

Issue 78

# PS

PMR Series

## THE PREVENTIVE MAINTENANCE MONTH

So, an owner  
maintains his  
car... so what?  
So what? Always  
check.

7



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# THE SUPPLY MAN'S DREAM

FOR THE  
CABLES  
AND  
WIRING

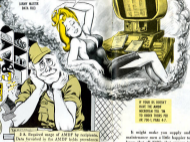
EVERY PS  
A GOOD  
NUMBER

THE WORD  
IS OUT!

That means that the members in the AMDF are IT... the hot word, so when your supply request is checked against your ISP's AMDF, you know it's the latest. And, if a number's not in the AMDF, you forget it unless you want it handled as an exception-type request.

Now  
AMDF  
GARY BAKER  
DANA HAY

ARE THE HIGHEST  
LISTS OF PARTS, THAT  
YOU FIND IN **PS** ARE TO  
ALL OTHERS THAT GET  
A "REPLY" WITH SECTIONAL  
INDEX THREE INDICATED



IF YOU'VE BEEN  
ASKED TO  
WORK ON THE  
TO ORDER FORM FOR  
OR FOR A PARTS LIST.

It might make you supply and maintenance men a little happier to know that all PS's that appear in IT are checked out against the AMDF before they're printed. That includes brand new numbers, too.

Happy maintenance with happy supply!

P.S. - You'll need a copy of RB 300-20 (June 68) to use with the AMDF.

**PS**

THE SUPPLY MAN'S DREAM  
PARTS LIST AND ORDER FORM  
IN THIS ISSUE

TO ORDER FORM  
PARTS LIST AND ORDER FORM  
IN THIS ISSUE

ORDER FORM  
PARTS LIST AND ORDER FORM  
IN THIS ISSUE

ORDER FORM  
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ORDER FORM  
PARTS LIST AND ORDER FORM  
IN THIS ISSUE

GROUND  
MOBILITY

1969-1971  
PL-500 Series...

# 5-QUARTER QUIRKS



THE 5-QUARTER IS  
A HOT PERFORMANCE... BUT  
IT NEEDS A HOT OPERATOR.



You've met up with one of these new 1969-series 5-1/2-ton trucks. You figure she's got a good feel and a hot performance, so you're glad, really. Well, just ask any married guy how much he really knows about his gal when he slipped that brand of gold on her pinkie — he'll tell you he learned pretty soon how special little toys after the honeymoon.

Your 5-quarter MT48 cargo truck or MT48 ambulance has its quirks, too. You can learn 'em the hard way or — trail me.

... IN THE ARMY NOW

Your 5-quarter is a "militarized" version of a commercial-design vehicle. It has a 24-valve, waterpump electrical system and a bunch of other special Army features.

## HOW TO BUY

After a while, you'll start looking on your construction jobs for a lot of repair parts. This is part of the special maintenance policy you'll find in TR 750-58-25 (Dec 68), Appendix B. This is the same policy that spells out "maintenance expenditures limits" for the M551 and M113 1 1/2-ton trucks and others in the G700, G750, and G850 series 1 1/2-ton families.

YOU  
WANT MORE?  
— YOU PROBABLY  
NEED A  
COURTSHIP,  
JOB!



You'll find your Prescribed Load Allowance of repair parts in the JOP. Now let's see what's really under all that OD paint, starting at the front.

LOAD



Limit

WEIGHT LIMIT



Limit

When you're not using those front shackles for towing, they stay mounted behind the bumper. Then they don't touch the bumper if you happen to "hit" another vehicle.

For towing, you remove your shackles, hang 'em through the bumper slot. Then you can hook up to 'em with the winch on an M551 or M113 1 1/2-ton truck.

Towing from wheel-up calls for lifting with the winch hook at the center of the bumper after attaching the winch to the shackles.



When towing your Squarer backward, make sure the trailer's hooked to the shackles under the rear bumper—*not* above, or the trailer will make less your Squarer's subject.

To use over-shouldering, loop a tow chain through your Squarer's towing pin(s) and over the wrecker's hook



HOOK UNDER REAR BUMPER(S).



—with the trailer latched onto the shackles under the bumper(s).

You hang your front shackles not through the bumper for flares to close. If you have your shackles behind the bumper, they'll slide against the bottom edge of the bumper and bend it.

#### DRIVE WITH CARE

Take a spin in that rubber-leaf guard. If you've got one without drain holes, make holes like the new production jobs have... it'll save you from rust problems.



DRAIN HOLE

Log men need plenty of tightening to keep your wheel snug on the hub — 500 lb-ft.

If you don't have a torque wrench handy, just figure that's about as much torque as the average guy can put on with the truck's OEM lug wrench — but no standing or jumping on the wrench.

And make sure the studs are centered in the lug nut holes before you tighten the nuts down. If you don't have full-circle support on those nuts, you'll find your wheel bent! up around the holes.



500 LB FT!

If you get a new Squares, check rightaway to see that the rubber grommet's installed proper-like where your fuel filter hose comes through the body. If your grommet's slipped your way out, the sharp metal edge of the hole will slice right through your flexible filter hose. With the grommet back in or its pressure your hose.



There's no need to run your spare tire outside brackets up as far as you can muscle it. Some guys've been the rubber clean out of shape—even running the mounting bolt right through the top of the frame.

Here's the right way to install your Squares's spare tire 'w' wheels.

1. Turn the bolt down—just far enough so the rubber can hold onto it.



2. Put the spare in place—and be sure it's centered between the frame rails.



3. Push up the rubber bracket in the hole.

4. Now take it easy when you're tightening 'er up. When you've got the bolt turned up so the rubber's gonna' good & snug against the tire, you'll find pressure will set just like a tight bed rubber to keep the bolt from backing out.

### ROCK NUT

You can't see it, but there's a nut welded inside the frame where your spare tire resistor bolt screws in. If you don't keep a fifth tube on that resistor bolt, it can rust and freeze in the nut. Then when you try to turn the bolt, the nut hasn't loosened—and you can't get the bolt out. So you're in a fix.

But here's a fix for that fix. Cut off the head end of the bolt. Fish the other end of the bolt (with the nut) out of the frame. Get a new 3/4" x 12 UNC hex nut and weld it on the outside of the frame, in line with the bolt. Add a new bolt, 3/4" x 12 UNC, 1.000-in. long and threaded 9.73 inches (you may have to add threading to get this much). Then you're back in business.



### DIRTY SPARE TIRE

Hey, your 3-quarter's spare tire wheel won't fit the 3/4-ton trailer you're towing. So, if you're going on a long haul, your CD may want to authorize you to carry a spare tire's wheel for your trailer. Your "car" parts should have plenty of spares—tire's/wheels from 1/2-ton trucks. And you'll need a big wrench to fit, too.



### SPRING SHOCK BOLT



Fry that spring shock bolt when some guys get stuck at the head end with a wrench and give it a rattle—they shear off the splines that hold the bolt firm in the shackle. Then, if it's put back in this shape, spring action will probably turn the spring on the loading when there's no load. The loading's supposed to turn on the bolt when there is load.

Save the splines by holding the head end of the bolt steady with one wrench while turning the nut off the other end with another wrench. Partially the bolt back, hold the head end with a wrench and turn the nut on with your other wrench.

Break shoes on your 5-speed are different from what you'll find on other manual wheelbar vehicles—the front, or primary, shoe on each wheel has a shorter lining than's on the rear shoe. Make sure you install 'em that way—and they'll give you a break.



And if you happen to have that brake shoe self-lubricating anchor block off the backing plate, make sure you put it back with the arrow pointing toward the front of your 5-speed. Otherwise, your brake shoe won't fit against the drum like they're supposed to—and you'll get quite a surprise when you want to stop quick!

5. FUEL GAUGE

Now for a look at your muffler. Some have cropped up with leaks along the main. A brake leaking's no stress, but a lot of that carbon monoxide gas poisoning our sight and health—your 5-speeds this put you in sleep permanently—especially if you're stuck still with the engine running, like during radio operation.



I TELL YOU GEORGE... I HEARD A PUFFING SOUND THE BEHIND OF THE MUFFLER.

ANYONE HE SHOULD GET A NEW ONE!



## DIAGNOSIS TIP

Next step — post rear transmission support.

Lube slipping down around here may mean the support bolts don't hold the rear mount to the transmission case base. Get 'em checked or tightened. And make sure there's a breather on top of your transmission.

Speakin' of transmission lube, no much GO (gear oil) can mean no go. Your LO says to fill your transmission just up to the fill hole. It's not easy to get in more — but it's been done. What happens? Gear lube works out of your transmission and into your death. With a slipping clutch, you go nowhere — except into the shop for replacement of the clutch.

To take it slow'n'easy when filling your transmission — just to the fill hole and no more!



Another thing that'll put the clutch on your clutch is forgetting to take the drain plug out of the bottom of the flywheel housing. With the plug installed, any oil getting into the housing will build up and give your clutch a bad case of slip-itis. Unless you're fishing or driving through a lot of water, that flywheel housing plug stays in your glove compartment.

## SOFTY KNUCKLE?

Save up'n'pack at your steering knuckles. You may find 'em stopped up with GAA (grease) out. Or it may be LO (oil) out of the differential past the inner oil seal. This stuff'll thin your GAA so you have both runnin' out.

So you have to clean and repack. And be sure to check the inner seal/shaft seal — replace it if it's bad.

Now back on your hot'n'ice's hang into your 1-quarter's engine compartment.

## ENGINE OIL

Take a gooder at your car's aluminum valve arm covers. You've probably wondered about your aluminum cracks if you were about overhauling your motor one day. You're so right!

That's why this should be specified on your cover: **RETAINING NUTS 5 TO 7 LB-FT TORQUE.**

Any nut's that 'ol she'll split like an orange nut! Oh, if she doesn't bust, she'll spread and leak all the way.

## ENGINE MOUNTS, TOO



Another engine torque comes up when you're done fixin' the exhaust manifold. Fact is, this comes up when you get a brand-new Vaganes.

On a new vehicle, loose these exhaust manifold retaining nuts and no-figures 'em to 25-30 lb-ft. Do 'em in the right order — like it shows in fig. C-4 in your '80 TM.

Now tick to that torque limit any time you've installed the exhaust manifold.

OUT POWER  
IN THE POWER  
OF OVER-TORQUING!



## NERVE TO BOUND AWAY...

Whooops—before you lay that head back down and button 'er up, there's a plain ol' bolt down in there that could have an interesting way to roll. It's that top left mounting bolt on the timing chain cover.

Your timing chain moves while a half or two of timing this bolt under normal engine speed. But if you are up your engine too high, the timing chain may reach out and run against this bolt — and back that ol' bolt right out!

But, if the bolt won't stay right, have your shop part check for a bad timing chain tensioner.

"REPAIRING NUTS & TO 1/2 LB-FT TORQUE!"

NO! Never!



## ...WEE UP

These 48 TB tells you all about startin' and operatin' your 3-quarter.

It does not tell you to hit your gas pedal before you turn 'er over — and that's because you've'posed to leave that gas pedal alone until your engine's running.

Maybe in your workbucket o' holes you like to give that ol' pedal a dig with your foot before 'er's' up, but if you try this move with your 3-quarter, you'll almost sure as shoot 'er. When you'll have a wait before tryin' again to start 'er. Just give 'er some shocks — 1/2 way in warm weather. All the way out in real cold weather.



## SPORT ENGINE

You might be surprised someday when you turn off your ignition switch — and find your engine just won't quit. Nope, it's not stalling — it's idling.

Probably your timing's off and your idle speed's too high. So get your timing set right — 5' BT. And your idle speed should be set at 600-650 RPM.



## WHEW, DE

But 600-650 RPM idle isn't fast enough when your 3-quarter's workin' the 100-amp alternator kit and you've operatin' radio equipment. Too low an idle will find up your spark plugs in short order.

You can beat this, though — TB 758-056-1 (2nd edit) says to get a band throttle installed when radio operation calls for a higher RPM. The band throttle should be adjusted so you can maintain an idle of 1,000-to-1,500 RPM during radio operation.

# 3-QUARTER LOAD CLASS

HERE'S THE MILITARY LOAD CLASSIFICATION FOR ALL VEHICLES FROM 1948. ONLY THE "C" MARKS ON YOUR VEHICLE.



C (loaded  
max.  
weight)



E-2 E-4

M711 cargo truck with  
3/4-ton trailer  
Combinator vehicle  
C (loaded max.  
weight)

C  
C (11)



E-2 E-4

M711 ambulance  
C (loaded max.  
weight)



E-2 E-4

M711 CANNOT BE USED UNLESS YOU...

## INSTALLATION AGGRAVATION?



You may've already found out the hard way that common installation kits for your M711 (M711) need 3/4-ton cargo truck aren't right for the new M711 1-1/4-ton job.

Hang in there. With few exceptions, help is coming. It arrived SB 11-151 is on the way with fittings for the M711 and other new vehicles.

The kit is planned for the Aegyy-06, because the Standard II set is scheduled to be replaced by the AN/VRC-142. Which means you, Improviser, should you find your M71 as an MT11, it's a matter of lengthening the down and adding a few 2's if it's around the Aegyy-06 station.

But the present the Aegyy-142 and the AN/VRC-122 radio teleprinter you will be installed on the MT11 in the S-144 Station, which was designed for the MT1 S-4 use. Which means you've got to improvise to install the station, just like with the Aegyy-06.

The AN/VRC-09 radio set installation kit for the MT11 is available under PGN 1620-007-0007.

HERE'RE SOME COMMON INSTALLATION KITS YOU'LL NEED FOR THE AEGY:

#### SINGLE INSTALLATION

AN/VRC-0-4, -4, -4, -4, -4	FOR AEGY-06, 150
AN/VRC-01	1000-004-150
AN/VRC-100	1000-004-150
AN/VRC-101	1000-004-150
AN/VRC-100, -101	1000-004-150
AN/VRC-1	1000-004-150
AN/VRC-4, -8, -10	1000-004-150
AN/VRC-20	1000-004-150
AN/VRC-4, -8, -10	1000-004-150
AN/VRC-10	1000-004-150
AN/VRC-12, -14, -11	1000-004-150

Designed to AN/VRC-10 use, but may be used for VRC-12-11

#### SINGLE INSTALLATION

AN/VRC-16, -11, -18	FOR AEGY-06, 150	AN/VRC-47	FOR AEGY-06, 150
AN/VRC-24	1000-004-150	AN/VRC-48	1000-004-150
AN/VRC-34	1000-004-150	AN/VRC-51	1000-004-150
AN/VRC-41	1000-004-150	AN/VRC-54	1000-004-150
AN/VRC-46	1000-004-150	AN/VRC-1, -2, -2	1000-004-150

#### COMBINATION INSTALLATION

Combination installations are made by requisitioning the kit for each radio set. In cases where retransmission is required with the AN/VRC-24 in combination with the VRC-125, VRC-100, -101, VRC-01, -03, -05, -07, -09, -13, -04 and -05, you need the kits for the specific set plus Combination Kit No. 52, PGN 1620-007-0008.

Request Combination Kit No. 24 for the VRC-05, it has the same PGN as Kit No. 52.

Installations with the VRC-07 or VRC-04 in combination with other radios need specific kits for each set plus Combination Kit No. 11, PGN 1620-007-0005.



There's no mystery about fuel tank leaks on your modified truck — if you've got leak gaskets on your fuel gauge sending unit or intake fuel pump.

Maybe the gaskets are missing!

Check 'em. Make sure you've got 'em — and that they're in good shape:

Gaskets, fuel gauge sending unit, FOM 2930-753-5073.

Gaskets, intake fuel pump, FOM 2930-263-3454.

Washers, copper, FOM 1448-713-9075, used with mounting screws on both the sending unit and pump (you might be surprised how many trucks've got leaks from missing washers).

These gaskets and the washers are in TM 9-2330-203-20P w/Ch 1 (Jan 68) and TM 9-2330-241-20P w/Ch 1 and Ch 2 (Apr 67). Except the fuel pump gasket hasn't shown up yet in the 203-20P, but your supplier can get it for you from Ch 5 (Sep 66) or TM 9-2330-203-20P.

Next, if you've got a truck-tractor, dump truck or wrecker, you check the gaskets on fuel fuel tanks.

## ENOUGH IS ENOUGH

You can't go overboard with exhaust manifold bolts on your WELLS or other GM-series 1 1/4 inch truck.

They get 15-30 lb-ft torques. Any more than that and vibration will wear 'em to death. Then you've got a big job getting the bolt ends out of the cylinder head.

When you're tightening up, be sure you don't confuse them with some 2 1/2-inch head bolts, which can take much more torque. Check page 2409 of TM 9-2330-114-30 (Aug 66) before you tackle your next exhaust manifold job.



EVERYONE  
IS FOR  
TRAILER ...

## STAKES FOR DO-IT-YOURSELF



Dear Staff Writer,

At IBE you give the FBY's for complete generalization for our MICHIGAN IBE stake controllers. However, does not our have the general benefits locally made, can you give us the FBY's for justice metal stakes?

IBO B. E. P.

Dear Sergeant G. E. P.,

Here's the prop on complete replacement of metal stakes for your MICHIGAN IBE Card also for the MICHIGAN, MICHIGAN and MICHIGAN IBE's.



## CHECKING LEAK CHECKERS

No, Sergeant Definitely not.

That's the word for everybody when it comes to using compressed oxygen for testing gas tanks or radiators for leaks.

Here's why:

When oxygen comes in contact with the oil film in the radiator, there'll be a messy explosion. Or, if some oxygen remains in the tank or radiator, the thing can explode when the welder goes to work on it.

To make it more in the wiggler: If you ever see anyone reach for oxygen to check leaks—because there's no air compressor handy—tell him, fast. Remind him to use the air system on the nearest truck or car for the leaks.



If you have an 8000, 8000A1 or 8000A2 tank, an M700-CEV or an AXTR you already have for you may get through engine wear/filters the new wax-separating fuel filter. Engines with serial numbers 8000 and above already have it.

This 2-element filter takes the place of the 2-element secondary fuel filter.

# NEW FUEL



BEFORE YOU START, LET'S MEET THE GUY OF CONTRACTORS!

## BEST NEWS!



MAKES 2 PARTS!

1. With the engine off, use water to fill the filter tank. This filter tank with the fuel gauge will not work because you need this pressure to push out the fuel water out!



2. Open both valves and drain until the fuel runs clear with no water in it.



3. Open the valve from drain breakers and place them on the fuel water into drain into a container.



4. Shut off the valves and the engine quickly and put everything back in place. When making sure every one that may have the engine should if you happen, fuel will flow into the engine.

and here's what you need to know about it.

This drain conditioner flows in daily after operation at the same time you drain the primary fuel filter. The 4003 is the same whether you have the fuel/water separator or secondary fuel filter and it goes like this . . .

# FILTER FACTS



In case your AVEOS-1700-2 or 1700-25 tanks don't have drain valves and valves, get your smiling, grinning vehicle mechanic to apply MFRD 9-1800-002-20 (the 002 valve for tank will get the MFRD line for free). With the valves you can drain your fuel filter without having to take off the fuel/water separator.

## BEST NEWS!

Every quarterly time you replace the 2 water separator element, You'll need this fuel/water separator, P/N 2910-000-1111 (5782714). This kit contains 2 water separator elements (11600062) and the perforated packing for the cover (11600122).



1. Open right side gate down and take off the water separator cover.



2. Loosen the 2 water separator element (2) water if you use the handle and release the old element as you pull them out.





1. Check the preferred parking in case, if it's in good shape, leave it alone, if it's damaged or too hot to touch, replace it.



2. Screw the cover back on again.

4. Fill the separator with fuel to collect any fuel left of the sump if it's below the level. This is done by putting the master outlet on which starts the fuel pump.



AND CHECK FOR LEAKS!

### ANNUAL SERVICE

Leave the master (flow control) filter alone unless you want to replace it. This is done once a year. If it's removed by mistake you have no master filter a new master filter. To replace this filter you first take the power plant out of the vehicle and then you do this . . .

1. After draining the fuel/water separator cover and the cover around it, remove the cover.



2. Disconnect the fuel inlet/outlet of the filter on the bottom of the separator unit and drain the contents of the separator into a container.



3. Tap the line and be careful not to let any dirt get into the line or into the separator when the cover is off.

4. Clean the inside of the separator and install new element.



5. Reconnect the fuel lines.



6. Having the annual service when you replace the master filter element you will also be replacing the 2 water separator elements in the steps 2 through 5. Be sure it will work CORRECTLY AGAIN.

The master filter is in supply as Element: fuel/water separator block, FSN 2811-008-1021 (114000011).



# PLEASE DON'T SCREW 'EM UP!



There's always an exception to the rule!

When you're pulling your PM services, you usually show up on holding nuts, bolts, fasteners, etc., — just to be sure they're right.

With the above-type hydraulic fittings that connect up the hydraulic lines



in your combine vehicles, drawing up on that nut could be your undoing! So hold on, Partner!

Most of the leaks that develop in hydraulic lines can be traced right back to over-tightening of these connections.

Somebody gives 'em just one more twist — for good reasons — and you've got a leak.

The rule of thumb for hydraulic fittings is this: If they're not leaking, leave well enough alone!

The above nut for hydraulic fittings is preset with an initial torque when it's made. Which means it's ready to do its job with a minimum of extra torque after the connection is made.

You start the nut onto the fitting and turn till you feel a tin bit more — from this point, give the nut just 1/8" more turn (not less) and no more than a 1/2" turn.

If the fitting still leaks after applying the 1/2" turn, give it a wee bit more turn.

If you go past the 1/2" turn (just a bit too far), the above'll keep sliding into the tube and capstan 'em inward, a little vibration and you've gotta leakin' on your hands.

# M109 HOWITZER HAPPENING

SO NOW YOU'VE ONLY GOT ONE MORE ARTICLE TO TAKE CARE OF BEFORE YOU'VE GOT TO GO WITH THE M1090 ARTICLE



Notice: Turn the main selection lever to the M1090 and let the M1090 tap show, out of sight and out of mind. If it's also out of reach, no problem. You don't need to have it replaced.

New M1090's will have one blank article and that's what old M1090's will get at rebuild.

## SEAL THOSE SCREWS



So you've just finished building your M1 and it's time with strings like it says in THE T&E 116, and now you're about to replace the 2 puncher screws you took out to do the job.

OK, hold it right there!

Be mighty sure you get a dab of sealing compound (MIL-A-11004 ... P/N 8100-271-8101) on the threads of both screws before you work 'em in. Otherwise, moisture could seep right back in there and fog up your gun again.

## CLOBBER THAT CARBON




No two ways about it. When you fire blanks in your M16A1 rifle, you gotta knock it down for real on your cleaning.

Reason: M200 blank comes fired through the new XM11 blank firing chamber (F02V 1804-021-1400). Machine the headband of your weapon with carbon—especially the bore, gas tube and carrier key.

And, if you don't get this carbon out after every firing session, your M16's gonna give you an eye. So, here's what you do:

In the last cleaning job you know how before and especially after firing blanks. Follow Table 1-1 in your M16 F400-100-11 (bug file).



The first shows F02V 1804-021-1400 ... You gotta knock it when you get to the cleaning right after firing. But, if the carbon gets a chance to "set," get your someone to help you use F0111 (F02V 1804-100-0200) ... Ispolgalvanit.

Next, if your rifle starts to get sluggish—even after you've given it your best A-1 cleaning job—get it to your support outfit pronto. After about 2,000 rounds of blank firing, it'll need a new gas tube and it'll have to have its carrier key taken off for expert cleaning.

Finally, if your M16's scheduled to go with you to where the action is—and it's fired more than 500 rounds of blank ammo—make sure you first get it in support for a complete going over. Real important.

## A WORD ON THE KEY KEY

No stress putting the blank firing mechanism on. Hold it so that its flanges line up with the circular grooves on the bush support. Then force the ring over these grooves and snap the lock. To take it off, release the lock on one side at a time.

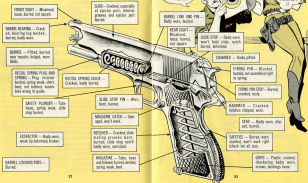
But easy all the way, both ways. Right!



# SHARP AS A

# PISTOL?

Sure you are, but how sure are you about that .45-cal spider in your holster? This chart will show you right off if your shooter's up to snuff. It works top-down with the stamp in TM 9-5000-211-12 (13 top 66). If your price for any of these defects, get it or your answer for a working one.



**FRONT SIGHT** — Blued, base, turned, not square.

**SLIDE** — Cracked, especially at spider part; interior grooves and spider part turned.

**BARREL BEARING** — Cracked, bearing key bent, turned, badly worn.

**BARREL, LEAF AND PIN** — Badly worn, bent.

**BARREL** — Pitted, turned near muzzle, bulged, worn head.

**REAR SIGHT** — Blued, base, turned, not square.

**SLIDE STOP** — Badly worn, won't hold slide; notch turned, deformed.

**DRIVER** — Badly pitted.

**RECOIL SPRING PLUG AND SPRING** — Plug crimped, turned; spring weak, short, bent, not ballbed, assembled wrong to guide.

**RECOIL SPRING GUIDE** — Cracked, badly turned.

**FIRING PIN** — Blued, bent, not straight; bent in spring.

**FIRING PIN STOP** — Bent, cracked, rusty.

**SAFETY PULLER** — Tube loose, spring weak, slide stop turned.

**SLIDE STOP PIN** — Worn, bent, turned.

**HAMMER** — Cracked, notch clipped, worn.

**SEAR** — Badly worn, clip not, turned.

**EXTRACTOR** — Badly worn, weak lip deformed, broken.

**MAGAZINE CATCH** — Bent, aged, won't work.

**RECOILER** — Cracked; slide mating grooves worn, turned; slide stop notch badly worn, oversized.

**SAFETIES** — Bent, worn, cracked, won't work right (check 'em all, too).

**BARREL LOCKING RING** — Bent.

**MAGAZINE** — Tube, bent and bottom turned, deformed; spring weak, bent.

**GRIP** — Plastic cracked, checkering badly worn, missing, feelings loose.

## IT'S THE M36 RADAR CHRONOGRAPH

You might've wondered about it.

Like, just what it is an M36? Or how come you can't see it.

Or maybe you saw one and your fingers itched.

And now, your hand's up it's coded and you've got your own M36 radar chronograph set in your hot, eager hands.

Naturally,

you want to pump it with PM.



Whether you use it on its original set on the tail of a quarter-ton, handling know-how will help guarantee accurate aim against. Tell your M36 you love it by eyeballing and supporting these points.



Before you mount the chronograph on its tripod turn the 3 latching handles clockwise until they're secure. Then lock 'em off a full half-turn so they're completely clear of the mount



on the base. This allows you to slip the chronograph on the base easily and without bumping up either base or chronograph. Lock the handles with another clockwise turn.

These handles stop the war are for adjusting and elevating the set only. Using them to lift or move the set can only lead to grief. The set's too heavy for 'em.



The control antenna lead is an handy point. Any change from that position will give you wrong readings on velocity. Hold it just a hair too much and you may not even be able to pick up the projectile.



Be sure the connecting cable between the front and rear assemblies is inside the case when you close the 3 sections. This prevents cable damage.





Play it cool and careful around the M5000, AF3, voltage multiplier and power supply.

Especially dangerous are terminal boards TM and TEO. You're working with up to 1,000 volts, both with the TM and your training. No short-cuts.

When connecting or applying the audio-frequency amplifier, digital display indicator or power supply drawers, slide 'em easy to avoid distortion of the contents at the rear of each.



If you've still got a probe, spring-wireless-rear button, get your direct supports to replace it with the better micro-switch (Garlock, Peabottoms, Mini compressed, P/N 1543-001-1709). It's on page 18 of TM 9-1280-22-1-1-1 and eliminates the problem of broken or weak springs.

When you're "in the loop" start an eyeball on the auto-continuity control button. Best position for this check is "U" or "D" on the scale, leave it on "U" and your set won't open.

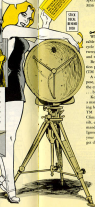


Think in connection: from positive can shift the set's position, to be sure the direction-looking handle is right.

And . . . never overlook the wind lock pin prior to moving the M50 from one spot to another. The pin in place prevents the normally off balance set from slipping out of position, falling and otherwise getting damaged.



USE THE SAFETY POSITIONING SIGNAL WITH THE M50-170-1204.



USE THE M50-170

Big number: your set uses 600-cycle current. Be sure your power source is 600-cycle before using it . . . or prepare for big problems.

Which brings up an all-new cable, Cable Assembly, Special Purpose, P/N 1299-07-0043, recently added to the M50 SER. The cable assembly looks like so:



When your M50-1 M2 generator set is not available, the cable assembly allows you to use the standard 1,000-600 cycle spare RADAC generator. The assembly is connected between the RADAC generator adapter (P/N 1238-799-0913) and the power cable of the M50.

Be sure to use the RADAC generator in 3-phase configuration prior to using the cable assembly with the chronograph (TM 9-11-203-10 gives you the instructions on this).

A cable so useful is the reliability meter Cable, Special Purpose, P/N 1299-078-0000. Like it, just use from the side of the case and check-ups, ready to change back . . . or you . . . by dragging anything that comes near it.

Keeping your M50 there clean is a matter of common sense plus paying heed to the prep-on page 17 of TM 9-1280-22-1-1-1 (page 56). Clean, the instruction, insert, dust, oil, etc. are (tip the filter and demand sometimes daily cleaning). Ignore the filter and the gear of your M501 heat up or otherwise get damaged.



Finally, be sure there's no metal object in the path of the antenna while you're checking or using the set. This is especially important during checks, when the antenna normally wouldn't be checked. Mind in the way gives you false readings.

"I'm not checking it."







**JOE'S**  
**DOPE**

**CANVAS**  
**NEEDS CARE**

I'M DOWN,  
WELL, A LETTER  
TO HALF-BROTHER!

HEHT!

I WANT HIM TO  
KNOW THE WORLD  
ON THE CAMP OF  
TENT'S AND TENTS.

SON, THAT'S  
A GOOD IDEA!

THINKING WHEN WE  
COME TO THINK OF IT,  
CAMPING IS A BIG PART  
OF FOOTING EQUIPMENT.



BEHIND MEETING  
FIRST PARTS, BRUCE  
SAVES, FINE! AND  
SOME CAMPING IS  
PRETTY  
IMPORTANT!

YEAH,  
TELL IT  
TWO IT IS  
PRACTICAL!



Dear Sgt. Ball-Buck,

OUT HERE IN THE  
WILD WEST, CAMPING  
NEEDS A "SHIELD"  
BETWEEN YOU, MEAT  
AND MOUNTAIN  
LICK TO BECOME  
FRESH! MY FABRIC  
DOES LIKE FIGHT  
TRICKS IN A FLY  
EXTEND.



LOOKS BETTER,  
ROCK, MEAT  
SPOTS - PUPPY  
BROTHERS! AND  
WHAT YOU GET UP  
ON DON'T GIVE  
CAMPING A FULL  
DOSE OF P.A.



WE'VE FOUND THE  
BEST BASIC WAY OF  
CAMPING ASSISTANCE  
IS TO KEEP IT CLEAR,  
AND KEEP IT AS BEST  
AS YOU CAN!



... LIKE MAKING  
THE MISSING  
THE TIPS  
OUT TO GET  
RIGHT AFTER  
AND SCORING!  
WITH YOU  
CAN!



ON TRACK  
TRAPS YOU'VE GOT  
TO CHECK FOR  
SMALL SIGNS  
AND PATCHES  
FOR SHARP  
EDGES OR  
DRAGGERS!



WHETHER IT'S TENTAGE  
OR TRACKS ON THE MOVE  
—POLES, BRANCHES OR  
ANYTHING BURSTING  
AGAINST YOUR NET  
CAN BE A  
LEAD.



Y'SEE, WORKING  
SUNNY CANALS AND ALSO  
CRACKS MILKIN.



BEANS ARE A BIG  
CHANGING POINT... POSITIVE  
COLLECTS THERE AND  
MAKES A BIG, BASH,  
WET, DARK PLACE FOR  
FUNGUS TO GROW  
AND SET UP SOME  
HANGING AND OTHERS.



OUT HERE, WE HAVE  
TO REPLACE TENTS  
WALLS OFTEN,

BETTER  
MAKE SURE YOU  
DON'T ADD ON  
MONEY!

# Joe's Dope Sheet

PM OF YOUR CANVAS IS FINE  
WITH CARE, FRESH AIR AND SUNSHINE,  
WHETHER WEDDING OR TENT,  
AVOID MILDew AND RENTS!

KEEP 'EM CLEAN AND DRY-- ON THE LINE.

SOPE  
CANVAS IS  
**DRY**  
AND  
**LOOSE**



KEEP  
CANVAS  
AS TIGHT AS  
POSSIBLE



FRESH AND  
RE-TREAT  
AS  
**NEEDED**

WE HAVE THE WORLD'S  
BEST EQUIPMENT

*Take care of it*

IF YOU WANT TO DISPLAY THIS ADVERTISEMENT ON YOUR BILLBOARD SIGN, OPEN CARPUS, LEFT OF HERE AND FOR IT UP.

OK... I'VE MADE THE  
FIX-UP... NOW HOW  
DO YOU DO IT?

I'VE GOT TO BE TENDING  
AND PATROLLING.

## RE-TREATING

CHECK YOUR LOCAL  
SHOP FOR REPAIRS OF  
CAMS.

LOCAL  
SHOP

TREAT YOUR TENT WITH TENTLE FEE.  
REPAIRS TO YOUR TENT CAN BE  
MADE AT THE STORES AND THE  
REPAIRS ARE FREE (INCLUDING  
REPAIRS TO THE TENT).  
REPAIRS TO THE TENT CAN BE  
MADE AT THE STORES AND THE  
REPAIRS ARE FREE (INCLUDING  
REPAIRS TO THE TENT).

## PATCHING

REPAIR YOUR TENT  
WITH THE HELP OF THE  
TENT REPAIR KIT. THE  
KIT IS IN THE TENT  
REPAIR KIT AND  
REPAIRS TO THE

YOU ONLY PATCH  
SMALL HOLES (PATCHES  
ARE NOT ON A TENT HOLES  
OR CLOSE TO HOLES).

USE A SHARP  
KNIFE TO CUT THE  
TENT REPAIR KIT  
AND PATCH TO  
MAKE IT STICK.

USE A SHARP  
KNIFE TO CUT THE  
TENT REPAIR KIT  
AND PATCH TO  
MAKE IT STICK.

THE  
TENT REPAIR KIT  
HAS EVERY  
THING YOU  
NEED!



STIFF ZEPHERUS' LIVE LIME,  
FOR 400-767-7642, ON BOTH  
SIDE OF THE TRACK...USE A  
WAX CRAYON IN YOUR FRONT  
HAND THE ISSUE STUFF!



RUN IT UP AND COVER  
A COURSE OF THREE  
TO ITS BACK...BE  
SURE ZEPHERUS IS  
DIX, CUSH AND  
LINDAHEE!



ON TENSILE  
ROLL THE UP ONLY AFTER  
THEY'VE BEEN BUNDLED  
UP TO THE A SHELL!

WHEN YOU'RE NOT USING  
YOUR TRUCK, DON'T ROLL  
THE WARE UP TIGHT.  
SLAP 'EM UP NEAT  
AND LOCKER NO NO  
CAN CASCADING  
THROUGH 'EM!

AND KEEP  
THE FOLDS AND  
STAGES IN A  
SEPARATE BUNDLE,  
ELSE THEY'LL  
CRASH DOWN!

STAYING  
FOR STORAGE  
KNOWS DO  
ON DAY  
THROUGHT  
LIMBS...  
GREEN  
WOOD  
STAYS  
BODY!

AND DON'T  
MOVE A PIECE  
OF CARGO  
AROUND UNLESS  
IT IS ON A  
PALLET  
POLES SET  
HOLE IN THE!

HERE'S A LIST OF FORD AND LITE TRAVEL HELP YOU TAKE CARE OF YOUR CARBON:

TR 10-204, (May 64), Ch 4 (Jan 64)

General Repair For Carbon and Welding

TR 10-15, (May 64) Pals and Frame Supported Tools

TR 10-1-8100-811, (Jul 64) Storage Repair Kit,

FOR 8100-810-7107

For Oct 8100-81-4, (Jan 64) Kit, Slide and

Top Ring, FOR 8100-810-4411

TR 10-8100-811-037 (Aug 67), Ch 1 (Mar 64)

Test, General Purpose



WELL, THAT SHOULD DO IT...  
NOW THEY  
KNOW IT!

YOU DON'T WANT  
MYSELF  
TO COME  
OUT IN  
THE MIDDLE!



'BUTTER OF FACT  
I DO... NOT!



NOTHING! EXCEPT I THINK  
HE'D BETTER CHECK-UP  
ON THE CARBON MAINTENANCE  
BEFORE HE GETS HERE!

# TARP TOSSING MADE EASY

Placing that tarp on your truck is a one-man operation, but it sure is a heckuva lot easier to do it once you know how to fold it.



First, lay the tarp out flat with handles facing out.



Then fold the opposite side to the first one of handles.



Fold one opposite end close over those sides.



Then fold the other side close to the rest of handles.



Then fold again until the two sides meet.



Then fold the sides with the handles over the sides with sticks.





Roll half the rug halfway to the front seat and then roll again until you get to the middle.



Roll the rug again towards the other end.



From the front end of the rug, roll with double weight (200#) under the rollers for strength to tie.



Repeat the roll about 100#.



Roll the rug out with rolls that you'll slip through the hole on each side and toward the front of the truck.



Roll it up and work on the middle of the outer roll. The roll worked best starts from the front of the truck.



Roll the outer roll of the rug toward the back and toward the rear of the truck.



Roll the rug out with rolls that you'll slip through the hole at the front, and then the other side.



The lighter rolls the rug. Roll out evenly to roll.

### SAFETY

There are some things you can do to make that trip less longer.

When you tie it, the ropes should be snug but not too tight. When they're too loose the rug'll slip in the boxes, and when they're too tight they'll cause your tarp to tear.



MADE THE RUGS AND ON WITH SOME AND SOME MORE WITH SOME AND SOME MORE... IT'S ALL ABOUT A BIG OLD TRUCK, TIE IT IN FOR KERRICK!!

YOUR

# M551 PART 2 SHERIDAN



OH, WHEN LET'S STOP  
UP AGAIN, WE LEFT  
OFF LAST ISSUE.

## FOR THE WHEELS ONLY

**GRAB THE**—The tracks are won't work right unless it's positioned inside the bracket area and all the straps are secured. If the set runs under the bracket area, change it.



## RIGHT POSITIONING

Tracing  
template



OKSH!

**COVERED WINDOW**—Place for stepping on. Cover it with cardboard or protect it in any other way your local S&P calls for.



**ENGINE HINGED**—When you lose the exhaust when you wash your vehicle. If enough water gets into the engine that way you could bend a rod. So make a cover out of some waterproof material for the engine and lower exhaust or tape 'em up when you wash the vehicle.



**WATER CAN**—Keep the straps tight on your 5-gal water can. Otherwise, vibration against the bracket could cut a hole in the bottom of the can.



**GOO IN HOOD**—Make sure the battery and air cleaner covers there are snug before you traverse your mine. The handle racks can crush a lid left in the upright position.

**MINI SCREEN**—The 3 defat screens are handy for keeping out junk. You can help keep 'em in shape by not walking on them any more than necessary.



**MIFF CHAIR**—The chairs on the second ring screen are there so the driver can remove it from his side to the rear of the crew can remove it from their side. Thus gives an emergency escape route inside the vehicle in hit and some of the brackets are out of business. So keep those chairs in good shape and don't wire the screen in place.



**LEADY CHAIR**—A good battery charge is important because all battery voltage is low your generator cable can lose its vibration and drop suddenly and without warning.

**BATTERY OPERATION**—Like it with your car, page 2-19 of your TM, don't operate the M551 on battery power alone. Idle your engine at 750 RPM when you're drawing current from your batteries.

If the batteries are taken out of the vehicle (like for cleaning) make sure they are put back right. If battery polarity is reversed you can damage electrical circuits.



**RAIN HOLD**—There's a drain hole in the battery compartment and one in the air cleaner compartment. Keep 'em unblocked, they'll do the job for you.



**ENGINE AIR CLEANER**—Take a couple seconds to check your engine air cleaner every day. If the indicator shows green, it's OK. If red shows, the filter element needs to be cleaned or replaced.



**THE MODE**—Use mode mode to track your target. Under no conditions do you use your mode armament, either a conventional or missile round, while your vehicle is moving in the stabilized mode. Bring the vehicle to a halt before you shoot.

This applies only to main armament. It is OK to shoot the machine guns while the vehicle is moving in STAB mode.

#### GROUND HOPPING

**GROUND WIRING**—The 2 small wires on the line from the generator to the voltage regulator don't have much slack as they tend to pull out when you bounce the power pack for ground-hopping. With these lines disconnected, the generator won't charge your batteries.



WHICH  
IT FEELS  
IF YOU  
TUG HARDER  
BACK



**GROUNDING**—When you have the power pack out of the vehicle, the turbocharger is likely to pick up some dirt or rags or whatever. When operating the power pack out of the vehicle, install the air cleaner the way it says in fig. 9-12 of your TM 9-2190-200-1-2 (para 66).

## WAKE OPERATION

IMPROVE YOUR LOGS YOUR MILE AND A BOAT... I SUGGEST YOU READ EVERYTHING IN YOUR GEAR LIST OR ASK YOUR BOAT CREW FOR AN AUTHENTICATED OPERATION.

How to wake your boat:

**WAKE TURN LEFT** — With the water star bow in the **WAKE** position, you have just star to first range and in full reverse range. With the water star bow in **WAKE** position you always just star in second and third range.

**WAKE TURN RIGHT** — To get more power performance in water, shift into **third range**, with water star bow in **WAKE** position.



**SLIPPING DOWN** — In water you can go into either **E1** or **E2**, but **E2** gives you more stopping power. However, when you're in reverse, you can slow down by going into **first**. Whenever you make this shift in either direction, first let your footbrake hand to stop the truck.



**EMERGENCY SAFETY** — During water operations the commander should should not be in the full-open position as the leader can get out of his own track in a hurry if he has to.

Even on land the commander has to be careful about having either half of his split track in the full-open position. He can seriously hurt a leader if he swings his capsule around too fast. If the leader and commander work together on this there's no danger.

**EMERGENCY** — With **WAKE** (WAKE) ON **WAKE** (WAKE)



**WAKE TURN RIGHT** — As soon as you get your vehicle out of the water, shift the water star bow into the **WAKE** position. If it is left in the water position the vehicle will have just star in second and third range. This could cause an accident if you tried a turn at high speed.

## TIPS ON MAINTENANCE

**GUN/CHAMBER**—After cleaning the bore of the gun/chamber, lightly coat it with FL Lubricating oil, general. This is important because the plug does not keep all the water out. Unless you oil the bore you've likely to get rust and pitting.

The shell cases of the conventional rounds are bent by oil, so oil will not get to be out of the chamber before you fire.



**BRECK CHAMBER**—The beveled back edge of the breech chamber needs to be cleaned daily if the gun is fired. All oil has to be removed from both the bore and the chamber before you fire either the missile or the conventional round in the gun/chamber.



**AIR COMPRESSOR**—The air compressor should shut automatically when the air pressure goes down to 2000±100 and stop when the pressure reaches 5000±100. If the air compressor does not work right, order a new one under part number 1161482.



**BRECK PLUGS**—(Vehicles with serial number 699 and below) keep it clean because a dirty one could cause a blow-back. Clean it for 5 days in a row every time you fire.

## WASH STATE 201-837

Suppose you get a red light when you flip up the system test switch?

This is supposed to mean that the part of the system that is red-lighted is not in a GO condition.

Before you call your own-worried mechanic make sure the part is really defective. Sometimes, you can also get a red light if you do the test wrong.

Here're some common, easy-to-make goals that will give you a "no go" on the test even though the parts are really all right.

Red Light Shows On	What Is Really Wrong	What To Do
Tractor	RRM low cut in the left position instead of extreme right when test was made	Adjust in proper position and repeat test
or		
Tractor	Each right-hand is turned out	Replace balls and repeat test
Big Drive Lever	RRM low cut in the right position instead of left when you didn't make a slip test	Correct lever position and repeat test
or		
Big Drive Lever	RRM low cut in the left position instead of maximum right on the system test	Correct lever, repeat test
Tractor and Big Drive Lever Light both on	Low cut off-center or In-hubby adjustment	Find out which, make adjustments, and repeat test

Caution on this: Remember that your XMTS switch is not to be left ON for more than 15 seconds while testing or you could burn out the transmitters lamps.

## SUPPLY INFO

**RRM 83**—The Bergman repair kit for your flotation barrier comes under **RRM 21-48-002-8400**. Page 9-11 of Ch 1 on the 42 TM will have to make repairs.



## WIRE STORAGE

Careful storage is important for the M20 because the left handle's side of the handle is open and stray items can fall through. If some metal object (say a wrench) hits the power cable brush it can burn up batteries, damage relay and other parts costing thousands of dollars worth of damage besides putting the vehicle out of action.

Signed bags and a gunner's seat backrest have got tangled up with power cables and even, in one case, a roll of green tape caused a lot of damage.



### THE EXTINGUISHER...

The portable extinguisher is a throw-away item. Order a new one at P/N 420-594-007. But when you reuse the main extinguisher tank to supply when empty and order a new one at P/N 420-594-007. Other parts for the system are on pages 111-113 of TM 9-2360-200 (207) (Jan 68).

**AN/PS-1 SEARCHLIGHT**—Your M20 vehicles may be equipped with one of these light fixtures. Until you receive the TM on the light, remember these 2 important points:

1. Do not look directly into the light from close up when it is in operation. The high intensity visible or infrared could cause blindness.

2. Do not turn off the vehicle power source until the exhaust blower has stopped. Otherwise heat could build up in the light and blow it up.



**SPARE KEYS AND BATTERIES**—They're listed in 3 different TMs. Here's what you check to make sure you have everything that's coming to you:

1. IN P-100-10-11 (20-01), pages 11 to 13.
2. IN P-100-10-1071 (20-01), pages 10-13.
3. IN P-100-10-1071 (20-01), pages 11-13.

Organizational Maintenance tool kit for the M20 (see:

1. In 1—75 of P-101-10-1 (20-01);
2. In 1—75 of P-101-10-1 (20-01).

Supplemental tool kit (authorized only for M20 (2000) personnel on the M20) P/N 4013-511-7031 (20 0000).

## COMMUNICATIONS

You say you put the connector in the slot but all you ever get was low RF output!

That's not exactly precise, but if your connector's on the end of a new CG-1775A/U RF cable, some pertinent RF might see you better output.

Like every Joe knows, the CG-1775A/U is a popular attachment for items like the AT-911, etc. But the connector (CG-888/FU) on some new production models is so stiff it locks the connector head far enough off the retaining nut to cause the contact pins ... which naturally is a drag on good RF output.



Naturally, too, this limits the performance of your AT-911 ... or any other antenna system you use it with.

The answer: fit the cable back in so the new wrenches and lock the connector onto the retaining nut just firm like this.



TRY THIS  
R<sub>X</sub> FOR YOUR  
RF SLOT



Then, make sure you can turn the connector without backing it off. It's good policy to make sure the nut is snuggled up every time you connect the cable.

Part of the trouble is caused by less than ideal insulation on some of the connectors.

The level gives the nut plenty insulation, allowing the connector to back off from it.

Other cables don't have the level and are slightly different in other ways.

An improved cable (CG-1775A/U) is on the way and will replace the CG-1775A/U. The B model has a better RF connector ... which should eliminate some of the everyday problems of the A model.

Whether you've got a new or old connector, next time your RF output ain't what it used to get, give the old connector a shot in the nut slot.



## ARTICLE BYRON...YOUR WOBBLY CHASSIS



Naturally, you wouldn't take a chance on wobbling the upper chassis of your T-50/TBC transmitter while the T-50's hole's slipped or loosened for storage in transmitter case CY-144/TBC.



But a loose vibration mount caused by rubber gasket reaction from the loose case cover's can cause trouble by not steadily anchoring the front portion of

the upper chassis and holder's to wobble around.

This could spell damage to components — circuits, not on your T-50, but lower level ones of those other jobs!

They oughta get the word, so tell 'em, huh!

Never move the T-50 while it's coast unless the vibration mount is pushed in and engaging the shoulder of the hole in the bottom of the upper chassis.

You can make sure of this by depressing the chassis toward the flange when you lock the vibration mount.

## NO-ZAP RADIO DECAL

Get a 3 1/4 by 1 1/8-in. red and white decal which reads "WARNING DO NOT START VEHICLE WHILE RADIO IS ON," for all a DA Form 2407 work request to:

Commanding Officer  
Communications Group  
AFM Center of Excellence  
Tucson, Arizona 85711



The reflective-backed decal can be had for three cents each. Give the working size and color on the 2407.

Make 'em as close to the master switch as possible, so's they'll grab the vehicle operator's eye.

## DISCONNECT... NOTHING'S WRECKED

It's easy enough to take off the dust cover on your TTY-76's LRSOC (long-range selective-call) performance-enhancer.

All you've gotta do is jolt the —

When you, when you, when you... don't see right... you don't jolt anything!

When you do it removes the dust cover's #12 epoxy light plug from the #12 connector of the power supply and terminal unit. There — and only there — do you carefully remove the dust cover by lifting it straight up off its rubber mounting grommets.

Any lifting before you disconnect the epoxy light plug and the power supply and terminal unit connector is up to you — or enough either the plug or the connector.



# GENTLY!!!

## THE MAST MOVES UP

Now AB-577/GRC is coming up in this world... you don't have to scan the Angry-50's 7 TMs to dig up installation info on the mast — the AB-577 has a TM all its own!

You can symbol TM 11-5820-528-12 (Jan 87) for installation details, geying instructions — and the wrap on using the AB-577 with a T-bar to support a pair of AT-605/G antenna horns.

The AB-577 rates the new deal because it's now being teamed up with other radio sets besides the Angry-50's.

For the AM/TBC-24 radio set, you'll want TM 11-1180-201-10 (Apr 88). It covers the new antenna group, OR-24/TBC-24, which will replace the antenna wraps that are used in the Truck-24's C and D bays.



INTRODUCING...

# The Thorny THIRTEEN

YOU'VE NO DOUBT heard of the legendary hoodlums THE STEADY STATE, AND THE CHOP CHOP, RIGHT? WELL, MEET THE CREW AND MAKE ROOM FOR THE SCARIEST SCOUNDRELS WHICH EVER DONE IN A PIECE OF AMERICA SCOUNDRELS—THE THORNY THIRTEEN!



UNDER COVER is a feature you could use for almost any kind of work... and then, that feature "coming" (somebody's) security and security (it's possible) will be from "back back" to meet back's.

IT'S HARD TO COVER UP YOUR FEARS.

OPERATIVE



But there's one thing, the one who never really experienced something in a life from 1982, when he actually started his life and life.



OPERATIVE (L.A. follow down and help to control them. He usually is slipping into a regular outfit. Talk to the 1982-83's and back 83's, and all that, to work into something's in the 1980's. You know what to do about this.

UNDER COVER is a feature you could use for almost any kind of work... and then, that feature "coming" (somebody's) security and security (it's possible) will be from "back back" to meet back's.



UNDER COVER is a feature you could use for almost any kind of work... and then, that feature "coming" (somebody's) security and security (it's possible) will be from "back back" to meet back's.



UNDER COVER is a feature you could use for almost any kind of work... and then, that feature "coming" (somebody's) security and security (it's possible) will be from "back back" to meet back's.

UNDER COVER is a feature you could use for almost any kind of work... and then, that feature "coming" (somebody's) security and security (it's possible) will be from "back back" to meet back's.



UNDER COVER is a feature you could use for almost any kind of work... and then, that feature "coming" (somebody's) security and security (it's possible) will be from "back back" to meet back's.



APPROXIMATELY 10% OF THE POPULATION  
 THE HIGHEST RISK FOR A STROKE IS IN  
 MEN A RISKY AGE, WHICH LEADS TO ALL KINDS OF  
 PROBLEMS. THIS APPLIES ALSO TO A NUMBER OF  
 ALL TYPES OF STROKE.



THEY CAN ALSO BECOME PART OF A GROUP  
 OF STROKE. THE RISK IS NOT THE SAME  
 AS THE RISK OF STROKE UPON ANOTHER STROKE.



STROKE IS A DANGEROUS DISEASE BECAUSE THE  
 STROKE IS THE STROKE AND TAKES LONG  
 TO RECOVER. A STROKE CAN BE PREVENTED  
 BUT THE RISK IS NOT THE SAME AS THE RISK  
 OF A STROKE. STROKE IS A DANGEROUS  
 DISEASE.



STROKE IS A DANGEROUS DISEASE BECAUSE THE  
 STROKE IS THE STROKE AND TAKES LONG  
 TO RECOVER. A STROKE CAN BE PREVENTED  
 BUT THE RISK IS NOT THE SAME AS THE RISK  
 OF A STROKE. STROKE IS A DANGEROUS  
 DISEASE.



STROKE IS A DANGEROUS DISEASE BECAUSE THE  
 STROKE IS THE STROKE AND TAKES LONG  
 TO RECOVER. A STROKE CAN BE PREVENTED  
 BUT THE RISK IS NOT THE SAME AS THE RISK  
 OF A STROKE. STROKE IS A DANGEROUS  
 DISEASE.



WOW!  
 INCREDIBLE  
 APPROACH!



THE FACTS ARE...

## TORQUE, SECURE THE HARDWARE

WOT'S WIDING  
WITH THE OL' SCREW  
AND WIRE ...



Clear and holding wire hardware did a pretty good job of holding early aircraft together. Then along came the modern flying machines.

Keeping the vibrating, twisting, turning, rotating parts of a chopper in one place called for special nuts, bolts, cover pins and safety wire.

To keep a gear box or tail mast, for example, from departing your bird in flight requires a lot of attention to these little details.

Like—every time you inspect your bird make sure every nut, cover pin and safety wire is in place. Eye marking surfaces for checking which would indicate loose nuts and wires.



When you pull maintenance never reuse self-locking nuts and cover pins in critical places. This includes flight and engine control systems, seats, transmission and engine mounting systems and the like. You'll find this prop, and more, on pages 30 and 41 of THE 75-805-2 (11 Jul 80) on aircraft hardware and materials.

Be sure to use a torque wrench to get the proper torque called for by the TM for the specific type, make and series of your aircraft.

Don't take chances with those nickle-and-dime bolts. Make sure hardware stays put. A lot can run out you just dropped . . . even your life.

## TUBE IN SUPPLY

If you sometime might need a replacement switching field tube for the new-age propeller hubhead, DON MILLS-6374 — control tube, PAN 64887, DON MILLS-548-1042, is in the supply system. That's the one you want.



## SAVE THE CHIP DETECTORS



There is often self-healing jobs holding the Current (CIR-S&I) main transmission and will more prominently chip detectors when... man and

HERE'S A BETTER WAY.



It seems that the torque required on the self-healing nut is not much for the removal of chip detectors, PFM 9C14C.

Result? A broken or short-circuited detector terminal.

To prevent this type of variable development, the Aviation System Command recommends you use lock washers, PFM 801110-11, PFM 1110-119-0009, and nut, standard, PFM 802011-01, PFM 1110-099-001, to hold the detector wire. Torque the nut to 5-7 inch-pounds.

The parts are already in the supply system and will be authorized in a change to TM 11-1520-11-4-109.

## KEEP THE PIPELINE FILLED



If you already supply yourself with bearings, use-able Mikulski (M-1) A-C generator, more you to depend on for critical power. These belts are in short supply: AVSODM Mag 4MAY-8-1V 11-1580 (25 Nov 68) give more wrap on this A-C generator.

## PRE-OIL WITH STARTER

There's no need for you find work on waste your efforts looking for a pre-oil procedure to hook up a pressure tank on your opposed-type recip engine. You won't find one. Pressure-lube the dry gears and bearings by running the engine over with the starter, according to the prep in each field organizational maintenance job and TM 11-404-5 (May 66).



## THE NOSE KNOWS



LOOK UNDER YOUR NOSE!



Fast forward to the cockpit of your T-41B Warhawk!

Follow your nose to the drip, drip, drip!

While you're checking out the fuel system, locate the drain tubes under the floorboard in front of the co-pilot's seat.

The connections on this baby have been known to loosen up due to vibration ... stabilize a loose nut!

Re-torque the connection nut to the torque value specified in the maintenance manual — that'll stop the leak!



## ROUND OFF THE CORNERS



Dear Editor,

It seems like maintenance types are always losing their clothes and coming up with rags when working around Olinco (OH-45) engines with the cowling open.

The upper engine access cover and attached side covers are the chief culprits.

So, we took a life and mounted all the 4 corners of all 2 covers ... got rid of those damn corners once-and-for-all.

One point, the whole nose the corner radius is no more than 1/4-in maximum.

Norman J. Bunting



*(Old Note — Good going. The Aviation Systems Command goes along with your suggestion.)*

You can't think the High Rate 3074 Gun is an LW when she married with the M21 submachine on the Heavy Gunhouse.

So you already know a good bit about the M21701 submachine and especially on the Canyon P30 (aka) the "Loach."

# LOACH

WITH THE MOST

"EASY TO INSTALL...  
— IN YOUR GARAGE NOW!  
IT CAN BE DONE IN  
A FEW MINUTES."



The T3270M gun's the same... and also for its operation and maintenance. But M21's a beast on the submachine... has only from the left side of the Loach. This takes a different type of installation, different sighting equipment and several other differences that require specific know-how from someone crew and pilot.

You can install this system in 5 minutes or less. Just attach the mount securely to the hard points with 3 quick-release pins — 2 on the floor of the cargo compartment and one on the bulkhead. Then mount the M21701 right and roll assembly to the bulkhead with a bolt and quick-release pins and finally secure the right and mount and electrical connectors. Done!

Your pals — TM 9-1085-208-12 and -209 (Rev 071) — will show you in on the specifics, but here's some handy PM tips don't run the way to better performance.

LET'S GOBY BY PLACING THIS BRIST-ROCKING BEASTY INTO THE AIRCRAFT MOUNT!



**STEP 1... MOUNT UP!**

For the ease support on the air field mount, fit the front down and also rear support onto the ball mount.



**STEP 2...**

Slide over the gun locking mount to make it fit — and make pointing forward. When the gun is locked, the mount will lower — to allow elevation — or you have a little slide from the side and make it pointing up.

Operation of the gun mount requires that the lower right release pins, which secure the lockable trigger, be mounted upside down. Failure to do this may cause failure of the gun during flight or operation of the gun. Check for the correct locking. This is the end of pin and lock.



**LOADING, MOUNT UP!**

Follow instructions on detail on the side of mount box lid and you'll be sure to load brass right. Follow the correct Waich for long rounds. Your job is easier if you have the 1000-round perforated belt. But you'll still have to split a hole to get the full 2000 rounds.



ARMY AIR CORPS







DOIT BRINGS

called for. In watch for the long round. Please! And remember, NEVER load more than 2000 rounds, or the mouse will bind and cause a gun jam.

Slide loaded mouse box on to the mouse. Be careful not to damage the mouse mouse load sensor switch. Lifting a 150-lb mouse box puts a strain on my Ampmuth —, so you know what happens when it's dropped on the rear mouse assembly. It'll bond every time.



Eventually the mouse adapter binds and then the mouse jams up the works.

If it does, try this fix. Releasing the rear mouse assembly by inserting a piece of scrap window mat — 2 x 3-1/4 inches — under the skin. Run out a hole for mouse to feed down and drill 2 holes for screws to fasten the plate down.

When you lay that heavy mouse box down on the mouse, check to see that mouse is in full contact with the housing before you screw the latches. If the mouse console is recharged and the latches are tight the mouse block can cause a heap of damage to the mouse.

Mouse console get the gentle treatment, use, Nicks and gouges cause jams.



**Final check:** Be sure the lid is latched right. Then, fire. (After use, debris can always be cleaned up by your Miter and if enough get into the ammo bin, you'll have an ammo bin to be sure.)

Load up the ammo chute. Place ammo in the holder.



Manually rotate the barrel until you reach the end of rotation. On the M1070, the de-licious Miter spouts pull ammo from the ammo bin. On the M1071 you have a more involved system.



In addition to the ammo bin, the M1070 and M1071 have a second, a third, if it looks set, firing ammo will be out of business.

**VERY  
CAUTION**



**TIP:** The dust seal in the bearing and tube assembly can work loose during operation. Check the whole assembly for security frequently — especially if you're operating in real dusty areas. If seals are loose or gone, sand and dirt will wear the gears to cause a grinding noise.

**Tip: Don't  
forget to  
check  
TIP: CHECK  
TIP: CHECK**

When the gun is in the full-down position, the bottom quick release pin — which secures the right control rod — cannot be installed or removed. **TIP:** Reverse the right drive timing and install the pin from the opposite direction. Here's how: Remove adapter sleeve, then the nut that secures the right drive timing screws are easy to reach.

**NOTE:** While resetting and hooking up cables to new electrical circuit is off, 2 circuit breakers are pulled, **ARMED/SAFE** switch is in **SAFE** position, **ARMAMENT CENTER MODE** switch is **OFF**.

PULL 2 CIRCUIT BREAKERS AND—JUMP BIT ON THE SMALL MOUNTING POINT AT EACH END OF THE SAFETY CONTROL ROD... USE THE GOOD OL' SPL.

I'M YOUR REPLACEMENT.

GREAT! JUST IN TIME.

GET A CRY OF SPL?



After gas spring is installed on the end of the control — the control is dropped — the split control rod should be moved to the split bar.

**NEW COVER  
OVER GEAR**



**COVER FOR**

Keep solenoids, dia, dia, what have you out of the control line, connections and connections. If the gas stops doing, trouble down the control line.... down the electrical system. Take a look at the PU plug to see if you have a black receptacle — means a short for sure. Replace cable.

You'll have no trouble hooking up the 2 electrical connections on the control line assembly. Each connection is a different size and fits only one receptacle. The gas drive cable assembly, which has plug PU at opposite end, connects to J1 and J2 gas to the X27001 gas sight.

#### CLAMP THE END

After resetting the 3 large bolts that hold the gas drive motor on the gun, inspect all gears for wear and broken teeth. Anything worn here, needs direct support.



When removing gears, build-up on the main housing assembly, keep all nut-washers off the front and rear bearings.



Check these plates for electrical gear-drive motor seal-up after a couple of months use. This is the only place where serial number is found, so why not mark the number in the gear-drive housing?



### MARK OUR WORDS

While mounted, just keep the beam-splitter and housing lens clean. Ask those in rag it called that. Never use grease paper or rag.

No grabbing the support arm way out on the end — it'll bend or break. Also this is no hand hold for pins, screw shank, capstan or otherwise. When putting the arm in stored position, place hand near lens-housing and close firmly.

To remove the lamp housing, remove 2 screws.

The bulb-hump is a 2-diameter-dial and the light shines on the other diameter. So when you check the lamp —



by slipping the lamp which — and you find one thousand failures, replace with a new lamp. A 1-diameter lamp while being down a case has tricky failures. If it goes forward there's no way to right. Right? Right!



If you have to replace the lamp — OE 844 — you guess the same that the bracket goes down toward the front of the lens housing. It will fit the other way, but you'll get light out the back end . . . a real horrible example of Murphy's Law!

Murphy's law: If an object just can be installed incorrectly, someone will install it that way.

### FOUR-UP OPS

When working around lenses, never lay anything on 'em. Think 'em up every time. A dented lens will stop some loading for you.

Wants to see that all ball bearings or quick release pins are where they're supposed to be — in the pin — present and accounted for!

When you see the NO STEP sign anywhere on the system or the Launch, obey it.



You can't fire the EMTEI salvo-sets while the Coyote is in certain flight regimes — the skidding, sidewind or yawward flight, acceleration and partial power descent.

If your selected launch has had its horizontal stabilizer modified — MWD 55.

1-23-114-80's — you can only fire the sublight at the 100% launch-per-minute rate.



Flows will have to hold back on the rate and use only 80 hours to push the Coyote through the sky when the main parachute doors are off and the cargo compartment is unsecured.

If you have 40 lbs of fuel — or less — or when the low fuel caution light flashes, you can't do any unorthodoxed maneuvers.

If the cargo compartment is not unsecured, the loads may be blown with all doors off or with crew compartment doors on the cargo compartment door-off. You never fly the Launch with crew doors off and cargo doors on.



GENERAL  
&  
SUPPLY

## 5KW FERMONT LAMP FIX

HEY!

WHO BLAME  
THE LIGHTS!

ARE YOU  
TO GROUND  
THAT 5KW  
FERMONT  
LAMP?



The 220 volt light on your 18.75 KW-FERMONT generator set can put your power pump out of business.

Some of these sets get out with the positive terminal on the lamp base wired to ground and the negative lead wired hot — to the (+) side, that is. If you try to change a fluorescent bulb and scrape the lamp shield against the socket, you get a direct short.

On these sets, any wire marked N is a ground wire, and you hook the N pole on this lamp this way to the lamp base. The "hot" or (+) wire goes to the center contact prong. Wiring is the same for 100 watt lights, too.

On your wiring diagram, you'll see that wires L12A18 and L12B18 go to the positive pole on the light socket. It



SOCKET IS IN DIRECT CONTACT WITH SHIELD IF WIRE IS STRIPPED, A SHORT OCCURS.

is marked with a small (+) sign. Wires P12A18M and P12B18M go to the common ground pole halfway between your two panel lamps.

Check Figs. 1-1 and 1-11 in TM 5-6115-102-11 for the diagrams . . . and examine both of these panel light bases while you're at it.

## MIL STD ENGINE ONLY

This Condit dual wiring kit is only to be used with your 6-17.5HP to 26-HP military standard engines. When you order from the U.S. Army Mobility Equipment Command, ATTN: AMOBE-MO2, 480 Good Fellow Blvd., St. Louis, Mo. 63108, be sure and tell how many you need.

ON THE  
ENGINE  
ONLY...  
ON THE  
ENGINE  
ONLY!



COMMERCIAL ADVERTISING

## NEW PUB SMOOTHERS SAILING

AREN'T YOU  
GETTING LONELY?  
I BEEN SMOOVED  
YOU WILL!

IF ANYT'IM  
I'M UNCOMFORTABLE  
— IT'S JUST THAT  
A NEW ONE NOW  
WILL SMOOVE  
TROUBLES  
AWAY!

Want to get the jump on gearbox breakdown?

You can beat 'em off on the job with the aid of TB 3-5000-200-11 (Just like Scheduled Replacement of Gearbox Oil).

All the tips and supply tips you'll need to get new sets for old are right in the job. Just fill out the forms and mail back — you want to give 'em room to park your new tip.

Besides telling you when and how you make the switch, the new TB gives a list (in Appendix II) of the whole M&D gear family, with you how much service you ought to get out of commercial (or Performance Sport) sets, what the real life is on M&D gear life — and even allows you a new engine on M&D gear sets up to 10-KW every 1000 hours. Now you want egg in your hand?

## EASY ON SHIFTING 440HA

Head off transmission lockups on your WABCO Grader by using your clutch pedal right. Leave that pedal about 1/4-1/2 inches off the floorboard when backing or shifting while in motion. Otherwise, the transmission locks in gear. Forcing to relieve the lockup just breaks the teeth. Free each lockup by just easing back on the clutch pedal a little . . . then make your shift.



HEY CONE! WE  
GOT A MAINTENANCE  
PROBLEM!



## *Connie Road's* BRIEFS

### *Checkout on Sets*

Your latest listing of components to be removed from equipment cabinets, racks and sets and reported as separate and items in AR 722-8 (7 Oct 88). You need it to update supply and equipment log records. It includes FMTs, new and old DR's plus notes and models affected. This BR supplements DA G 722-11 (May 87) and WAAFC Msg 112EP (Apr 88).

### *Have You Heard ???*

You've now authorized Lites under vehicle maintenance facilities, FPM 4910-242-8890, in your common tool kits as an "as required" item. Ch 3 (Dec 88) to DC 4918-93-CL-A74 (No. 1 Common) and Ch 3 (Jan 89) to DC 4910-93-CL-A73 (No. 2 Common) give you the word. You don't get the toolkits with your set, but you order 'em if you need 'em.

### *Concrete Cooling Pipes*

Been scratching the concrete tail on your M417M guarantee rig when you have to move in a hurry? Well, here to move! Take off the exhaust pipe extension between moves. Just protect your hands when you remove the hot pipe, and reinstall it when you set up to work again.

### *P.L.L. For Reserve*

All T224 (Mar 88), Army Reserve Maintenance Repair Parts Procedures is needed along with AR 722-21 for setting up P.L.L. SOP for the Reserve type. And, where the 2 rag disagrees, the 4 has the last word.

### *Need an Armed Car Radio?*

If radio set installation units for your AM7981 light armed car have you bogged, hang in there, friend. You need installation unit FPM 5008-130-2148 for the AM79C-1 Intercom set, FPM 5020-130-2144 for the AM79C-42 radio set, and FPM 5020-142-2021, which handles all of the following radio sets: AM79C-44, AM79C-45, AM79C-120, AM79C-144 and AM79C-150.

### *Discard That Guard*

Good, good news for all you radio equipment types who've been bogged by broken goods on AM79C-12 series radio set components.

The beautiful word is in 4910-11-5020-011-2021 (17 Jan 89), which provides a set of handles.

*Would You Stake Your Life <sup>and</sup> on  
the Condition of Your Equipment?*



On  
Any  
Weapon !!

CLEANING  
+ LUBE

---

...THE  
PAYOFF

