

Issue 155

PS

1965 Series

HEY DARRR—
I JUST FOUND
FOOD! ANYBODY?

OH, ABOUT THE
MONEY YOU'VE GOT
F.O.D.

HEY UP
AND
KNOO
FOOD
OVER
OVER
DANGER

PLAN AHEAD

You've got a good piece of equipment — the best, in fact, that Uncle Sam can buy for you.

But the best sometimes can be made better. Or your Army equipment, this it alone by Modification Work Orders — MWO's.

When the design engineers find ways to improve a piece of gear that's already in use, they have it modified by an MWO . . . in other ways.

Modifications on equipment are done by the guys who use it, by the unit mechanics, or by your support

Some modifications are done only at Army depots.

You say this is fine, steady and all that stuff, but how do you find time to apply an MWO when with all your regular duties?

You've got important missions and operations to perform, you can't stop working, standing and command units! But to build up a new dimension to the service collective, how can you? Oh for support from your equipment for enable to do the modification, if it's their job? That's got to be one of actions for who knows how long?

The deal on this is you've got to **PLAN AHEAD**

PLAN AHEAD. Of course, no this plan-ahead let you'll have to get your own CH involved and your support unit, too.

Two major units have been suggesting that MWO's are codes — Modification Work Orders — signed off by the Army Chief of Staff and The Adjutant General . . . which means everybody's gotta get with it. Besides that, your command or depot wanted DA Form (CLASSIFIED) (11 Jun 65) 100178, SUB-

You'll also have to check for possible MWO's on major components of your equipment such as engines, transmissions and the related drives; they might be listed under the component's publication number rather than under the MWO number for the major item.

Your command headquarters has a lot that'll help line up the numbers

FACT: Your Analysis/Application and Reporting Modification Work Order, which says without you that all MWO's will be applied.

First thing you have to do is find out if there's an MWO for your equipment that's now been applied. Your log book DA Form 2400-7 or DA Form 2400-8 will tell you what's been applied. You then go to the Army Index, DA Pamphlet 5044 (May 65) to see if there are others.

MWO's — including major component MWO's in (CLASSIFIED) "Equipment Index of MWO's," can be by the Logistics Data Center or Logistics-Budgeting Army Depot, Lexington, Ky., on a quarterly basis.

Some major unit Commanders receive the MWO list by type of equipment and provide copies to their smaller units to see to see if they have all MWO's applied.

SCHEDULE



If you're now listed on the MWO's for your equipment, you must file on the DA Form 2486-5 or 2490 to be applied.

You'll have to order whatever parts or kits are needed for MWO's your area can't apply. When they come in, you schedule your equipment for modification so soon as your mission and operations will allow. Keep in mind

YOUR WORK



the most compliance requirements for MWO's in AR 750.5. Don't put it off. Then, record the applied MWO on the DA Form 2486-5 or 2490. And you send in a report on it on a DA Form 2487.



THE SERVICE (ARMY/Navy/Air Force) NEWS MAGAZINE

IN THIS ISSUE

ARMED MOBILITY

ARMY	COLONEL	ARMY NEWS
NAVY	NAVY NEWS	NAVY NEWS
AIR FORCE	AIR FORCE NEWS	AIR FORCE NEWS
ARMY RESERVE	ARMY RESERVE NEWS	ARMY RESERVE NEWS
NAVY RESERVE	NAVY RESERVE NEWS	NAVY RESERVE NEWS
AIR FORCE RESERVE	AIR FORCE RESERVE NEWS	AIR FORCE RESERVE NEWS

THE PEOPLE

ARMY	ARMY NEWS
NAVY	NAVY NEWS
AIR FORCE	AIR FORCE NEWS

ARM MOBILITY

ARMY	ARMY NEWS
NAVY	NAVY NEWS
AIR FORCE	AIR FORCE NEWS

COMBATTING TERROR

ARMY	ARMY NEWS
NAVY	NAVY NEWS
AIR FORCE	AIR FORCE NEWS

SUPPLY AND Publications

ARMY	ARMY NEWS
NAVY	NAVY NEWS
AIR FORCE	AIR FORCE NEWS

For more information on the magazine, contact the editor, PS&S, 1000 Wilson Blvd., Arlington, VA 22204. Distribution is automatic and no separate address is needed.

SCHEDULE



If any of the MWO's call for action by your support unit or by depot, you need a DA Form 2487 work request to support. Then, set up a schedule with them so your mission and operations won't be hurt by equipment out of service for the MWO job. Push your support unit to apply the MWO sooner.

SUPPORT



Then, when all MWO's have been applied to your equipment, your log book team DA 2486-5 or 2490 will have the MWO application record down in black and white.

DEADLINED AND



Keep in mind that a machine that's on Urgent MWO can't be applied to your equipment, it's deadlined. You can't use it.

Normal MWO's have to be applied within six months after the MWO date. See AR 750.5.

DEADLINES



Depot have to modify equipment they have stock, so don't exempt your base depot to support unless all MWO's are applied.

RESCINDED



Now, how about any old MWO's that have been rescinded and never were applied to your gear?

Like any order that's been rescinded, they're dead. Forget them.



But, if your equipment's got an MWO on it and it's been rescinded, for goodness sake, don't take it off!

PROBLEMS?!



If your work has any problems with a pending MWO date, MWO materials and tools, or if you don't have the man or facilities for the MWO job, then file that DA issue mentioned below says, your work has all a request for help. It goes to—

Commanding General
S. I. Army Supply and Maintenance Command
ATTN: MWO-10-1
Washington, D. C. 20311

An info copy goes to the Deputy Chief of Staff for Logistics, Department of the Army, ATTN: LOG/BI, Washington, DC, 20315. The request should

..WRITE!



include all the details, like dates, registration numbers, what kits, tools, facilities and manpower you have. This info will help speed up action for you.

So, to keep your work's base equipment the best all the time, keep up with the MWO's. Never let 'em stack up on you. Plus about,

• It'll help you keep your equipment number ready



Get Help Now!
Call Magazine
For More On
MWO's

M114A1 BEARING RACE TIPS



This dope won't tell you which horse will win the next Kentucky Derby. But it will tip you off to the right cleaner for the 234 ball bearings that run around the commander's mainline capota upper race ring on your M114A1 boost.

The plastic balls and surrounding area should be cleaned only with aliphatic naphtha type 11, TT-50-51 . . . So now you know!

Your support will have this and they'll do the job.

For the crew and the company mechanic the only rule to remember is . . .



Because they're plastic instead of steel, they need no lubrication. In fact, kerosene, dry-cleaning solvent and mineral spirits like paint thinner are all bad for the plastic.

The only time you see these balls is when the commander's capota is pulled but you don't need to see 'em to tell if they're working right. If the balls are on the ball they'll let the capota spin around quick and silent-like. But if dirt or the wrong kind of fluid gets in 'em the capota will operate slower and with a lot more noise. Then you send it to your support for cleaning.

STEER UNIT OIL FILTER FACTS

The oil filter on your geared steer takes a terrible pounding, particularly when you're warming up a cold engine.

The oil pressure can get so high it swags the filter container, causes the gaskets and even breaks the container bottom.

If any of this happens you lose oil pressure and, of course, you can't steer to good.

So, you need to keep your filter healthy and this is how you do it . . .



1. Use the right lube for surrounding temperature conditions. Use it up. It the latest edition of GM S OILS 224-12.



2. When you're the engine being warm up, instead, you pull the hand throttle out only enough to get a smooth idle.



3. Let the engine warm up three to five minutes before you move out.



4. If your situation permits, drive at moderate speed—steering wheels in 80 and transmissions in D—until the engine warms up.



A replacement filter is going into supply under PSM 2530-79A-2276, but your present filter PSM 2530-206-1137 will work fine if you keep it healthy.

MI4 STARTER SURPRISE

YOUR BATTERY
MIGHT BE
DOWN IN 5

IT'S IN FOR
EMERGENCY
USE ONLY.

Dear Fellow,

Anybody need an emergency starter for an MI4 or MI4A/C B.B. model? Well... Surprise! Surprise!

The starter on an MI4 (P) or MI4A starter motor will do the job.

It's listed on page 30 of F4 1-1200-282-00P (Old 282) or F4N 2820-440-1411. Write, now! (330000) but where you'll probably find one is in a salvage yard.

CWD B. 10. 8.

Approximate. It's hard with
you get the starting package
for your MI4 or MI4A!

Old Note — Good about Remembrance, the cadaver's starter are for emergency use only. Just use 'em to keep your MI4 going until you can get the starter designed for it — Exeter, Electrical (15754-1182795) listed on page 18 of your F4 1-1200-219-21P (Old 219) under F4N 2820-420-4101.

GROUSER HEIGHT RIGHT FOR E-A-S-Y ESC



No matter whether you're putting the tape to a heavy constraint or in the groove on your MI11 PC series vehicle, if you measure from the wrong place you get the wrong result every time.

There are two right different TM 9-2000-214-ESC's covering the MI11 family, but Item 1, the section on track, is the same in all of them. Item 2 says to measure the remaining steel grouser height from the top surface of the shoe on the maximum grouser height.

Only question is, where on the top surface of the shoe do you measure from? Well, the people who wrote the ESC measured from the rib formed by the inside edge of the sprocket opening on the top of the maximum grouser, and you wouldn't be wrong to do the same. 'Mull said?'



The section on track is the same in all the MI11 PC family ESC's but some of the other sections are different as you have to have the right ESC for your particular vehicle.



Here's your choice, sir...

TM 9-2000-214

- | | |
|-------------------------------|-----------------------------------|
| ESC/1, MI12 personal carrier | ESC/1, MI17 command post carrier |
| ESC/2, MI141 personal carrier | ESC/2, MI20M command post carrier |
| ESC/3, MI16 50' max motor | ESC/3, MI22 base driver |
| ESC/4, MI16A1 100' max motor | ESC/4, MI23M base driver |

TANK RANGEFINDER

Heard about the rangefinder insurance policy for your M16A1 and M16A2 rifles? ...

It's simple as a doughnut. All you've gotta do is pay this insurance to get your company mechanic to adjust the maximum depreciation

step down for your 20-year gun instead of the gun break down the competitor when the gun is fixed at maximum depreciation.

Change 2 (20x 45) to T10 5-2140-214 08 (20x 45) for the

INSURANCE POLICY

M16A1 rifle and Change 10 (20x 45) to T10 5-2140-214 08 for the M16A1 and M16A2 rifles will help you do it with a saving of about \$4,000 (1-45.1) with on your gunner's standard.

If you fix or the old setting of about 5 degrees (20x 45) the break would cost less your rangefinder and make separate broken glass out of more than 40 million and prices.

M60/M60A1 TANK BLOWER BLAST

Something new on your turret mount being. However, has been added to the 20th 451 edition of T10 5-2140-214 08.



The old 20x 451 edition of this TM 2000 has to run the M60A1 if you had the turrets closed while firing any of the three guns. This will give, but the new edition with this little gun to the name.

With four and four 10, 1000 (10) parts on it the 20x 451 edition, changed the 1000 5-2140-214 08 (10) (10) (10) (10).

That makes necessary you bill you. So, turret M60A1 (10) what you've focused up and you either have the engine running or you're firing.

BEFORE
START
FOR THE
MOTOR
TO OIL
LUBRICATED
WITH OIL
TO OIL
AT 1000
DEPRESSION



FOR THE RANGEFINDER ...

USE THE RIGHT LAMP



If you have an M60 or M60A1-series tank, this makes good sense.

All models of the M11 and M17 rangefinder have a lamp bulb to light up their sights — the same bulb for the M11's or the calibrating reticle for the M17's. This you already know ... so on with the show.

The right bulb to light up the reticle has manufacturer's part number 1205 (patent on its face and you order it as P008 004004 00-10-02, 0204 0002. You should have one 1205 bulb in the reticle and another in the spare-bulb box on the range finder.

The thing is, some Japs have been replacing a burned-out 1205 lamp with a 1005 lamp.

BEFORE
START
FOR THE
MOTOR
TO OIL
LUBRICATED
WITH OIL
TO OIL
AT 1000
DEPRESSION



The lamp will fit for it with a wash screw 1/2 inch on the range-finder reticle mount.

This causes problems, because the job of replacing that chamber is for your support unit. It might mean your tank will be out of the shop for weeks.

The 1005 lamp, PSM 62-10-004 004 004 004 004, is used in the left-hand light. The spare is kept in the spare-bulb box in the turret housing.

For the rangefinder reticle, get your spare from the bulb box on the rangefinder and make sure it's a 1205 bulb, not a 1005.

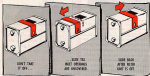
KEEP THE SPRING CLIP

"I thought it would be a good idea to leave the spring clip on the filter unit. It makes it easier to install."

You wouldn't drive your vehicle very long without having a cap on the gas tank. You know that cap's there to keep out dust, sand, water, and just about anything else that might fly into it if the cap's not on.

There's a spring clip on the M11 gas-purification filter unit installed in your M10 tank that does the same job for the filter unit that your gas cap does for your vehicle.

You have to remove the air intake openings before you start the filter unit. That doesn't mean you have to take it completely off— just slide it toward the air exhaust end of the propane and gas filter filter assembly housing until the air inlet openings are completely covered.



Be sure you slide the spring clip back over the air intake openings when you've turned the filter unit off.

If you don't have a clip for your filter unit, contact dealer now. Ask for spring clip, P/N 4240-000-0011.

FOREIGN OBJECTS FOUL UP FAN



A little maintenance around the engine-cooling fan of your 500cc cargo carrier can get you a big repair job.

The size of that fan can build up enough suction during high speeds (such as starting climbing or rapid re-ascending) to suck up any loose objects left inside the engine compartment.

Recently, my good friend's object that doesn't belong there is going to head up that fan. In that case, it was a mechanic's glove. In another, it was a broken fan belt. The result was broken

fan blades, which unbalanced the fan, causing engine compartment vibrations even at low speeds.

A quick check before putting the fan across your back would have saved the fan in each case. Or a homemade wire mesh screen placed in front of the fan during maintenance might have helped. Remember to remove the screen before operation. This would prevent small objects from being vacuumed off the drive compartment even when the fan screen door is removed.



In case you didn't notice, Change 1 (Feb 84) to TM 9-287 (Sep 79) has a caution drawn in about not adding alcohol to diesel fuel systems.

This caution note is added to para 41a(1) by the change to the TM — which is the manual on operation and maintenance of Army awarded in various cold weather.

The reason for the caution is that while alcohol will mix with diesel fuel, it can't combine into an alcohol-water-diesel fuel mixture like it does with gasoline. Besides, the water is already blocked out by the filters in the diesel fuel system. So the alcohol really doesn't help to absorb or trap any of the water in diesel fuel.

Electronic equipment OFF. Ignition and fuel master switch ON. That's the way to best maintain correct voltage in tractors and related vehicles.

The ignition-master switch made in tractors that is, has added a new victim — the AM-1780 amplifier of the new 600-watt radio.

While when you may back. Before you start your engine, turn off electronic equipment built with the AM-1780, this means you turn off the amplifier's power switch in addition to the switch on the radio.

Start your engine. If it's a diesel type, keep electronic stuff off until you disconnect the three cables and turn on the master battery switch.

Turn on your electronics stuff — and you've been it one way. Now, NEVER turn off the master switch of a running machine. Before you stop any engine, turn off all electronic equipment.

Then, turn off the ignition switch. . . or press and hold the engine shut-off switch (in a diesel, it's the engine fuel shut-off switch).

Wait 15 seconds, and cut off the master switch.

Remember, too, that in all vehicles you turn off radio equipment before removing components from service to keep from getting an arc that'll burn the pile.



TRACKS 'N' TRANSIENTS

M&O
TANK

BINDER
BIND

You're a hard worker looking for the lowest bid. Gladly. FOM 71 10-100-0004 will hold the LO and the operator's manual for your M100 or M100C tank?

Don't jump, Mayor! . . . All you gotta do is order it, use your tank, and view ordering in page 8-17 of The 5-2290-215-10 (EPA-80) when it's fixed.

You'll need this special binder because the manual will be updated by local items. This handy-dandy binder will be a permanent part of your BIL.

FOR INFO
SEE BINDER



M100, M100C, M100C
AND M100, M100C, 100 . . .

Now if you have an M100 or M100C tank, or one of the M100C tank's, the situation is exactly the same except that it's different.

These vehicles have local-type equipment so you need a binder — but there is no binder listed in the BIL.

So what to do?

To order a standard operating binder, FOM 71 10-100-0004, 8-173 is 11-40, hard cover. You'll find these at the offices of the country near you — or you can get 'em through supply.

← WHICH WAY →

Dear Staff Members,

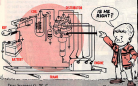
There are many men working around vehicles who do not understand the way current flows through the ignition circuit.

When the subject comes up, many men say, "I don't know" or "That

positive (+) is negative (-) ... or worse the positive cable's bad."

Follow the current flow through the ignition circuit from negative to positive like this:

By G. W. C.



Dear Sergeant G. W. C.,

The direction of electrical current flow has been, and will be, a trouble area some years. Current to most people is confusing.

Way back when, Ben Franklin established the theory that current flow is from positive (+) to negative (-). This idea is still believed by most people.

When the vacuum tube was put in use, the positive-to-negative theory didn't work. In electronic circuit boards, vacuum tubes, television, and the usual flow of electrons (current)

within a tube is from negative to positive.

Experts are still studying our new things these current flows. From what we know, now you are right when you say that "electron flow" current is from negative to positive.

In the three-wire, and six-wire vehicles, the usual flow of current is not too important, but it is important to connect all cables marked positive (+) to their properly marked terminals and the negative (-) cables to their



correct terminals. Always put the vehicle's positive (battery cable connected to the battery's positive post and the negative (ground) cable on the negative post.

Terminal connections. Always put the vehicle's positive (battery cable connected to the battery's positive post and the negative (ground) cable on the negative post.

terminal should be connected to the battery's negative post. As you know, this would cause trouble systems.

Of course, a positive cable on the battery negative post would work if the vehicle's electrical system was de-



The big danger is applying the "electron flow" theory to vehicle electricals that somebody who is not aware of the "negative-to-ground" electrical system may get the idea that don't put your foot down from the negative source that the vehicle's positive (battery cable)

signed to operate with positive ground, for all our M-cars parked and other vehicles are designed with negative-ground.

So always keep the vehicle's ground on the battery's negative post ... in position of current flow.



Dear Mr. Editor,

I'm a maintenance sergeant in a truck battalion and I've got a big tail gate headache. When drivers unload or let traps out they drop the tail gate and it gets all banged up.

I've done everything short of praying a saint so to get 'em to stop, do you have any suggestions on how I can save my tail gates from those nasty squalls?

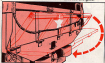
Sgt L. E. M.

Dear Sergeant L. E. M.,

Your headache is an old one. We had the same problem with wagons when in the hands of rookie state drivers.

The only other thing you can do besides training is to cushion the gate's fall — like many other units have done.

These units attach two 3-in. pieces of thick rubber hose to the gate's top rail with OD tape. The hose is positioned so they'll bounce on the bumper when the gate is dropped. This cushion action does wonders for the gate.



The pieces of hose are usually arranged from a junk pile or salvage yard. The thicker the hose the better. And the cloth backed waterproof OD tape can be found in any self-service store or supply store. This tape makes the rubber cushions easy to remove for inspection.

Half-Track

DIAGNOSIS 'N' REPAIRING

THE MARRYING KIND

ALL BELIEVE
MARRYING IS THE
BEST OF ALL THINGS—
AND THAT'S
THE REASON.

THAT'S WHY
MARRYING IS THE
BEST OF ALL THINGS—
AND THAT'S
THE REASON.

It's the mating season anytime for a Delco-Remy generator and an Auto-Lite regulator—and the other way around, too—on your Marine wheeled vehicle.

Mating's a matter of mounting. Essentially, the two regulators are the same, but the Auto-Lite has rubber cushions while the Delco-Remy has its shock absorption built into it.

To replace a Delco-Remy regulator with an Auto-Lite, just install the mounting cushions for the Auto-Lite regulator and the ground straps right on the terminal, using the original mounting holes. Then put on the regulator.



If you want to mount a Delco-Remy where an Auto-Lite came off, make the mounting cushions and ground straps of the brackets. Then put on the Delco regulator with its grounding straps.

Your vehicle's '68 TM shows you how the two tables are looked up to the regulator.

HERE'S AN
INTERESTING
FOYI...

... An Inspector's report to a court should always cite a reference which prescribes the standard violated in each case where a deficiency is charged. The report should also cite references or include recommendations which outline appropriate corrective action.

—BA Pamphlet TSO-1
Page 15b.

RPM LIMITS

"The 6744-series truck has a 3000 RPM limit."

"Is this your PLANNED, balanced?"

Dear Mail Owner,

Your truck has several models of 5-ton trucks. This includes the M831 dump, M8321 truck-tractor and the M34042 wrecker.

Questions do we apply the warning plate called the **SA 3000-31230-2015-2013** (New 30) to all of these 5-ton models and limit their RPM to 3000? If not, what is the maximum RPM rating for the various models?

R P D A S

Dear Specialist E. J. S.,

All 5-ton models do not get the M700 applied. It's only for the basic gasoline models like the M11, M11, M12, etc., that have the Continental 80001 gasoline engine. Their maximum actual RPM rating is 2000.



SA 3000-31230-2015-2013
10 5000 MAXIMUM RPM



The "M" model trucks like the M1242, M1442, etc., that have the Mack 80001-D17 diesel engine (these only diesel fuel) are on the guaranteed actual speeds of 2000-2200 RPM.

The "M" model trucks like the M1242, M1442, M11142, etc., that have the Continental 1228-6011 engine (also a variety of fuels like diesel, compression gasolene, low grade and regular gasolene), get a no-load rating between 2000-2200 RPM.



The regardless of the model involved, the steps in the M700's warning plate should be substituted in the hole of all 5-ton truck drivers. That is:

1. Never disregard (read) downward.
2. Never let engine speed exceed the top RPM rating at any time.
3. Tap your brakes from time to time when going downhill to try within 50% limit.

VALVE CLEARANCE

Some things are worth re-printing. This time it's the valve support settings for the 5-ton truck 6744-series 80001 engine.

The engine main plate and the cylinder head design on the 80001 say to set the intake valve support (6744) lock, TM 9-1220-211-20 (Older 60) say to set 'em all at 0.004 lock. Neither one is right.

Go by Change 1 013 Jul 66 or TM 9-1220-211-20. This change gives the correct valve settings (800) like this:

1.013 INCH FOR THE INTAKE
1.014 INCH FOR THE EXHAUST



Make a note of this 80001 valve setting change and stick it on page 99 of your '68, right near page 46x12.

WIRED FOR SAFETY



A fix for a heated static coil on your MISC tank needs a couple — a bundle of electrical wire and a couple of clips.

There's no repair part for the coil in the supply system you, but TB 9-2500-11 2-30 (Jan 74) tells you how to make sure you've got a safe ground when dispensing fuel — like so:



Then, if you're taking no gasoline from a storage tank, clip one end of the ground wire to the dispensing nozzle and the other end to your tank track — at least two feet from the filler neck. Make sure you make this hookup before connecting the dispensing nozzle.

Oh, if you're pumping gasoline from your tanker, connect the ground wire between the dispensing nozzle and the vehicle being serviced at a point at least two feet from the gasoline tank

filler cap. Again, make sure you do this before connecting the cap and lowering the dispensing nozzle.



ESSENTIAL GROUND WIRE

Refueling doesn't involve a different grounding setup, including a ground cable.



Proper grounding is critical in handling fuel because static electricity is a hazard. So, in TB 9-2500-11 2-30 instructions, you guys who handle fuel should be familiar with all the precautions given in TB 10-1101 (Sep 55) with Changes 1 (Jan 68), 2 (May 68) and 4 (Apr 61).



Any jockey or cowboy can tell you that every animal has its own set of riding traits. Some breeds are meant for a smooth track and others for a rough trail. And running them out of their bullwhisker coils for careful handling if you don't want to be bucked from the saddle.

Your M151 4-man truck is just another animal with its own traits. It's a trail-biter and is groomed for off-highway traveling; that is, designed for moving over rough terrain on a regular basis. It was not designed to be operated on a highway like a passenger car.

Now don't get the wrong impression — the M151 is a winner on any track as long as you handle it right.

In other words, all drivers of the M151 should know their animal. A brief but thorough rundown on how the M151 behaves is covered in DA Circular 3544 (Apr 61), and a color movie — Training Film 55-5413. Reading this DA Circular and seeing the movie should be SOP for every M151 driver. The people at the head that lead that no one should drive the M151 until they know how to stay in the saddle.



NEW M151 DIPSTICK



Replace your M151 1-4-man truck's broken dipstick with the new tougher model. Ask for Red, Oil, Level Liquid, 30M 0000-000-0000. The dipstick's now in the supply system — your support supply people were told about it in Supply Change 4-64. If they didn't get the word, requisition the dipstick from Commanding General, US Army Tank-Automotive Center, ATTN: MDTA-PG-4, Warren, Michigan 48090.

ORDER 3000
 300 FOR 30
 300 — 3000
 3000.

THE TUB LONG WITH
 FOUR SPECS AND
 3000 IS 3000
 300 3000 3000.



Did you know there's a possibility that you have wrong lug nuts on the front wheels of your 1940s truck?

Wrong lug nuts will grope the ball joint and run for the wheels work loose.

Look your 1912's and 1913's over. If you find the rounded nut on your 191's OK.

But if you have the tapered nut, you're got to replace 'em with the rounded type. TM 9-2108-206-1212 (Jan 55) is your authority to do it.

The 191's for the big nut are
 FPM 1035-104-8038 (right handed)
 for the right front.

FPM 112-014-7604 (left handed)
 for the left front.

SEE THE ONE ...



... FOR THE 1912
 1035-104-8038
 FPM 1038

SHOTS THE ONE



... FOR THE 1913
 112-014-7604
 FPM 1041

THE SHAPE COUNTS

Both the tapered and rounded nuts come under the name PSX. What separating them do left or right are, specify that you must have the round nut on right.

Speaking of right and left, TM 9-110-204-107 (April 1941) only lists the left nut, but the accompanying set of common hardware lists and can usually be found in the maintenance store. The "right" nut will show up in the next TM revision.

When you mount the big nut to certain the wheel lugs have no paint, leave or any dirt in their ball room. The nut must take a 1/8" to 3/16" right nut and be topped to 100-200 lbs.

After the nut is tight there'll be a slight space around 'em. Don't be this bad you to believe the nut are not round right. The slight space is normal.

The rear dual wheel mounting nut

must also be topped to 100-200 lbs-ft. Don't forget to also torque the outer wheel nut before torquing the inner wheel nut, then follow them and torque the outer mounting nut. Never try to tighten the inner nut while the outer one is tight.



The torque on all wheel mounting nuts should be checked often. Torque wrench FPM 112-121-7545 that's in the No. 2 supplemental catalogue tool set will do the job.

Anytime you change a wheel away from your motor park, check the torque as soon as you get back.

PATIENCE

Still trying to locate the FPM's for the 1913 1912 cargo truck's cross bars? If so, try these:

New York City 100-211-2442
 Genoa, Nev. 702-251-2142
 Tulsa, Okla. 405-223-4322

Check these new numbers down up in a few -100' months, your authorization to get 'em is a justification waiting your need and the availability of the items to supply the TM 9-2520-206-209 (Apr 55) 0000.



WHO GOT YOUR PS?

Are your eyes heavy? Knees weak? Has the headachy feeling? Can't sleep at night? How real, try our many exercises and readings daily!

Then you want to wake up and live ... with a look-alike dose of PE Magazine every month. Make sure your state gets enough copies by sending a revised PS Form 12-4 to U. S. Army Publications Center, 3000 Rawson Blvd., Beltsville, MD 21108 ... today. Send the 12-4 three bundles unless you're in a separate company. In that case, it goes direct.

On it you order enough copies at all the guys in the unit can read PS.



WHY RISK

THE POWER



Your M16 or M16A1 is the spunky teenager of the small arms field, sure, but it's doing a man-size job. So it deserves reasonable treatment—especially in cleaning and lubing its lower receiver area.



Of course, that all centers on removing or not removing the component of the lower receiver to do the cleaning job.

It's a fact: The M16-style rifle doesn't like having its lower receiver taken apart for cleaning—and for good reason.

The lower receiver's made of aluminum to keep the weapon lightweight. But the pins that hold the receiver

together, the breech assembly, the trigger and the release lever are all made of steel.

So, if you keep taking the lower receiver apart, those pins'll bite-and-bite make the holes they go through bigger and bigger. Once thing you know, the pins fall out and get lost—or the parts they hold won't line up right and your firing's 'way off.

Truth is, you don't have to remove the lower receiver's parts at all to do a good cleaning job, if you do it the right way—and do it every day you fire the weapon.

1. Look your rifle back (M16 M16A1-M16A1) or other rifles you back and goad with low stress. Use end of the pin like there's no pressure to get off of the dirt and carbon you see.



2. Dip the lower receiver always to clean the lower hole cleaner than the rest and then wipe it dry.



THE DAMAGE?



3. Wipe a piece of clean cloth or cleaning paper around the back hole and pin if you had longer pin. In the best job you can to get rid of stress and goad the balling to go back from next to right.



4. When you're all through—and the lower receiver's dry—put a light coat of M16 Gun Oil (M16 M16A1-M16A1) or M16 M16 M16 M16 M16, depending on where you're operating, on all of the inside of the lower receiver and on all of the pins.



A cleaning job like this will get rid of all the carbon and dirt that might keep your weapon from shooting right. Any stuff that's left when you do your best has won't make me never mind. Of course, if the lower receiver was just as hot as up that the rifle won't be right, then you let support have a think at it.

Now you can understand why Change 3 to the new T16 5-005-245-1-1 (11-May-55) no longer authorizes disassembly of the lower receiver group for

cleaning by riflemen and armorer. First disassembly and maintenance cleaning job is for direct or general support only.

But, please don't make me out for taking jobs. All components of the lower receiver—as well as the bolt carrier group—must wear a light coat of oil at all times. No "best" about it. Your rifle can't perform without it.

That's why "white-glove" inspection are too risky for this baby. There's always the danger that some gun might be tempted to give his weapon a cleaning or lub job before inspection to get rid of dirt and lube.



Anybody who handles his rifle is doing it after two ways. First, he's adding it to the lube protection it needs. Second, he's liable to let some crap into the lower receiver chamber. That could cause rusting of the chamber and the action spring—or it might result in a short round of the bolt carrier group, thereby preventing the bolt assembly from extracting far enough to strip a cartridge from the magazine.

When you consider that all this has a direct bearing on how well your M16 or M16A1's going to be and consider your rifle in a showdown, does anything make real good sense, don't they?

I'M TOUGHER'N YOU THINK!

Dear Half-Mast,

Just how tough is this M1 rifle anyway? Assuming — if the handguard or stock got burned out or charred from repeated firing of blank or ball rounds and the barrel got badly discolored, would the entire weapon have to be scrapped? We have an argument going on this.

MAC G. H. J.

Dear Sergeant G. H. J.,

No, the weapon wouldn't have to be scrapped. Your M1's is far tougher than you think. In a case of a burn-out from continuous firing like this — even if the barrel and other metal parts look bad — it can be put back in fighting shape. Replacement of the muzzle or breech parts and a good clean-up job are all it takes.

First, you can get rid of the discoloration by cleaning the metal with fine stone and wiping it all with an oily rag. Then your armorer can replace the handguard with PFM 1805-855-7106. Support can replace the stock with PFM 1805-771-4517 and the butt plate with PFM 1805-680-4817.

The point is, though, that the barrel's metal won't be weakened by the burn-out.

YOU CAN GET
AN RIFLE
HANDGUARD
WITH . . .



PFM 1805-855-7106

SUPPORT CAN
REPLACE THE
STOCK WITH . . .



PFM 1805-771-4517

AN RIFLE
CAN GET
A BUTT PLATE WITH . . .



PFM 1805-680-4817

Of course, if the weapon should happen to get caught in a fire or tank-like, and get exposed to excessive heat for a considerable spell, the metal strength of the metal would be weakened — and the weapon'd have to be scrapped for everybody's sake.

GIVE HER SOME TENSION



Position everything in life to the handgrip assembly on your M4A1 rifle . . . when she's attached to the sling and hiped, anyway.

She wants to be slightly forward and held firm in the unstruck position in the front part of the sling by the sling's second hook.

She does not want to be straight down and locked like this — or you'll wind up with a dead hinge.



Yes, the tension of the sling from the bottom of the handgrip to the front swivel helps support the handgrip and keeps you from yanking her back hard enough to bust the hinge when you're firing. This tension also adds support to the hiped legs . . . gives you better manual control during automatic firing . . . and could help prevent damage if you make a bad landing while going into the prone firing position.

No, get your baby in her preferred position every time. Put that second hook through the ring at the bottom of the handgrip. These push the handgrip forward a couple inches, and really tighten the sling till you get the tension you want.

CARBON SHUTOUT

Here's a couple quick-pitches that'll help keep carbon from getting in line here whenever you're cleaning your M4 rifle and M40 machine gun:

Do this M4 — test the splinter-stick.



Do this M40 — keep the gas cylinder up.



Now down on these, and you'll shut down cleaner and all out of the gas cylinder . . . and bring your chance of a no-fire. Now cleaner and all, y'know, and all the carbon buildup during firing.

JOE'S
DOPE

KINDNESS THAT KILLS

Operation "Laugh Gas" is in full swing . . . and the problems of combat readiness weigh heavily on our experts.

GENERAL
DOPE: Get
our people
DOWN!

HEY, JOE!
WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES. I'M
ABOUT TO
GET A HIT!

WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES.

HEY, JOE!
WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES.

OH, JOE...
WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES. I
MIGHT GET
A HIT!

HEY, JOE!
WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES. I
MIGHT GET
A HIT!

HEY, JOE!
WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES. I
MIGHT GET
A HIT!

HEY, JOE...
WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES. I
MIGHT GET
A HIT!

HEY, JOE...
WE'VE BEEN
DOWN IN
DOPE IN THE
BUSHES. I
MIGHT GET
A HIT!





Joe's

Dope Sheet

ON AN ENGINE TO BECOME,
YOU WILL...
I KNOW WELL... IN "GUNDAM" IT
IS THE BEST
WHEN I STARTING ALONG
I HAVE "GUNDAM" THE "GUNDAM"
I GOT A GREAT MIND AND
PART 1 THREE

In Maintenance
Keep clear of Excess!
To Go "Ape" is as bad
As to Guess!!
So, stick with the Spec.
Too much could raise Heck
MODERATION is the
KEY TO SUCCESS.

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



YEAH, BUT HOW ABOUT BRICKS! A-B, C-D-E, F-G-H, I-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z!

WHAT WOULD YOU SAY TO US ABOUT THAT, SOLDIER?

WE WANT A FIVE!

At dusk, the aggressor attacks, but is mysteriously halted . . . the defending side counter, and it's a rout.



LOOK! ALL THE BOYS THEY'VE TAKEN ARE STILL WE WEAK, LIKE PIG!

OH YEAH! WE WANT YOU! WE WANT YOU! WE WANT YOU! WE WANT YOU! WE WANT YOU!

WELL, YOU'VE GOT IT COMING!

YEAH! ALL THE GUYS ARE GUNNING FOR US! WE WANT YOU! WE WANT YOU! WE WANT YOU! WE WANT YOU!



PLEASE, Sir... I want you to go to the hospital and get some more of that medicine that you give out to the boys... it's so good... please, Sir, I want you to go to the hospital and get some more of that medicine that you give out to the boys... it's so good... please, Sir, I want you to go to the hospital and get some more of that medicine that you give out to the boys... it's so good...

WELL, YOU'VE GOT IT COMING! WE WANT YOU! WE WANT YOU! WE WANT YOU! WE WANT YOU!

WE WANT YOU! WE WANT YOU! WE WANT YOU! WE WANT YOU!





FOR A HEALTHY NICKEL-CADMIUM BATTERY...

GIVE HER REGULAR SERVICING

When a bunch of fantastic polymer-look atoms by the name of hydrogen just right if you hope to make an easy life in your little black book.

The same deal goes for the nickel-cad battery in your aircraft. It's got to be serviced at the right time and place to stay in the pink.

could lose fluid due to an overflow. Even worse, the hydrogen and oxygen gases generated during charging could be ignited by a spark or flame and blow her sky-high!!!

Guess you wouldn't get an accurate reading on what the right fluid level should be for an installed battery, even if you wanted it.

The only way to determine the fluid level is after the battery has been cycled (discharged and recharged). That's why battery folks say to check the electrolyte level after the battery has been fully charged and left to rest one or three hours.

Then, if the level above the plates is less than the measurement given in the battery pack, distilled water is added. If it's above the level given, electrolyte is taken out.

So what's the right time and place to service the nickel-cad battery in your Huey?

Why, every second International in aviation, when you take the battery out of your bird and send it to the battery shop for inspection, repair, charging capacity test . . . and adjustment of electrolyte level.



Take the nickel-cad in your Huey **HTB-14, B4**.

Making the right electrolyte level is most important. But you never want to "top off" a nickel-cad while it's still in your bird. If you do that it'll be over-filled. Since the electrolyte level rises higher as the battery is charged in your bird, you

RIGHT BOLT

GREASE

STOPS

RUST!

One bolt you don't want rusted in place is the hidden witness grease bolt, P/M M&M 404-80-90, in your Harley. Otherwise, you'll have a heck of a time changing it every 300 hours on the U1-1D or 400 hours on the U1-1B.



If you're in the public territory, or any damp climate, rust can be a problem. That's why a new bolt, P/M M&M 404-80-90, is in the works. The "P" means it's cadmium plated to prevent rust.

Until the new bolt comes your way, tho, try covering the un-plated bolt with grease, M&M-A-21107 ... the same type used on the witness pivot bearing every 300 hours.

The grease bolt will save you a lot of time and elbow grease — when it's time to pull 'er again.



**PLEASE
"DON'T
OIL ME!"**

It seems like the natural thing to do — adding a few drops of oil to the roll-over pinch control chain in your Harley (U1-1). But don't ... it could ruin your whole day!

An oiled chain attracts dirt like a vacuum cleaner and gets sticky, instead of sliding on the links of the pins, the pin heads up will eventually wear out the chain in short order.

That's the reason for the caution when you replace the pinch control according to the prop in Chap 3, Sec IV of TM 15-1120-111-20 (Apr 83).

You never add ANY kind of lubricant, ever 'till.

DON'T PRY THE JET — P-U-L-L-E-A-S-E!



You wouldn't keep your Hovr (UH-1) on the ground any longer than necessary when pulling a Preventive Maintenance Periodic, nor would you! "Cover me."

For that's what could happen if any of the mechanisms all jets get heated because they've not pulled right when you take them out for cleaning. Getting replacements may take time.

Take the "D" Model. The removal grip on the all jet is in Chap. 2, Sect. 113, Para 7-31 of TM 15-128-214-20 (1 Oct 64). The operation to focus on is just after you cut the lock with between the two screw heads.



Illustration

For better the screw in the jet barrel as fast as you can.

Take out only one screw like this that holds the remaining flange to the remaining housing.



Remember that the jet flange and barrel are a complete deal. Taking out both screws and using a screwdriver behind the jet flange as a pry will snap-off the barrel inside the housing. Then you've really got your work cut out for you!

To prevent this type of "accident" development, make with your double-end pliers on the loosened screw in the barrel. Pull straight out and the jet will come out — in one piece.

EXCEPTION TO THE RULE

Dear Wholly,

Keep me if you've heard this one. Balls are generally installed with the heads up, forward and in the direction of rotation.

If this is true of the Heavy (200, 300) balls, rather slight change back to slight change from left. The outer pin overruns the ball.

Can we put the ball in opposite to the direction of rotation?

BP 4 15, 16



Dear Specialist B. L.,

You've stopped — from following the general rule.

There's sometimes exceptions to a general rule . . . like when thinking and discussion would require they be installed opposite in normal.

The manufacturer puts the ball in opposite to the direction of rotation on the CH-18 and CH-1D models. This group should wind up in your pile soon.

Never guess . . . always follow the installation instructions in your maintenance manual.

COVER YOUR COVERS

Wholly



Be sure to eyeball the face and all protrusions with shield cover on your checklist (CH-17) during a Daily.

The area to focus on is the skin-mount face.

Any separation or cracking means that the cover gets replaced pronto. After all, the face blade area is no place for a flying screw!



FIGURE 4-11
BALL BALL

**OIL COOLER
SHOT?**

**MAYBE
NOT!**



When it comes to discovering the source of an oil leak — if at all you don't succeed — look, look again.

It's mighty important to find out what's leaking, otherwise you could be wasting time and money guess, changing the wrong part.

Take the engine oil cooler to your Dealer (D-4). TM 55-1500-201-209 (log 66) lists the cooler as a non-repairable item. So, it goes down along with other chump-change junk for repair. The trouble is many of these are A-O-K, and don't need repair.

When a cooler is non-repairable, the leak is caused by either faulty oil temperature valve gaskets, or a leak gasket between the valve body and the cooler, near **Yield**.

IF LEAK IS IN
VALVE GASKET,
FIX IN NEW VALVE.

IF IT'S A GASKET
BETWEEN COOLER
GASKET, FIX
ON A NEW ONE.

THIS IS A LEAK
FROM VALVE ON
VALVE-TO-COOLER
GASKET.



BEAVER CARBURETOR GASKET

Dear Windy,

When we removed the carburetor on our Beaver (24) there was a gasket on the adaptor mounting post.

Pat (24) 218-200-00 (2P Aug 42) Chap 2, Para 4-284 says a gasket isn't required.

What gasket?

H. V. H.

Dear H. V. H.,

Your maintenance job is right. You don't need a gasket because the carburetor and mounting post mating surfaces are lapped to give you an air-tight seal.

However, if the adaptor or carburetor mounting surface is worn or scratched, it should be re-lapped. A gasket isn't used because it interferes and will give you an induction leak when you fly.

To lap the adaptor, put a sheet of abrasive silicon carbide paper, 5000, FSN 5050-214-7300, on a flat block. Rub the adaptor mounting surface over the paper in a figure eight pattern until you get a flat, level surface.

The surface will be level when all the dark spots (depressions) are gone and the entire surface is bright and shiny.



Windy

CATCH THIS COLD WEATHER CAUTION

Just a cold weather reminder about not confusing the Bird Dog (2-1) with the Beaver (2-4) when it comes to operation of the carburetor air control lever. Unlike with the Beavers, the lever on the Bird Dog should not be left in any of the intermediate positions. The reason is spelled out in a "caution" belonging to para 2-10, Chap 2, TM 11-2118-202-10.

NO INTERMEDIATE POSITIONS



GET YOUR SHIP A CHIP DETECTOR



Provenient maintenance and safety are at least two good reasons why you want to install a ship-detector plug and cockpit warning light as soon as the kit for your bird is available.

Some of the kits have been around for a few years, while others are just now being distributed. To help your vessel keeping, here's a complete listing of all the MWO's that authorize you the installation kits for each model aircraft.

The new kits should be available to you within one month of the date you receive the MWO publication. If not — SQUAWK!

DC-9/10

Aircraft	MWO	Date
DC-9	DC-110-201-0470	27 Aug 88
DC-10, 1A, 1E, 194L, 1A-1	DC-110-201-0471	27 Aug 88, 27 Sep 88
DC-10B	DC-110-201-0472	25 Feb 88
DC-10-10, 1	DC-110-201-0473	12 Jul 88
DC-10, 194-1	DC-110-201-0474	12 Apr 85
DC-10B	DC-110-201-0475	8 Aug 83, 21 Dec 84-88
DC-10B	DC-110-201-0476	18 Sept 88
DC-10B	DC-110-201-0477	18 Mar 82-73, 27 Dec 88
DC-10B	DC-110-201-0478	18 Jan 88
DC-10B	DC-110-201-0479	18 Mar 82-73, 27 Sept 88
DC-10B, 1, 1	DC-110-201-0470	July 85
DC-10B	DC-110-201-0471	27 Feb 88, 21 Dec 88
DC-10B, 1, 1 & 2	DC-110-201-0472	21 Feb 85

TRAVELER

Aircraft	Transmission	MWO	Date
TR-700, 2	Radio	DC-110-201-0473	11 Apr 88
TR-700	Radio	DC-110-201-0474	18 Dec 88
TR-700	Radio	DC-110-201-0475	18 Mar 82-73, 27 Sep 88
TR-71	Alt	DC-110-201-0476	21 Dec 88

GIVE A GOOD LAST LOOK AT YOUR M22 SUBSYSTEM



You wouldn't be getting your take-home salary on a 427, now, chief, or guarantee if you weren't one of the real top guys in the outfit.

Even so, it'd pay you to double-check your self to hit these key points: just one more check when you're loaded for war and y'think everything's about under control.

Watch out for these possible delays:

LAUNCH MOTOR JOINT — Not set and tight.

First check the joint itself, then the locking pin and cone nut. That joint's gotta be dead-right. How ever, could be the locking pin'd go in OK and the cone nut's screw'd in on CLOSED and you still won't have a right fit at the joint.



If you don't have a right mating and the screw's on CLOSED, could mean the cone gave out on the housing's con the base — a scrap job for you 427's. Be careful.

EXPLOSIVE CARTRIDGE — One cart-rip missing, wastage dry.



though, you don't want the cone nut beyond CLOSED or it'll loose up on you, and don't forget to check that the magazine's tight and has a lock washer under it.

Another thing — you gunners want to make sure you pull out the locking pin before a firing mis-rip take-off. Else, you won't be able to jammer in a pin. And be sure you see that pin in the tube the last one.

LOCKING ARM — Not locked in place.



PISTON'S SHIRT — If factor guards dirty, cartridge tube not plugged in lamp firing.

Break and provide keeping fingers off the trigger — Experience with the gun, and clean it only with less than or a clean Kodak rag.

ROCKET'S SHIRT — Jacket dirty, seams and leads won't work any if hold like they should.



ROCKET NOT LOCKING GATE — Not locked all the way.

Even though the locking arm's secured with a fire warning, double-check that the lock's locking gun's locked in the full closed position. If it pulls loose in flight, your M22M-120's gonna take the junction box with it on a fire flight — a real unexpected result!

EXPLOSIVE WIRE — Getting frayed, shielding broken, connector in wrong.

You 427's key is connected to the steering plug (side). You gunners connect to the firing plug (see before sub-obj). After every check, though, don't forget to trace the govt down to ward off unfriendly weather attacks.

MINISET ASSEMBLY — Adjusting high and low-barrier lens.

The camera's got to be more right w/ the gunner's con built's eye that inside with the correct aim.



Keeping your tubes before your radio completely works up is a good way to cut down transmitter tube life.

Good transmitter tubes have to be bigger, with heavier filaments, than 12-ray tubes longer to heat up than the smaller receiving tubes. While this is true for most of your 12-ray tubes, it's particularly so for your 12BY or because of the large amount of power needed for proper 12BY operation.

To let's take the AM/ABC-11 12BY tube for instance. The larger filament transmitter tube is going to take longer to warm up than the little receiving tube for the same watt. The transmitter tube provides extra modulation for the transmitter tube and consumes the same amount of warming



time.

You normally heat receiver tubes first to with a cooling tube in your equipment somewhere between 10 and 15 seconds after you turn the set on during a night check.

But don't transmitter and modulator receivers still cool. They'll take as much as a minute to let it warm up to operat-

YOU CREW CHIEFS...
HELP SAVE MY LIFE!



ing temperature range than it could warm... especially when the circuit has been standing on the ramp overnight.

So! You can control the stress on cold tubes. But any time you operate transmitter tubes either before or above their rated temperature range, you shorten tube life. From the transmitter point of view, transmitter tubes cost

over \$15 each, using the ABC-11 as an example.

Most important to you working the power output of each tube by forcing it to operate cold. This tube slowly deteriorates the cooling in the outside leads of each tube — and you can't see any of this happening. But a poor cooling will cause a gradual decrease in output energy from each tube, eventually making that tube an uneconomical. Next thing you know you have made an arched eye, not only, very unhappy — without wanting, it went to the wire in exactly sufficient.

A good habit to stand best your 12BY/12BY's requires would be to check the log books while you're taking "tube time."

12BY-11 FROM
BY/12BY...

CAREFUL WITH

If your Marconi 104-12C1 comes with its NY/12BY-11 usual transmitter installed under the nose, you've got a built-in gravity-eye problem.

Any time you pull that nose panel, remember the antenna shield cable connection. Lifting the panel drop without first disconnecting the cable by hand will rip the 104-12C1 plug/socket loose from the cable. The right way to support the panel with one hand while you reach in to disconnect the cable with the other hand.

To make it easier, you can use a wooden support to make you a cable extension the first time you have to remove that nose panel. This allows enough slack in the cable for you to reach in from one side while the opposite side of the panel is still being supported by its own structure.

THE CONNECTOR



CASE OF THE DISAPPEARING FUZZ



The RT-204 antenna-tuner in your ABC-48 FM radio set is equipped to have two facing-up air filters. No fuzz gets through.

Depending on which side you look, this filter lays alongside the magnetic crystal circuit . . . or the IFT and whole magnetic gear train.



So if this fuzz starts to powder off one or both filters, it can interfere with the circuit and reduce or silence it. All it takes to wear the action is some direct contact with moisture. Then the use of a damp rag to wash off a dirty filter may lead to more harm than good.

Normal operating vibration and air flow through the housing eventually knocks off the moisture-carrying fuzz until all you can see is pure screen. The more fuzz that piles up, the more dirt that's worked into the housing — until you really have no filter left at all.

You usually bring this set into the electronic repair shop for cleaning every second FM. But even though the inaccessibility of most RT housings make it difficult to inspect the filters, it's a good idea to keep checking between FMs. Presetless filters require just as rapid replacement as extremely clogged up, cheap filters do.



Every piece of equipment has its weak spot. So you always handle that part with care in order not to damage the entire assembly. Same goes for the base assembly: Insulate on the belly assembly (AT-700/AR) for the AN/ABC-60 LRP command rolls on.

You can loosen or break this insulation by forgetting to hold the insulation backing steady with a wrench before attaching the antenna rod to the base. Holding the backing by its flats will keep the tightening torque from making the insulation gap as you snug up the antenna rod base nut.



The base assembly is connected to an impedance matching coil — which can then finally cause the insulation gap loose or broken. The more the coil turns, the quicker it will snap off . . . and then you need a new antenna to bring your rolls back in action.

Sometimes you may want to remove the antenna rod to make it easier to clean the bearings and the base of the antenna. But even when you get an oil leak streaming back along the belly, covering the antenna base, you can clean up just as easily with a rag in one hand and the insulation backing in the other — . . . hold by the flats.

FOR YOU TELETYPE REPAIRMEN...

HERE'S A **PS**TO AN **SM**
ON **TT** TOOLS

Your teleprinter repairsmen eyes finally get the credit as they "please work a thousand words" . . . an illustrated promise of tools in Change 1 (also list on SM 11-4-70-00-005 (May 82) on TR-50-81 tool equipment on 2059 3180-904-0002).

So, if your tools were old or were missing, and you need to know what's what on the tool table,

keep your eyes on the removal tools being spread before you.

NOTE: TO ORDER THE TOOLS, call or mail THE TOOLING DEPARTMENT, TR-50-81, 2059 3180-904-0002, 11-4-70-00-005, The Department of Tele. Equip., 11-4-70-00-005.

The following names and stock numbers are for tools listed in Change 1.



TOOLING DEPARTMENT
TR-50-81
2059 3180-904-0002

TOOLING DEPARTMENT
TR-50-81
2059 3180-904-0002

SUPER BATTERY

FOR 2059-440



SLASHING TOOL

FOR 2059-440



WRENCH

FOR 2059-440

WRENCH AND BRUSH
Set of 7. For close
work. To use with one
7/16 inch, 1/2 inch log.

SCREWDRIVER

FOR 2059-440



CONTACT SPRING

FOR 2059-440

CONTACT SPRING
SPRING

FOR 2059-440



FILE

FOR 2059-440

File. Heavy duty.
Made of industrial
steel. 6 1/2 inch, 7/8
inch.

FOR 2059-440

FOR 2059-440

FILE, TURNING

FOR 2059-440



FOR 2059-440

FOR 2059-440



FOR 2059-440

FOR 2059-440



FOR 2059-440

CODE 14010



FOR DESCRIPTION

CODE 1402010
Hex.



FOR DESCRIPTION

CODE 1403010
Hex.



FOR DESCRIPTION

KEY, SOCKET HEAD
SCREW: 1/2 in. across
flats, standard type,
plus the handle with
socket grip.



FOR DESCRIPTION

BASE, SOCKET HEAD
SCREW KEY: 1/2 in.
across flats, 5 1/2 in. long,
straight bar stock.



FOR DESCRIPTION

KEY, SOCKET HEAD
SCREW: 1/2 in. across
flats, standard type,
plus the handle with
socket grip.



FOR DESCRIPTION

BASE, SOCKET HEAD
SCREW KEY: 1/2 in.
across flats, 5 1/2 in. long,
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SCREW KEY: 1/2 in.
across flats, 5 1/2 in. long,
straight bar stock.



FOR DESCRIPTION



The following items make up the **KEY SET**, adjustable flex socket head screw (P/N 5120-RTY-0000).



**KEY, SOCKET HEAD
SCREW** 1/4-in. square
base, screwdriver tip,
plastic handle with
rubber grip.



FIG. 100-20-001

**BLADE, SOCKET HEAD
SCREW** 1/4-in. square
base, 1/4-in. long,
straight hex stock.



FIG. 100-20-002

**KEY, SOCKET HEAD
SCREW** 1/4-in. square
base, screwdriver tip,
plastic handle with
rubber grip.



FIG. 100-20-003

**BLADE, SOCKET HEAD
SCREW** 1/4-in. square
base, 1/4-in. long,
straight hex stock.



FIG. 100-20-004

**KEY, SOCKET HEAD
SCREW** 1/4-in. square
base, screwdriver tip,
plastic handle with
rubber grip.



FIG. 100-20-005

**BLADE, SOCKET HEAD
SCREW** 1/4-in. square
base, 1/4-in. long,
straight hex stock.



FIG. 100-20-006

**WRENCH, SOCKET
HEAD SCREWDRIVER
SET** 1/4-in. square base,
1/4-in. handle.



FIG. 100-20-007

KEY, SCREW DRIVER.



FIG. 100-20-008

**PIECE, BUSH, SCREW
DRIVER** 1/4-in. diameter,
1/4-in. long, 1/4-in. wide,
45-degree top.



FIG. 100-20-009

PUNCH, DRILL PIN 1/4-
in. point, 1/4-in. long,
straight top.



FIG. 100-20-010

PUNCH, DRILL PIN 1/4-
in. point, 1/4-in. long,
straight top.



FIG. 100-20-011

PUNCH, DRILL PIN 1/4-
in. point, 1/4-in. long,
straight top.



FIG. 100-20-012

**WRENCH, HEX TOP
PIN TOOL** straight top
stock with square end,
1/4-in. long, 1/4-in.



FIG. 100-20-013

SCREWDRIVER, DRIFT.



FIG. 100-20-014

The TL-558711 soldering gun (P/N 5499-264-0448) and its tip (P/N 5499-211-0111) is being replaced by the following gun and tip as authorized by AR 11-593 (Cm 44).



SOLDERING GUN
Transformer gun, red
44.



P/N 5499-211

TIP, SOLDERING GUN
Soldering



P/N 5499-211

TIP, SOLDERING GUN
Cutting



P/N 5499-211

TIP, SOLDERING GUN
Cutting



P/N 5499-211

BOX, BUL. PORTABLE
Steel with one corner
cut flat 25 1/2 in long,
6 1/2 in wide, 4 in high



P/N 5499-211

WRENCH, SOCKET, 1/2
in hex opening, 6 1/2
in long, 1 1/2 in long, 1 1/2
in high, 1 1/2 in wide,
1 1/2 in high



P/N 5499-211

WRENCH, SOCKET, 1/2
in hex opening, 6 1/2
in long, 1 1/2 in long



P/N 5499-211

WRENCH, SOCKET, 1/2
in hex opening, 6 1/2
in long, 1 1/2 in long



P/N 5499-211

WRENCH, SOCKET, 1/2
in hex opening, 6 1/2
in long, 1 1/2 in long, 1 1/2
in high, 1 1/2 in wide,
1 1/2 in high



P/N 5499-211

**WRENCH, LONG REACH,
SOCKET**



P/N 5499-211

**WRENCH, 1 1/2 IN D
FLANK, Adjustable,
sliding T-type handle
with rubber foot, top
having capacity 2 to
5 in**



P/N 5499-211



NEAT CABLE DRESSING'S NEEDED



Caring WIC-411U cable for connecting ANGRY-5 through-4 series radio set components?

Whether installing or replacing, better make sure there's no cable shield scratch picking out past the backing before soldering those 30 wires to the terminals of the MT-20168 mount and C-311-7180 control box.



Maybe nothing'll happen right away, but the jarring and jolting of that vehicle can shake the fused bond against a terminal and down over the radio set.

Clear cable care, as spelled out in *THE 11-204* (May '59), will help keep that radio communication!

A free-flying strand from the least or outer shield of the cable'll make the radio line its own for talkin' — or listenin' — like you'd lose your taste for chicken if it had the feathers on.

While you're soldering the wires to the terminals in the mount or control box make sure the solder is the radio wire kind.

... Add flux is even operating, like it says in *TR Sig 111* (Mar '60). Therefore, acid flux can't be followed by resin flux and solder ... unless you want the flux with replacing the terminal panel.



SUPPLY & PUBLICATIONS

DIG THOSE

CRAZY NUMBERS

There's an easy way to find out what's new in the supply and publications world. Just look at the numbers. They're the key to the supply and publications world. They're the key to the supply and publications world.



8C — SUPPLY CATALOG

You might see a number that has a number like this — 8C 8473-83-02. E2N.

The 8C stands for Supply Catalog. The 8473 is for the 84C group and class, and the 83 is for the agency responsible for the catalog.

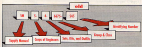


IF WE ONLY HAD A NUMBER THAT TOLD US WHAT WE WANTED TO BUY...

9
8
7
6
5
4
3
2

CL — COMPONENTS LIST

The CL means that the number is a new, late or revised Components List. The E2N with you shows you more than one number for the group and class. Your CL number replaces the old type 4 supply number.



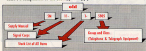
IF ONLY WE HAD A NUMBER THAT TOLD US WHAT WE WANTED TO BUY...

- 8C — 8C Army Supply and Maintenance Command
- 81 — 81 Army (Headquarters/Command)
- 82 — 82 Army Medical Command
- 83 — 83 Army Mobility Command
- 84 — 84 Army Materiel Command
- 85 — 85 Army Weapons Command
- 86 — 86 Army Test and Evaluation Command
- 87 — The Surgeon General

ML — IDENTIFICATION LIST

You have Identification Lists (IL) which take the place of your Stock List of All Items (Type 1 supply manual) and/or Stock List of Current Issue Items (Type 2 supply manual).

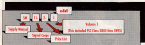
Here's an example of the old Type 1 supply manual and new IL's.



ML — MANAGEMENT DATA LIST (MPL)

When it comes to the price list, you'll find the Management Data List (ML) supply catalog takes the place of your type 2 supply manual. You may have one or several ML supply catalogs superseding the type 2 supply manual.

Here's an example:





XL — (1972-1979) ICL

You'll also have Cross-Reference Lists.

XL — Cross-Reference List (Parts Numbers identified with the applicable Federal Stock Numbers.)

This is the catalog that replaces the old Type 3 supply manual. Here's an example of the old Type 3 supply manual and the new XL's.



There's no need in listing at a glance the Army supply catalogs from the Department of Defense supply catalogs. The DA supply catalogs will have colored covers.

The Identification List will have green covers. And you can let your fingers do the walking if you need management data (price, units of issue, etc.) because the ML's have yellow covers. The components list (CL's) have salmon covers. The Cross-Reference List (CL's) have blue covers.

Don't get me upset if you see some hybrid numbers and some colors that aren't according to Heaps. They were some of the first catalogs published.

You'll find the latest listing of supply catalogs and supply manuals "Index of Supply Catalogs and Supply Manuals," in the DA Pamphlet 11-10 (Mar 69).

KEEP YOUR RECORDS STRAIGHT WITH AN ...

OPERATOR'S GUIDE

As you're sending your service equipment operators 48 miles back of the frontlines for training and there's not enough copies of TM 34-750 or DA Form 248-18 to go around.

How can you help him to keep the equipment records straight?

One route made it easier to train operators to shape up the records — like DA Form 2484 and DA Form 2488-1 — by extracting from TM 34-750 the necessary instructions. These were typed on cards about 6-1/2-in. by 9-1/2-in. and slipped into the equipment log book.

The instructions can be typed on the



cards so they'll face the forms any time the log is opened as the particular maintenance operator needs to make an entry on.

It'll cut down a heap on that old bulk of the frontlines stores, better than here.

NEW FSN TO PBO

Dear Half-Breed,

Our property book officer says he needs a notice when we apply an AFSC that changes the equipment's FSN.

We submit an updated DA Form 2488-1, as required by para 4-116(2) of FM 34-750, but the control copy goes to the community command as called for by para 4-116(3). There is no copy to send to the PBO, so how do we handle it?

SFC H. M. F.



Dear Sergeant H. M. F.,

You can dial the PBO and give him the new FSN.

But para 4-116(2)(c) of TM 34-750 requires you to make and submit a new DA 2488-1 when the FSN of the equipment is changed as a result of modification or rebuild. So, the "control copy" of the DA 2488-1 may be forwarded to the PBO if the local commander approves.

YOU WIN



Dear Mr. Wilson:

While an argument for me, my buddy says we're supposed to keep a DD Form 314. Folks at Preventive Maintenance Schedules, for our apparatuses, but I say we don't.

What's next?

BYC B. L. P.

Dear Bergman, B. L. P.,

You mind There was a Change 1 (17 Mar 68) to TM 10-7400-201-10 (Apr 64), Operator's Manual, Office Machines, which deleted the words "weekly service." So, you don't have periodic preventive maintenance services and you don't have to keep the DD Form 314.

Haystack

A STITCH IN TIME ...

... Will save you time ... and it could also save the feet straps on your褥垫 or wedge sleeping bag.

When you roll up your sleeping bag you cinch the foot straps together and that's where the trouble comes in. Some of these foot straps have been pulling loose at the seams.

To stop the trouble before it starts, ask your support people to barstitch the straps. They'll overlap the stitches to reinforce those points of stress and strain.

They'll probably use Type 143, 50/3 thread, FSN 8330-011-0118, and they'll barstitch those straps between 1/4-inch and 1/2-inch from the foot seam of the sleeping bag.

SOME HOT NUMBERS

Well, maybe the numbers aren't so hot, but, if you want to keep the food hot in your insulated food container, then you'd better become acquainted with these little numbers.

They're for the replacement parts of your insulated food containers, FOM 7150-114-2411.



You'll find these seals in DOD Catalog CP8004-L-A (step 6b).

ANOTHER HOT ONE

If you've been trying to find FOM's for the flame spreader, pipe reducer, and 5/8-in. nipple used with your space heater burner assembly (FOM 4320-148-0400), here's the answer — There ain't any!

But if you need these parts . . . you're not left out in the cold. Reproduction a reporting pet oil burner, FOM 4150-148-0187, and this assembly includes all the parts you'll need.

Be sure that you order FOM 4320-148-0187 and not FOM 4320-148-0187, which is the number most people have been using. Get down this 4580 number and keep it close to your copy of TM 10-4120-200-259.

HOLD DOWN DAMAGE

Such of equipment items and repair parts — like rubberized items and preservative compounds used for repair — deteriorate with age or exposure to high or low temperatures or humidity. For the lowdown on the importance of heat- or cold- or moisture-resistant Engine-type items, get your miles on SB 5-63 (Dec 83) and its Change 1 (Mar 84). It also covers types of containers needed for storage to hold down the damage.



Connie Radd's BRIEFS



Mark VII / / Sight Kit

Here's hot news for you guys with the M42 armament submachine gun: your heavy M42 (M2-16). A real kit's just come out to convert the Mark VII from a ground-mounted to a roof-mounted sight. Get

your direct support guys to requisition Installation Kit, Sight Sighting Scales, FSM 1230-875-8746, through drawings from Aviation Army Depot, Oklahoma. This'll solve those cross-mounting.

Logbook Covers

The logbook cover designed for use with the logbook binder is now replaceable as a separate item, FSM 731 8-733-3994, and may be requisitioned from Defense General Supply Center, Richmond, Va.

A protector for DA Form 2409 is the bookcase is flexible transparent, visible thru both sides, side opening. It is

x 8 1/2-in, FSM 7318-344-0004. It's listed on page 44 of Data catalog CFS104730-8-A (1 Dec 64).

Consult first requisition for the protective cover, FSM 731 8-399-0009, listed on page 64 of FS 144—unless you're in Aviation. That's a binder for magazines.

Order Enough

When you fill out those DA Forms 13-27, 13-36 and 13-37 for your vehicle's work, track and trailer file. Public distribution of publications, be sure to order enough for all concerned. For example, you'll need one copy of the Operator's Manual, the Lube Order and OIL to go in each vehicle, plus copies for sections,

equal and photos leaders. You don't want to leave out anybody. And you'll check to see how many Maintenance and Parts Manuals your mechanics and the guys near need. Greater 14 8-34 are 13-261 81 on the deadline for the forms for latest service.

Would You Stake Your Life ^{YOUR LIFE} on
the Condition of Your Equipment?



LOOKS AIN'T EVERYTHING

DETERGENT OIL
TURNS DARK AND
DIRTY-LOOKING IN
ONLY A FEW MILES,
BUT IT'LL DO ITS JOB
RIGHT UP TO THE
NEXT SCHEDULED
CHANGE.

SO, BASE YOUR OIL
CHANGES ON

• MILEAGE

• TIME

• TEMPERATURE

• AND/OR CONTAMINATION

(SEE YOUR **TM** OR **LO**)



NOT ON
LOOKS ALONE