when the hole is 0.043 inch or less. Use 0.022-in diameter wire when the hole is more than 0.043 inch.

The steel corrosion resisting wire where necessary and how twisting the required requirements have to be met.

Here your hole size knows it has lost strength and will break under additional tension. Cut a 1.0 piece of wire off the spot.

1. Thread the wire through the hole in the link out to the link ends on about 1/2 inch.

Double-twist link in the hand to set. The wire should set as a continuous loop on the set. It is a lightning bolt.



2. Insert the link into the hand hole.



3. Turn the wire clockwise to secure the set in the hand.



4. Put a double wrap around the link.



5. Push the paper inside the door to reduce the possibility of hand sets being trapped.

That'll hold the rope on these link sets.

6. Turn the link into a clockwise direction and secure door after installation.



7. Roll the wire back.



8. Stop twisting when you reach the link.



9. Turn the wire 1/2 in. to look at it to a point, cut off the remainder.



FOR  
DETAILS  
SEE

# NO WIPERS, YET!



I think I can take it.

The idea behind the windshield wiper on a Chevrolet (GM-FIT) is to give your freeway-bound palmy good visibility when flying in the rain.

Turn 'em on for any other reason, like clearing off morning dew, and that 2 1/2-inch blade can ruin a costly windshield.



Seems like the wiper blade is a natural sand trap. Wiper action on a dry or damp windshield will scratch it for real.

Your best bet for cleaning a damp windshield?

Wipe with a damp cloth, not clean cloth or a soft towel.

If you have water handy, a couple of buckets full, poured over the windshield, will wash away heavy grime.

Never run on the windshield wiper to clean a dirty windshield. Never rub the transparent plastic-type sheet it's dry or you'll come up with a crazy, hazy windshield.

Course, if the windshield is really dirty you'll need all the cleaning and polishing prep you need in just 1-800-451-1500-100-100-1, Ch. 18 (846-704).

When it's time for a wiper blade change get on the right one. New, hard rubber blades are used only on glass windshields. They'll ruin transparent plastic.

For transparent plastic windshields use—

Blade

Blade

F/N FRODO 02/02/FN 1480-87-1480

F/N FRODO 02/02/FN 1480-100-101

For glass windshields use—

Blade

Blade

F/N FRODO 02/02/FN 1480-100-101

F/N FRODO 02/02/FN 1480-100-101

STAYING WORK FASTER ...

## SHOOK SMOOK



An air pilot work platform that comes unglued from an airplane. Chick's baggage can do a heap of damage to your blades and give you a case of the shivers.

Here the platform gets a lot of use by flyweights and heavyweights. Climbs over working on the rotor and drive system components. It has a 100 lb capacity and a lot of extra-wide gear into the attaching points — specially if you're a jolly green giant-type helicopter.

All the more reason you should be double careful to check the platform daily ... requires 1-27 at TM 11-1910, 10A-20PM (23 Oct 69) and 1-24, TM 11-15 10-111-20PM (15 Aug 69).

After you've made sure the platform'll lock right, and the baggage-stalk like a hiker, check the attaching points for loose rivets, cracks, bends.

If repairs or replacement parts on the firing assemblies or load assemblies are called for, get in from PEX. It's important to ground her while she's working than otherwise grounded via the main rotor. That means!



- CHECK ATTACHING POINTS ...
- BATTERY UP BLADES FROM THE MAIN ROTOR



Bad PM means pulling, inspection, checks, and counter-checks. This is especially true when rigging the gas producer (GP) fuel control on the Keros.

With the pilot's collective on the grip at ground idle, the reading on the gas producer PM scale should be 50-55 per cent and the position pointer level on



the gas producer quadrant should be at 50 per cent.

That's ideal . . . . Now a dash with "Good"

But suppose the level on the gas pro-



ducer had control pointer at 25 per cent or less — now it's 17-18 inches off — bad news.

no. You're metering fuel with the cut-off valve and that ain't working no more.

First thing you know, the nylon clip on the nozzle valve flanges like a popper — here's the bad news and will fail on you properly. These little wheels up with an after dip into the combustion chamber, they cause PM-4 in the fuel burner spalls to occur (4-4)

Make the level zero on the 50 per cent mark by adjusting the red ends of the adjusting valve. Now the fuel control valve and the metering valve are in the correct position for ground idle fuel adjustment.

The PM-4 valve adjust to equal with the level of the 50 per cent mark and level up or at ground idle, a with the valve and adjuster screw — a job for 50 who will check up for removal at any time, see page 108, correct level on being a doped fuel control or power control rig.

Adjustments spelled out in part 5, 174g of TM 94-1426, 138.20 (44-609) only under one check — lower limit the up and down range when a pilot controls the collective gap from max power to shut-down.



## ON THE THROTTLE POSITION . . . SWITCH FIX

Need to make the on-pilot's cyclic stick out of your Keros — the switch for a ground check and zero on your field's on standby for an actual "stop" mission? No sweat — if you remember that the pilot and on-pilot have twin switches on both cyclics and need to verify, if any electrical connection is broken, both are.



So, why not use a spare plug? Add support to make an extra connection plug with 379 (M8x1.25x1.4-20), 300 (M8x1.25x1.4-20). Use a spare jumper wire to cross the connections R with L. Keep plug on hand. You'll find that plug in TB 758-002-02 (44-609) page 50, para 50.

Plug in your adjuster to keep from a pilot power working for the pilot. When you're in it, ensure the on-pilot's collective stick. No one is interested type — check out a message and man handling the collective (with control).

With the cyclic collective stick and pilot's foot on the seat's foot, there's no way for a ground to just the roller control with a misplaced foot . . . or a jumper to make your cyclic stick with a message (44-609)

## TEST FLIGHT NEEDED

IT  
BUZ!

IT  
DOESN'T!

Dear Windy,

We're not sure about our reading of your heliogyre FM 81-108B.211.44 (Rev. 78) on required test flights.

Part 14, there's been some downright confused illustrations on whether a test flight is needed after replacement of an elevator control surface when part of the rigging is changed.

What's the good word, Windy?



Dear Specialist C. E. P.,

A test flight is needed.

Try reading that paragraph like so:

Test flights are required—(a) When fixed or movable flight control surfaces, primary flight control actuators, flight control linkage or cables have been replaced, restored and reinstalled or adjusted. Mandatory flight test requirement is excluded when bolts in the flight control linkage have been replaced without detaching the control linkage adjustment.

*Windy*

## FOCUS ON THE BLADES



Look sharp, Cavalry FORMER! Testers, when you eye the tail rotor blades per exposure 4-4 on the Daily checklists. When the machine stall altitude drops at the leading edge is damaged, ground the bird before you lose the blades . . . or worse. Boon up on the disposition page in para. 8-1C of TM 81-1030-214-28 (Jul 69).



## CLEANER FOR ALL!

HOW MUCH MORE  
FOR THIS KIND OF JOB,  
IF YOU PLEASE?



Dear Sirs,

We need some powerful cleaner only for use with our Ingersoll 66, 75N 6650-624, 6661. Can you give us a hand?

76 S. A. I.

Dear Specialist D. M. S.,

You're looking for 12-oz. cans of solvent—or cleaner—FOM 6670-1-41-8346. On DA Form 1795, in Admin Code volume 55, 65 write to 28. This means you won't accept a substitute.

You can't use a developer and a penetrant from different kits, the, because one manufacturer's product will differ from another. That's why does it from us are available as individual items. Order a new kit.

This solvent works with developer and penetrant in Ingersoll kit FOM 6670-1-41-8346.

## PERIODIC OIL CHANGE

76 S. 321...

Search no longer, save money (4444) needs for the oil change men in your fleet engine. It's easy for you—get answers 444 of 76 S. 321-20-80000 (444 80).

76 S. A. I.



AS-10 PROBT...

## SAVE THE WINDSHIELD

So you cover your face headily over the heat?

And you casually flip the switch off when you bring the helmet in or reset?

Careful now. That maneuver could cost you a windshield... and they don't cover cheap.

Happen—if your finger comes up on the switch, from HEAT then OFF into RAIN REMOVAL.

Heat poses the real dilemma on the covered helmet. In a matter of minutes there's a hole in the transparent plastic big enough to put your fist thru.

So, hang onto that switch and move it just to the center OFF position.



## COVERS ARE OUT

No need to make your eyeballs look for King-size Huey HHS-D visor covers. Take 'em in the supply system.

Boxes, cabs, nylon covers and the like were made up by dozens at one time for use when clipping helmets. No longer. They now use a simplified method of protection. The pain job on your forehead-board lid protects the corneas... no covers needed.

Keep using those original tubes, rubber and plastic tube covers, too, to protect the exposed interior of your body.

ONLY THIS COVER  
WORTH FOR CLIPPING



## FEEL IT FULL!



Getting the right amount of oil in your backhoe's hydraulic tank can make an American feel like a multi-egg model.

You've never seen you have the oil under right gauge mark 'cause it's harder to see than powder in the boom.



SEEKING FOR THE RIGHT OIL

Specify when the 'Cobra's' oil's full—or not—low during servicing.

To make your job easier, fill the tank to the top of the filler neck and stop.



Worrying about a mess is obsolete.

And if it's dark, you can still add extra amount. Just fill till you can feel the oil in the filler neck. A night's weather won't matter ... the wrapper will catch it.

## TOOLS UP-TO-DATE?

Buy the newest supply catalog or component listing put in your already used files during inventory. Find several features. New tools are being added, old ones removed and put in the end of functional area shop use ... just when the driver noticed.







FOR BABY IN THE...

## GET ELECTRICAL



Sometimes Army & Navy... Don't  
You Get Better Than Anyone?

You've probably guessed your vehicle's battery was power-riding long-past. You may have had your legal rights as diminished by too much voltage and found your cracked vehicle leaks out of communication.

You might have wondered whether there wasn't something that would cut down the power-riding business in the ANVBC-12 radio series, the ANVBC-15, ANVBC-64, ANVBC-125, ANVBC-100, or the ANVBC-100.



HERE AT LAST  
ALL SOMETHING TO  
IMPROVE YOUR  
RADIO FROM THAT  
OLD YELLOW,  
POWER  
CABLE!



ANVBC-125  
125 125 125 125

Well, there is now an answer, the MX-7778 125VDC voltage transient suppressor. The MX-7778 is now available. You cracked vehicle guys can go after it with PN 9514-957-9548, using page 3-20, TR 780931-4 (Jul 78 as your authority on cables, and TM 11-9514-204-12 (Jan 69) tells you all about it. It costs \$275.

The suppressor will also be included in the installation kits for these radio sets. What it does is limit the voltage to the level of a 10-amp load, in case the input level from your vehicle's power supply goes over this voltage. This means you won't be worried all the time about high voltage tapping the transistors. But don't ever think that suppressor is any power supply with a read voltage of more than 10 volts—it could damage the semi-conductor device.

There's a sheet available, so read you see to make the proper hookup. This service sheet (PN 9595-177-5275) reads:

"Connect terminals to the correct cable and  
label as follows:

## TRANSIENT SUPPRESSOR



For the detail on the the position of the top corner of the MX-7778 on the distributor's end. Page 3-20 of TR 780931-4 (Jul 78) gives you the exact PM on the MX-7778 is simply less important.

Here's what you do on a daily basis:

Remove the unit for power and fuses from the entire system, using a soft, clean cloth. If there's something old on the case, use a cloth dampened with cleaning solvent to remove it.

Check the insulation on power leads at cables, and to cover the plugs and connectors on wires.



Replace any loose belts that are missing, and replace any loose nuts.



Use a level to ensure that unit sits low for mounting.

Check the unit's location for correct, easy access to your cable 2 to 30 and 31 positions.

SANTA'S  
COMMUNICATIONS  
BOARD

# The SB-86/PT SWITCH

## HALP!

It's a horror tale, man! The better you treat your SB-86/PT switchboard, the better it's going to treat you when communications are better.

SB-86/PT, here's some PM guidelines that you probably already know... but you could pass 'em on to your buddy in another area with it.

**USE NO LATCH COILS** — Take a quick peek at the back end for the warning door on the TA-282/P jack field wires. That coil can be snapped off, sawed off, or mangled off... then the harness is no longer protected. The main thing: Be sure you don't check the coil on this one. That'll show it up fast.



# 86/PT BOARD



**FORM YOUR OWNERS** — Whenever installing SB-86/PT boards in the ET-2000 G power supply, remember to get all the boards behind the door assembly that holds 'em. Naturally, you wouldn't get a fat routine and end up looking off one of the boards. If you leave one a harness accidentally, the power supply will work, but it'll be weakened and won't be pumping out best efficiency.



**WATCH YOUR BOARD** — You probably already know that the rubber gaskets in the sides of your TA-282 should be replaced except on small field wires. It goes without saying that, in any event, no screwdrivers should ever be used to open the gaskets. It's also wise to be careful when you're inside the TA-282, since accidentally striking the gaskets against some sharp object could cause trouble.



**TEST ALL BIRDS** — Every year in a while, check the wire harness on the rear access door of the TA-282. Thing is, if you leave these harnesses totally alone, they can work loose and get lost. A little finger-checking badge help is worth it.



**SPRING (AN OMISSION)** — When the humidity's high and hovering, when the humidity is going to the outer springs of the TA-2001P and TA-2002P and coil operator packs of your air-conditioner . . . that's when corrosion is calling. Enough corrosion can lay out your \$2-25 for a good, long count, but there's a way or 2 to make it keep its distance.

At least once a month, give the contact springs a good swabbing with rubbing alcohol (EPA 5049-509-8000) or cleaning compound (EPA 5049-107-8700). You can use appliance fogger 6113-100-8110 for the swabbing.



After cleaning the springs, use a cotton swab to apply varnish. Take it easy on this. You don't need much, just a light coat, and be sure to stop at the head of the spring so you won't be swabbing the contacts and don't over-apply the insulating.



**CLEAN AND MAINTAIN** — If you're working in a high-humidity area, the coil and operator packs ought to get a complete clean-up and reworking from support at least once a year.



**USE A SUBSTITUTION** — Never improve a screwdriver for the one-size-fits-all business and the screws in the battery and quartz parts compartments . . . you're just buying trouble. These screws can get all fratched up when you turn 'em with the wrong instrument.

So, either walk your unit repairman out of a warehouse where you're not licensed or with the equipment, or chat let him do the upgrading for you.



**OPERATOR MINDS** — If anyone knows the operation of an SD-40, it's a mighty important job — he's the guy who decides about things: when, and where, and how. "Course, there's a spella when he's bound to have a little more time on his hands, and here's what a good operator never does:



Never remove the protective cap from a signal light. With the cap gone, you could get that extra tick for a signal job.

Never handle the switches just by reaching to do 'em. The pad gets extra wear 'n' tear an' you and they get plenty of this notice:



Never let the plug bounce back into place instead of going 'naw the gaffle back. That means big red noise a worked signal box, you know.

Never twist the coil and answer cord. This top-end habit can be mighty rugged on the cord. The string can develop an undesirable and lasting, then, up . . . it works . . .



Never pick-up pictures on the log plate, either with a pencil, pen, or even a combination. That log's for important stuff, not for doodling around.



**CONNECTOR CARE** — When you're replacing a cord pack, you're bound to get along OK, just as long as you make sure the terminal connections are out of the way. But if they're caught between the pack and the chassis, these connections could get squashed.

**OUT WITH THE BATTERIES** — If you're not planning to use your switchboard for a spell, take out the 2 BA-10 batteries . . . you know, the one for the buzzer, the other for the talking circuit. Charge your BA-10's for fresh meat every 6 months.



**ACTION SHIELD** — In setting up your switchboard, line up the sections carefully before attempting to brace them together. If you try to brace 'em when they're not properly aligned, you can bend the crank-type bushes by exerting too much pressure on 'em. Then you might break the bushes' tips' or straighten 'em.



**WIND UP SOFT** — Make it a point to put the wiring straight on the -24V and +24V binding posts. Otherwise, you're liable to pop a fuse on the TA-300 assembly.

**SHOCK THE WAX** — If the supervisory signals don't trip when the coast's limited in the road seat, reset it out. Rub a little talcum powder around the rubber protrusion at the back of the jack. That'll give 'em the oomph to slide back into the bayonet socket and trip the signal, just the way she oughta. Just a little talcum should do the job.



**WAX SHOCK** — The road circuit switches don't wear a lot of heavy metals . . . all that's needed is a light finger-crank, an easy push or pull. Too much muscle in this operation could cause mangling of the mechanism, just below the surface of the road pack.



Remember, the red wire attaches to the -24V post next to the spare-part compartment, and the black wire goes to the +24V post. This kind of attachment can keep fuses bright and durable.

## HEATED CHANGE

Couple three-ohm-ohms may be using your TA-082U signal converter or TH-170 radiograph terminal in cross-line.

Like, to use all the GLL's tubes (V), V4, V6 and V14 in the TH-50 have been replaced by sockets 6AL7/6X8.



PN 0130-076-1405. Also, the 6X8 tubes (V11 and V15) have been replaced by 6X4 tubes, PN 0130-076-1145 numbers. The word, if you missed it, is in Ch 1 (Ch 80) on TM 11-1489, 14638P.

Unlike the GLL's and the 6X4's, sockets the 6AL7/6X8 use the 6X4/6X8 requires tube shields.

However, if you're gas-tube tubes with the shields—you're gas-tube tubes. So, remove all the shields

when the equipment is in use, and put 'em back only when you're transporting the equipment.

The only purpose of the shields is to hold the slider tubes in place during transit. The shields aren't needed during operation. The reason is simple and don't need the shields at any time.



Remember, No. 1 for both TA-082 and TH-1 can be the solid-state case (PN 1809-013-0100). TH-180-011-1 (PN 80) indicates its replacement for unit level by performance case PN 1809-017-0000 when the components are used in a chassis.



## WARM IT UP

It's that warm talk that does the job... and keeps the big boys out on various tubes and such, which means lay your tube and contact the wires... after your radio transmitters get warm.

Slip your set about 5 minutes of power before transmitting, or longer if specified in the manual of the radio T-1.



WORLD'S MOST  
 BEAUTIFUL AND OLDEST  
 PREFERRED LEAD. The  
 88-22-117T 24  
 Play<sup>®</sup> "CORVETTE  
 MOTOR — SO BEAUTIFUL  
 A NEW TYPE!

YOUR  
 88-117T  
**A  
 PLUG  
 FOR**



**MORE THAN GETTING** — The correct  
 amount of the 88-117T and the 88-22-  
 117T mechanical look alike — but they  
 are not interchangeable.

The 117T of course operates with dif-  
 ferent voltage, so if there's any substi-  
 tution, they won't mill around the way  
 they're supposed to. So leave 'em alone.

You can tell one from the other  
 by the teeth. The 88-22 has teeth that  
 are dull radial teeth, the 88-117 has  
 teeth that are pointed teeth.

881 117T ARE MOST  
 INTERESTING!



If these things don't mill around  
 right, they may be foreign matter in  
 'em. It comes out with a clear oil  
 die, die ... or even a stop glass of  
 wood from the brass cover sleeve.

Sometimes these harmonically waked  
 things just stop working. Use a small  
 magnet held just above the line signal  
 can work wonders in fixing the eyes.  
 Shaping on the switchboard will back  
 the things in an emergency.

To clean the things and disengage  
 strips, use a wear-resistant cloth. Use  
 much studge, for too long a time, use



them on your revolution and drip it  
 right on the non-operational bit.

Manually, a cheap tool isn't much  
 good for fixing a stuck line signal. It'll  
 cut the eye and push the switchboard  
 too much down to high resistance.  
 Use your fingers, lightly, to get the  
 things in mill. If the line is cracked or  
 broken, put in a new one.

**DO IT RIGHT!** — There's an easy way,  
 and a hard way, to put back the battery  
 in your 88-11. If there's any binding  
 against the contact clips for the battery  
 case, the clips can be broken. The clips  
 can be bent if the battery has gone in  
 electric instead of cranks.



**CARE IN LUBING** — Be careful with the  
 ball bearing on the back cover of the  
 88-11. These can fall in with properly  
 and can stick on when you've closed  
 the cover.



This could mean breakage of the  
 bearing when the switchboard is reas-  
 sembled or loaded into a vehicle.

Put a drop of light oil on the inside  
 packaging, to help the bearing catch  
 the way they should. Remove all the  
 oil and dust from the external areas.

**COVER THE HOLE** — It's always risky to remove the lens covers from your workboards unless there's some specific reason for it. These covers get lost. The word is this: If you don't have business in them, leave the lens covers exactly alone.



**THE GOOD SPRING** — The lens capping the lens on that U-101 connector on the E-114 board-assembly. The spring should not break, and this one's a nice example here. This spring can be



break just below the connection, if you do any yanking on it. Its job is to keep the seal from being crimped, and if it comes up broken, it doesn't offer much protection, does it?



**THE STRONG** — Yanking on the rubber sealant cover of the M-17 or the M-18 can mean breaks and splits. If the plug doesn't go in right the first time you try it, give it another try. No jacking, no yanking. It's supposed to pull straight out, without bending, so give it another chance.



**THE HOLE ON THE** — When your M-17 is in the middle of a rubber seal, turn the plug to make contact with CPU.

If you have the workboard powered and on, you could end up with a broken-out transmitter carbon element. The CPU position also runs up about M-10/11 boards.





WANT  
A FREE  
BUNDLE OF  
MORE... NOW  
JUST COVER  
THIS SPACE!



## ENGLISH POOPING

**PT. "STAY" REMBRANT** —  
Intelligence, history, mystery,  
showing his famous nose  
of Carter's last stand — on  
the traffic sign.



**PT. "STAY" WHEELIE** —  
Four from scratch — in the  
lines of his latest creation,  
entitled "phone plug director"



**PT. "WHEELIE" FLEMISH** —



Playing his  
favorite game of  
hide —  
"get the  
plug in  
the hole!"



PHONE  
PLUG  
DIRECTOR

The plug can suffer from bouncing against the frame of the switchboard, and there's a chance it could hang over a signal light. The wiring of the cord also can suffer when there's loose-lying cabling.

**WTF? WTF? WTF?** — Mister's a deep dip. You can get it in such forms as cat, dog, and pig — and it could even wreck your switchboard.

But there's a workable answer to the mister problem. Use a wire, like five strands with which you wipe the wiring, as well as the cords and plugs. And you could take a few links at the handle, the connection, binding posts, terminals, push and line-push. This might keep you in business.



**SHAVE THE SPITS** — Giving spits on that rubber pressure for your electrical cord assembly?

The pressure does not develop tears and spits, but here's what you do:

Take a single-edged razor blade or a sharp knife, cut around the cord and trim off the spit portion. Then reape the edge of the rubber, and you'll still have a reasonably good sleeve.



**SEE THE LIGHT** — Check those connector plugs at the house end. Do they look dead? Are they OK? Well, maybe, but let's try rubbing one of the plug ends with a piece of coarse cloth.

But it won't clean at all. Coarse cloth really pulls out the hidden dirt. It's smart to keep a chunk of this cloth handy, so you can work on the plug ends when they are dirty.

Try one—and should get—increased signal strength from those new-look switchboard plugs.

## IT'S A SWITCH

The volume switch on your GM/GR-40 radio control unit is made out of heavy, shishy plastic—but you'd never want to test its strength by flexing the switch.

If you try to move this switch beyond either of its stop positions, you're liable to end up with the knob in your hand, starting as the switch ends on the control panel.

No use, either, of trying to force the switch if it happens to bind. Any sign of a switch-bind means a trip to repair post for a fix, not later.

And be careful not to drop that GM/GR-40 control unit; you



could even knock off the volume switch with an accidental drop against a sharp corner or table edge.



# NEW RADIOACTIVE TEST SAMPLE



Now there's this—The new radio-active test sample, M59-1001/P59B-17 (M59-1001-P59B-17) is the authorized test sample for all radio sets in the M59/P59B-17 series. In addition, radioactive test samples M59-1001/P59B-17 (M59-1001-P59B-17), M59-1001/P59B-17 (M59-1001-P59B-17), and M59-1001/P59B-17 (M59-1001-P59B-17).

## YOUR M59 DOES NEED LUBE

### Keep M59 Alive.

To insure any lubrication needed on the M59 field range, contact FM 30-1000-204-02 (Pub 02) under its reference or call to lubrication.

FM 30-1000-204-02

Dear Specialist (S. E. M.):

You, you do have to take that M59. Anti-rust compound, FM 30-1000-204-02, is found in the repair parts section of your TM. You use it on the support rails, the threads of the burner bulb, and a few dots on the drawer door cracks.

If you're going to ship your range, or if you're going to put it in limited storage, better use some P-14 preservative, (M59-1001-P59B-17) on all parts that need night care. FM 30-1000-204-02 will get you a gallon tin, and M59-1001-P59B-17 a 7-gal pail.

You use PLS Lubricating Oil, General Purpose, Preservative, YF-1000 (PLS) on other parts of the cabinet and burner. FM 30-1000-204-02 is good for a 1-gal can, and FM 30-1000-204-02 will get you 5 gallons.

You can also use the P-14 preservative on your instrument heaters, too.



*Keep M59 Alive.*

working with lots  
of heat downward!

**PM  
YOUR  
SKIN**



Prevent any redness, swelling, itching, crusting, or scaling of your skin! A foot cause for that is dermatitis. You may have one or more of these symptoms if you work with xerographic or psychological operations equipment.

These photolithographic chemicals and cleaning agents can cause dermatitis. You can "load it off at the post" if you use a skin cream.

You can use skin protective compound, chemical barrier, cream type water soluble, Fed P-3-113. You can get the following in 1.5 lb jars:

- SPC-114-APC, Type I, for protection against drying and itching problem.
- SPC-114-APC, Type II, for protection against dehydration, itch, and scaling.
- SPC-114-APC, Type III, for protection against itching and chafe.

You find these listed in Fed Cir 6000-11, Class VII.

If your skin's sensitive to any of these creams, locate copies in your medical office or the doctor for treatment. He'll also tell you what other creams you can use, in place of those listed above, to give you protection against the chemicals you have to use in your shop or prep.

**THAT'S THE MAGIC...**

## FOR BATTERY CHARGING

Never try to find a cable set to charge batteries off that new DC generator set, J-676 26.7, 100P-6304. Fed Cir 6114-107-50007.

Use with cables like TM 3-6130-501-12 sets. The TM has hookup dogs for charging 6-volt, 12-volt, or 24-volt batteries, even all kinds at once. You can't



YOU GET THIS WITH  
THE J-676 26.7.



Refer, and get the distribution panel, to the generator by TM 3 to charge

batteries.

WEAVER'S THE FINE FINE  
**TANK  
TIE-DOWN**

WEAVER'S THE FINE FINE

**Dear Hal-Blair,**

Tie-down straps and brackets are vital to keep your tank and pump unit, liquid dispensing, roof mounted, lightweight model 2200, when loaded, We had an OTR for them, although Fig 5-4 of FM 3-4000-227-14 shows the parts. We need them fast! ... how can we get them?

CRN E. J. L.



Dear Mr. E. J. L.,

At present, they have no OTR's. You'll have to submit an exception to your supply request. Have your support desk check their requisition "load process," and submit it to Managing Activity AD, Ad. Inv.

Ek. Tie-Downs, Rough Terrain, BMC 27405, Part No. 514-5147.

## SUPPLY NAME WANTED

The Army wants a new name for the "Counter Store" supply operation at your OJL unit. That's the over-the-counter operation where you get low-cost repair parts and common hardware on a first-come basis.

Caution . . . don't mix it up with the Self-Service Supply Center that's operated by some OJL units and by most posts. That's where you use a credit card and get in and pick up what your outfit needs of things like soap, light bulbs, paper, pencils, shoes and dresses.

So, if you've got a good idea for a name for your maintenance OJL unit's over-the-counter supply operation, send it today to—

BMC, Hal-Blair  
c/o FM Magazine  
Fort Knox, KY 40321

The guy who sends in the winning name will get a color pinup of Ensign.





## What's In Your Chassis

When you get your new MITSUBI 35-ton truck, you'll find a custom-built on the street. It means you can't use the chassis like those based for the older MITSUBI-series vehicles. You'll find a body interference condition.

New-design fire chains will be coming along for the MITSUBI.

But if you've got a real need for fire chains on your MITSUBI and can't wait for the new ones, you can get by with the standard MITSUBI chains — after some changes you make in the chains and also in your MITSUBI body. The instructions for doing the job are in *EN Digest*. TB 120-980-4 (2 Oct 79).

## PAR Test It...

Within the year, but we didn't make it on your defect in that AM/MPG-10 PAR item on page 26, PG 218. The last sentence in the fourth paragraph should've read: "The needle should rest on '0' when you're transmitting in the middle of the frequency range." Actually, when you're on either side of mid-band, the needle could be anywhere.

## PM Manual Check Out


Just check your PM (1-6174-268-1) to see whether you got Ch 2 (Apr 79). Besides plus of new word on PJ-400/YB and-400X/1M, it adds PG-428/YC and PJ-400/YC. It has everything new from Chap 17 on... besides a load of fresh-page PM's. Neighbors also on earth do you find such good info on 22 different generations.

## Wing TSN

Wings, that should've been P24 (208-737-002) in "Take My Chances," PG 218, page 82 — not P24 (202-217-002). The right P24, in TM-9-2124-208-20P w/Ch 1 & 2 (Apr 80), is for the front wheel brake hose — either right or left side — on your 2074-series 2 Drive truck. Keep a close eye on those 2 hoses and get 'em replaced if they look bad — like it said in PG 218.

## Protective Mask PM

Take a real close look now at the set-it valve disk on your M17 or M12A1 protective mask. Make sure the disk has fat, and that its tail's pulled all the way through the valve seat. If the disk is spotty, brittle, or cracked, replace it right now.

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

# For want of a...

- GOOD FSN
- CORRECT NOMENCLATURE
- COMPLETE NOMENCLATURE
- GOOD REFERENCE

837 BKHS  
SUPPLY

WE  
CAN'T SEND  
YOU A PART  
WE CAN'T  
IDENTIFY!

## THE

- TRUCK
- WEAPON
- GRADER
- RADIO
- \_\_\_\_\_
- \_\_\_\_\_

WAS  
LOST

