

Issue 93

**PS**

1960 Series

**THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY**



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MAGAZINE SERVICE'S TOOL SET  
SEE PAGE 25



NO MORE CONTACT OVER

# 468 v s 2028

There's no doubt now as to what you use: DA Form 468 (Inventory Equipment Report) or DA Form 2028 (Recommended Changes to DA Technical Manual Parts List) Supply Manual 7, 8 or 9.

The latest revision of AR 700-28 (4 Aug 58), which covers the EER, also gives you the stamp on the 2028 in para 3d(1). You hand out the 2028 whenever you feel an unsatisfactory job of any type is a failure for improper operation, maintenance or handling of your equipment.

Naturally, the USG isn't built to cover all the different kinds of equipment failure reports needed by the Army. That's why special electronic gear is also covered by AR 700-35 (25 Jan 59), which spells out the use of DA Form 787-1 (Electronic Failure Re-

port). TM 30-54 (Atomic Weapon Equipment) and gives details on how to fill out the reports and when to send them.

The 2028 is not used for reporting an unsatisfactory job on atomic weapon material. The 468 is used in concert with TM 30-54 for atomic weapon material.

When it comes to Ordnance guided missile equipment and material, AR 700-37 (27 Aug 58) says to use DA Form 5-1 (5) (GM Component Evaluation Data Report) for adding info to what you've already got down on the USG.

Going back to the original EER regulations, there's a few new reporting addresses and some changes only in AR 700-54. Heavy play up and check them out for yourself. If you're using any QM work, Change 2 (1) Jan 60 tells you where to report.



**IN CASE YOU'RE WONDERING...**

Always check blocks of wood that may be trapped inside near the rear of the launching beam on your M300 Honest John launcher. That's what your OY90 line calls a roller restraining assembly.



The only time you need to use the launcher is when you're using an M410 rocket. Otherwise... it pays to make sure you'll have more time for maintaining the rest of the launcher.

**ON THE LEVEL**

It's good idea, now and again, to check the two cameras that hold the tube ball support in the stabilizing jacks on your M300 Honest John Launcher.



If the screws are loose enough to stick out beyond the surface of the jack tube, they'll grip the tube housing. A loose screw could even keep the tube from moving up and down.

To make sure the screws are tight—and stable.

**GET A NEW ONE**

Don't feel stressed. With the number 1 in each cartridge, (DEM 1120-821-8031), you can be rightening the tube on your M300 Honest John rocket, that is.



If the square drive pins at the mouth of the cartridge are the right number a new one. They're been making the rocket in the launcher fairly... so you shouldn't have any trouble rightening the tube once you get the new one.

**COVER "AIR" RIGHT?**

It's an easy thing for a man in an Honest John outfit to forget—how do? On your M300 ground set... we forced air in your air chamber when the temperature drops below 40°F, and released fresh air when it's above 40°F.

You can do more to help keep the air chamber in the chamber is closed when you want to store heated air than the flow in the middle of the day. And you can do more to make sure the air chamber is closed to get released fresh air through the opening.



BY YOUR OWN DEVICE  
ON THE TA-LIFT RICE TELEPHONE—

# PHONE TALK

The handy work of your TA-LIFT field telephone when you're waiting for a message from headquarters is a mighty welcome sound. Here's the five white spots that show up when somebody wants to send the right word down the wire.

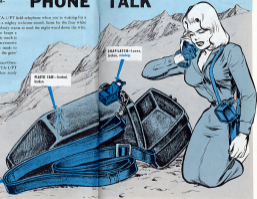
This small-powered phone keeps a man in touch when the simple touch is all that's needed. Its simple preventive maintenance is all the phone needs to keep the words flowing when the gun's gone wild.

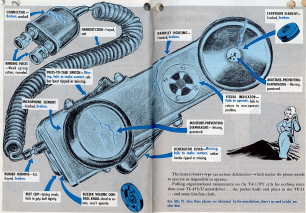
Here's a look over this No-Touch-Operate check list on the TA-LIFT and help keep your field fellow ready for talk, day and night . . .

**PLATE LAMP**—Insulated, broken.

**INSULATOR**—Loose, broken, missing.

**CABLEING SYSTEM**—Control released, unstrapped.





**CONNECTION** - Hooked, unhooked

**HANDSET CORD** - Placed out

**BRASS PIERCE** - Used spring action, unhooked

**HOOK-TO-TALK SWITCH** - Moving knife to make contact, cable hook slipped or missing

**RECOILING SWITCH** - Hooked, broken

**BRASS SPRING** - Set, broken

**HOOK UP** - Spring weak, knife to give bell slightly

**BUZZER HOUSING CONTROL SWITCH** - Leads to wire, won't operate

**HOOKUP POSITION** - Control, broken

**EARPHONE ELEMENT** - Control, broken

**EARPHONE ELEMENT** - Moving, unhooked

**VIBRA MECHANISM** - Knife to operate, knife to return to non-operate position

**BUZZER MECHANISM DAMAGED** - Strong, unhooked

**CONTACT ON SPRING** - Moving knife to make contact, cable hook slipped or missing

The items in heavy type are serious deficiencies which render the phone unable to operate or impossible to operate.

Putting operational deficiencies on the TA-5/WT calls for working more than your TA-415/U screwdriver . . . the pocket knife and pliers in the TB-11 . . . and many like-type calls.

See Title 47, Part 20 for phone use authorized by the commission. There's no need to file an appeal.

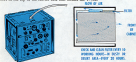




Out of sight, out of mind.  
So goes the old saying.

And, who knows, maybe there's something to it.

Sure looks that way when it comes to the air filter for the T-102 Transceiver in post-AMTBC-24 Radio Set. That filter is pretty well out of sight—work up there in the top of the carrier case that houses the T-102.



And if it is gone or out of mind things can get a little more out of hand. The transceiver will start running a high temperature that will soon have your Track 24 with a dangerously overloaded unit.

Worse still, the temperature inside the case will get hot enough to cause the rubber gaskets on some of the modules, those sensitive rubber joints—like the 45178A channel tubes, for example.

The rubber that secures the heat-dissipating fins to the tube can wear in time. This causes some fins to collapse, disturbing all the vital flow of cooling air. That hinders the tube. And the more tubes.

The whole air-cooling system in the transceiver is a pretty delicately balanced affair. In the first place, the compensation is so tightly packed that it leaves little room for even air to move

around. The filter has to be powerful. And the intake scoop at the top front of the case is small.

Even a clean filter will tend to slow down the flow a bit. And a dirty filter will restrict air flow and block the air enough to trigger a quick increase in internal temperature.



Normally, local maintenance men are to do with these when you check your filters. Filter opening hours usually is the interval for checking and cleaning. But in a hurry, always use, every 30 hours would be your best bet.

And in this case, you usually have to take the filter out in order to pull PM. After you've pulled the transceiver clean-out of its case, remove the filter

before this so you can filter on the end of the case and slip 'er on.

If there's an air pump around, take out as much dirt as you can. Then look the filter in cleaning solvent (see guidelines on carbon so, grease) and make sure it dries out thoroughly. Dip it quickly in some clean kerosene and then put it in a paper bag or wrap it up in clean paper so it'll stay clean while the ocean oil dries off.



Never put the filter back with it too soon—oil on it. The intake screen of the blower will blow it into the wrong place and only put up the walls.

Keep this filter in mind . . . keep it in operating condition . . . and keep your equipment cool for the best hours of operation ahead.

## CABLE CLAMP



It's just too easy to do the wrong way but the right, safe way.

Any time an outfit is handling poles and steel cables, even a short shift in the lead or slight slip of a clamp can result everybody into a pile of trouble.

Especially so with your Lead Binder LC-40.

These drum and roller assemblies



Lead Binder LC-40



can hook a bunch of poles on a truck and trailer at once, right and secure as you need. But the wires have drilled down about some of them slipping. And slipping? In the worst way.

What happens is this: The cable pulls loose from its anchor point on the drum of the lead binder. When that happens, the whole cable goes slack and the poles start rocking and rolling on the trailer.



And maybe ending up bouncing on the ground.

All because the slings on the cable either haven't been tightened enough or don't match the size of the cable they're slunged to... or because the

cable hasn't been hoisted and passed back through the sling to guarantee a tight grip.

Take a quick eye check of those load binders next time your outfit is ready to roll or unroll.



1. Because the cable slings inside the diameter of the cable (maximum 1 1/2 inch diameter cable has to have a 1 1/2 inch diameter sling.

2. To secure the cable to the binder, loop the cable and pass it through the sling twice.



3. Put at least two load binder off, third slings on the cable, both at the end that's secured to the binder as well as the free end of the cable.

4. Before and during loading and unloading, look at the slings to be sure they are still tight and haven't slipped.



5. Always wear eye safety with the equipment. The eye and face should always be protected when it's used around the equipment.

Watch out for the fatal mistake of loading a cable pull from its anchor on the load binder while lashed around a load. Which can happen simply by forgetting to loop the cable before passing on the slings or using a sling that doesn't match the cable.

## VARNISH GARNISH



Maybe' quite like a good layer?

Yes, sir, a thin layer of clear varnish will protect and preserve the finish on your communications equipment.

They're just what a man can see and read 'em almost with both eyes ball clear because their message is vital to the proper maintenance and operation of the set.

Especially on the high density hand-carried and back-pack portable equipment that gets a lot of handling.

Princeton, take the deal on the AN/PSC-6 handy radio.

**CAUTION  
OPEN AIR VALVE AT  
LOWER END OF CASE  
BEFORE OPERATING  
EQUIPMENT.  
CLOSE AIR VALVE  
WHEN EQUIPMENT IS  
NOT IN OPERATION**

The message that clear varnish (the magic silver) is important. Which is why it's such a hot item on the front panel of the set where everybody can hit it. And at the same time it gets lots of rough treatment and rough weather because it's in an exposed position. And so do lots of others.

So to keep these details from peeling, or getting scuffed, or maybe poked or torn right off-give it a good layer. A

TO GET YOUR SET  
WORKING, GET IT A GOOD  
LAYER OF VARNISH.



good layer of  
varnish will  
protect and

preserve or those of the finish will cover the subject nicely with varnish and keep the deal's message intact.

A pilot can do it nicely: varnish, maintenance and fungus-resistant (MIL-N-115A) PHS 5000-141-7171.

## ~~HOLD YOUR FIRE~~

You signifier who sets around the T8-41 used equipment want to be extra careful with those cartridges that fit into your non-electric soldering iron, P/N 1403-589-1087.

Some of these cartridges (Kassidy No. Q, R, or equal, P/N 5410-580-0517) got into the field with exposed primer caps, which means they're dangerous and shouldn't be used. Most of 'em have been rounded up and disposed of, but there's always the chance a few are still floating around.

To give your cartridges the same care to make sure you don't have one of the hot ones. If you find any, don't handle them unnecessarily. Your support unit will help you get rid of 'em.

The right cartridge to use is listed as P/N 1403-111-0304.



IF THE CARTRIDGE HAS AN EXPOSED PRIMER CAP, GET YOUR SUPPORT UNIT TO GET YOU THE RIGHT ONE.



## ~~SOME HOLES ARE JUST SMALLER~~



It seems the collar on certain E8-803 battery cells like the E8-804/U Nite has a hole in it that's a bit smaller than common sense. Which means the standard size dipping plug just won't fit. It's way too big. And many an unfortunat' collar has been heated upon when someone tried to force the standard plug into it. It needs a smaller plug.

Best policy to follow, then, is to keep the two types of plugs separated. This way a man can lay his hands on the right plug without risking any damage to the smaller collars.

The standard size round lead dipping plug comes to P/N 1004-019-0302.

The smaller, Nite lead dipping plug comes to P/N 1004-019-0301.



# Connie Rodd's

"SHORT IN CRUISE DEPT"



## Watch the towing

When you tow a disabled 4-rod GM 4-cylinder truck or a 2-rod 2000 I range truck with their rear wheels on the ground, you'll have to disconnect the transmission.

That is, if the travel distance is over 5 miles, or the truck has not been in operation . . . fit in storage.

The reason you have to keep the transmission gears from moving is that usu-

ally the clutch gear does the job of splashing lube onto the synchrohub assembly, but when a truck's towed the gear does not turn. This causes damage to other moving parts in the transmission due to the lack of lube.

When you find yourself doing a tow job—hey, shift the transmission gear lever into neutral and the transfer levers into forward position. Then:

### IF YOU

1. Remove the rear axle drive shafts help off some grease lubes lying flat down in your back.

### OR

2. Remove and tie the intermediate propeller shaft to the frame. Take it apart at the rear flange only.

### OR

3. Remove the rear propeller shaft at the differential and tie it to the frame.



If you choose to pull the rear drive shafts, then make sure to cover the back hole with a piece of cardboard or tin. Cut lube in down so its the shaft, slip over the truck and you're in business.

## TM 59 Out 7 - Repair



Your ORD 7 5280 (Jan 71) for the M19 APC is superseded... now that TM 5-2980-201-12 Change 1 (29 Dec 70) is on the books.

This Change 1 lists the complete OVE—with the latest stock numbers—for the garmented carrier. It takes the place of ORD 7's Section I.

Section II of the ORD 7 was superseded verbatim back when TM 5-2100-200-20P (29 Dec 68) came off the presses.

## 70's gets PS?



Been wondering why your company or battery does not get its share 110 copies of PS Magazines every month?

Wonder no more. Just get the word in your Post Publications Office. Tell the man there your company or battery wants at least 15 copies of PS Magazines each month. He'll be sure to include enough for you and your buddies (DA Form 12-0 in the publication depot).

Of course, DA Circular 14-73 (18 June 69) will have to order periodicals.

## God is with?



More's-our-guy has fought the .50-cal machine gunners and to go is mounted in the M11's cupola on his M19 APC or M19 SP 4.7's turret. If you mounted the .50 without any trouble one time and then went like to break your back the next time, could be you have mismach troubles.

That's right... the tolerance of the gun and the cupola are close enough to make the difference between an irritating job that is not too tough and one that is close to impossible.

So keep track of the serial numbers of the gun and the vehicle to make sure you don't get them mixed up.

## Weak pulley

There's a bunch of weak generator pulleys mounted on the generators of many of the 2½-ton G743-series trucks purchased from Curtiss-Wright Inc. on Contract EA 28-038-Dev-1129.

They're breaking at the hubs, or don't fit a truck's end and get caught with a bent pulley.

If you have a drive-and-a-half that came under that contract number and it has a serial number between M19981 and M11582 but doesn't have yellow paint marks on its generator pulley, ask your support unit to write to Curtiss-Wright Inc., South Bend Div., 781 West Chippewa St., South Bend, Indiana, and get direct replacement level charge for a new pulley, woodruff key, washer and cone pin.

Before you do this though, check the generator shaft for wear or damage caused by those loose pulleys. If the diameter of the shaft (at pulley) is less than .8884 inch, then you can put in a claim for the whole generator assembly under the warranty charge.

Be sure to give your support unit the serial numbers of any trucks you've got in your hands, or they can pass it on to the manufacturer, with their request for new parts.

All the good pulleys will be marked with yellow paint—in both halves you call your support.

## The deal on the axle

You 3004 heavy truck crewmen gotta check the axle and locking wires of your vehicle's front live axle/steering system daily. Otherwise, you're liable to make things hot for yourselves.

There are two places in the heavy truck where the axle/steering should have a locking wire installed and tested.

1. In the crank axle, go to the central head plate/cylinder-attachment of these cylinders in the middle. This is located to the left of the driver's seat.

2. In the steering control (steering) handle on the outside of the truck above the head light brush guard.



Keep this in mind 'cause TM 9-7044 doesn't mention anything about locking wires and neither does the latest manual on this vehicle, TM 9-2300-206-12 (Oct 88).



## Reset the oily seal



Next time you check the oil level in that GM-6-cylinder 4-cylinder truck, tractor or combine, take a look at the oily seal of that dipstick to see if it cracks. "Check Oil Level About One Minute After Stopping Engine—Do Not Remove It To Check Oil—Secure Tight After Checking Oil."

On this gage you'll find three level marks. When the oil's up to the top FULL mark, you've got 18 quarts in the crankcase. A reading at the middle mark means 14 quarts—11 quarts low but still safe. At the bottom LOW mark,



you've got only 11 quarts. Add oil pronto.

Keep in mind that the engine's total capacity is 23 quarts of oil when FULL ... 18 quarts in the crankcase and 5 quarts in its oil filter and passages.

Might remember, too, your gage should measure 25-1/16 inches from the end of the blade to the top edge of the screw cap. If you need a new one, it's Gage, oil level, FSM 5000-717-4158.

See TRB-8028-1 (Page 16).

## Cracked caps

Take a second to check your distributor cap (FSM 2010-101-0015) at your next Q service for cracks. Don't take a chance of getting stuck out in the bushelbuck with a bad one.

If you find a cracked one on your vehicle, replace it, and then get a LBS in on it pronto. That way, the design people can find out why they're cracking.

The FSM 2010-211-0013 master point cap is used on these vehicles:



## MISSILE BURSTS

PLANNING MISSILE BARRAGE [IN] MISSILE ... 49

## HOW TO INSTALL THOSE NIKE-HERCULES TRACK RADAROMES



There's been some blue flames spilling on Nike-Hercules sites ... and it's not coming from the booster stages.

It's happening in the IFC area, where some guys are having a ball-bearing rattle and that as they try to install the track radomes on the station mounts.

A man has enough to do without fighting his equipment, so try this way of installing those radomes. It should lower your blood pressure.

First off ... you need at least four guys.

Now ... take the radome to a clean, dry spot and spread it out—right side up. Then one guy needs to get the four 1/2-inch rods that's kept in the truck when the radome is removed. Take the corner straps off the rods and cross the straps in the lower right compartment of the radome's inner equipment radome.



Next ... stick a long straight rod in each inner radome pocket and a short rod in the outer pocket. Run the rods so that an equal amount of rods will stick out from each end of the radome.



Before you make another rope, make sure the upper ends on the rollers face out and that the knot will be on the same side of the rollers pointed to the outside lock when the rollers is installed.



OK... now use two ropes to lay up on each end of the trailer. The two guys on the ground stand at each end of the rollers... take hold of the four ends... and haul the rollers to the rear on the trailer.



Next... the two men on the ground slide ahead the trailer, then each of the four guys grabs a end... you lift the rollers... and slope over the back rollers pointed.

Now you get the rods in the rollers to the upper rollers brackets and then release all the slide fasteners on the support brackets.

By the way... if you're on the job, the only tools you have around are your hands. When you start hauling around with poles, crosscutters and the like, you're making it very hard to haul... like to the slide fasteners and riggers.

The next step is to attach the upper corner rollers strap that's on each end of the pointed to the slide fastener on the upper rollers support bracket. Then close the slide fastener.

What you want to do then is center the rollers on the rods by working it either forward or to the rear. Then attach the lower corner rollers strap on each side of the pointed. Now close the slide fastener.



After that, attach the end of the straps and close the slide fastener by starting at the upper corner and working forward. Be sure to work both sides at the same time or it'll the inch won't be pulled to one side.

If you run into trouble attaching the lower straps, slip one end and attach the second strap to the lower front corner and attach the straps and close the slide fastener—working to the rear and working both sides at the same time.



You've got to set up your slings if some of the straps will give you a hard time. The thing to do is inflate the balloon and hold the position for 8 to 24 hours. This lets the balloon take its proper shape and makes it easier to lower the straps. You've got to deflate the balloon before you attach the straps, tho.

Another hint ... try pulling outside straps so that the balloon is lifted away from the framework. Or have someone push out on the balloon from the inside while the straps are being lowered. This gets rid of a lot of the friction between the balloon and framework—making it easier to pull the balloon over the framework.

And remember! Don't try to tighten the door slippers when the balloon is inflated ... be careful w/ the zipper slider don't get jammed up with the cover flap ... and pull slings straight up and down on the zipper thing when you're opening or closing the access door.

*Working Safely with High-Pressure Air*

## HANGING BY A THREAD?

Odds are that you'd like to keep any tools you might have in threaded places on the wall transfer box used with your Corporal. Here's how to do it with the threads on the one end of the wall rem tube.

The stuff you want is a 1/2-oz jar of Sealing Compound, Teflon Seal, P/N 8098-01 & 7850-00R.D. The compound also makes it easier to "break" the joints.

Run a light coat of the compound across the threads with your Gen Lubing and leak-preventing finger. Clean those joints before putting the finger on them.



## TOAST TO LONG LIFE



The reaction light is blinking for you guys in the Mike-Herricks ITC area. In other words... be careful about the M5444 fixed rate mechanism you use in your truck rulers. Here's the deal.

You don't want to put a 6544 above Serial No. 43700 in Hery systems from 1976 and up, or in systems that've been modified by M570 Y26-W7, the one that makes changes to the magnetism'll work better. Using these rules in either direction will cut the life of the tube. Another thing... as the 6544 weakens, there'll be a drop in the average magnetism plate current for a given high voltage setting.

Turning things around, using a 6544 above Serial No. 43700 in a system that hasn't been given the M570 Y26-W7 treatment, could show the magnetism of which.

There're other things that'll help the 6544, whatever the serial number, but use in normal life.

First... when you install it, go along with the "caking-in" wrap that you can read about on page 129 in Change 1 on TM 7-8094-10.

Another life saver... the filament voltage of the 6544 doesn't want to go above 6 volts at the secondary of the T5 filament transformer after the end of five minutes of preheat. During preheat, the voltage reads about 6.5 to 7 volts and then ought to automatically drop to 6 volts. If it doesn't, call in your support unit.

Something else—if the 6544 fails, be sure to check the -100 volt bias before you put in a new one.



## INCLOSE YOUR INCLOSURE



The weather equipment inclosure on your mobile and target tracking antenna doesn't live up to its name when the door's open. Instead of being inclosed, you're exposed when you have some PM to do in this spot as your Nike-Ajax sits.

And when it rains... or snows... or blows... you and your equipment take a beating—from three unexpected sides.

To get in out of the rain... keep yourself warm and dry by whipping up a cover to hang on the door of your inclosure.

Find yourself a large piece of canvas, cut out and shape it like



FIG. 1. Clamp or strap the unseamed sides together and hang it on the door when you need it.

When not in use, it'll fold up and tuck away into the empty shelf-like space at the bottom of the inclosure.

To be extra fancy, you can put a couple of ropes on each side of the tarp, thread some wire through 'em, and tie your cover to the antenna legs so it won't blow off while you're working.



# RECAP STORY

SCOOP  
SCOPING  
MTR



There sure have been some different ideas on when a guy is supposed to scoop the Nike-Ajax mine.

But, you can forget all of 'em except one. This picture gives you the right scoop.

## OPEN AND SHUT CASE

There's one sure way to have a load up in the track, turnout, ramp and elevation indicator circuits in your Nike-Ajax track system.

All it takes is a loose screw or two on the tracking sweep generator in each roller.

To head off that kind of circuit trouble with the YTR, the screws want to be tight on the S1 and S2 switches if they closed. And with the MTR, the screws want to be tight to keep the S1 and S2 switches open.



## FOR THE CORPORAL LAUNCHER

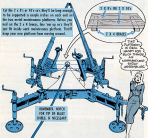
Next time you're strolling around a lumber pile pick up something like a couple pieces of 2 x 4's or 2x6's—about six feet long, and some 2 x 4's about four feet long.

Then tack onto a saw, some nails and glue and you're in shape to give your MIT Corporal launcher a third maintenance platform.

Get the 2 x 4's or 2x6's cut. They'll be long enough to be supported a couple inches on each end on the two second maintenance platforms. Before you nail on the 2 x 4 boards, lay 'em up so they'll set in 18 inch each maintenance platform. That'll keep your new platform from moving around.



THEY PUT THEM IN PLACE, AND WE'VE GOT THEM TACKLED ON. WE'VE GOT THEM TACKLED ON.



REPLACE NUTS FOR TOP OF MAIN BRMS. IN MOUNT.



Next thing to do is cut a hole in the bottom side of the wooden railways to make room for the pivot in the lower shield. If this pivot on your first shield has been mounted all, maybe you won't need the notch.

Then you slip on some grease and 50 point and you're in business.

## KEY TO GOOD LOCKING



You been having trouble keeping your maggie APC locked in when using your Mike-4 (or maggie rodent)? You know... it unlocks between the upper and lower maggie.

Could be something as simple as a loose gasket—the one between maggie-top and bottom in the rodent.

From the wrong gasket it winds up in some systems... so it pays to drop a hint to your support unit that the right gasket shows up in their Owl 8 25L, 24, box 1, etc.

**SHIELD: (408 0818798), FROM HQD 333-3443.**

Call on your support guys if you get weird head troubles when you go along with the checks that show up in Table II, step 7, page 161 of TBI 9-88204 (Oct 88). Testing headsets can be tricky, at times, so the maggie and bottom being misaligned. And misalignment sometimes comes from the wrong gasket.



## ABOUT OVERFUSING...

You've heard it before... you'll hear it again... matter of a few wire's at good a time as any.



Nobody, just nobody should've done. And that's something a guy in a Nike sock wants to remember as well as he knows his own number.



It was dangerous enough with Ajax— with most of the power supplies situated in the EPC area runs. You've got to be doubly careful with Hercules, 'cause the power supplies are spread out among the antennas.



Being's how a picture is worth 10,000 words, get the picture.

The #100 with power supply for the track radar trigger amplifier takes a

Jump the-Me Fun. In this case, with the Jump job blow. So what does one of the guys do? He sticks in a J-3 jump double. That was didn't blow. Instead, the phase C wire in the harness in the



track radar amplifier was burned out. And the second wire alongside the phase C wire was charred out.

And it wasn't a case of replacing a couple of wires. It meant revisiting the entire harness.



What this outfit should've done is that check the equipment well it had a Jump replacement Fuse over. If main- ing means dodging the ice.





**JOE'S**

HOW TO  
GET  
LAUNCHED

WELCOME TO  
THE BOAT  
LAUNCH. WE  
WILL BE  
SERVING YOU  
HERE.



WELCOME TO  
THE BOAT  
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THE BOAT  
LAUNCH. WE  
WILL BE  
SERVING YOU  
HERE.



WELCOME TO  
THE BOAT  
LAUNCH. WE  
WILL BE  
SERVING YOU  
HERE.



WELCOME TO  
THE BOAT  
LAUNCH. WE  
WILL BE  
SERVING YOU  
HERE.

WELCOME TO  
THE BOAT  
LAUNCH. WE  
WILL BE  
SERVING YOU  
HERE.



NOT  
HAPPENING!



Along for the ride, the story really started 14 hours ago, slightly behind at 10:15 A.M. when our tank company was preparing to jump off.

Now you may well have thought that it was stupid, but we play for "beans" around here, and what's wrong with that call...



That's all well and good, but...

AWRIGHT, JERRY, JUST BECAUSE YOU'RE ABOUT THE SAME SIZE AS THAT LITTLE BASTARD DOESN'T MEAN YOU'RE BUILT FOR IT. GO GET YOURS FROM THE LOGS OVER THERE.



Now you've got to check the dirty books, and if they are there take it and get the hell out.



There's gotta be a damn good reason why it's supposed to be there. BEASTS ARE BEASTS. LITTLE BASTARDS LIKE THESE ARE BEASTS. LOVE THE MILITARY GLOSS!

The Chemical Warfare Unit the good idea the rules, the weapons, and their code of conduct. It's a damn good one.



What's the reason for it? Let's see...



Now you try to figure it out. You're supposed to get it if it's there. A BEAST. BEASTS ARE BEASTS. LOVE THE MILITARY GLOSS!




Is there's anything wrong with it? A damn good one. IT'S A DAMN GOOD ONE IN THE MILITARY GLOSS!





## Joe's Dope Sheet

A woman with blonde hair, wearing a brown dress, stands on the left side of the frame, gesturing with her right hand towards a soldier. The soldier, wearing a green uniform and a green beret, stands in a trench, holding a large, yellow and purple cylindrical object. Behind him is a large, dark green, mechanical-looking structure, possibly a tank or a piece of heavy machinery, with some red flowers scattered on the ground in front of it. The background shows a blue sky with white clouds.

Ammo-loading is not really tough,  
If you're careful—and don't get too rough,  
If a hot shooting scrape  
Finds your rounds in good shape,  
Then your tank can deliver the stuff!

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



When Donkey was working under the gun, FUDGE HAD A HOLE IN HIS HEAD FROM THE WEAPON'S FIRE.

THEY SECURE THE HOLE.

THEY'VE MADE UP A BETTER WAY THAN TO HOLD HIS HEAD.



WHEN I WERE WORKING ON THE HOLE, I WAS IN THE FRONT OF THE GUN. REMEMBER, FUDGE HAD A HOLE.

HOW DO YOU GET THE STRAP ON THE HOLE? IT'S THE STRAP LEFT.

THEY'VE MADE UP A BETTER WAY THAN TO HOLD HIS HEAD. TO HOLD IN PLACE AND LOCK THE GUN.



YOUR HEAD WILL BE IN PLACE AFTER YOU PUT IT BACK IN THE GUN. AND, THAT'S THE ONLY WAY TO GET THE STRAP AND GUN IN PLACE.

WHEN YOU BRING UP THE HOLE, TO HOLD THE STRAP.

TO LOCK YOU FROM IT BECAUSE IT'S BACK IN THE GUN. SO TO HOLD ON THE HOLE. THAT'S THE ONLY WAY TO GET THE STRAP AND GUN IN PLACE. ALL DONE.



HOW DO YOU KNOW NOT TO BE LOST? YOU'RE WORKING A GUN. YOU'RE EXPERIENCED. YOU KNOW THE GUN. IT'S ALL YOUR WORK.

IT'S A GUN? IT'S A GUN? IT'S A GUN?

THESE THINGS WILL BE MADE TO BE WORK. AND, IT'S VERY HEAVY. AND, IT'S...

AND... YOU KNOW THE GUN. AND, ALL THE THINGS YOU KNOW. YOU KNOW THE GUN. YOU KNOW THE GUN. YOU KNOW THE GUN. YOU KNOW THE GUN.

**SLEW DOWN!**  
FAST AGAIN!  
SLURP! SLURP!



WELL, THERE'S  
SOME PROSE TO  
CONSIDER... BUT  
SPEAKING OF  
PROSE... I THINK  
IT'S BETTER  
TO STAY WITH  
WHITE.



YOUR STORY  
WAS SUPPOSE  
TO INCLUDE  
BLACK-PROSE  
AND YOU'RE  
TALKING  
TO ME... BUT  
I'M NOT  
WITH YOU  
ANymore.



WELL, OUT OF COURSE  
I'M THE COLOR  
OF... AND THE  
WELL, THE  
MATTERS  
ARE... AND  
THE... GET IT?



WELL, THE  
MATTERS  
ARE... AND  
THE... GET IT?



LAST IN THE  
MATTERS...  
IT'S... AND  
THE... GET IT?



WELL, HOW WAS THAT...  
MATTERS?



WELL, YOUR... AND  
THE... GET IT?



WELL, YOUR... AND  
THE... GET IT?



WELL, YOUR... AND  
THE... GET IT?





Don't use these trees



This man's answer is...

These woods are off-limits



Don't be fooled by this

It's just one of many other things



Don't be fooled by these things. They're just a few of the many other things



When you stand in front of the government building, you'll see the many other things

### FAMOUS LAST WORDS



Don't be fooled by this. It's just one of the many other things

It's just one of the many other things



Don't be fooled by this. It's just one of the many other things



Don't be fooled by this. It's just one of the many other things



Don't be fooled by this. It's just one of the many other things



Don't be fooled by this. It's just one of the many other things



Don't be fooled by this. It's just one of the many other things



# THE END

QUESTION  
AND  
ANSWER  
DEPARTMENT

HEY SARGE!



## THIS WILL DRILL YOU

Dear Mail-Man:

We've been having trouble with the windshield frames on our Marine vehicles getting loaded with water. What would do you have on this?

Pat E. E. E.

Dear Pat E. E. E.,

You know that getting loaded on water never does anybody any good.

To let the water out of those windshield shells and keep them from rusting or getting cracked from freezing, you need an electric drill and a Holo-Bit.

Make like a doctor and drill two 1/4-in. drain holes at the bottom of the windshield frame.

Then seal windshield wiper motor mounting areas on those vehicles that have wiper motors mounted to the windshield frame. The wiper motor seals should also be polished and sealed.



For this you can use either Sealing Compound, Adhesive coating, ESM 0008-375-8118, which comes in a tube, or Sealing Compound, black, sealing and filling, ESM 0008-250-1226, which comes in a 1-oz. can.

Before sealing the windshield frame, clean out loose rust and dirt so that the sealing compound will stick.



## CHAIN-CLAMP-TOWING

Dear Matt-Max,

How about a quick run-down on towing. Some of our new people have asked about chain-clamp towing.

Sgt J. E. M.

Dear Sgt J. E. M.,

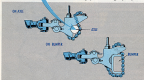
Sometimes you'll need your universal type "N" tow bar (PN 4518-T35-0054) to tow a vehicle.

But there'll be times when you won't be able to hook it up to the lifting shackles (anchors) on the front bumper. The front of the vehicle may be damaged or—like on commercial type vehicles—you don't have any.



To help in a spot like this, there's a wrap-around-chain that you can put on the front bumper (if you've still got one) or on the front axle. It's Chain-Clamp. Any PN 1200-027-0449.

Remember, you can use this chain clamp only if the vehicle to be towed has no lifting eyes—for emergency only.



One thing you'll have to do when using the chain clamp: After a couple miles of towing, you've got to check to see if the clamp's still right. During the jolts' around potholes, they tend to loosen up.

Taking a second to tighten the chain will keep your towed truck with you.

If you're on a long haul, it's best to take a quick look-see once in a while—just to be sure.

## GET YOUR SCORE CARDS



Dear Sgt. Davis,

We've not in the past had a source to identify some of the attachments for our Engineer heavy equipment like beam extenders, buckets, pile driver heads, blades, and chain/hoists since there are no manufacturer serial numbers or equipment identification plates on them.

We want to be able to complete our Engineer equipment inventory so if we can get these items identified, how do we go about identifying them?

Sgt E. C.



Dear Sgt E. C.

You can get back into the game by using TB ENG 111 and TB ENG 112-1. These manuals are identification guides for crane and crane-related attachments. They give you line-drawings of items that have been in the Army supply system for several years.

You identify your attachments by visually measuring the items you cannot identify and then comparing them with

the drawings in TB ENG 111 and 112-1. In some cases, these TB's will give you the PIN of the attachment. If not, you can get the PIN by looking in the EB or TB ENG of the major and item noted under the remarks section.

As far as missing serial numbers go, there's no way you can get hold of them. So, you'll just have to learn to think on your DA Form 1-71 or 1-72A.

*Sgt. Oyster*



## HERE'S THE RUB



It's the wires rubbing on your joy-conpressor, Model 104, rubbing against the drive belts. The cable runs from the battery to the master switch and, if the cable clips are loose or missing, the cable is likely to ride against the belts, and they'll look for work.

No need to keep yourself from a gig, just T-tack from unnecessary wear and tear, and your cable from being some insulation with the chance of a drive. Just wrap a couple wraps of insulating tape around both the cable from the battery and the cable from the master switch so the suspension you can tie 'em together.

Either way that'll keep the cables free of the drive belts until you can get a cable clip to hold them in place permanently.

**TAKE THE RUB OFF YOUR CABLES**

**TO KEEP WIRE FROM CHAFING AGAINST CABLE FROM BATTERY (OR THE BELT)**



**... TAP IT TO CHANGE SWITCH-ON-BLACKING CABLE**

**WIRE:**



## HERE'RE SOME OPERATING TIPS



When you're operating your Caterpillar 922B cross-shovel, be sure the main transmission gear-shift-lever is in neutral and you've got the handbrake set.



If you operate the crane with the carrier main transmission in gear, the gears will rock back-and-forth loading the splines and shifting gears on the main transmission shaft. Which means you'll be in trouble when you try to shift gears in the carrier. Could be real trouble for you if your CO decides it's about of equipment.

Another thing to keep in mind when

you're running your cross-shovel, is to look down the air-brake nozzle with the hook. Then take a time-out every so often, shut down the crane, and run the carrier engine over until you give the air brake pressure a chance to build up.

## NUTS FOR SAFETY

FOR SAFETY READ INSTRUCTIONS

Two bits worth of free time and an extra of FM can save a barrel of trouble on your 45 KW Consolidated Diesel Generator, Model 4058.

The emergency control switch on this generator has to be set three times long hair—to be sure it takes over and slows down the engine any time the slack speed runs past the danger point of 2075 RPM.

To be extra-safe that free timing is safe from jarring out of adjustment during transport or long operation, here's how you can double-lock the switch mounting—



1. Get four extra hex nuts like the ones already mounted on the main switch, No. FM 11 10-014 (200) 2020.



2. To use the "TOP CLAMP" switch it is O.K. position.



3. While one of the extra switch mounting screws is tight, so that when you loosen one screw to work on it, the switch will not shift position.



4. The next to work on one screw fastening it in place. Loosen the top nut, the O.K. switch, and the flat washer. You won't need the flat washer as you can turn it in your palm face.

5. Tighten the O.K. switch, therefore the present top nut tight. New cold on extra hex nut tight and to screw it just out.



6. Working on one at a time, repeat the procedure on each of the other switch mounting screws.

**CAUTION: DO NOT REMOVE THESE NUTS UNLESS YOU ARE SETTING THE "TOP CLAMP" AND THE "O.K."**



## RELOCATE THE TACH CABLE

Could be you and your big law have had a moment with the tachometer cable on the engine of your Garwood M700S cross-overed. What chance the cable has come out twisted here.

Here's a way to keep the cable out of the way of your chid-hoppers, especially when you're squeezing around the side of the side to check your oil. Besides keeping the cable from slipping, you up, relocating it will cut down the strain on the cable and will keep it from transferring near the drive assembly connection.



### STEP 1 OF 2



First off, you disconnect the cable from the drive assembly.

Then, leave the dial on the generator and tilt the generator belt toward the engine.



Now, leave the drive assembly mounting nut and turn the drive assembly so that the cable connection does an about face and faces to read the rear of the engine.



Thread the loose end of the tachometer cable up between the two motor-pump gears right in front of the oil-bike flange, then between the engine and generator bracket. Connect the left cable lead to the drive assembly.

Arrange a make-yourself spring lock with some cord and string the cable to the engine pan.

You see, the engine pan supports covered the front of the tachometer well. The string will keep it in line and take the pressure off the connection.

Finally, you adjust the generator drive belt, and you're ready to go.

## LOOK MA—NO HANDLE!

Dear Eye Doctor,

What's the scoop on those wooden tool handles? Some people say paint 'em, others say oil 'em.



EYE D. L. K.

Dear Eye L. L. K.:

How you treat wooden handles depends on whether you plan to use tools, or just sit back and admire 'em. In any case, there's a simple SOP for PDR on all wooden tool handles.



### 15 MIN SPRAY OR OIL

**A** is for spray, or oiled. During cleanup, a dust of bag filler is good PDR for practically all wood handles. Some sort of bag is always helpful to clear an area that isn't frozen solid on the back lot.

TM 5-411, "Insert and Refill" (1 Feb 54), page 44, "Preventive Treatment" has the full scoop on bag-filler. When possible, good handles are oiled, the best bag-filler is a dry solution containing 7% paraffin-based and 7% water-soluble trichloroethylene. In all other working areas, PDR (204-254-287) (204) will get you a 1-gal can of 7% D2D Insulator, Dept.



### 10 MIN OIL

**B** is for oiling tools you use for work like chipping, striking and shoveling. In long wooden handles of working tools "oil," you like 'em with treated oil. Treat it on, let it soak into the grain, then rub off any excess until you have the right "feel" for handling.

When wood gets roughed up or splintered, you rub it down with sandpaper, and you'll another coat of oil. Either way or better treated oil will do the job. You can get 1 gal of one brand of water PDR (204-254-287) (204) Dept. 1, 1-gal can of treated brand of water PDR (204-254-287) (204).



### 5 MIN OIL

**C** is for painting tools. You can keep emergency tools like fire axes and cutting tools as reliable as 4-11 drops with a coat or two of oil paint. Use either dark, enamel semi-gloss type TT 5-488C, color chip No. 2802, Federal Standard No. 191.

PDR (204-254-287) gets you 1 gal and PDR (204-254-287) gets you 1 gal can. You don't want to paint the other tools you use all the time, because paint gives handles a hard "feel" and wears fast to spots.

However, your interacting tools, Road Combination, PDR (131-288-254), and Road Knight PDR (131-288-254), can be painted entirely for camouflage and uniform appearance. TM 5-411 has the steps on how to paint.

Wood-handled tools are still tops for a slew of jobs. So follow this SOP on those wooden handles—and while you're about it, you can make sure the whole tool is ready to do its job by checking out TM 9-467 on Maintenance and Care of Hand Tools.

Sgt. Dwyer



## Need A Puff Kit?



You know the MFI chemical spot detector kit is useful for detecting dangerous concentrations of nerve gases, H<sub>2</sub> gas and natural H<sub>2</sub>.

But have you ever thought of the different ways you can use it? In the first place you can use it for gas reconnaissance. You use it for checking an area that you think might be contaminated.

Then it can be used to tell when it's safe to take your mask off.

And you can use it to see if gas is still there after decontamination.

Your kit's not supposed to be used to tell you when to put your mask on. If you think there's gas present, put your mask on first, and then use your kit to check.

There's a little manner of keeping that

kit up-to-date. You know there's a color strip on the plastic dispenser that tells you when it's time for a refill kit. So have your supply people order the refill kit before the dispenser runs out.



## Flame Thrower Mix



Keep an eye on your mix when you're using M1 thickener for your flame thrower.

You use the same flame thickener, gasoline, and maybe populant, but you don't always get the same kind of mix.

There's something to keep in mind when you're going to mix your gasoline and thickener. Never open the thickener canister until you're ready to use it. The M1 thickener absorbs

moisture and when you have moisture in it you'll find it's harder to get a good gel. And if there are lumps in the thickener when you do open the canisters, break them up with your hands before you add it to the gasoline.

The thickness of the mix you'll need depends upon the weapon you're going to use it in. And the amount of thickener you use with your gasoline depends upon the temperature of the gasoline.

### FOURTH LAW MIXTURE

(Standardizing a mix of M1 with 100 Gallons of gasoline)

Temperature	M1 Thickener	Populant	Acceptable Aging Time	Best Aging Time
From 40° F	2 1/2 lb.	4	1 hr.	1-4 hrs.
40° to 45° F	2 1/2 lb.	2 1/2 lb.	4 hrs.	12-18 hrs.
45° to 50° F	2 1/2 lb.	2 1/2 lb.	4 hrs.	12-18 hrs.
50° to 55° F	2 1/2 lb.	2 1/2 lb.	4 hrs.	12-18 hrs.
55° to 60° F	2 1/2 lb.	1 1/2 lb.	4 hrs.	12-18 hrs.

FOURTH LAW MIXTURE

## WELDING TIME TABLE

Using 1/8" Electrode and 1/8" Pre-Heat position of practice

Temperature	MI Thickness	Tupics	Acceptable	Other
			Apog Time	Apog Time
Above 40°F	5/16"	1	1 hr.	2+ hrs.
40° to 40°F	5/16"	2/16"	4 hrs.	12-18 hrs.
30° to 40°F	5/16"	1/16"	4 hrs.	12-18 hrs.
4° to 30°F	5/16"	1/16"	4 hrs.	12-18 hrs.
-10° to 4°	5/16"	1/16"	4 hrs.	12-18 hrs.

Just before welding, a very wet welder with "dry" hands is the best. The welder should be clean and dry. The welder should be clean and dry. The welder should be clean and dry.



Now before you do any connecting and mixing, make sure all your mixing equipment is clean. There shouldn't be any dirt, grease, alcohol, animal hair, water, or what have you in the container.

Welder. Use the same position, same MI thickness (same box) and have the same temperature conditions.

**WELDER** Clean  
is better  
than  
dirty.



You'll find that the thickest fuel may be thicker or thinner when the fuel is mixed from different lots of thickness or quality. To play it safe before you mix a big batch mix one batch of each lot of thickness and quality as one sample.

When you're mixing a new batch you've got to keep your mind on what you're doing. You don't want an air in the mouth because this will break down the gel structure and the Dependable life of the mix will be shortened.

On the other hand, if you don't mix it enough you'll find that it will not be of the same consistency. The thickest mix is made in the furnace.

### Don't Rush to Stir Your Jelly

Measure the gelatin and thickener.



Then pour the thickener into the gelatin, stirring while you're pouring. Continue stirring for about 5 minutes after all the thickener has been added. Then stir for 1 minute every 30 minutes until a visible gel has been formed. Let your set batch stand.



You can expect a good gel in 1 or 2 hours when the temperature's above 60° F, and 4 hours when the temperature's below 60° F and you've added pectin to the mix.

When you've got a set batch that's too thin or too thick you'll have to mix a second set batch. If the first batch was too thin then use more thickener or if it was too thick, don't use so much.

After you've let the mix age (standing on the shelf), then test it to see if you've got a good mix. Stir it with your wooden mixing paddle or make sure you don't have any lumps at the bottom.



Then pick some of it up with your paddle and let it drop back into the container. If it's stringy and falls away from the paddle with very little left on the paddle, then you probably have a good mix. It's the same principle people use in making jelly when they let jelly drop from a wooden spoon.



Take another paddle or clean mix and pull some of the mixture off the paddle. You should get jellylike threads between the two.

A good mix is sticky and rubbery.

If your set batch mix needs all of these tests, a big batch can be mixed using the proportions of gelatin, M1 thickener, and pectin used in making the set batch.

Remember if 50 gallons of gelatin were used in making the set batch, then the amount of pectin and thickener must be multiplied by 10 when making a mix with 100 gallons of gelatin or multiplied by 20 when making a mix with 200 gallons of gelatin.



## TICKLING'S

“Whoa there! Don’t go tickle!” an MBE vehicle under the hood is meant, but if you feel ticks just the other side’s things all over you or pull you against a wall.

These MBE life cranks are geared even less so compared to other transmissions and so some of ‘em will work a few splines. Especially the Clark Carbrake and some of the Traxxas. If, for instance, their low or reverse shift forks are worn, it won’t make much vibration or resistance (bumping of the shift mechanism) but you’ll still have ‘em. And if the brake’s off—look out.

So, if it happens you gotta start that MBE engine from under the hood, try to start or pick one of these safe ways of doing it:

### Method 1: for the Traxxas, and some of the other, remaining, models.

There’s a handle in the driver’s seat to get to the brake or its release that is needed while you’re down under.

It’s easy, though for those for which it’s not possible like the other, particularly all you can do.

While you’re under the hood...



...the handle's on and there's big enough blocks under the drive wheels to hold the front in back.

# Not funny

### Method 2: for the MBE, except Exterminated, this option's best.



1. Move the lift straps about two feet or so off the ground.



2. Hit the road back as far as the lift go.



3. Slip a block of wood in the floor under the seat. It should fill the open pretty fully.



4. Hit the road forward as far as the lift go.

The lift puts the front wheels off the ground or back on way... until the lift was top-to-bottom, no matter what.



# AIRCRAFT MECHANIC'S TOOLS



The team of these aircraft engines is a rare case in any pilot's case. It's no wonder when these engines deliver like they're supposed to—it's maintenance. And thanks to mechanics like yourself, that those big gas birds get clean and fresh. But you can't do the job unless you've got the tools.

If you're having trouble getting just what you need, you're supposed to have in your

**TOOL KIT, AIRCRAFT MECHANIC'S: general, IFRN 9180-323-4653.**

Here's a breakdown of the kit that's listed in your MM 7-4-1180-A76. This is for MOD 071.08, 0808-072.08, 0828-071.08 and 0838-072.08. Be sure you have the change to this MM. What you see in this article is the latest change.

<b>AIRPLANE SOCKET WRENCH</b> 1/2 in. size for shop, 1/4 in. travel squared.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>
<b>PHILIPS SOCKET SET</b> 4-1/16 in. size and 1/2 in.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>
<b>PHILIPS TORX WRENCH</b> 1/2 in. size and 1/4 in. size for shop and 1/4 in. size for aircraft.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>
<b>PHILIPS TORX WRENCH</b> 1/2 in. size and 1/4 in. size for shop and 1/4 in. size for aircraft.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>

<b>PHILIPS TORX WRENCH</b> 1/2 in. size and 1/4 in. size for shop and 1/4 in. size for aircraft.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>
<b>PHILIPS TORX WRENCH</b> 1/2 in. size and 1/4 in. size for shop and 1/4 in. size for aircraft.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>
<b>PHILIPS TORX WRENCH</b> 1/2 in. size and 1/4 in. size for shop and 1/4 in. size for aircraft.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>
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<b>PHILIPS TORX WRENCH</b> 1/2 in. size and 1/4 in. size for shop and 1/4 in. size for aircraft.		<b>FRN 100000000</b>	<b>FRN 100000000</b>	<b>FRN 100000000</b>





**CAGE, THE PRESSURE SELF-COMPACTS**, for general loading and related uses, self-closed 10 to 12000 lbs. 1-8 standard grade lbs. 20-400 only single steel features a ball and cone end only.

**FOR 40000-000** 000

**WARRANTY, 1000-** see  
**CHINA, 1000**, ball pack,  
 1-8



**FOR 10000-000** 000

**WARRANTY, 1000-** see  
**1000**, plastic, 1-8 to  
 10, 1000 ball pack, ball  
 and ball pack.



**FOR 10000-000** 000

**WARRANTY, 1000-** see  
 1000, small size, 1-8  
 10 of ball pack.



**FOR 10000-000** 000

**WARRANTY, 1000-** see  
 1000, ball pack, 1-8 to  
 10 of ball pack.



**FOR 10000-000** 000

**WARRANTY, 1000-** see  
 1000, ball pack, 1-8 to  
 10 of ball pack.



**FOR 10000-000** 000

**WARRANTY, 1000-** see  
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**FOR 10000-000** 000

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 10 of ball pack.



**FOR 10000-000** 000

**WARRANTY, 1000-** see  
 1000, ball pack, 1-8 to  
 10 of ball pack.



**FOR 10000-000** 000



**KEY SOCKET HEAD SCREW** has type 1 (in screw that is type 1) and 2 (in screw 1/2 inch).



**FOR USE ON:**

100

**KEY SOCKET HEAD SCREW** has type 1 (in screw that is type 1) and 2 (in screw 1/2 inch).



**FOR USE ON:**

100

**KEY SOCKET HEAD SCREW** has type 1 (in screw that is type 1) and 2 (in screw 1/2 inch).



**FOR USE ON:**

100

**WRENCH, SOCKET 2 1/2**, 1/2 in. and 1 1/2 in. by 18-inches.



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

**WRENCH, TORX** has type 1 (in 1/2 in. and 1 1/2 in. 18-inches) and type 2 (in 1/2 in. and 1 1/2 in. 18-inches).



**FOR USE ON:**

100

SCREWDRIVER, CROSS  
TOP, recessed screw  
Phillips type, diam.  
size, turning plastic  
bit, 1-in. dia. bit 1/2 in.

FOR SCREWDRIVER



SCREWDRIVER, CROSS  
TOP, recessed screw  
Phillips type, Dia. 3/8  
in.

FOR SCREWDRIVER



SCREWDRIVER, CROSS  
TOP, recessed screw  
Phillips type, diam.  
size, turning plastic  
bit, 1-in. dia. bit 1/2 in.

FOR SCREWDRIVER



SCREWDRIVER, CROSS  
TOP, recessed screw  
Phillips type, diam.  
size, turning plastic  
bit, 1-in. dia. bit 1/2 in.

FOR SCREWDRIVER



SCREWDRIVER, CROSS  
TOP, flat and Torx  
type, plastic bit, 3/16  
in. dia., 1-in. long bit.

FOR SCREWDRIVER



SCREWDRIVER, TORX,  
CRUISE, 3/16-in. dia. bit  
1-in. dia. for  
flat and Torx bit  
size.

FOR SCREWDRIVER



SCREWDRIVER, TORX,  
CRUISE, 1/4-in. dia. bit  
1-in. dia. for  
flat and Torx bit  
size.

FOR SCREWDRIVER



SCREWDRIVER, FLAT  
TOP, plastic bit, size  
quarter, 1-in. dia., 1/2  
in. long bit 1/2 in.

FOR SCREWDRIVER



SCREWDRIVER, FLAT  
TOP, recessed screw,  
plastic bit, size  
quarter, 1-in. dia.,  
1/2-in. long.

FOR SCREWDRIVER



SCREWDRIVER, FLAT  
TOP, plastic bit, size  
quarter, 1-in. dia.,  
1/2-in. long.

FOR SCREWDRIVER



SCREWDRIVER, TORX,  
CRUISE, 1/4-in. dia., 1-  
in. long.

FOR SCREWDRIVER



SCREW, machine's,  
flat top, 1/4-in.

FOR SCREWDRIVER



SOCKET, SOCKET  
WRENCH, standard,  
1/2-in. dia., 1/2 in.  
1/2 in. long.

FOR SOCKET WRENCH



SOCKET, 3/8-IN. SET  
WRENCH, 1/2 in. dia.,  
1/2 in. long.

FOR SOCKET WRENCH



SOCKET, 1/2-IN. SET  
WRENCH, 1/2-in. dia.,  
1/2 in. long.

FOR SOCKET WRENCH



SOCKET, SOCKET  
WRENCH (continued)  
1/2-in. square, 17 pt.  
1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH (deep): 1/2-in.  
square, 1/2-in. square, 1/2-  
in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. square, 1/2-in. long,  
deep (1/2-in.).



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH (continued)  
1/2-in. square, 17 pt.  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long,  
deep (1/2-in.).



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long,  
deep (1/2-in.).



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long,  
deep (1/2-in.).



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long.



FOR 1/2-IN. SQUARE

17

SOCKET, SOCKET  
WRENCH: 1/2-in. square,  
1/2-in. long, 1/2-in. long,  
deep (1/2-in.).



FOR 1/2-IN. SQUARE

17

3/8 SOCKET, 3/8 SOCKET  
BRANCH wrap type,  
1/2 in width, 12 in.  
1/2 in overlap



FOR 33300-000 100

3/8 SOCKET, 3/8 SOCKET  
BRANCH wrap type,  
1/2 in width, 12 in.  
1/2 in overlap



FOR 33300-000 100

SOCKET, SOCKET  
BRANCH heat wrap,  
1/2 in width



FOR 33300-000 100

SOCKET, SOCKET  
BRANCH (shrinkable)  
1/2 in width, 12 in.  
wrap, 1/2 in wrap



FOR 33300-000 100

SOCKET, SOCKET  
BRANCH wrap type,  
1/2 in width, 12 in.  
1/2 in wrap



FOR 33300-000 100

3/8 SOCKET, 3/8 SOCKET  
BRANCH wrap type,  
1/2 in width, 12 in.  
1/2 in wrap



FOR 33300-000 100

3/8 SOCKET, 3/8 SOCKET  
BRANCH wrap type,  
1/2 in width, 12 in.  
1/2 in wrap



FOR 33300-000 100

3/8 SOCKET, 3/8 SOCKET  
BRANCH wrap type,  
1/2 in width, 12 in.  
1/2 in wrap



FOR 33300-000 100

3/8 SOCKET, 3/8 SOCKET  
BRANCH wrap type,  
1/2 in width, 12 in.  
1/2 in wrap



FOR 33300-000 100

SOCKET BRANCHING 1,  
Digital protection,  
post 1/2 and 1/2 in 1/2 in  
1/2 in, 1/2 in and 1/2 in  
1/2 in



FOR 33300-000 100

SOCKET BRANCHING 1, 1/2  
1/2 in, 1/2 in, 1/2 in, 1/2 in,  
1/2 in, 1/2 in, 1/2 in, 1/2 in,  
1/2 in, 1/2 in, 1/2 in, 1/2 in



FOR 33300-000 100

**SOCKET BRANCHING PROTECTION**

FOR 33300-000 100

Consisting of:

FOR 33300-000 100

FOR 33300-000 100

FOR 33300-000 100

BRANCH	Thickness		
	Length inches	at base inches	Top edge inches
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2
FOR 33300-000	12	1/2	1/2



WRENCH, OPEN END, SOCKET WRENCH, 1/2-in. opening ends and 16 mm.



FOR 1900-9000000

16

WRENCH, OPEN END, SOCKET WRENCH, 1/2-in. opening ends, 19 mm opening.



FOR 9000000000

17

WRENCH, OPEN END, regular offset, double flange, 11 pt. 1/2, 15-tooth offset, 1/2 and 3/4-in. openings, 19 mm overall lg.



FOR 9000000000

18

WRENCH, OPEN END, regular offset, double flange, 11 pt. 1/2, 15-tooth offset, 1/2 and 3/4-in. openings, 19 mm overall lg.



FOR 9000000000

19

WRENCH, OPEN END, regular offset, double flange, 12 pt. 1/2, 15-tooth offset, 1/2 and 3/4-in. openings, 19 mm overall lg.



FOR 9000000000

20

WRENCH, OPEN END, regular offset, double flange, 12 pt. 1/2, 15-tooth offset, 1/2 and 3/4-in. openings, 19 mm overall lg.



FOR 9000000000

21

WRENCH, OPEN END, regular offset, double flange, 12 pt. 1/2, 15-tooth offset, 1/2 and 3/4-in. openings, 19 mm overall lg.



FOR 9000000000

22

WRENCH, OPEN END, regular offset, double flange, 11 pt. 1/2, 15-tooth offset, 1/2 and 3/4-in. openings, 19 mm overall lg.



FOR 9000000000

23

WRENCH, OPEN END, regular offset, double flange, 11 pt. 1/2, 15 and 19-tooth openings, 19 mm overall lg.



FOR 9000000000

24

WRENCH, OPEN END, regular, 5, 1/2-in. opening, socket 19 mm to 19 mm lg.



FOR 9000000000

25

WRENCH, OPEN END, FORD, double flange, 1/2, 11 and 14-in. overall opening ends, 15-tooth angle of 14, 19 mm overall lg, 19 mm offset.



FOR 9000000000

26

WRENCH, OPEN END, FORD, double flange, 1/2, 11 and 14-tooth angles, 19 mm overall openings, 19 mm offset, 19 mm lg.



FOR 9000000000

27

WRENCH, OPEN END, FORD, double flange, 1/2, 15-tooth angle, 19 mm offset, 1/2, 1/2 and 3/4-in. openings, 19 mm overall offset, 19 mm to 19 mm lg.



FOR 9000000000

28

WRENCH, OPEN END, FIXED-size fit, 15 deg angle, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-011

101

WRENCH, OPEN END, FIXED-size fit max, 15 deg angle, open end, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-012

102

WRENCH, OPEN END, FIXED-size fit type, 15 deg angle, open end, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-013

1 in 103

WRENCH, OPEN END, FIXED-size fit type, 15 deg angle, open end, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-014

104

WRENCH, OPEN END, FIXED-size fit type, 15 deg angle, open end, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-015

105

WRENCH, OPEN END, FIXED-size fit type, 15 deg angle, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-016

106

WRENCH, OPEN END, FIXED-size fit, 15-20 deg angle, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-017

107

WRENCH, OPEN END, FIXED-size fit and 1/2 or 3/4 deg angles, offset, 1/2 and 3/4-in openings, 1/2-in to 1 in



FIG 100-100-018

108

WRENCH, TORQUE, right hand L-hd, un-adjusted ad for work, 1/2-in to 1 in, ground round for work, 1/2-in to 1 in max drive 100 to 750-in-lb cal. wt max



FIG 100-100-019

109

WRENCH, TORQUE, right hand 1-in max, 1/2-in to 1 in, ground round for work, 1/2-in to 1 in max drive 100 to 750-in-lb max



FIG 100-100-020

110





Plus, it's not one of those games where you get snake eyes staring up at you. And it's not a new dance.

If you guessed that it's the batteries in your Haskel Model 4977 maintenance (PHN 6025-145-1581), you're right. These batteries will shake, rattle and roll if you don't replace the same amount and strips to the battery terminals.

They're not much of a job on rubber, but you've got to take it easy when replacing. In the first place you are really over maintenance acid water.

And you've got to remember that the terminal ends of the batteries can rust only a little less. When you apply too much heat, you shorten the life of the batteries or it could even burst the batteries.

That's especially true if you give some tips on welding, so you might give it the same before you start welding the battery in your vehicle.

When you're not using your model number, keep it on AC. Then the batteries won't run down if you leave your model number plugged in. This maintenance is in your organizational maintenance tool kit.



# CONTRIBUTIONS



Dear Editor,

Our boys in desert country, our formation, has been removing the rubber pads from the T-70E3 tracks on our light tracked vehicles—the M79 APC and the M41 light tank—and riding on the steel tracks.

We benefit from this in a few ways:



1. Better traction in sandy, rocky terrain.

2. Stops the transmission wear and tear of the rubber pads.

3. Saves money.

4. Gets them closer supply problems.

Then, when our units leave this kind of country, we put the rubber pads back on. No wear, no fuss . . . and everybody's happier.

14th Tank Bn,  
Camp Irwin, Calif.

*EE. Note—Good idea. Any unit's CO can give the go ahead for actual benefits.*





## HIGH STEPPING



Dear Editor,

We've come up with a little safety device we'd like to sell under PG readers' shoes. It's a step to be used with cargo trailers, like the 16-in. M181 and the 17½-in. M184.

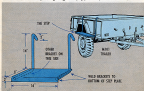
When you're unloading or loading equipment, you have to climb up on this trailer by leaning yourself up on top of the side or climbing up over the tailgate. This could lead to a serious injury if you lose your balance.

We've fabricated this step out of 16-in. x 16-in. x ½-in. sheet steel. Then we welded a couple of 16-in. x 1½-in. round rods to the sheet steel to act as levers.

After the step is made, you can keep it in the trailer or in the truck if you need it. Have been trying a flying disc all these months.

Mr. Fred W. Turnbull  
Rt. 1, Blomworth, N. J.

(Ed Note—Looks like you've got a good safety fix there, Mr. Turnbull.)



# Connie Rodd's

## BRIEFS



### *A frosty feeling*

When it's hot and the ice is thick in full glasses, well-known weather is just a flip of the calendar away. So stabilize up and tell your support what your vehicles need. (Dryness glycol where temperatures don't go lower's -32 F, water grade for the super lows. See TB Ord 521 (2 Oct 89) for details.

### *Tanks test*

Water in your tank boilers getting soaked up with foaming corrosion spray? There's a corrosion ramping compound that'll put the inside of those tanks back in top shape. . . . It's all covered in MWO 8-208-213-3073 (31 Mar 89). If your M109, M108A1, M107, M109A1, or M109A2 tanks need the 10-20-441, take 'em to your Ordnance support, pronto.

### *Compression check*

You M1 light tank mechanics . . . when checking a new M25 870-3 engine or cranking speed, the compression pressure should be 75 to 95 PSI—with not more than a difference of 12 PSI between the cylinders. For used engines, a minimum pressure of 75 PSI is all right.

### *Don't get thrown*

If you M40 tank maintenance men are wanting to identify the unneeded tube Ord Part No. 738612 and the Florida metal hose Ord Part No. 738613 in Fig 87-24 on page 490 of ORD F 84-0318 . . . don't get thrown. Seems like the letters "T" and "C" in the schematics drawing have played switch. Your Ord F 84-0318 has the right number, P/N 200-738-6123, for the hose.

### *Deal for missiles*

A good publication for missile stuff to get to know—that's what TB 8-281 F-4 (ep 89) is. The "Breakdown 'Corrosion Control and Treatment' of missiles.

### *Engineers to EM*

The IC and job holder for your Engineer rig is now a QM item. It's covered by P/N 7-528-509-P418 and you requisition/Procure, Maintainance and Operations Manuals. This is the same case that was an Engineer item and used to be P/N 74 50-3-50-71 30.

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

## PREVENTIVE MAINTENANCE

"... prevents or tends to prevent; now, usually, making or aiming to make unlikely or impossible a specified or implied evil ..."



**- AND THEY'RE  
NOT KIDDING**