

Issue 113

PS

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THE
PREVENTIVE
MAINTENANCE
MONTHLY



TOTE

GENTLY



THE
PREVENTIVE
MAINTENANCE
MONTHLY

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NEED IT? Your mechanic checks out your riding equipment and finds a part or assembly on the blink.



He takes off the bad piece and over-cautiously gets on a good one.



Your equipment now works fine. Great. He's doing his job real fine—on the



house around for five rocky miles and gets dropped on a stack of other components like this.



NO, THANKS! The part he took off—the one needed for Direct Exchange—gets dropped to the muddy ground.



Then it gets tossed into the bed of a 5-ton truck.



What started out as a minor repair job often turns out to be a major overhaul, or the component has to be junked.



That's the component that has to be checked out by your expert, repaired (and returned) or a replacement repair (here?)



CHECK IT! Place a blank off, the part gets gacked up with mud, grease or dust. It gets dented or cracked. Almost anything can and does happen to it.



You may have seen this yourself. If you do, tell your buddy he'd better cut out that sort of thing or he won't be your buddy for long. Of course, you'd never handle parts like that yourself!



So, to help make sure you get the best repair parts supply, handle replaced components like...well, like egg-fish eggs...gently.



Some day it may make the big difference between your equipment delivering horsepower or not.



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SMALL ARMS GUIDE CLEANERS, LUBES AND PRESERVATIVES

SMALL ARMS AND GUNS 10 200 000A



Air Supplying and Fuel Mk. Tank Capacity Cleaning Agent	100		150		200		250		300		350		Remarks
	1	2	1	2	1	2	1	2	1	2	1	2	
100-100-001 100-100-002 100-100-003 100-100-004 100-100-005 100-100-006 100-100-007 100-100-008 100-100-009 100-100-010 100-100-011 100-100-012 100-100-013 100-100-014 100-100-015 100-100-016 100-100-017 100-100-018 100-100-019 100-100-020 100-100-021 100-100-022 100-100-023 100-100-024 100-100-025 100-100-026 100-100-027 100-100-028 100-100-029 100-100-030 100-100-031 100-100-032 100-100-033 100-100-034 100-100-035 100-100-036 100-100-037 100-100-038 100-100-039 100-100-040 100-100-041 100-100-042 100-100-043 100-100-044 100-100-045 100-100-046 100-100-047 100-100-048 100-100-049 100-100-050													

Air Supplying and Fuel Mk. Tank Capacity Cleaning Agent	100		150		200		250		300		350		Remarks
	1	2	1	2	1	2	1	2	1	2	1	2	
100-100-001 100-100-002 100-100-003 100-100-004 100-100-005 100-100-006 100-100-007 100-100-008 100-100-009 100-100-010 100-100-011 100-100-012 100-100-013 100-100-014 100-100-015 100-100-016 100-100-017 100-100-018 100-100-019 100-100-020 100-100-021 100-100-022 100-100-023 100-100-024 100-100-025 100-100-026 100-100-027 100-100-028 100-100-029 100-100-030 100-100-031 100-100-032 100-100-033 100-100-034 100-100-035 100-100-036 100-100-037 100-100-038 100-100-039 100-100-040 100-100-041 100-100-042 100-100-043 100-100-044 100-100-045 100-100-046 100-100-047 100-100-048 100-100-049 100-100-050													



PARTS SWITCH TABOO



Maybe you haven't had cause to be reminded lately, but just in case the rule book let's remember that it's not good to switch small arms parts.

As a Rifleman, let's make your own rifle. Each part has been fitted, adjusted and tested to do its special job as part of your rifle. Every part moves the way it should at the right speed and time. That's the way you want every last one of 'em to operate for you.

They'll work that way when the enemy first checks and gaps each part in bolts, gas cylinders, flash-suppressors and the like before they're put in on your weapon.

With your rifle's parts working smoothly, a switched part won't always work with its other kind and adjusted parts. Slipping in a different one could foul up the whole deal.

All parts are made to be interchangeable, and that's the general idea. But they don't always fit that way 'cause a new part can also throw a rifle's operation way kooky and cause a couple go for both the MI and the rifeman.

With a bunch of guys sharing rifles in the same area it's easy to pick up and insert a wrong part that belongs to somebody else's rifle. A switch like that could put a couple smooth working rifles out

of operation—what with all the POW's that're in there when you spend the riggs.

Part that other kid switches they're not the same 'rill. Switch, replacing or switching parts is the job of the armorer-artisan... he's responsible and he's the usual blame man for the right kind of job and can handle questions.

Another thing about small arms—rifles, pistols and what have you. Most of 'em got to be interchangeable because they haven't had the right kind of care. The right kind of small arms makes sense in right kind of use, right kind of storage, right kind of cleaning and right kind of lubrication. It's time to keep your weapons in tip-top operating form at all times and always be on the look-out for signs of rust and corrosion. And keep 'em oiled.

Good rifles can find hard work, wear, lose or cracked parts. These defects ought to be repaired in your unit's armory or field-repairs. Getting job-prescriptions lubricate on metal and treated all on wood—should be just that, that's all.

FOR THE FULL STORY ABOUT SMALL ARMS READ THE BIBLE ON THAT UP WITH YOUR WEAPON.

TOTE THAT AMMO



Too say you've got an ammo carrying problem that's got you down?

And you're tired of fiddle' extra magazines in your pockets?

And you're fed up with being powdered exercises you sit down?

Well... take five, friend, 'cause here's the answer.

It's the ammunition magazine case, PNW 8488-704-2418, a QM item listed in Federal Supply Catalog C2-114, dated March 1961.

The case is made of canvas duck and webbing and comes with a shoulder strap to make things easier.

It'll carry a pretty good load of extra ammo for all of your small arms-like

.41 caliber for your pistol and sub-machine gun; .50 caliber for the carbine and M1 and even clips for your Fullman M14 rifle.



The case can hold up to ten magazines—but they're not up for grabs.

If you have a real need for some but they're too heavy of your TOE and TA, tell your supply man to use the procedure outlined on page 12, paragraph 15b in AR 125-1 for requisitioning them.

ONCE A YEAR



It says so right in SB 5-75 (29 June 1961). Some small arms gears get out back for an inspection semi-annually and others annually. The guys who use gears to check your machine gun's timing and headspace want to have your gears checked once a year. Your support unit can look at its copy of the SB and fill you in on the details.

IT'S NOT FOR YOU



TM 9-1281-103-13P/1, Operation and Organizational Maintenance, Repair Parts for Coltley, 28 US Rifle M1, M1C and M1D, dated Aug 1961, got you puzzled by substituting you in replace operating rolls in the M1? Well—the answer word is. It's the higher order line only. Replacing the real rolls for gaging—something you're not equipped to do. So leave the job up to your support.



AN INDEX TO

FOR THE USE OF THE ARMY PUBLISHERS

You've never looked for a minute in a haystack because it would be an endless job. Looking for a publication without an index to go by is a big job too.

The index you use depends upon the type of publication you're looking for.

Most of the indexes you'll be reading will be Departments of the Army Pamphlets.

IN DA 310-1

LOOK FOR:

BOARD OF ADMINISTRATIVE PUBLICATIONS

ARMY PUBLISHERS

DA CIRCULARS

(DA PAMPHLETS)

AND SPONSORED PUBLICATIONS FOR



These lists will be invaluable to you in your work. They will give you the location of the publications you are looking for. They will also give you the location of the publications you are looking for.

You find the indexes listed in DA Pamphlet 310-1, Index of Administrative Publications, under the section entitled DA Pamphlets. Might be a good idea to see what else is listed in the 310-1.

You'll find Army Regulations (AR's) which set down policies and responsibilities and also give administrative procedures. There may be portions or complete ones in stores.

You'll also find DA Circulars which give instructions that're of a one-time action nature, or they'll have info of a temporary nature. The DA Circulars in the 310-series also give instructions, regulations, notices, etc. to DA Publications.

You'll find Bulletin and General Orders listed in Section III or Supplementary Index of your DA Pam 310-1. You'll also find them in Section I of List

INDEXES

DA Pam 310-1



of Current Publications and Changes.

It's a good idea to check Section II of your 310-1. That's where you'll find the list of publications by 310-1 that have been superseded or re-released.

Now take a look at the indexes that you find listed in the DA Pam section. You'll see there's DA Pam 310-1, which is your index of Army reading glasses, tin snips, stiles and plow moldings.



These lists will be invaluable to you in your work. They will give you the location of the publications you are looking for. They will also give you the location of the publications you are looking for.

IN DA 310-2:

DA, DA AGO, WB, WB AGO, DD, SF FORMS AND DA LABELS

DA Pam 310-1 is your index of blank forms. You find DA, DA, SF forms and DA labels. These you'll find under old type forms listed such as WB, WB AGO, and DA AGO. There's one thing to keep in mind when ordering blank

forms. You don't have to figure out which is a DA or WB, etc., because they're listed in one numerical order. All you have to do is ask for the DA Form you want, and if it's a WB or DA AGO form you'll still get it.

310-3

You know what Field Manuals (FMs) are. They give you military doctrine, tactics, and techniques. They give you information, instructions, and reference material on military training and operations.



Your DA Pam 310-3 lists your FMs, ROTC Manuals, Training Circulars, Army Training Programs, Army Subject Schedules, Army Training Tools, War Department and Department of the Army Posters, and Firing Tables and Trajectory Charts.

310-4

One of the most important indexes in your DA Pam 310-4 is your index of Technical Manuals (TM's), Technical Bulletins (TB's), Supply Bulletins (SB's), Lubrication Orders (LO's), and Distribution Work Orders (DWOC's).



It's easy to see what you get the bang of it. There's a Section III which is an alphabetical index toward the back of the book. Start with the official nomenclature of the item, if you don't find it listed there try other names that might apply. Once you find the subject, then you'll also find the parts that have to do with it. When you need the title of the parts, or in the case of DWOC's a little more info about them, you turn to Section I of the index.

Hey you have a GME and want to know what jobs have been pointed on it. Turn to the page in Section II of your DA Pam 310-5 that lists Truck Cargo, 210-ton, 4x4, and there you'll find M155. You find a list of jobs and now you want to know just what that M155 ORG-DT-10-918 is about. You turn to Database MFPDs in Section II.

You find MFPD-ORG-DT-10-918-918 and it tells you that the MFPD has to do with installation of a general bearing. It was published in Apr 71.

There's another thing to remember. This is the index that also lists your regular parts and special and TR's or some people call them the "F" (Form) TR's.



310-5

The DA Pam 310-5 is an index to Graphic Training Aids (GTA's) and Devices.

Your index for Tables of Organization and Equipment (TOEs), Tables of Distribution (TDs), and Tables of Allowances (TAs) are in DA Pam 314-T.

Maybe you've been running into trouble trying to find parts for your equipment. You've been ordering by your GME. To help you find that the numbers are no good.

To save you from running into trouble like that in the future, you can do some checking.

You'll need the address to supply manuals. Each such service has its own DA Pam which lists its supply manuals. It'll be easier for you when you know the number that belongs to each such



AND...
DA PAM
310-5
 GRAPHIC TRAINING AIDS

services' DA pamphlets: Chemical, 310-23; Engineer, 310-11; Medical, 310-28; Ordnance, 310-20; Quartermaster, 310-08; Signal, 310-21; Transportation, 310-22.



Now it's vital important that you get into the habit of looking at the list of suspended and restricted supply manuals. Maybe you'll find a pub listed there that you've been looking all over for. If the supply manual's been suspended by a "P" TM, it will tell you which one.

Don't forget, each DA Form (and each change) has a section that lists suspended and restricted publications. And checking them is a good habit to get into.

Your unit should get the US Army Adjutant General Publications Center Bulletin which is published about once a week. It lists new publications just issued along with those under revision. This is a good list to check to make sure

you're getting the latest DA Pamphlets.

Your organization's publications section orders the AG Bulletin on a DA Form 12-4. You get your copy from the post office.



You can use the AG Bulletin as an authority for ordering parts that are listed in it (but not yet included in the index), but be sure to quote the number of the Bulletin and the date.

If your unit has a special weapons publications account with the St. Louis post office, you want to be sure you get the Bulletin that comes just out. It's specially for special weapons guys.

Here's your alphabetical guide to available supply items:

PUBLICATION	DA Pamphlet	PUBLICATION	DA Pamphlet
Army Blueprints	144-1	Pamphlet 200	1 01-1
Army Bulletin/Pamphlet	100-1	Parties (M) and (S)	1 01-2
Army Plans Knowledge	100-1	PMI Manuals	1 01-3
Army Regulations (M)	100-1	Supply Manuals (M)	
Army Rules	100-1	Army Medical Services	1 01-20
Army Signal Manuals	100-1	Chemical Corps	1 01-21
Army Training Programs	100-1	Corps of Engineers	1 01-22
Army Training Tools	100-1	Infantry Corps	1 01-23
Bulletins	100-1	Intelligence Corps	1 01-24
Brochure (M)	100-1	Signal Corps	1 01-25
Commercial Traffic Bulletins	100-1	Transportation Corps	1 01-26
Field Manuals (M)	1 01-1	Special Regulations (M)	1 01-1
Field Manuals (S)	1 01-1	Supply Bulletin (M)	1 01-4
Field Tables and Supplementary Charts	1 01-1	Tables of Allowance (M)	1 01-7
Forms	1 01-2	Tables of Organization and	
General Order (M)	1 01-1	Equipment (M)	1 01-7
Graphic Engineering publications	1 01-4	Technical Bulletin (M)	1 01-4
Index Guide of Used Publications	1 01-1	Technical Manuals (M)	1 01-4
Information Order (M)	1 01-4	Training Order (M)	1 01-3
Military Traffic Management Bulletin	1 01-1	Type Tables of Distribution (M)	1 01-7
Publication Work Order (M) (M)	1 01-4		



Cosmic Road's "DON'T JUST GET IT"



these bad habits



One thing sure—the M41 SP twin 40-mm gun is not clogged back of lines.

But it's still got some definite parts that just can't be mass-handled—like the M78 compensating sight.

Wood has defined in this case speed loader have picked up a nasty habit of turning the compensating hand by pushing



like it says in FM 44-54, the speed loader "ROTATE the compensating hand through 180 degrees with the control wheel (to avoid damaging gearing in the sight, never turn the compensating hand)."

Another bad habit is, instead, too quick, is increasing the gain with the compensating hand as the compensating hand rotates and blinds around the head of all something's gain give—either the same gain shows off in the cover eye, or both.



DO NOT MOVE THE COMPENSATING HAND BY PUSHING

on the speed loader—instead of using the compensating positioning hand-wheel to get an angle in a hurry.

Using the speed loader like that just can't work either on the differential spider assembly—since to take you'll show the job holding the work in place.

It's like pushing on your ears to turn your head every time a pretty doll smiles by—you'd end up with a mighty stiff neck, and jay-jay in no time flat.

The hand-wheel—like the work—like the guides that turn the hand. So use it and spare those pins.



If you're guilty of these habits—quit this reminder in your behavior time and stop giving the compensating hand time.

DO NOT MOVE THE COMPENSATING HAND BY PUSHING



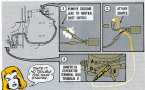
Jumping starts



Your MG0 makes jumping trouble because you punch the starter button by mistake — or hold it in too long while the engine's already running! This is trouble had for the motor.

Watch for MOTO 9-2190-211-2077 (14 Dec 81). It'll solve the problem. The way it works, the ground wire for the starter button is moved from the second shift switch to the generator.

With this switchover, the generator acts as a ground — and it starts to charge once it's charging, but (only) runs weak till the juice coming from the main switch and sometimes (wobbles) the circuit . . . to more ground . . . a liturgical mass.



Five points

Here's the latest point for your right battery box: Coating compound, Blumstein mat, rubber tape, POY 8000-200-1140 (Mag). That number'll get you a legal car. And that's the right shop, even the 800 5-1-62-1-66, C1 Mag 811 says it's for us. Before you go, use bleach (diluting water) to neutralize acid and plenty of water to clean the box.



If you don't believe it . . . get hold of a copy of TBI 9-171 and its Change 1.

It says in paragraph 14 of the TBI and the change to the TBI that you're not supposed to have batteries in your instrument lights when you're finished using the lights.

When the battery runs down and the acid starts coming out . . . you don't want the acid to mess up the battery monitor.

Besides . . . as Change 1 says, the batteries're not part of the instrument lights; they're simply used with them.

32. 60 dead don't need

The movie deal on your 1980 car is a nice deal. Take care of it by keeping the pressure at 0 PSI except when fueling. TBI 9-158-115-10 (your 68) says the normal operating pressure is 8 PSI or below, but the limit word is to keep it at 0 PSI except when fueling.

In normal you can feed with a seal pressure from 5 to 7 PSI as you cut through the barrel. All other times feeding is at 15 PSI but no higher as a result of you might lose something.

If you think your gage doesn't give you an accurate reading or is from broken-down stuff, have your support unit check it out.



Check the belt size



If you're following the steps in MWD's *Card 12742-205-214* (Nov 84) on how to run your jeep's 180-amp-charging system, you'd better be sure the belt size that supply gives you.

Some belt sets, ESN 1480-207-0817, are too long for the job.

This means that, no matter how the tension lever'll have to be tightened ... the *jeeps* in TB 9-1500-205-20 (30 Jan 81) ... to the long belts can be adjusted.



5. Cut (Reduce) the loose belt.



1. Get a piece of compressed air in a tin of the belt between the two end parts of the belt.



Your CD can follow the steps on page 15 of PS 80 on about belts, or he can talk to the ol' deal in the MWD ... the dealer is his.

Wrong number

Unless you look close, you might not notice that two different boxes listed on page 41 of TB 9-1500-205-20P have the same stock number -- ESN 4720-205-5429. Something's wrong and what's wrong is the listed stock number shown from the top of the column. It means to read ESN 4720-205-5442 (as your support code can see on page 74 of *Card 6 542-4288*, dated January 1977).





Awes, brother—that's for you.

Primarily...take the M100C telescope that's mounted in your own M100 tank—and any telescopes in any tank have the same problem!

The front end of the 'scope sticks through the gun shield from the cold, cold world while the eyepiece end is sticking up here on the inside.

That makes for a hot and cold stress that's an excellent path for condensation—and its brother in crime, rust.

The best dose of P80 you can dish out is to throw up a road block... remove a thin coat of lube on the optical mounting surfaces on the telescope... and a little lube spread on the inside jaws of the M100 mount won't exactly hurt anything either.



As far as the lube goes—see G-4-A.

The reminder—a light coat of lube'll do the trick. Don't brown up the works by making it a gooey, fly-catching mess that'll do more harm than good.



M100 tank fuel

Any of you M100 tank jockeys confused about what kind of lube to fuel your iron horse?

Page 67 of TM 9-1140-115-20 (Step 68) says to use M118-69111 fuel but page 104 of the 18 calls for V V-B-888.

V V-B-888 is right.

V V-B-888 fuel comes in different grades:

Grade D8-2, regular, is for climates where the temperatures are above 32°F.

Grade D8-1, winter, is used when temperatures get as low as 32°F.

Grade D8-A, arctic, is for places where temperatures get lower than 32°F.

See that your friendly M8 fuel dealer gives you the right grade of V V-B-888 to keep your M100 happy and healthy.

ABOUT YOUR

LOOK NO MORE

There is... if you're trying to find out what kind of pain you're supposed to see on the whiteboard reading leader your Hawk inside exit nozzle.

The whiteboard doesn't get a mill of pain.

To make the line is discarded, don't worry about it... and don't pain it. The thing you want to look out for is fishing or clipping of the line. When this happens, replace the exit nozzle.



THE NUMBER GAME

Scoutbook has it that there's no little confusion about how what world number you Hawk intelligence use when you log your SM1000 launcher on DA Form 476.

The wrong name from the fact that look the boom support and the whiteboard of the launcher have world numbers on their data plates—and usually they don't fit.

Some make use the numbers on the whiteboard and some use the numbers on the boom—making for one big BSA/PSU/Serial Numbers All Mixed Up.

Here's the answer:

It's the serial number on the whiteboard that counts, as far as the records are concerned.



The whiteboard, boom and boom support all go together to form the SM1000 launcher. In the boom support have all identify when it forms the launcher, and it's the serial number of the launcher itself—not its component parts—that gets entered on the DA Form 476.

HAWK

CUT THE COVER

There's one that do... and don't do that don't.

There that don't do OK, that you want to give some attention to the SM1000 and SM1000Z Hawk loader-transporter that have full each drive axles. And don't worry are the kind where the bottom edge of the cover rubs against the fuel line when you open and close the cover.

The thing to do is have your support unit wrap a 1/2 in piece of the cover.

A COVER, NOT A SEAT

There's nothing to say DA about it—has no guy in ground sit on a few engine covers unless he wants to pick up a few dollars. There may see easier ways to get you on sick call.

And when it comes to SM1000 and SM1000Z Hawk loader-transporter, it's a smart guy who doesn't sit on the engine compartment cover—whether



it's been used. And he don't walk on it, either.

The person's cheap enough—the cover's not built to take any kind of load.

But—being's believing... to stand there with a white pain on the cover. "No load like that."

ALWAYS PROBLEMS

You may be wondering where you get the right soap on whether the Health's safety and warning device or inhibitor or both ought to be pulled from the minute before you remove the bird from the launcher with your loader-transporter!

You'll never go wrong if you do what it says in TM 9-1410-500-12. And in a nutshell... the TM says you take out both the H&I, inhibitor and inhibitor before you take the minute off the launcher.



PLAY IT SAFE

Always observe BOM and H&I during all activities involving operations for removal from the launcher.

LONG ON SHORTS?



If you want to help give long life to your SMH&I and SMH&I Hawk loader-transporter, you have to get rid of a short.

And one place where a short circuit is cropping up is at the spot the hook main harness runs against the connector on the end of the hydraulic control line. You know... near the honey comb.

The rubbing is set up by engine vibration and swing's how you're not going to get rid of the vibration or the harness, the best thing to do is give the harness some protection.

You won't find the answer to the

problem in TM 9-1410-500-20 or -25, but you will by reading on.

The answer is to wrap some electrical insulation tape around any part of the harness that rubs against the connector. The signal people have some tape that you can use—say maybe a 1/2-in wide roll of black cotton adhesive tape that comes under PNY 9770-200-2005. This... there's also a 1/2-in wide roll of plastic tape that'll work. It goes by the number, PNY 9770-244-3056.

And you don't want to put the tape away until you've checked for other chafed wiring.

LET'S COMMUNICATE



TIPSY 'ROUND THE BEND

Tram, Tram.

It's vital under no position these control and range indicators so they're looking up at you.

Talking about the control-indicator C-5111/TFS-53 and range-indicator RP-511/TFS-53 that you see in operating the AN/TFS-53 radar set.

These two units, of course, get the most attention during operation of the Type 53. And the temptation is always to set 'em up so that the control panels are facing up.

But if you mount the two units in an upright position, the cables will have to make a sharp U-turn, and that's a sure bet for wear. It not only wears the insulation and inner strands, it causes the cable to stick and become a target for hands, feet, elbows, etc.

So—tip down indicators down! After all, they were designed for use in that position.



TRY A NEW FUSE



You should've done it!

Coming from a support team, they won't even give an operator tip.

They remind him that when his air conditioner won't, he should pull a spare fuse from the space marked on the set of its necessary fuses.

After all, there's no need to drag a repairman out to your site or send the set back to him, if you, the operator, are authorized to fix 'er up by putting

in a new fuse. Sometimes that's all you need.

When you replace a fuse, make sure the one you put in has the same ampere rating as the one you take out.

Of course, if the new fuse doesn't bring life back into your set, then it's time to call for the replacement.

In that case, remember to put the old fuse back and let the repairman know you've tried a new one.

DON'T RAM IT...INSERT IT

GASP!



Watch it, they're brittle.

That's the scoop on those blue plastic connector receptacles on your ANI GBC-4-8 video cables, other video sets, and carrier equipment as well.

Unless you give them the firmness they need, they won't last long.

And, once they're gone, your troubles may be just starting because the set has to go back to support for replacement of the connectors. To make matters worse ... sometimes the connectors aren't easy to locate even, even there.

Rough handling while plugging the male connector in can chip the receptacle. When that happens you can start reporting short circuits ... and gaps.

You can also bring up the connectors if you forget to pull out the plugs before you lift a unit from the mounting or separate it from other units of the set.

TALE OF THE TAPE

There's a time to spread those legs, and a time to keep 'em together.

For instance, when you're setting up your AN/PBC-25 for field operations, you want to spread those legs or runners—far enough so your Prok 18 will stand up and stand ready.

On the other hand, when the word is passed to break up and move out, you snap those legs together and start making tracks.

That's when the legs, or runners, can get in your way. They have a habit of swinging loose and not staying snug and close to the bottom of the battery case. They can snag on something or maybe rip something.

Simple solution. A small length of tape sticks across the bottom of the battery case will keep them together. The tape can be peeled off in a split



second if necessary, and can be used over again.

Come to think of it, there's other situations where you'll want to keep those runners in place... when the unit is in storage, transport, or just waiting for the next call.

COVER THOSE EYES

You wouldn't stand looking into the sun, hey, would you?

And you wouldn't keep your eyes open in a dust swirl. Or let someone poke you in the eye!

Well... you want to be just as careful with the eye, or lens, of your camera.

When you're not using the camera, put the lens cover on. It'll keep out dust and dirt, and keep the lens from getting scratched or bumped.

And, at the invention show stop, it gives added storage if you forget and leave the camera facing the sun. The cover will keep the lens from focusing lens rays into the elements of the camera.



ANTENNA MEDICINE



These antenna men across on your vehicle's antenna will bring you that good signal you need if you use them right.

Like the rest of your equipment, they need a regular dose of PM. Take these sections read with the AM/FMBC-1-B series radio sets. Polaronics. When used for some time they can get worked up.

So... a good operator will set up a program of taking them apart, cleaning 'em, and taping their joints after they've been re-assembled. This gives you a good contact, keeps the joints from corroding and makes it easier to take the sections apart next time.

For cleaning the inside end of the sections, ESM 79-50-300-5170 will get you a 1-lb tin of Polak, metal paste for wire brass, nickel, copper and similar metals. You might be able to look some in frame if you're near a military supply store.

A 30-oz brass brush will do a fine job on the inside of the 88-116 and 116A. You can work the 88-117, 107A,



118, or 118A with a clean, dry cloth.

Before putting the antenna back on your vehicle, wrap a wire or three of any good black plastic insulating tape around the joints. Because it can be scratched light, rubber insulating tape will give you a better seal. But, in a pinch, masking tape will do the job.



Is it handy? This latest volume of 39 11-131 was ought to be close at hand. Through-out July 1961.

She covers the whole field on the distribution of vehicular radio sets and this page after page of the matching "Installation Instructions"... complete with lists and ESM.

WATCH THOSE TURNS



It's the last link turn that does it . . .

Yes, it's when you try to put the flexible whip section for your KM/PRC all through that last inch that it picks up a permanent kink or twist . . . or breaks.

So, instead of trying to slide the antenna under the other link(s), try this.



OPEN THE LEVER.



WHIP THE ANTERNA MOUNT.



CLOSE THE LEVER AS YOU GO.

Exercise the antenna.



MOVE THE ANTERNA UP AND DOWN.



OPEN THE LEVER.



ROTATE THE ANTERNA.



CLOSE THE LEVER.

Another thing to keep in mind is that you can run into plenty of trouble if you try to bend the antenna into a small circle. And don't even get anything on the antenna because even the weight of the radio set will kink it if it's left that way for a long time.

If you must put the set down while the antenna is in the operating position, make sure no one steps on it or drops anything on it.



THE HOLE TRUTH



Where can you get your maintenance gear?

When it's coming into the open top of your AB-11408 main hatch, it runs out the drainage and makes it tough—or impossible—to screw the lower main section into place.

And when it's going out the bottom, well—that's the problem. Maybe it's not going out the bottom. Cause if dirt and dirt and gunk was collecting inside the bottom of the main hatch, it'll plug those two small drain holes. More problems.



So you want to keep an eye on both ends of the main hatch so's to keep it free and clear of water and mud and always ready for action.

Whenever a main hatch is free of its contents. Clearing the drainage portion open to the weather, is sure it's working its best. That's the small, black rubber cap that fits right over the end of it.

Now those caps can get lost any enough, 's it true.

And while they're not responsible at sea level, working says you can't see up your support people or equipment a bunch of 'em through their supply channels. It's known as Cap, An-tenna Base: top shops, PIN 9826-264-2111.



While you're working, a homemade cover of almost any waterproof fabric can be popped over the hole and secured with dials wire or heavy elastic.

Meanwhile, check those two small drain holes on either side of the AB-11. Only takes twice those seconds to check out any gunk that might have collected in them.



LINE UP



When setting up your 38-867 field switchboard, make sure the various sections line up before you locate them.

If they don't, you can't bend their trunk-type latches by putting too much pressure on them.

And, to make matters worse, the latches tend to break when you try to reposition them.



SKIN IT CLEAN

When time to skin a fresh wire for your field telephone or telephone-carrying system and the word is to "skin it clean."

Even if you don't skin off all the insulation, the fine bits and strips left might stick inside the blocking gear next time you slide the wire on.

That'll make it tougher and tougher to get a good, clean contact. And the time will come when you'll have to probe around inside the contact to clean out the trapped bits of insulation.

Be sure to "skin it clean" in the first place and keep the contact clean.



FINGER IT INSTEAD



NO!
NO!

When you've got a lot of rephrasing to do, it's mighty tempting to dial with a pencil.

It saves you from getting a sore finger ... but, look what it does to the dial face. The pencil makes marks. And the eraser, if used long enough, wears out the numbers and letters.

This happens when you're dialing a combination such as the 8811 11/PTC, 88171 1/PTC, 88201 1/PTC, or 88111 R. And, it'll happen just as easily when you pencil-dial one of those commercial-type phones with the letters and main lines under the dial.

So, to keep your (dial) face bright and fresh like Gonzo's ... use your finger.

REMEMBER THE VALVE

Because it's often when checked that the air valve on your AM/FM car radio isn't hard to forget.

But, there's a close when it should be OPEN and close when it should be CLOSED. And CLOSED means all the way to the right-finger side.

As a general rule the valve should be closed when the car is idle, when you're flooding, or when you're in the rain, snow or any other form of stress from the "over" department.

When you've gotten ready to handle a message, open the valve one-half way to the left. That'll keep pressure and heat from building up inside the car—



888 01 01
888 01 01
888 01 01
888 01 01

which can block your "Push 6" from doing its best to get the word through.

And, open her up any time your neck is craning up and down whenever there's an air pressure change in. Then the pressure inside will be the same as outside.

A RIGHT TURN



No need to do that. **AC** has you on your **TY-TU** and we've got wheel angles in a square every time you leave the lot.

Of course, if you happen to have the "TY" model, there's no sweat because the ripple bends the road-out-of-the-way for you.

But now there's a little item in the system that will do the same job for other models. It's called **Clump**, aluminum, plastic, 90 degrees. **FOR TY-TU-AC-TU-TU OR Clump 1.**



THE CLICK THAT COUNTS

It's that extra click on your **MD-200** mounting that counts for keeps.

Cause the locking lever handle has an click-down lens plate before you're sure the dog-eared click covers **CV-200** and **MD-200** modules are doing right.

From time you're checking out your **AM-200** kit, then, look close at those two plates of equipment. Look for that small notch in the right-hand corner of the mount—as you face it.



Your **CV-200** and **MD-200** just won't be locked up at all unless the handle of the locking lever is pulled all the way over to the right-hand-corner—and then dropped down into that notch.

Once the click lens plate, you're locked up and ready to sail.



DON'T MUSCLE THE DUMBBELLS



Flexible.

Yes, but that doesn't mean vibrations.

Especially when it refers to those special purpose cable assemblies, or "dumbbells," used with your SRC, VRC, VRC and other vibration-mounted sets. Like the CS-1211-U or CS-1211-H Polymers.

They can be fixed by normal vibrations, but don't abuse their limit.

If you don't learn your set correctly so its mounting, the dumbbells can be pulled in opposite directions even as you hit the first bang. The result pulls the dumbbell's wires from the contacts inside the main connector.

The same thing happens whenever some character grabs the connectors and makes like a mad scientist. He may also say boo but the dumbbell won't.



No special tools needed. Easy to pull.

That's the PM program for those contacts on the radio connectors used with radio sets AN/RCR-3 through 8. They're found on the chest set group AN/CSA-6, dynamic loudspeakers LS-100/U, handset H-55/PT, microphones M-25/U and handset cord CX-1104 and with handset Navy type CW-2007.



As for the rest, you've got it in your hand wherever you fill in your maintenance form. All you need do is turn your pencil around and rub the contact over the contacts.

It only takes a few strokes to clean off the grime and tarnish and get a good clean contact.

Polishes aren't always best for the job because they tend to rot the rubber in which the contacts are set. And, they leave a film which keeps you from getting the good contact you need.

**JOE'S
DOPE**

**FIXING
MAKES
THE
DIFFERENCE**

AT 1500 Z... 2 MARCH

the engineers, technicians, and the staffs of the civilian contractor at Cape Canaveral finally completed the installation of a new military missile, (SRM) "Aphrodite IV" in its gantry ... The long complicated count-down starts ...

AT 1530 Z... 2 MARCH

tracking station "Ages" located on the remote island of "Club" 1500 miles down range, completed installation of COMPLEX telemetry and tracking antennas, and radio it was "all in the green."

AT 1555 Z... 2 MARCH

Brown Company DMI-11 engineers, the outfit assigned this mission, held a CMI of its motorized equipment and turned up the wood for minor fuel valve repair ...

AT 1700 Z... 2 MARCH

the winds, due to a freak in the global circulation effect, shifted. Coupled with an unprecedented change in the patterns of the high altitude wind currents ... the barometer fell to a record low, cloud cover thickened, lightning flashed, thunder rumbled ... **AND THE RAINS CAME ...**



OH, LET'S SEE...
WHAT WE'VE GOT HERE...

- 1. MESSAGE WITH A BROWN CONNECTION.
- 2. COVERAGE—RACE WITH THE BROWN AUTO-RECEPTACLE.
- 3. REPAIR TERMINALS ON BROWN RECEPTACLE.
- 4. REPLACE LENS APPROPRIATE TO BROWN AUTO-RECEPTACLE LIGHT.
- 5. REPLACE TWO NEW COVERS ON A PAIR OF COVERS.

THEY
ALL PROBABLY
TAGGED?

YES!

DOGS GET 'EM IN THE
TRUCK AND UP TO SUPPORT
BY BROWN SLUGS... THEY
WARRANTED TO GO RIGHT
TO WORK FOR US... I
WANT THEM BACK HERE
AND ALL UNPLEASANT
OPERATIONAL BY
CROSS
TAGGING...?



HOW ABOUT A BROWN
TRUCK, OF A BROWN
TRUCK?

WHY
COULD
I?

WELL, HERE, SUPPORT PAGES
IT'LL TAKE ABOUT AN HOUR TO
TO RUN THE BATHS... THESE
FACTS ARE SO GOOD? THANKS
EXCEPT FOR A NEW JAZZ
SUITS & SUITS...

SO, BY THE FOURTH PAGE
IT'LL BE DONE THAT AND
THE OLD MAN WHO LIVES IN
MY C.D. WILL BRING US
TO SHOW US...

BY THAT TIME IT'LL BE DONE
THEY'LL NEED HAVE THESE
PARTS READY, WE'LL SEE IT-
LEAVES IN FORT GLENN!

THOMAS, A. BROWN, YOU
ARE A DEVIANT... NOW,
A NIGHT ON THE TOWN!

SEE... E. T. E. GARY?
IT'S OVER OUT... THESE
ALL THERE... IT'S SPREAD
THE NIGHT IS FINISHED
BEFORE DARK... SO
YOU GUYS MIGHT AS
WELL TRY
AND GO AND GET
WHAT YOU
TO HOLD
GARY?

...AND WHEN THE
CLOCK'S READY
WE'LL HAVE IT
DONE IN ONE OF
OUR TRACKS!

FOKED
AGAIN!

JOE'S Dope Sheet

DIVISION
SPRING
DANCE
SPECIAL EXPRESS

When anything's shipped for repair
You gotta 'em — **LIKE EGGS** — with great care,
You snug 'em up good
With packing or wood
To halt transit unfair wear and tear.

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

IF YOU WANT TO DISPLAY THIS CARTOON ON YOUR BULLETIN BOARD, OPEN DISPLAY, LET IT GO! AND FOR IT UP!

AT 1500Z... 2 MARCH

WHO WROTE UP
THEIR TAGS?

WORTH
TRYING!

THESE GUYS
ARE PRACTICALLY
SURE THEY ALREADY
GOTTA BE DEAD!



THEY
MIGHT BE
GROSS
TAGS
BUT
WHEN I
LEFT!

SURE, BUT THEY WERE
ALSO DAMAGED IN THAT
BLow AND DROPPED LOOSE
IN THE TRUCK BED...
NATURALLY THEY GOT
SCRAMBLED ABOUT!

WE'LL BE HOME
FIRST THEN!
YOU GUYS TURN
AROUND AND GET
BACK TO YOUR
UNIT!

I'LL GET THE
MIDDLE COPY
WORKING IN
THESE AND WE'LL
DELIVER 'EM
THE MORNING
BEFORE THE
ACTION BEGINS!



AT 0830Z... 3 MARCH

The support unit's trucks take the repair parts back...



SOME OF YOU GUYS TO DO THIS
—WHEN YOU'VE FINISHED
—THEY'RE BAKED TIES.

CAN'T UNDERSTAND
IT... THEY WERE
IN GOOD SHAPE
WHEN WE LEFT
THE CAMP!

BY 1000Z... 3 MARCH

The wind still continued... by now all roads im-
possible and the tracking station a sea of mud.



WE'VE TAKEN
A LITTLE
MUD UP!

WE GOTTA GET THE
STUFF UP ON HIGH
GROUND... GET
OUR TAGS
DOWN HERE!

I CAN'T...

EVERY BOMB TRUCK
IS LIFT UP WAYIN' ROW A PART
WHICH IS LIFT UP SUPPORT BEIN'
EXPANDED AND THE REPLACEMENTS
THEY BEIN' WERE SO PROPERLY
HANDLED ON THE WAY DOWN
THAT THEY'RE
DELEAS!

THE SPARE PARTS WE GOT
STOCKED IN THE BOMB TRUCKS
ARE ALL BEAT UP FROM THE
TOP OVER HERE LAST WEEK.
HARDLY WE CAN CRASHLESS!

BEST THAY'LL GIVE UP IS
ABOUT 3 LITTLE TRUCKS
AND IT'LL TAKE A FEW
HOURS TO MAKE THE
BRYTON...

THERE'S NO
TIME FOR THEM
THAT NOW!
RUN!

GOOD GRIP,
THE BOMB POKED
OUT THE HILLTOP!

THE BOMB
BLAZED THE
HOLE SET UP
IN A BIG O-LE
OF HOLE!

AT 1200 Z... 3 MARCH

the countdown at Cape Canaveral reached...

—3—2—1—main stage ignition... lift off! Lift
off plus one-two-three...

AT 1245 Z... 3 MARCH

on Cape Island... the missile flew over
Island... but...



SCORECARD

12,000,000,000.00
10,000,000.00
1,000,000.00
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00

BMP

QUESTION AND ANSWER DEPARTMENT

How do you patch holes in the rubber feet out of a M113? We got one that looks like there don't seem to be any patching kit listed in the supply system?

CURE FOR M113 LEAKS

Dear Matt-Ross,

How do you patch holes in the rubber feet out of a M113? We got one that looks like there don't seem to be any patching kit listed in the supply system?



Dear Sergeant J. E.,

You got it made in the shade on this repair, Sarge. All you gotta do is tell your troubles to your support unit—don't bother the chaplain.

Support will order out some repair materials like it explains in Chapter 4, Section III of TM 9-2800-214-55 (75 Aug 68). These kits are special order items because they have to be absolutely fresh for best results.

When the kit comes, turn your vehicle over to your support unit and they'll do the work. It's no-way in falling off a greasy log.



A CLASS BY THEMSELVES



Dear Sgt. Dwyer,

I thought electric arc welders were assigned FSC 3411, that they were Engineers, and got reported on DA Form 5-79. How, along comes this Fisher with an ID plate that says it's an arc welder in Class 3411 which would make it an Ordnance item.

Am I right or have welders changed classes again?

Fisher's the story?

Sgt L. C.

Dear Engineer L. C.,

You're right on all counts.

Electric arc welders are in Class 3411, and they're Engineers (some reported under the Engineer Equipment Inventory Program).

There was when all welders were grouped under Federal Stock Class 3411 and were the responsibility of the Corps of Engineers. Then, a couple of years back, they were switched to Ordnance and broken down into three groups: FSC 3451, Electric Arc Welders; FSC 3452, Electric Resistance Welders; and FSC 3453, Gas Welders.

Not too long ago, electric arc welders (FSC 3411) were moved because the responsibility of the Engineers. However



Four support
items will
not be used
to post on.



—and here's where the confusion comes in—with all this shuffling around, a lot of the electric arc welders, like your Fisher, that have changed grouping and such receive a couple of items will have their original ID plates.

But, there's no reason there, your support people can handle the ID plate problem by posting the right one on your welder.

Incidentally, Change 1 to AR 711-541 (21 Dec 68) class you on the FSC 3411 welder that's to be reported on DA Form 5-79. It lists the manufacturer, model number, and FSC.

Sgt. Dwyer

TRY AN M20



Dear Staff-Meat,

Could you please give me some information on what to use to refill our M11 breathing apparatus? Our Explosive Ordnance Detachment here often does and it is a constant problem refilling the cylinders.

1P's J. H. B.

Dear Specialist J. H. B.,

There may be an easier solution to your problem than refilling the M11's.

The M20 oxygen generating breathing apparatus (PN 428-678-1000) has a standard type mask. It was adapted only for M20 use and it's available from the Chemical Corps.

If you have one of these compressors around your area, like Model MM 141 or Jay Models 1541 or 1142P-M20, you can use it to recharge your M15. But be sure you check the make and model number, hold it!

Check TM 3-118-11, with C1 and C2 for info on recharging the cylinders.

If neither of these compressors is available, then requisition the M20

and turn in the M15 when you get the M20. TA 28-11, 1 May 61. (Line Item 18420) is your requisitioning authority.



M13 APC LITTER

Dear Staff-Meat,

Your media section has the new M13 APC's but we can't find the stock number for the litter bins. We tried all the Ordnance activities in our command but nobody could tell us how to get the litters. What gives?

Capt R. P.



Dear Sergeant R. P.,

The M13 litter bin is ordered under PN 2590-771-5115 (Ord. number 1846114). Word has just gone out to both PN and availability data. Try again.

COMPASS GAUTIONS



Dear Sgt. Brown,

What's the scoop on handling and storing equipment that has radium in its makeup, like compasses with luminous dials?

Some say there's not enough radium on these dials to do any harm no matter how much contact you have with the equipment. Others say you can't be too careful where there's any radium at all.

Compasses with radium dials are a big item in this TOC world. We need to know what's what before somebody gets hurt. R. Ely P. J. M.



Dear Sergeant P. J. M.,

There's always some danger where you have radium, Serge, even in small amounts. Radium won't stay put. It tends to break down, like a shattering point, creating a radioactive gas (RADON).

To handle watching out for radium contact with your skin, you want to make sure you don't inhale any of the gas. It's no trick to wash your hands and face after handling a compass, but you can't say you'll wash radioactive gas that it gets inside your body.

Now the amount of radioactive gas that comes from one compass is so small that it's hardly worth mentioning. If you handle it only when necessary and wash your hands and face after handling it, there's no harm at all. But you don't want to fool around with a broken compass since there's more chance of getting the stuff on your skin and into your system. There it is, quiet.

The thing you have to be real careful about is making a number of compasses in one place. Individual compasses and

those in use and kits can be stored anywhere. But when you have five or more, they have to be stored in a special place where there's good ventilation. TB Reg 81 (11 Aug 79) gives you some steps on this.

It takes about six times as much fresh air to ventilate your supply of containers as it does to keep the same space breathable for man or horse.

Do you either store your containers under separate cover outside the supply room, or you sit out their part of

the room at least once a day. And you treat 'em to another 15 minutes of extra airing before handling the stock.

Here's one more hint for your bar racks buddies.

Nobody—but nobody—should disassemble, repair, or replace parts on containers and milk equipment with business ends.

Trust 'em in private for replacements, if they won't work.

Sgt. Dwyer

PUBS ON GORMAN-RUFF PUMPS



Dear Sgt. Dwyer:

We're here playing a string of Gorman-Ruff pumps—Model 6141 J-48 G&R by name, because we can't find the name on D&I parts for this equipment.

The 61 plate calls them QM Pump, Self-Priming, Centrifugal, Fuel Disposition, and gives us PN 4180091-1071. But all that gets us when we go in for parts. What's wrong with our approach?

SFC J. N.
QM P&C Co.



Dear Sergeant J. N.,

A little hint with me you could play these new Gorman-Ruff pumps by name if you rethink the title to Pump, Centrifugal, Parabolic, Heavy, then renumber TM 9-4528-118-01 (Old 61) and IO 9-4528-118-01.

You won't get those parts without asking, because the distribution page

doesn't list QM 6141's.

You also want to ask for new 61 plates on these pumps, to clear up the record. Ask your field maintenance people to replace the old QM plates with new Engineer plates next time the pumps go to the shop.

Sgt. Dwyer

TRAILER TROUBLES

Dear Half-Man,

It's just problems on the proper length air lines and inter-vehicle cables on our 14' size trailers. As you know, some take one length and other 14's require only a different length.

Could you give us the right length and the correct P/N of both the air lines and the cables for the different types of 14' size trailers.

J.P. G.C.

Dear Specialist G. C.,

First here is the breakdown for the M104 and M106 14' size trailers:

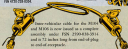
Two air lines are needed, one for service brakes and one for emergency brakes.

Includes needs of
two coupling, PN 470-09-002.

Two safety assemblies, PN 470-29-001.

Wires of line cut from both lines,
PN 470-29-004.

LOOK
UP
THE
CORRECT
PART
NUMBER
FOR
YOUR
TRAILER



The inter-vehicle cable for the M104 and M106 is now listed as a complete assembly under PN 1500-030-0014 and is 72 inches long from end-of-plug to end-of-connector.

Now for the M104A, M104B, M104C, M104D, M104E, M104F, M104G, M104H, and M104J 14' size trailers.

You need one air line instead of two.

The air line is made from:

Coupling, PN 470-09-002

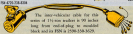
Wires, PN 470-29-001

Assembly, PN 470-29-001

Assembly, PN 470-29-001

17 1/2 inches when both full line stock,

PN 470-29-004



The inter-vehicle cable for this series of 14' size trailers is 90 inches long from end-of-plug to mounted block and its PN is 1500-030-0029.

FREE 90 DAYS ONLY!



Within 90 days of receipt—that's the time to find defective parts on a piece of Engineer equipment.

After that you hold the bag on bad parts even if they're obviously defective in material, design, or workmanship. Of course, after the 90 days the whole unit is still covered by AR 700-28.

So you want to peep an eye for defective parts when a new piece of Engineer equipment checks into your outfit.

Here's how to find bad parts to be

operated the equipment.

Then, if you catch a part falling because of any defect in its material, design, or workmanship—quick, like a wink, wave the part back to your supply source.

From there on, the procedure's spelled out in DA Cir 780-2 (11 Jul 81), including how you collect your free replacement for the defective part. Info on the LTR, DA Form 488, is included in AR 700-28.

ADD A WASHER

Sometimes it's the little things that find up the works. Like the failure of the coupling disk studs in your Hol-Car Model CE-500-AC/TC 50 E/W generators.



If the lock washers are left off the disk studs, the studs loosen from backlash during operation... and crack... or shear off. This leaves the coupling disk and fan wide open for damage.

You can stop-and-go trouble by giving your Hol-Car the eagle-eye to see if the lock washers have been installed on the coupling disk studs. If the washers are missing, have them installed pronto.

You'll need Lockwashers, PN 5110-018-5001 (Duff), available through your regular supply channels.

BUCKET BUSTER



When they slip just right, they're wonderful. But when they won't slip, they can sideline your Unit Rig Model 4000 trencher quicker than you can butter "WHOLE!"

When they slip just right, they're wonderful.

But when they won't slip, they can sideline your Unit Rig Model 4000 trencher quicker than you can butter "WHOLE!"

"They" in this case are the overhead roller-over chains on the sprocket of the Unit Rig's bucket drive.

It's "their" job to let the sprocket slip, and stall the engine, any time the bucket line hooks into a big rock, pipe, or other dead-end snag in the trench.

Trouble is, these rollers can't tell you how they feel about doing their job. They won't signal if you adjust 'em too tight, and it's most likely to them if you let them cranks up with wear and dirt.

They just won't work—and neither will your trenching rig—after a snag hooks up the bucket drive.

So if you don't want to get caught with your bucket drive down and no place to hide it, here's what you do—

BUCKET OPERATION

1. Place the bucket line assembly in the digging position.

2. Spring the bucket line with a heavy chain, half way between the head shaft and the tail shaft.

3. Back the adjusting nut on both overhead rollers out to a point back with the end of the shaft, to let one spring tension it as needed.



Roller
Adjust
Nut

4. Then engage the bucket line drive. With the engine at full governed speed, and the transmission in top (20th) gear, roller-over-rollers should slip with just enough drag to rapidly stall the engine.



- If the wheel rollers dip too early with not enough drag to stall the engine, discharge the bucket five times, then take up the adjusting nuts until you feel the right amount of spring tension on both rollers. Rear against the tractor with one dash digging more than the other side.
- After you finish setting the roller adjustment, make sure that both locking nut covers are fully tightened.

ATV OPERATION

A series of raps, laid out over the boom head and sprockets when your Unit Rig tractor is not operating, will help keep ruts and dirt from gumming up the works.

Any time you can't get both wheel-end rollers to operate right, don't risk sidelining the tractor. Holler for help.

If your own mechanic don't have the tools to clear up the trouble, pass



the word to your support shop. After they have set whatever is bogging the operation, they'll probably grease the working surfaces for longer-lasting OK operation.

GET THESE MMWO's

Quicker with the scissor-type hydraulic front loader will mean no lunch over a copy of a couple of MMWO's due to URGENT needs.



MMWO 5-2825-206-2L71 (2) Set of 1 covers the Clark Model 175A-51 7 1/2-cu-ft loader and calls for MMWO kit kit No. 8122AWC000004-211.

MMWO 5-2825-207-2L71 (1) Set of 1 covers the modification of Clark loader Model 11-22 and 11-28-21. You'll need MMWO kit kit No. 8122AWC000004-211.

Included in the modification of the loader is the removal of the over-speed governor, low oil pressure and high exhaust temperature safety devices, and the installation of cushion tires. In addition, on the Clark Model 175A-51, the red excelsior will be eliminated by the installation of a rubber, protective felt, and mill-balling mat.

You requisition the MMWO kits from the Engineer Maintenance Center, P.O. Box 105, Columbus 16, Ohio, through regular supply channels.

Be sure to include the make, model and serial number of your rig and the MMWO kit number on your requisition.

ADD A SWIVEL



The hose connections for the waste water system on your Mack-Pro Model 1500-2000 waste purification units can become a weighing problem.

Add the extra percentage of the waste passing through the hose to the normal weight of the hose itself and you've got a real drag on the hose at the coupling.

Sometimes, this dead weight is just too much for the hose and it breaks wide open.

No one wanting all over spilled water. You can keep the hose from breaking by adding a 2-in. hose pipe with a 1/2-in. bend and the addition of fittings from a salvaged hose. Then, you weld the fittings to a retainer so the hose'll lay in any direction.



TO PREVENT THE HOSE
BREAKING HERE ...



...ADD THIS
BEND ...



...SO THE
HOSE LAYS
FLAT.

The pipe and swivel will take the load off the hose and give you a spill-proof operation since the pressure of the combined weight of the hose and swivel is divided evenly around the hose. You can get the elbows through local pipe stores.

A VELVET TOUCH



Take it nice and easy when you put your air LV's on the brake wheels of your Willys Model M10 truck ... unless, of course, DWP 5-4116-201-55/1 (Step 61) has already been applied.

It only takes a light touch to put the air brake system into quick and positive action. Stomping on the brake like a grape-crusher won't make the truck stop any quicker—it'll just make the brakes grab and lock.

So, gently, friend, take it gently when you want stopping the Willys to a stop. A heavy foot could make it a more permanent stop than you bargained for.

TAKE COVER



When you get to land or operate an M4 for waste disposal you'd best be well covered.

Along with your fatigues (lightly collared and collared and the correct leg pockets inside your boots) your anatomical agent rubber gloves, and your M41 field mask, you also need an M3 hood to shield any face open behind your face.

The gloves are 6M items, and here are the FM's for them.

UNIT	ITEM	ITEM NO.	ITEM NO.
2-00000	1-0000	000000	000000
00 01 24 1 662	1-0000	000000	000000
00 01 24 1 662	1-0000	000000	000000
00 01 24 1 662	1-0000	000000	000000
00 01 24 1 662	1-0000	000000	000000
00 01 24 1 662	1-0000	000000	000000

There are four your machine is called Hood, gas mask, anatomical agents protective, M3, FM 0001-201-0000 gas is from 004.

When you're reading the M3 is about dispenser it's also wise to have a spare set of fatigues and boots.

NOT DO'S

Another way to protect yourself, when you're handling the M3, is to take it slow and easy, like this:

1. Open the bag of spent air first.
2. Fill the bag after some, and about the time you're done.
3. Hold the device and the fatigues and you have the bag well into the bag.
4. Double yourself a good one's bag, and about 40" apart, from the bag ... then gently shake the bag empty.

When you use an M3's WP hand grenade, make sure you really know it. When it bursts, white phosphorus reacts to form an area about 15 yards in radius. Change 1 to FM 3-00 says the fuse delay is 2.74 seconds (one 4-11), and the radius of burst is 25 yards from 301.



CLASS UP

After loading or operating the M3 it's best to use water pressure to get the dispenser disconnected on the outside. You can use the water from a drain truck or any other high pressure hose, or you can just clean it with buckets of water. If you haven't got a hose handy, the some open-circuit areas, of course, you may have to use a scrub brush along with the water pressure.

Compressed air was OK'd for this clean-up use, but use any other ... the air might blow the spilled agent over to friendly things and innocent bystanders. In order to use this water-pressure handy on someone concerned will know: Compressed air is not for decontaminating irritant dispensers.

The make sure you don't miss any of the other operation protective maintenance services (see FM 3-0001-211-42 1 Apr 01).

WEAVE HARDER

When you use an M3's WP hand grenade, make sure you really know it. When it bursts, white phosphorus reacts to form an area about 15 yards in radius. Change 1 to FM 3-00 says the fuse delay is 2.74 seconds (one 4-11), and the radius of burst is 25 yards from 301.

MECHANICAL

PULLER KIT

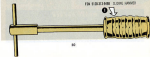


For those who want the F500 and maximum versatility of the mechanical puller kit (F500 10.26.51 9-9-999), that's based in your common and like here you are!



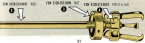
BASED ON: BENCHING, general, and heavy top pull 1 1/2 ton, 10 1/2 ton and top pull 1 1/2 ton in 10 1/2 ton top pull.
 FOR 10.26.51.999

FOR 10.26.51.999 (1)
 FOR 10.26.51.999 (2)
 FOR 10.26.51.999 (3)
 FOR 10.26.51.999 (4)
 FOR 10.26.51.999 (5)
 FOR 10.26.51.999 (6)
 FOR 10.26.51.999 (7)
 FOR 10.26.51.999 (8)
 FOR 10.26.51.999 (9)
 FOR 10.26.51.999 (10)
 FOR 10.26.51.999 (11)
 FOR 10.26.51.999 (12)



SOME POSSIBLE COMBINATIONS

WITH 2.000 TON
 WITH 1.000 TON





YOU MAY NEED ME

A slow moving air-type publication will never generate a fast moving air-type world, so when this man's Army needed what a high-speed production machine.

No more "bottle-neck" around with distribution channels that hinder the creative process... that keep you flying blind on new equipment operation and maintenance information.

Top side has passed the word officially—DA Cir 14052 112 Jul 811 says that Army Aviation literature will be mailed direct to using units from the USA 802 Publications Center in St. Louis.

The direct mail approach works in reverse, too. All air using units "show to and including" business, companies, detachments, teams, service schools, depots, or just about everybody with a separate headquarters, now mail DA Form 12-11 (Requestion for Initial Distribution of Publications and Blank Forms) direct to St. Louis.

This means you divide the maximum number of copies in each publication category you want to, Louis to send you automatically on ED.

In a larger organization it'll be unlikely that your CO will have the time to keep after his direct pubs and their distribution. So he's going to designate a publications officer from his local squares staff to handle the whole operation, including the signing of the DA 12. But when you get down to company and detachment level, your CO has a choice of doing it himself or delegating direct responsibility for his air pubs to another officer in the unit.

No matter who takes the direct responsibility for air pubs, it's a real publications officer that calls periodic meetings with his (NOORC's) to make sure each element in your unit gets all the pubs it needs.



ST. LOUIS, SIR



THE 103-1000 MIGHT

If you're not sure whether you need your own 12-01, think of it this way. Do you need to make one cost?

Specifically, any organization or activity that has its own headquarters or is operating completely independent of its parent units for long periods of time has special publication requirements of its own. Now a platoon, branch or section, for example, would look kind of ridiculous making up a separate 12-01, wouldn't it?

But if you're in a National Guard unit, your state adjutant general makes out your 12-01 to cover the entire state's aviation literature requirements. Then he mails it off to St. Louis according to instructions you see by the National Guard Bureau.

DA 11-BLANKETS ONLY

If your copy of 12-01 on file at St. Louis leaves you on the short end of certain pubs, it's your fault. Any time you want more of a publication, or you want to add on a new subject or category of pubs—you change the 12-01. This then becomes a permanent change to your DA.

You receive copies of DA Form 17 (Requestion for Publications and Blank Forms) to replacement requests for publications or forms that have been lost, were not in used up, or DA 17's on air pubs also go to the St. Louis AG Center by direct mail.

By the way, if you had any DA 17 documents at St. Louis before the new 12-01 mailing system went into effect, they were recorded on you. So you'll have to transfer an another 17 if you still want 'em.



WHEN YOU GET A CHANGE

Any time the equipment or organizational situation changes, it's time to change your CD-31, too. When the orders hit your hand changing your station or station, that's the time to make an immediate (if not sooner) change to your CD-31. If you've gotta lot of changes to make, better mail in a complete revision.

DATE, YOU

Since orders changing your station or duty station include an effective date, you've got to date your CD-31 changes to coincide with the orders or it'll be a long haul bringing your publication up to date again.

Any marks you pick up on station revision or starting off on a new one should include the date when they were first distributed. But if you get extended TDY or PCS orders, show 'em, Local Two dates . . . the last day at the old station and the first day at the new station.

Since there's no place on either the CD-31 or the back CD for those dates, you'll have to make on a separate letter with this info.

FROM: Commanding Officer

ATTENTION: Name Being Changed

PO: St. Louis

DATE: 20-1-68

Just thought you'd like to know we're leaving this station prior about two years until the beginning of July. So how about it being when they starting all these publications you have there in the next place we're going. Thank so



The 11-50, dated 1 Sep 61, is updated to cover the engine—these new aircraft either are fixed or just covering the ground at Army Airfields these days. It also has some different wording on it. So let's do a quick pre-flight on her before she takes off for its last.



UNIT INFORMATION		SERIAL NUMBER		DATE	
NAME OF UNIT		SERIAL NUMBER		DATE	
ADDRESS		SERIAL NUMBER		DATE	
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DA FORM 11-50

Then add on as many copies as your CO thinks necessary for your technical ground operating personnel and your unit reference library.

Column 4 should be based on unit maintenance experience. You want to ask for enough of each aircraft's maintenance handbooks, for your maintenance level (that column 1), so that nobody has to stand around with his finger in his mouth waiting his turn as a manual.

In answering over, it's just a matter of repeating the same figures in the four quantity columns of Section 3. But... be sure to follow the instructions on the back of the new form. This means, for example, that most aviation organizations will just fill in Column 4 only.

The thinking behind this is that if you don't have higher edition maintenance manuals around—which you're not authorized anyway—nobody in the world will be blamed to see them for making maintenance jobs above your own edition. It's the same as not being allowed to use higher edition manuals.

According to the instructions on the form, Column 4 should include enough copies of a particular 11-50 to hand out to every Army aviation unit that has one or is expected to be flying in a specific aircraft.

Columns a portion of the form marked (1)—ALL FIXED WING (2)—ALL ROTOR WING (3)—ALL FIXED AND ROTOR WING use the same as the old abbreviation G/WH (Operational or Maintenance Instructions of a General Nature) which you had to write in for yourself on the old DA 12-21 (Apr 59).



Section II is a new one. As it says on the form, you use it for OTHER LITERATURE OF A GENERAL NATURE in the administrative field. A good reference is the WH Digest, which is the WH 675 22.5.1 series.

In other words, just say how many copies you think you need on hand of any aviation publication you can't procure by action of maintenance or need of air machines. Your TM 1-114-B on "Aircraft Structural Hardware" or TM 1-414-1-1 on "Health/Promotion of Personnel/Engaged in Drilling and Painting" are some more examples of general literature.

CHANGES

When requests show you need more or fewer parts for your equipment allowances change—you mail in another 12-51—marked as a change at the top of the form.

But instead of repeating everything, you fill in the space or spaces you're changing. No need to fill out the whole form again when your initial request



more can still use this in its limits. Besides, this makes it easier for the AE Center to spot the changes at a glance—and run down chances of missing items being changed.

This is your opportunity to make sure you keep your ED (filled distribution) of new parts in the field you actually need with an improved form and distribution system. Use it.

SWITCH TRACKS



If you're still operating with the old TC 6 through 8 supply manuals, better have your maintenance guy alert for new readings on your list of tools and repair parts.

Be a shame to have those publications shunted into a riding just 'cause somebody missed a switch in the supply parts system. And you gotta do a bit of switching to keep up with the continuing changes to the new multi-part work manual system.

Under the new supply lineup, the repair parts and special tool listings are being transferred to a volume manual coupled to the main section of the work manual for each piece of equipment. This volume is designated by "P" markings where it's coupled on to the rear end of the work manual number.

For example, the old TC 7 and 8-L-1 supply manual is now superseded by TR 11-1210-111-20P, which also supersedes that part of TC 6-1-87 covering the 117- and 118-ton Alco locomotive's special tools for organizational

maintenance use. But TC 6-1-87 is still the authority for using organizational maintenance special tools on the 100- and 115-ton Alco locomotives.

So TC 7 and 8-L-1 is no longer listed in DA Pam 110-22 CTC supply manual index, because it's completely superseded by the work manual part list. That means you look in DA Pam 110-4, which is the TR index, for the most current repair parts listing.

But TC 6-1-87, being only partially superseded, remains listed in the 110-22 index with a ^P because telling you to check the List of Partial Superseded Manuals in para 5 of the same index. Para 5 is the CTC that tells you TR 11-1210-111-20P is the right work to follow for the 117- and 118-ton Alco locomotive special tools.

Please don't get your feet caught in the crossover when your equipment's manuals change tracks. You might have to do some extra foot-flogging to get caught up again.

NO SPLASH OUT



Dear Editor,

Whenever you hit the fuel tank drain cocks on the Sembois (S-21) at a range field it's the same old story. You don't have your home base sampling jar, so you use your fingers and end up with a sleeve full of fuel!

The inboard tank drains give you the most trouble because the fuel hits the protective shield in front of the petcock and splashes all over the place. But here's how we solved the problem.

We made up a tool from 1/2-in. aluminum tubing, open at both ends, with a slot cut in one end to fit the petcock.

And there you have it... a wiper tool to make and right handy to keep on hand.

W. D. Jack R. Bell

Flightline Arsenal, H. I.

Old Man—Good tool for me when you don't have a sampling jar!

DRY WIPERS SCRATCH

Paper or waxed gauze with every aircraft windshield wiper check unless you like replacing scratched panels regularly. The right way to check operation on a dry run is to stick some smooth, tough wrapping paper under the blade. For a clean wiper check, though, keep the glass wet with plenty of water.



SHOT 'N THE EYEBALL



Ever missed a grapefruit and got an irritant's squirt in the eye for your trouble? It's mighty disconcerting!

And so are scratches and gouges in the Plexiglas bubble of a chopper. . . . sunlight can be reflected by them right smack dab in the pilot's eyes. In flight this distraction can be more than irritating. It can be downright dangerous.

One recommendation in the case of the electronic gear in the Sioux (H-13) cockpit. If communication maintenance men aren't real careful like when pulling the seat or removing the covers, those

sharp corners on the cover can make the chocks and dig right into the bubble.

If they cover that gear with cloth or padding of some sort, though, it'll prevent, or at least cut down, the possibility of scratching the bubble.

There's not much clearance between the seat and the bubble. . . . a reminder of this to your avionics friends can help prevent bubble scratches. If the bubble does get scratched, though, you can remove the scratches by using Plexiglas Polishing Kit, P/N 1450-620-8175.



NEW SEATING CAN BE PROVIDED BY SEATING EQUIPMENT IS BARRIS AND SPECIAL CHAIRS.

SCRATCH ME!



You ever wind up with an irritating problem about adding oil to the tank of your frequency (FBI-1A) gas turbine engine?

Spill some of that engine oil (SPE 88-1-1000) on your skin and clothes and you'll probably end up with a good case of skin rash—if you don't get it off pronto!

You can remove spilled oil with a hand cleanser. If you don't have a cleanser on hand that'll do a good job, lather some hand cream. POY 8128-010-1596. You'll find it listed in SB 00-1-06-19-88, 029 May 88. This cleanser will not only take off oil—but dirt, paint, var and just about anything else in the bargain.

Of course if you spill some of the turbine engine oil on your clothes your best bet is to change right away so it

won't seep through and cause a skin rash. You also want to wash oil-soaked clothes before they become stained. But kerosene oil is powerful enough to soften paint. So you also want to clean up any spills on your chopper that may happen when you fill the oil tank.

Before you add oil to your tank, be sure you check your supply to see if you have any oil packaged before 1 January 1998. If so, you have to filter it to good—again—possible contamination. TB AVN 23-43 (1 Jul 81): "Use and Grades of Aircraft Engine Lubricating Oil" will fill you in on the details.

But when you "fill 'er up" with oil, watch out for those spills.... they can be mighty irritating—to you and your chopper's paint job.

TC WANTS 'EM BACK—FAST

Rapid service items deserve fast handling — going or coming — so they become critical items. So keep track of which TC items get this rush handling by checking the latest aviation, marine and rail item listings in SB 25-25 (11 Jul 81), "Bureau of Transportation Rapid Service Items."



HIDDEN BEAUTY



Your bird look as pretty as she used to—so could the one in touch-up here and there? If she needs some fresh work, look us up in a copy of TB AVN 7 (15 Jul 81), "Painting and Marking of Army Aircraft." It'll show you how to restore her hidden beauty.

Watch that Trench SOURCE OR...

DIG THAT

CRAZY



Any crew'd get a little mixed up by a commander who ordered him to march off in four different directions at once. Agreed?

Some gear for the automatic features of the hop controls on both the AN/ARN-14 and AN/ARN-77 models of your radio comes when you see the wrong operating sequence.

The right sequence is to turn the selector switch from OFF to ANY before you start to move in any station. Going direct to AIR (ARN-14) or COMP (ARN-77) position, either by accident or intentionally, and then coming, drives that poor automatic hop control mechanism nuts.



COMPASS



In the **ADD** position on the **ANT-4** or the **COMP** position on the **ANT-5**, both the tuning and loop antennas are operating automatically. But the **ANT** position on either set limits the operation to the tuning antenna... while the **LOOP** position allows you to manually steer the loop antenna by twisting the separate **LOOP** knob or switch back and forth for left or right.



The point is you don't want the automatic features of the loop antenna operating during manual tuning. The antenna mechanism can work itself to death automatically pointing to each

station you come past on that frequency band.

That drive mechanism is trying to stay with you by swinging the loop around to each station you tune across. It's like saying North, then South... then East... back to North... then West... round and round we go!



IDENTIFY WITH ANT-4/ANT-5

But not if you start out with the right procedure of leaving the selector switch in the **ANT** position until after you identify the station you want to work. Then snap the switch back to **ADD**

LOOP-4 or **COMP** **LOOP-5** position, so the loop antenna will steer its automatically to seek the station you've decided to home on.





If you want an aerial signal in addition to the compass reading, the CW/VOICE switch should be set CW in the AEM-10 or the BFO switch should be ON in AEM-10.

For practice experience, see [www.hamradio.com](#)
 For practice experience, see [www.hamradio.com](#)

LOOP-ARM OPERATION



If you're going to work on a station using the LOOP position, then you'll definitely want either the CW/VOICE in CW or the BFO in the ON position. This will give you a steady, audible tone signal whenever the plane of the loop is not at an exact 90-degree angle from the station being worked. This helps you to make use of the MULL, providing you're using the right out-antenna control procedures.



It so happens the manufacturer has tried to build in a little protection for the loop antenna gear mechanism on the AEM-10 by using a clamping device, but it's still not a sure-thing guarantee and overworking the mechanism by accidentally using LOOP position during tuning can cause damage to the loop antenna gear train assembly on this AEM set, too.

IT'S IN YOUR HANDS

By following the right sequence in tuning is most of like doing the vehicle preventive maintenance, because it protects the equipment you're using from damage.

But just as important to you as a radio-compass operator is the fact that you get better aerial signal reception without the loop antenna during the tuning operation. The loop really won't help you in tuning until after you identify your station. So why add to your problems by complicating the operation?

Connie Rodd's BRIEFS



Too hard

You give carburetor fuel lines an easy vehicle bend, use, or air-excess case apt to hang up the brass fittings. But don't worry this time—ask for help when you disconnect and connect 'em. Some types have been getting easier on these brass fittings—mist necessary. Fly the man who has to break a good connection.... that fitting'll get hooked up for good!

Turn for the better

Have you figured out why you're losing the links for the sway braces on your Hawk launcher when you're in search order? You wish, darling... that's the answer. All it takes is to jack-knife or to make a turn of more'n 15 degrees and the rear bumper of your prime mover will dobber a link.

Not needed—period

Pass the word to your support unit. They're supposed to remove the warning-instruction plate from all 21FP supplies on your M13 tanks—no matter what the serial number of the tanks might be. Sure... MFWO # 22320-212 200/4 says the plates get taken off supplies on tanks serial numbered 191 through 500, but Ordnance now says they're not needed on any of the supplies.

Take tea

Before check the pressure relief valve on your M13 breathing apparatus. If it doesn't have a guard over the relief valve button, then MFWO 1-0240-223-1271117 Dept 211 is the authority to get one. The guard will keep you from accidentally pushing the relief valve button and discharging the air within the closed air system. The MFWO is an URGENT one but it only takes 18 minutes to apply.

Weight worries

When you're making up those weight classification sign lists called for in IS 9-263 214 Apr 59, here's a tip on how to get the right bridge-load numbers for your vehicles. Check Appendix I to AR 140-200-1 211 Mar 60 and Appendix IX to IS 9-36 214 Aug 58. Where they differ, follow the rule with the later date—in this case—the IS.

A switch

It's been entering UFF's on the Ordnance people. And the main center has been the Hawk manipulator-walker. In Ordnance knows all about the trouble and is working on it. Now comes a request Don't send in any more UFF's on the manipulator-walker unless you're having a problem with a magazine with a serial number from 8214 and up. These mags have been tested up and shouldn't give you too much trouble. If they do, tho, get in a UFF.

MEANWHILE... YOU CAN HELP

Give your mags an added life—no matter what their serial number—by doing a couple of simple things. Use Filonite... go along with the procedures set up in your TM's. Get on you can pick out the things that tell you that you're being into the low number. And keep those "no-uffs" down as much as you can.

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

