

Issue 221

PS

1971 Series

May

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY

THE TRICK IS  
EITHER TO, OR  
THE WAY YOU CLEAN  
YOUR WEAPON!

IF YOUR  
MIGAL  
COULD  
TALK  
HE'D SAY  
THAT

Call Boyer

# SUPPLY PROBLEMS?

# TRY CSDP

Ever hear of CSDP?

Don't let it worry you, because a lot of guys haven't either.

It means Command Supply Discipline Program and the word on it is in AR 700-107 (31 Feb 78). Under this deal your command sets up a command supply review team. This team is made up of specialists in supply whose job is

to perform intensive supply assistance visits throughout the command to assist operating units in identifying supply problems and resolving difficulties before they become serious or chronic.

AR 700-107

You can't beat that for help in your supply problems.

If your command's team hasn't been in your supply operation area's backlogs get them involved. Your own S-4 or C-4 can give you the word on when they will be around.

The team's there to help you. Call on 'em if they're not called on you. The results can be real good.



FOR MORE INFORMATION CONTACT  
 MAIL ROOM, 222 2222 AVENUE  
 WASH DC 20375-1000

COMMUNICATIONS 01-01  
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DIAGRAM #8

# PUT ZAP IN YOUR CHAP



Your Chaparral guided missile system installation is not completed until you maintain your Chaparral.

There are things you *gotta* do, things you *shouldn't* do, and the right way to do it or not to do it.

So, prepare to handle these precautions and suggestions.

Excessive use of water makes the wagg components wet, causes corrosion. Be right with the liquid during cleaning.



Especially vulnerable are the generator air control lines and the wagg area over the motor control panel.

And, uh, keep water out of the wagg compartments. There's no drain to let it escape or help it dry up. It's a real killer on the wagg motor mount.

## WIRE UP

Before disconnecting the generator air control lines, disconnect the 2 negative cables on the battery.

If you don't, the jolts you can have can damage the control line, the cables and connectors, or anything else they touch.



In any case, the wires on the control line panel. Prevent binding, bending and panel rattle. Keep 'em up, but no more is necessary.



The cable holding the control line cable on a different size. Approx. 1/4 to 1/2 inch. MINIMUM, ONLY.

## WAGG

Combat with those Wags. It's inevitable when you get 'em down to the generator's compartment. Big foot loose wagg rollers, and the compartment's got 'em (eventually).



## WAGG ROLLERS

The rollers, or wagg rollers, which secure the launching motor to the

vehicle requires some brief but special attention when you're about to connect it.

The rollers after fitting in the bolt head fits with dry and-oil and road debris ... and it's gotta be clean so that Wags



do their job without it'll be all the way down.

Grasp the guide with a stick, blow it out with air, or use anything else that'll do a proper cleaning job.

Otherwise, the wagg rollers which must be applied to fine the bolt-on strip the fitting. And then, friends, means a major project is getting to the bolt and greasing it up. Heavy, many hours of work are required.

So, it's better to use a few rollers and clean the fitting.

## CARRY CARE

Deals with the accessories which covering the storage assembly fitting.

at the base near the rubber gasket. That breaks the seal . . . and allows outside fumes to enter the cockpit and get to you . . . or your buddy.



Another rubbery area to worry about is the rubber on the air conditioning filter. Adjust the filter carefully so you don't tear it up.



#### LAMPHOLDER

Lampholders in the cockpit panel should be tight right . . . and that's all. If the lampholder turns after you screw it all the way down, go inside the panel and tighten it from the rear.



The only bulb that goes in the lampholder is Type 503. No size. Otherwise, you fool up your test results.

#### SWITCH PINS

That heavy switch at the top of the COMMUNICATIONS light handle panel is spring-loaded in the RADIO XMIT position.

Meaning, you've got to hold it in position when you're transmitting. If you try to force it to stay put, you'll break the spring.



It does stay put in the INTERCOM and INTERCOM/RADIO/SCVR positions, however.

#### CABLE



No matter which cable you're hooking up, do it carefully. Line up the guide key, then turn the connector. Turn over and underneath as the connector; don't pull rubber off, or rub it there into place.

#### THE SET

Keep that lock ring on the connector of the AM/DOOR-View out. Otherwise:



## STEP 100

Line up the blue line on the P200 plug of the sensor with the blue line on the alternator section . . . and you won't have to force the plug into place. Beneficial? You know it.

While you're moved toward doing it the easy way, consider the O-ring on the air purification filter.

A dash of silicone grease K21-000 before you install the O-ring will allow it to seat properly . . . and save you problems.



## THE EARL ROAD

Warning: the inside lens plate on the valve damages the ceramic insulators of the spark and firing pins.



While moving an elbow . . . and a repair job.

So, push it firmly into place . . . but not the ground elbow.

Also, it's not necessary to swing the bench tall door wide. You break off the cap chain.



And, before you go away, disconnect the hydraulic servicing unit before you start the system. Otherwise, you'll blow it—the working unit that is. And don't forget to re-connect the low pres-



sure fluid return line to the hydraulic pumping unit. If you forget, you can't re-pressure the hydraulic fluid center in the hose exchanger.



# **XM42 COFT TIP**

Having trouble with that 2-headed  
socket, the XM4 cable on your XM42  
Combot? Of Two Textures!

Plugging the FI connector from the  
primary power supply (PPS) and the FI  
connector from the power control unit  
(PCU) can leave you talking to yourself  
as you check up the wall.

There's an easy way to do it, though,  
likewise ...

1. Stick up the FI connector of the XM4  
cable to the primary power supply (PPS)  
and the FI connector of the XM4 cable to  
the power control unit (PCU).

2. Now lower the 2 drops holding the  
power control unit (PCU) and copper lead wires in  
the lowering slots.

3. Tightly fix power control box around  
and you can easily make up the comp-  
lete XM4 FI connector at the XM  
cable.



4. Now slide the power control box and  
adjust the drops. (Illustration)

SLIP THE FI CONNECTOR ON  
THE FREE END OF THE XM4  
CABLE INTO THE SLAMP  
RECEPTACLE IN THE  
DRIVER'S COMPARTMENT  
AND ROUTE IN  
BUSINESS.



WHEN FANS ARE TIGHTENED ...

## SOMETHING'S GONNA HIT THE FAN

Here it is for all you AYCER 1700-2 and -2A engine fans. . . Both the cooling fan water housing and the rear housing on the rear fan are different from the rear housing and water housing on the front fan.

These 4 housings have got to be used with the proper (rear or front) cooling fan or you can get into trouble with the fan or maybe it won't even run.

Here's what to look for . . . The rear (Myzard) cast cooling fan water housing is the deep one and measures about 2 1/4 inches thick at the outer rim, while the front (accessory) cast cooling fan water housing is a full inch thinner, measuring only 1 1/4 inch thick.

Same goes for the rear housings. The one for the rear fan goes in at 2-1/2 to 3/4 inches while the front one is only 1 1/4 inches.

Give these housings a good sharp look and if they seem to be wrong place, get your haulover mechanic to help you put 'em the way they should go before something gets broken.



While you're looking over the engine, give a blow of the eye to the left and right engine and transmission oil cooler screens.

The idea is to have the screens overlap the cores at the top which keeps (junk and crud from falling between the screens and the cores. However, if anything should get down through the screens, the water cores are fitted in at the bottom so it can fall out between the screens and the cores.

If the screens aren't right, your haulover mechanic will help you get 'em that way.

# MISS! LATE NEWS FLASHES



YOU'VE BEEN DOING A GREAT JOB ON YOUR MISS! TO SHOW... MISS! ON A SPECIAL REPORT TO BRING DOWN ON LATE NEWS!



MR. NEWS

## ASSEMBLY MISTAKE #1

A silly assembly mistake can give you problems as clean as a new penny. It costs a lot of conventional money you see.

It's a good idea to use GM Parts 2088-4 to record the date and number of months from 1 Jan, say, to 1 February 28, 1971 and you have just checked the date.

This is what you'd want on the 2088-4 . . . Drive assembly marked 2/28/71—26 months.

Whether you have the early or late model drive it needs to be checked right and you have to replace the perforated parking. P/N 1130-189-0991 (P/N 11378-228) when the drive is checked it means it's right and



the correct torque. Pgs 11-21, 11-23, 11-23-E, 11-23-E, and 11-25-4 in your TM 9-1180-298-11 (Just don't give you the torque on doing this.

Regardless of you've got the early or the late model drive it has to be maintained right or you could have gas leakage which causes wearing surfaces and causes early failures.



PUMP  
VALVE

VALVE  
PUMP

Like it says on page 4-4 of Ch. 8 in your 9-1270, driving your fuel filter, both primary and secondary, in before operation starts. This is not necessary to don't shut off on it. Also, pump operation from the center fuel tank. (No one thing you without the other.)



HOSE IN CORRECT POSITION



IF PUMP WON'T WORK ON YOUR MODEL

MR. CHECK

There are 3 right ways to check your air-fuel mixture and 3 couple of wrong ways.

1. Loosely back out the jets with your hand.

2. Wash the element in soap and water or use a good cleaning, detergent or oil wash die.

3. Use compressed air to blow the jets out . . . not to dry a wet filter.





### HERE'S WHAT YOU DON'T DO:

1. Keep the dozer on the front or rear ends of the vehicle.
2. Hold the dozer near the engine exhaust and let it blow the dirt up behind you instead of the oil.

### TRACK TENSION

Correct track tension is very important for easy riding on your M11. You only have 1/2-inch leeway. Anything from 1/2-in. to 4-in. over the No. 5 roadwheel is OK. If your track is too tight you get unnecessary track and sprocket wear, engine overheating and compression damage. If your track is too loose you run a chance of your center guides misaligning—which can ruin track and break up roadwheels.



### SHARPENING TRACK



When you break or remove track, do it so you get an 8 to 9 degree angle like is shown in fig 1-5 of Ch 3 (page 1-40) of your -11 TM. That way you won't wind up with a bad beveling.

### ENGINE OVERHEATING

Page 1-11 in your -11 TM shows your talented track mechanics how to manually lock up the cooling fan drive. This is called an "emergency procedure" but if you're in a place where your engine runs hot all the time, that is an emergency. So have him lock up the fan.



## CHOOSING THE GEAR

Checking for correct level of coolant in the radiator and oil in both transmission and engine is a before-operations must. Slipping it is a No No.



## OPERATING RANGE

To be an easy rider on your MINI you need to know when to shift from one range to another. Driving along in too low a gear or too high a gear, in relation to the vehicle speed, heats up the engine because the engine and transmission have the same cooling system. Remember, this is not an automatic transmission.

Pick out the right shift range according to the ground you'll be operating over from this table. (Always start off in the low range.)

KIND OF TERRAIN	SHIFT RANGE	MINIMUM RPM (THROTTLE OPEN)	MAXIMUM RPM
Bad, deep sand, high hills, steep grade	1st Gear	1,000	2,000
Moderate slopes, wet/loose ground	2nd (low-intermediate)	1,000	3,000
Good surface and rolling ground	2nd (high-intermediate)	1,000	3,500
Flat level surfaces	3rd (high) 4th (over) 5th (over)	1,000	4,000 3,500 3,000



## INSTALLATION UNIT

The M11 device unit can be mounted on your MINI if your CO gives the OK. TM 5-4150-206-13 (Rev 85) tells you how to work. Mount it on the left hand side of the air cleaner access door at the left end of your MINI. Use the bracket as a template to drill the necessary holes. The mounting hardware—screws, lockwashers and nuts—does not come with the unit. You'll have to get your own.





WE'VE GOT TRANSMISSION ...

# BEYOND THE OUTER LIMITS



No other equipment will last forever. Nobody expects it to. Everything's got a limited life. But how long it lasts depends a lot on operator skill. This goes for your H11141 around personal, commercial and every part on it. You can only do your best ... to get the most out of it ... for the longest time.

A lot of H11141 transmissions are dying too soon. You know you've got a sick transmission when it won't shift ... or it slips now 'n' then ... or it won't drive your SUV at all. Well, it could be just a case of your shift linkage being out of adjustment. So you repair your trouble. Or it could be adjusted.

But that's not what most of the transmission trouble is. The real cause of 'em are out there in the prime of life ... broken ... all over the place.



Overloading for me.

YOUR TRUCK'S ALL UNDER WEIGHT ALL WONDER YOU WANT SO MUCH TRANSMISSION TROUBLE!

Four driver P/B for number. Especially. Drivers who don't operate four-wheel and four-wheel drive, drivers who don't run their before-operation checks.



OH, NOW I SEE YOU'RE SO RICH!

YEAH, I HAVE 1,000,000 DOLLARS BECAUSE OPERATING FOR YOU.

Your H11141 doesn't shift to the fullest. It only transmits to the extent right. There's a difference.



I CAN DO BETTER BETTER. YOU AREN'T IN FOR THAT, ARE YOU?

Like anything else, your H11141 has its limits. Sometimes, when there's a real need, you can even push it a little over the limit. If you handle 'er right, she can take it.

Like weight. A payload of a 27 over 3,000 pounds is what your H11141 is built to carry. That's supposed to be the limit. But you may have a need to pick up that load in a real pinch.

You're bigger for it if you go over a 3,000-lb payload ... that's definitely your max limit. And, more than ever, this calls for a sharp driver. One of 'em will drive the all 'em do to handle that load!



THAT'S A WEIGHT.

WELL, MAKE IT OK, AS LONG AS YOU GOT YOUR FEET BRICK!

THE MORE YOU PUT INTO THIS, IF YOU GOOP UP IN THERE, WE'VE GOT!



Your Mi1141 is tough, all right, but a lot of 90-lb. walking can test it up. You've got a lot of horses in that diesel engine. It just doesn't know when to quit—but you should. Your engine sends power through your transmission to make you go. It's up to you how your transmission handles that power.



Just because you've got an automatic transmission doesn't mean you can sit back and let it shift for itself—*not quite.* It shifts automatically only inside the range you set it at.



Which range you pick depends on your operation. Figure 2-16 is your Tilt 'N' Shift. It's a clutch. It's a 70 shows you the range-for-terrain. And page 2-17 gives you more pop-on Range Selection and Shifting.



**YOU CAN USE 1 RANGE FOR OPERATING ON SLOPING WATER**

The best of your transmission depends on how you shift manually when it's needed—especially gears 3-4-5(6/7) in your 4R70™. And, equally important, along with manual shifting is downshifting at the right speed—like it says on this plate (you're the right of your own).



3-4-5(6/7) FOR  
DOWNSHIFTS  
WITH SOFT LINES

SHIFT  
RANGE

1-2 TO 1-3 RANGE 40 MPH

1-3 TO 1-4 RANGE 20 MPH

1-2 TO 1 RANGE 10 MPH

**NOTE** — Shifting in the 3-4 range mentioned (in gears 3-4-5(6/7)) is not — illegal. This word used in all comments in a TVR, from the U.S. Army Tank, Automotive Laboratory.

Downshifting at too high a speed is a hard transmission experience. So it stays long in low range at high speed.

**VUUMMM**



That transmission is now between a rock 'n' a hard place with a cowboy driver at the controls. Besides leaving the engine revving up the transmission from the power side, he's likely to do some dirty work from the other end—sudden stops under a heavy load and steep turns at high speed.

Some guys seem to forget they're operating a cracked vehicle when they handle those moving boxes—either the differential boxes or those last-ol' pivot boxes.



It's nothing like steering your car or truck. You're not just steering from rotating wheels to make a turn.

When you steer your SUV/11, you're putting the brakes on—either on the right side or left side, depending on which way you want to turn.

Now you get the idea of what a shock you're throwing on your pivot trails—including your transmission—when you make a sharp turn . . . at high speed . . . with a heavy load. Especially when you give a yank on one of those pivot nuts toward

the other. What do you think happens when you make a sudden stop . . . at high speed . . . under a heavy load? You're skidding! The brakes on both sides at the same time!

In an emergency  
might have your car  
like brakes. If that  
ever happens to  
your power-brake is  
better than plunging  
into another vehicle  
or sliding over a  
cliff.

YOUR CAR  
TO BE BUILT,  
AND THERE'S  
NO TIME TO  
BE WASTED  
BUILDING  
ANYTHING!

But you'll see some great making jack-rabbit cars at high speed and making sudden stops when there's no real need for it at all.

Then backup transmission kill the way.

OH, OH—  
I THINK MY  
CLUTCH PARTS  
ARE STARTING  
TO GO AWAY!

Enough heat will  
ruin anything—  
like clutch! The gas  
out of your MILK-  
MIL transmission.

When the heat starts over 300°, your clutch plates start to expand. You'll get slippage and jerky shifting when your transmission's about ready to give out altogether.

So what's an MILK driver's good to do about heat build-up transmission—especially when he's speeding in an oval like Southeast Asia?

First off, you stop—right now—if that TRANS OIL IN TEMP light goes

on. It comes on at about 300°. There's no time to keep pushing on—you want to get much further away.

TRANS OIL IN TEMP



Could be your transmission's low on oil.

Did you think it before you started out? That's one of those before-operation checks you, the operator, have to make. Nobody else's going to do

It's for you. You're going to have the headache when your transmission gets a warning when you're in the house. Your transmission will check procedure is spelled out under Inspection 4 in Table 5-1 of your '88 TM. And the same goes for the POWER TRAIN MAINTENANCE plate a few inches from your right toe.



Did you know that too much oil in your transmission can cause just about as much trouble as not enough oil? It's a fact. So when you're adding oil, bring it up to the FULL mark — no more, no less.



Wrong oil, dirty oil and a dirty oil filter are other ways the transmission can malfunction. SO-9-2800-277-12 (Nov 88) gives all the straight pump-up rules, from 'a' rules for regular transmission service.

You may see that HI TEMP light go on, too, if you're stuck in a stop, using your transmission to hold you. MIL-AL. No good. That. Fast is, your '88 TM tells you real plain (pages 2-122) that that's a mighty good way to wear your transmission. Instead, put 'er in NEUTRAL, if you've got to keep your engine running, and put your brakes ON.

Put your  
oil in, but  
don't let it  
get too hot.  
NEUTRAL, and PUT  
MY BRAKES ON



Listen, my friend, when a dealer—*I just happen to be AMC's chosen consultant*—

You've heard that "a liter hit liter". Well, that "liter" can be downright fatal when it's dirt, trash, or even a small snake and around your transmission. That junk keeps air from circulating around your transmission and killing heat! Keep your whole engine compartment clean.

Air flows most through your engine compartment, but the right way to keep everything cool—including your transmission, looks, you got up—the air flow by leaving off the hood panels. Oh yeah, you'll pull a nice dash through to cool you and your passengers—while your transmission cooks to death.

Leaving your drain valves open also gets up the air flow.



If you've got to take those hood panels off to get to your engine compartment, put 'em back on when you're through. And make sure you close the drain valves after draining.

There'll be no problem of somebody "cooking" your transmission so long as you do everything you can to "prevent" it—*that's what's known as PM—preventive maintenance.*

You learn best by experience. And, if you're really interested, you never quit learning. If someone of you guys who's been running M1114's for quite a while should take another look at your 26 in TM 11-586 (Aug 67), Manual For The Trucked Combat Vehicle Driver.



WHENEVER YOU GET TO THE POINT WHERE NO LEARNING IS TAKING PLACE, YOU ARE PROBABLY LOSING ABILITY



# MULTIFUEL OPERATION



ORDER...  
1000-2818 -  
FORD BOND  
CLASS - "BUT WE  
CLASS - 404"  
WIRE IT UP!

Dear Mr. Bond,

How do we get the sheet, logbook, report and driver's billfold card for multifuel engine fuel operation? Our local command wants us to use 'em.

CHD 2, 4, 16

Dear Mr. J. A. B.,

You can get all 3 items in a kit, FM 7600-401-5210.

For replacement, you can get 2 of those items separately:

Local Gt. post on the fuel sheet, FM 7600-401-0190.

Driver's billfold card, FM 7600-401-1120.

This is strictly a local command deal now. There's no DA requirement for them — yet.

*John Bond*



THESE ARE  
GREAT TO HAVE...  
IF YOUR LOCAL  
COMMANDER  
WANTS 'EM!

104

105

11

# RIVETS AND YOU

Dear Herb Ross,

What's loose and what's not on our truck and trailer frames, components and brackets?

—DPA G. M.

Dear Specialist G. M.,

If a rivet can be turned or wiggled with your fingers, it's loose in a joint.

**1** But you should leave your rivet inspection down to a lower edge to get these rivets too.

Give your rivets a tap with a hammer and listen for a dull sound that usually means it's loose.



**2** Double check a suspicious rivet. Run a little light all around the edge. Give the oil a few seconds to soak in and then wipe all the oil off with a rag. Then give the rivet another good tap with your hammer. If all shows up around the edge of the rivet, you know the rivet is a loose one.



**3** Look for corrosion around the edge of a rivet doesn't always mean it's loose, but it's a good reason to check it out real close.



**4** Put your eagle eye on the edges of those parts that've riveted together. Look for signs of movement between the parts—here, they point in other areas.



**5** Don't hang your drains on the frame repairs, though. That's your supplier's job. You just find those loose rivets and report 'em. They'll replace bad rivets with bolts, bolt nuts and hardened steel washers like it says in TR 9-1000-207-40 (Rev. 77) and its four changes.



YOU FIND THE LOOSE CORNERS, BURNING POC THE!

Herb Ross



MECHANIC 10-TON TRUCK...

## FILTER FITTINGS



COME AND GET 'EM!



Come and get 'em, you guys with the stacked oil filter hose couplings on the 8003141C 10-ton truck (shown). New fittings are now in the stock line under ISM #780-980-9411.

Be careful when tightening the coupling nut.

You'll have to use an optional wrench on the flats of the upper brass section as you work your wrench on the nut.

This way you won't drive the brass section deep in the nipple and bust the coupling.



DON'T GO TOO HARD — GET NEW COUPLING



USE THE NEW FITTING TO STOP

## 5-TON STEERING NUT NOTE



When I see nut/bolts on your power steering for your 5-ton truck, stop to check. Some early models got mixed with loose nuts that work loose. Replace with new ones, 14 x 1 1/2, ISM #880-983-1800, stamped on 148 178 lbs. And even if you have a late model, check the nut.



## PLA FOR PLL



WHAT THE HELL'S THE PLA FOR THE WHOLE-THEE TRACK? I'LL TAKE IT OFF YOUR TRACK.

CAREFUL, THE WHEELS!



You'd better make sure you've got the latest organizational repair parts manual—and all its current changes—for your tracked and crawler vehicles. You may find your vehicle has a new PLA (Prescribed Load Allowance).

For the Active Army, this listing replaces TM 9-1588-103-RFP, the Consolidated Authorized Organizational Inventory List of Repair Parts for Tracked-Automotive Material (CAOIL). Watch close, though—the new PLA may not say it has replaced the CAOIL data for that vehicle. If your parts manual has a PLA, you don't use the CAOIL to figure your initial PLL on that vehicle.

What's PLA got to do with PLL? Like it says in AB TM-81 (Nov 70), Para 4-2a . . . when a PLA takes a vehicle out of the CAOIL, you use the PLA to compute the initial prescribed load limit for that vehicle.

## SEMI TRAILER FLAPS

Trucks you're in a flap? Guess your old 4-ton and 13-ton semi-trailers don't have much flap? Article 1-14 in TB TM-900-2 (Apr 70), the U.S. Army Tracked-Automotive Command's KBG Digest, has all the goop you need for fabricating those steel flaps and supports.

## MANIFOLD HEATER



Make a note for the latest PBY's for manifold air heater ignition units. All manifold and diesel units use PBY 2990-917-8446. For track-laying vehicles, order PBY 2990-776-1441. That last baby has a radioactive component, so check with your radiation protection officer for the word to get to UNATACOM Msg 04 2012 Nov 70.

## TRACK PAD PALAVER

This goes for the T158E1 track on your M107 SP gun, M118 SP howitzer or M270 recovery vehicle. . . .

Why get more of it than you need?

If only the track pad is worn out, then just ask for replacement track pad P/N 21 54-100-02 15 (P/TM 1004-1004).

No more getting the whole track shoe set, P/N 21 54-100-11 01 (P/TM 1004-1001). It's harder to install and costs a lot more money.

So many guys have been over-ordering this way that supplies of the track shoe are an issue.

Plenty of track pads, though. So if you need 'em, ask for 'em.

IF YOU DON'T  
WANT THE  
WHOLE SET . . .



1004



... EGG'S  
ON  
THE END



## SNUG 'EM UP

In the words of the song: "Snug 'em up."

Otherwise, you're gonna lose the retaining knob, screw and washer on the side boom of your M-118's mine phone. Which'll hamper the effective use of your CPG helmet.

Why? Because you can't get the knob, etc., by its lonesome. You've got to order the complete boom assembly Under, etc.

So like the man said, check the knob occasionally . . . and tighten the screw.

And a point about the M8-50A boom set: It breaks. Lay the helmet down carefully, and keep the boom set up.



KEEP THE BOOM AND WEL  
SNUG UP

THE BOOM AND  
WEL BRAG ...  
SNUG  
WITH CARE







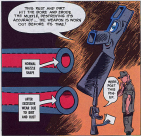
ACTUALLY MEANT TO HAPPENING TO  
MINE! THE SOUND GIVES THE PROBABLY  
PUSHES THE CHAT AND BUILT DOWN THE  
BARREL... WHICH IS NOT PROTECTED  
BY CHARGE,

THIS KICK AND JOLT  
GIVE THE BROW AND BRING  
THIS MURDER, IMPROVING THE  
ACCURACY... THE WEAPON IS NOW  
GOT BEHIND THE TRAIL!

NORMAL  
MIDDLE  
GASP

WITH  
EXCESSIVE  
WEAR DUE  
TO BANG  
AND BUST

WELL  
NOT  
THE  
BIG  
BY!





# Dope Sheet

THE CHAMBER'S CHARGED, BUT THE BOMB ISN'T!



Whatever the TIME and the SCENE, your rifles just gotta be CLEAN! Else the bore wears AWAY—Make the shot pattern. SPRAY, With his mighty gas for BETWEEN!

HERE'S HOW...

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

IF YOU WANT TO DISPLAY THIS CONTENTION ON YOUR BULLETIN BOARD, OPEN WINDOW, GET IT OUT AND PUT IT UP.

# FIRST

REMOVE  
THE  
MAGAZINE  
FROM  
THE  
GUN

DON'T POINT THE GUN AT ANYONE OR ANYTHING WHILE YOU CLEAN IT. ALWAYS POINT IT TO THE GROUND.



BEFORE YOU LOAD THE GUN, CHECK TO MAKE SURE THERE IS NO CARTRIDGE . . . (PARTS OF THE GUN.)

# NEXT

LOAD  
CARTRIDGE  
MAGAZINE

DON'T THE CARTRIDGE  
MAGAZINE BY CHANGING  
COMPONENTS... INSERT  
THE CARTRIDGE AND  
DO LIKE SO...

FOR FEELING  
GOOD...

THIS SHOULD  
WORK!



**NEXT..** LIGHTLY  
LOOSEN THE BOLT  
AND BARRYL  
EXTENSION.



**AND** LIGHTLY LOOSEN  
ALL THE LOCKS IN THE BARREL  
EXTENSION AND THE CAJETER  
SURFACE(S).



**FINALLY**  
REMOVE THE  
CALIBER PEEK  
ON THE TOWER POWER  
SYSTEM. BEHIND  
WITH SCREWDRIVER.





SURE ... IN ONE SIMPLE ACTION POINT DON'T SEE WHAT COMES



SURE



WELL... ONLY NOW THE'RE COMING



TALK!

I SAID TALK!



TALKIN ON KOPERS... OHAY AS YOU DO. WE IT HAS A BET I TRY TO CLEAR UP... OHAY, BETTING IS AGAINST REGULATIONS—YOU WANT A SUGGEST? GET BUSTED!

There's almost 300,000 people in America who are interested in buying a car. And for a long time now, the car industry has been a very competitive one. It's not just the big companies like Ford, GM, and Chrysler that are competing for your business. There are also a lot of smaller companies that are trying to get a piece of the pie. So if you're thinking about buying a car, you need to know what you're getting into. You need to know what the different companies are doing, and you need to know what the market is like. This is the information you need to make a smart decision.



**CONTRACTS**  
 1. 1974-1975, 1976-1977, 1978-1979, 1980-1981, 1982-1983, 1984-1985, 1986-1987, 1988-1989, 1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 2376-2377, 2378-2379, 2380-2381, 2382-2383, 2384-2385, 2386-2387, 2388-2389, 2390-2391, 2392-2393, 2394-2395, 2396-2397, 2398-2399, 2400-2401, 2402-2403, 2404-2405, 2406-2407, 2408-2409, 2410-2411, 2412-2413, 2414-2415, 2416-2417, 2418-2419, 2420-2421, 2422-2423, 2424-2425, 2426-2427, 2428-2429, 2430-2431, 2432-2433, 2434-2435, 2436-2437, 2438-2439, 2440-2441, 2442-2443, 2444-2445, 2446-2447, 2448-2449, 2450-2451, 2452-2453, 2454-2455, 2456-2457, 2458-2459, 2460-2461, 2462-2463, 2464-2465, 2466-2467, 2468-2469, 2470-2471, 2472-2473, 2474-2475, 2476-2477, 2478-2479, 2480-2481, 2482-2483, 2484-2485, 2486-2487, 2488-2489, 2490-2491, 2492-2493, 2494-2495, 2496-2497, 2498-2499, 2500-2501, 2502-2503, 2504-2505, 2506-2507, 2508-2509, 2510-2511, 2512-2513, 2514-2515, 2516-2517, 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2700-2701, 2702-2703, 2704-2705, 2706-2707, 2708-2709, 2710-2711, 2712-2713, 2714-2715, 2716-2717, 2718-2719, 2720-2721, 2722-2723, 2724-2725, 2726-2727, 2728-2729, 2730-2731, 2732-2733, 2734-2735, 2736-2737, 2738-2739, 2740-2741, 2742-2743, 2744-2745, 2746-2747, 2748-2749, 2750-2751, 2752-2753, 2754-2755, 2756-2757, 2758-2759, 2760-2761, 2762-2763, 2764-2765, 2766-2767, 2768-2769, 2770-2771, 2772-2773, 2774-2775, 2776-2777, 2778-2779, 2780-2781, 2782-2783, 2784-2785, 2786-2787, 2788-2789, 2790-2791, 2792-2793, 2794-2795, 2796-2797, 2798-2799, 2800-2801, 2802-2803, 2804-2805, 2806-2807, 2808-2809, 2810-2811, 2812-2813, 2814-2815, 2816-2817, 2818-2819, 2820-2821, 2822-2823, 2824-2825, 2826-2827, 2828-2829, 2830-2831, 2832-2833, 2834-2835, 2836-2837, 2838-2839, 2840-2841, 2842-2843, 2844-2845, 2846-2847, 2848-2849, 2850-2851, 2852-2853, 2854-2855, 2856-2857, 2858-2859, 2860-2861, 2862-2863, 2864-2865, 2866-2867, 2868-2869, 2870-2871, 2872-2873, 2874-2875, 2876-2877, 2878-2879, 2880-2881, 2882-2883, 2884-2885, 2886-2887, 2888-2889, 2890-2891, 2892-2893, 2894-2895, 2896-2897, 2898-2899, 2900-2901, 2902-2903, 2904-2905, 2906-2907, 2908-2909, 2910-2911, 2912-2913, 2914-2915, 2916-2917, 2918-2919, 2920-2921, 2922-2923, 2924-2925, 2926-2927, 2928-2929, 2930-2931, 2932-2933, 2934-2935, 2936-2937, 2938-2939, 2940-2941, 2942-2943, 2944-2945, 2946-2947, 2948-2949, 2950-2951, 2952-2953, 2954-2955, 2956-2957, 2958-2959, 2960-2961, 2962-2963, 2964-2965, 2966-2967, 2968-2969, 2970-2971, 2972-2973, 2974-2975, 2976-2977, 2978-2979, 2980-2981, 2982-2983, 2984-2985, 2986-2987, 2988-2989, 2990-2991, 2992-2993, 2994-2995, 2996-2997, 2998-2999, 3000-3001, 3002-3003, 3004-3005, 3006-3007, 3008-3009, 3010-3011, 3012-3013, 3014-3015, 3016-3017, 3018-3019, 3020-3021, 3022-3023, 3024-3025, 3026-3027, 3028-3029, 3030-3031, 3032-3033, 3034-3035, 3036-3037, 3038-3039, 3040-3041, 3042-3043, 3044-3045, 3046-3047, 3048-3049, 3050-3051, 3052-3053, 3054-3055, 3056-3057, 3058-3059, 3060-3061, 3062-3063, 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3792-3793, 3794-3795, 3796-3797, 3798-3799, 3800-3801, 3802-3803, 3804-3805, 3806-3807, 3808-3809, 3810-3811, 3812-3813, 3814-3815, 3816-3817, 3818-3819, 3820-3821, 3822-3823, 3824-3825, 3826-3827, 3828-3829, 3830-3831, 3832-3833, 3834-3835, 3836-3837, 3838-3839, 3840-3841, 3842-3843, 3844-3845, 3846-3847, 3848-3849, 3850-3851, 3852-3853, 3854-3855, 3856-3857, 3858-3859, 3860-3861, 3862-3863, 3864-3865, 3866-3867, 3868-3869, 3870-3871, 3872-3873, 3874-3875, 3876-3877, 3878-3879, 3880-3881, 3882-3883, 3884-3885, 3886-3887, 3888-3889, 3890-3891, 3892-3893, 3894-3895, 3896-3897, 3898-3899, 3900-3901, 3902-3903, 3904-3905, 3906-3907, 3908-3909, 3910-3911, 3912-3913, 3914-3915, 3916-3917, 3918-3919, 3920-3921, 3922-3923, 3924-3925, 3926-3927, 3928-3929, 3930-3931, 3932-3933, 3934-3935, 3936-3937, 3938-3939, 3940-3941, 3942-3943, 3944-3945, 3946-3947, 3948-3949, 3950-3951, 3952-3953, 3954-3955, 3956-3957, 3958-3959, 3960-3961, 3962-3963, 3964-3965, 3966-3967, 3968-3969, 3970-3971, 3972-3973, 3974-3975, 3976-3977, 3978-3979, 3980-3981, 3982-3983, 3984-3985, 3986-3987, 3988-3989, 3990-3991, 3992-3993, 3994-3995, 3996-3997, 3998-3999, 4000-4001, 4002-4003, 4004-4005, 4006-4007, 4008-4009, 4010-4011, 4012-4013, 4014-4015, 4016-4017, 4018-4019, 4020-4021, 4022-4023, 4024-4025, 4026-4027, 4028-4029, 4030-4031, 4032-4033, 4034-4035, 4036-4037, 4038-4039, 4040-4041, 4042-4043, 4044-4045, 4046-4047, 4048-4049, 4050-4051, 4052-4053, 4054-4055, 4056-4057, 4058-4059, 4060-4061, 4062-4063, 4064-4065, 4066-4067, 4068-4069, 4070-4071, 4072-4073, 4074-4075, 4076-4077, 4078-4079, 4080-4081, 4082-4083, 4084-4085, 4086-4087, 4088-4089, 4090-4091, 4092-4093, 4094-4095, 4096-4097, 4098-4099, 4100-4101, 4102-4103, 4104-4105, 4106-4107, 4108-4109, 4110-4111, 4112-4113, 4114-4115, 4116-4117, 4118-4119, 4120-4121, 4122-4123, 4124-4125, 4126-4127, 4128-4129, 4130-4131, 4132-4133, 4134-4135, 4136-4137, 4138-4139, 4140-4141, 4142-4143, 4144-4145, 4146-4147, 4148-4149, 4150-4151, 4152-4153, 4154-4155, 4156-4157, 4158-4159, 4160-4161, 4162-4163, 4164-4165, 4166-4167, 4168-4169, 4170-4171,





Been waiting for the newest rocket launcher to make the wave? Here it is now—it's here!

It's the XM200 rocket launcher... another 19 milo launcher with a big difference. Key tabs can be replaced and replaced.

MOB-65 Jumbo paper will load the XM200 on the loader (AM-60) or on the three- and four-rod model loader (UB-4). It's the operator's image of its mind another time—the XM200—you've seen on these fields. Biggest change you'll notice right off is in the rocket firing controls.

On the XM200 they are inside the tube... on the XM200 they're on a raised trigger arm.



Another big PLUS... the streamlined firing arm and device mechanism reduces shock-load and control contact. Turn around time—reloading the launcher—is a mere 12 minutes!

Each tube is designed to fire at least 100 rockets before repair—up to 200 rounds with newer lower tube (TLG).

That's where you take over. Transfer form No. 142, with a copy of TM 7-1090-204-12 (Apr 76) and (61-9) 890-205-11 (Jan 76) in your files.

**D  
OO**



As before, XM200 PM is tested on Visual Inspection and Clearing.

Pulling electrical conductivity and many voltage checks with multimeter.

Performing firing voltage test with multimeter or rocket system meter, DRY 0004-110-0047, and

Knowing equipment for resources in Direct Support.

#### THE OPEN SUBJECT

After doing you do after connecting your XM200 system it is to pull a conductivity check from connector to ignited connections.

ALL OF 'EM!

Use your standard ohmmeter and your TM probe. Check off each contact as you test it. Skip up and return here and you're in a heap of trouble.

Get one electric probe at 4 gal of launcher connector and the other probe on the 1 milo contact. And return, there is another 12 contact.



Now get one probe on launcher terminal — lowest in all — and test probe on 2 gal of launcher connector. And return.



Substitute from 9 wires E.S.L. hand to get. And return. Super will probe on shot contact of terminal. The long check connector is used about the TM connector's resistance test.



Put one pole in launcher behind — for  
 end or off — and other pole on top or  
 side. Don't open shock. Expect for after 10  
 minutes.



### MOUNTING EDGE TO SUPPORT BACK

Take a look at the launcher's longer  
 suspension legs — wingguide adaptors.  
 They should be clean, no bends, twists,  
 or breaks that would keep this from seat-  
 ing snugly on the aircraft pylons rack.  
 Both legs get same-size adjustment.  
 No shims allowed.



NOTE: For easy use you can bring an  
 extra long leg on hand on the K9000  
 launcher, but you follow the J-20 18 and  
 not the instructions.

18 1/2 ft. You can help this wing down, wing  
 brackets from making a landing by install-  
 ing "18 1/2" on the top side of the  
 launcher — but not on. You 18" approved  
 is all you need. If launcher is clipped on,  
 the launchers pylon will be all right.



IT TAKES 2 MEN TO MOVE  
 THE LAUNCHER TO THE FRONT.



1  
 18 1/2"



When the legs are in the rack hole, No. 1 brackets insert crank into the back manual release access door and turn it clockwise (left hand pedal) — counterclockwise (right hand pedal) until bracket is locked on the bracket support rack. Hold One, No. 1. Be sure you have a crutch with roll pins. Otherwise the crank will go in one bar and not lock the bracket to the assembly. A carry-leg bracket splits his.



Focus attention on the 4 way down hole. Adjust One 2 snugly against the bracket, then the back 2. Add a quarter turn to the hole after they're seated.

Tighten jam nuts.

Connect the electrical-cable assembly to the bracket.

To remove the bracket, do so about five with the procedure above. (Make sure no crutches are left in a rack.)

#### OPERATIONAL CRISIS

WEATHER  
 100% NO-NO'S  
 AND 50-50'S  
 THE 9-11-03-11-03-11  
 (AND 11-11-03-11)  
 2-11-11-03-11  
 EEAR  
 BUBBLE



Don't use an unbalanced rack.



Don't drink alcohol.



Don't use cables and strands within 100 feet of operating high frequency RF transmitters.





Be sure the gun has ... just like you do when firing or shooting.



Be sure when that it will hold in front of you first.



Be sure the gun side of the cable handle to be in contact it.



Be sure a very sharp end of the handle - but always - handle. Turn off the back of the gun.

You'd best not forget the other warning on the phone, either. If your handle's heavy is water's a Minkus or another water system, make ABSOLUTELY SURE that all water/batteries are empty.

You'd be embarrassed to think of an "empty" gun when handle!



ADJUSTMENT  
SWITCH  
OFF

#### LEADING THE CHARGE

Your XCCCO square is limited from the FRONT ONLY ... for safety reasons ... to stop an accidental blow-off from a snap electronic change.

CAUTION: The water firing lead and firing handle interference the water fire should not be turned in any specific order as these leads may be removed or replace the safety pin.

LEAD WIRE

WATER WIRE



Touch the water fire to the handle's metal skin before you insert water into the tube. This equalizes any electrical current between your lead and the water. Don't let the water firing handle touch any metal on the handle's before sliding water into the tube. This is an aim to be splashing or joy jumping.

Be extra careful, too, that the device is fully seated on the rocker and that the igniter gun assembly is not damaged.

Previously, if the igniter gun is in firing position, you can push a rocket past the device and bend the igniter gun. That's guaranteed to keep the igniter head from reaching the rocket contact disk. A sure-fire NO-FIRE deal!



THE  
FIRE  
GUN  
IS  
NOT  
IN  
THE  
CONTACT  
DISK

Gently try to move the rocket to the rear, then forward to make sure the device is seated. Fire should be back with force. Take a drop-eyeful of FM as the electrical contacts. No fires, breaks, or damaged wires allowed.

You'll hear a CLACK when igniter gun is in place, but you will want to eyeball the contact disk. No cracks, dents, punctures here.



THE  
FIRE  
GUN  
IS  
NOT  
IN  
THE  
CONTACT  
DISK

Top the FM loading clip, lower igniter to the loading position. Lower rocket until the fire gun flush with the aft end of the launcher tube—about 1/2 in from outside of aft bulkhead. Rocket-igniter gun in FIRING POSITION.



THE  
FIRE  
GUN  
IS  
NOT  
IN  
THE  
CONTACT  
DISK



ONE  
LAST  
LOOK,  
POWER—  
THE  
IGNITER  
GUN  
IS  
NOT  
IN  
THE  
CONTACT  
DISK



THE  
FIRE  
GUN  
IS  
NOT  
IN  
THE  
CONTACT  
DISK

THE  
FIRE  
GUN  
IS  
NOT  
IN  
THE  
CONTACT  
DISK

#### UNLOADING

- Lift the launcher from the base.
- Pull or push rocket from tube.
- Pull igniter gun assembly to the rear, turn clockwise until 3 steps.
- Lift safety clearing clip.
- Put rocket back in its box.

## PI-2000

**SPRING CONTACTS:** When you look at 'em daily, be sure they're not bent, broken or damaged. Blow from rocket propellant can bend the contacts backward. Look for scorched or burned wires on the igniter arms. If they don't look right, call DS.

One thing you **DON'T** do is hit the igniter arm with hammer or mallet. If that'll knock off the end of the firing contact—you could push arm out for another DS job.

After each flight or firing, clean and lube 'em.

Remove moisture and rocket residue. Check for corrosion.

Every 21 hours examine igniter arm assemblies and tubes for soot or oxide. Clean 'em up. Use RBC—oil-free cleaner—over soap and water. Wipe 'em dry.



This new steel rocket launcher—like older models—needs TLC to keep it firing. Make professional rocketeers your hangar, OJ's... and down-to-earth wheelies will appreciate it a heap.

## NEW DISPOSABLE FILTER



Taking off and landing in a cloud of dust during the dry season is nothing new for Blue Dog O-11 drivers.

Sand and dust get thru the carburetor air filter and into the O-470 engine. The result is spark plug fouling and high cylinder and piston wear.

What's new, tho, is carburetor air filter frame assembly, P/N 2443-478-0000, with an improved filter element. Lock on to it.

Every 100 hours—or more often if you're spending out of a dust bowl—open up the 2-piece frame, knockle-



knock. Throw away the dusty element, and put in a new one, P/N 2443-478-0004.

The disposable filter element is a big step in maintenance-type changes for the new 100-hp engine TBO.

## PLEXIGLASS PROTECTION



Looking for something that'll protect your birds, plastic windows, doors, and bubbles from harsh elements . . . from ice-prop-heat debris . . . and hold the screws in a minimum?

Then here 'tis—Clock, cover deck, MFG-018755, Type II, Class I.

Part	Color	Width	Price
0001-048-911	Sub green	11 in.	1.88/ea
0001-048-912	OL, Slat 7	11 in.	1.24/ea

You'll have to use an appropriate data-type requisition to get this clock. The POC for the RJC on the paper work. Get ya able now make to measure and use the clock in caution in the birds in your flock.

For the how-to's, hit us here to see, use, repair and replace the covers, the prop's in TM 11-11800-264-20/1 (page 76) and TM 11-610 (Doc 85).



## WATCH THAT WET STUFF

If your aircraft is sporting a radome in its nose, or whatever, make it a point to check the gasket around the radome for cracks, leaks and such during periodic.

That way, you keep the wet out and prevent all-kind-of damage.

If you find a potential leak, get the gasket replaced . . . or have your support club it with a mallet.



# NEW LOADING TOOL



Loading or unloading 175-lb FRAB's from the 18-inch loader can be a roller-coasting experience.

Previously, to down-load the loader, a crew chief has to pry the loader down from the roller-riding groove before he can remove a roller from its slot.

Trouble pops up when he uses the flat, blade end of the roller loading tool to force tool or a long shaft underneath, to release the device.



This takes more than a millimeter of pressure to be over the loader's fulcrum around the roller's plastic tie retainer. The result can be damaged tie retainers... broken electrical lead wires... *boom boom rocket*.

You can solve rocket-rod trips by using a new loading/unloading tool, P/N 1044-400-0005. Instead of a blade tip is flat a round one with a projecting pin.

Now, when you insert the tool along the side of the flying contact you don't have to smash the tie retainer. You slide the projecting pin under the device, give the tool a 1/4-turn, and release the loader tube down.

No more tamming stuff needed... no more cracked and rocket contact... empty tubes... *mission*.





FOR BMT WORK WITH ORGANISATIONAL JOB...

# NO MID-MONTH CLOSE OUT



### Don't Worry.

Your unit does both Organizational and DS aircraft maintenance.

When we publish your Organizational DA 2407 as an aircraft, must we make a mid-month close out of its monthly DA 2407 — then start another after the DS job is done. Like MR 24-750 para 3-7.1.2b(2)(a), does it say?

EWY S. W. C. A.

Dear Mr. J. W. C.,

This clearance applies to aircraft "excused" as a separate support unit. So no clearance is required before the end of the month when the same unit is doing a combined Organizational/DS job.



DA 2407

But only Organizational maintenance is reported on that monthly Organizational maintenance DA 2407 report. Use a separate DA 2407 for the DS job.

*Handwritten signature*

THE NEW 30... GET IT

# TOGETHER

WE'RE NOW  
EQUIPPED FOR  
YOUR NEW 30!

Yes, it's all together, baby... all the basic FM that your AN T-800-30 radio is made to keep from going down. . . . And while you're getting it together, put some stress on those signal cables, too.

When your stress is more get 'em up there, like a 30 foot or more, take some special pains to protect the wire cable.

Three or 4 strain relief grips, 15 to 30 feet apart, prevent damage to and shorten life of the cable.



STRAIN GRIP



STRAIN GRIP

And, oh, before you connect the wire cable, shield the exposed ends of the connector to be sure all of the fiber washer is covered. The connector must be packed with the washer, and you must get it out with needle-nose pliers. If all or part of it is left inside, it's hard to get a tight connection.



WASHER

If you've got to tie the wire cable in 2 or more lengths, wrap the connecting joints with electrical tape to keep out moisture, prevent corrosion and hold it all in place.

WE'VE NOW  
EQUIPPED  
YOUR T-800-30



Then, look it up all you gotta do "30" reading on the meter that you're after. Otherwise, you can get 125 miles away or more through the meter . . . and have it too.

WE'VE NOW  
EQUIPPED  
YOUR T-800-30



will around any like . . . so be careful about opening doors too fast or you'll bang the dial into their stops and jam or break them.

If you're supplying power with a generator set, be sure the all gas bulbs are in the right position (bottom or

A thoughtful note of what to do is the 50 microamp multimeter of your R-1 test set or R-1500/P meters.

All you gotta do is look the TEST TONE knob all the way off to the left, or counter-clockwise (before putting the multimeter selector switch on the TEST TONE Lnc. position.



DO NOT TOUCH



DO NOT TOUCH

wanted to keep it from overheating and damaging the generator.

The bulbs and dial lights come out to the rear for summer operation.

# RADAR REMINDERS

SEE WHAT YOU'VE ACCIDENTALLY DONE, ALL OF WHICH CAN BE UNDOING IN YOUR BRACKETING... PERFORMING YOU JUST WITH THE...

Point directly from the end and continue by using either your right or left hand to an upward position, raise your hands and cross your index.



Initial BRACKETING calls about every half hour during charging. If the voltage has increased, that shows the charge and then a suspension starts and the battery, too, keep the battery warm all during charging to see the use of it.



Never charge the BRACKET with anything but the BRACKET charger.



Good, never away from and focus on the charge, continue and other kinds. If they're done, lighter's on.



Take care of exposed hardware window, that, if it gets broken, replace the hardware.



Hold the charge cable handle before you put the lead on the BRACKET control indicator.



Leave the signal legs with upper, continue to whatever facility to keep the out from being ignored.



Be sure the gear teeth on the signal legs meet before you tighten the wing nuts. Some signal arms, signal teeth and frame teeth... in addition to keeping the radar out of the ground.

Several things to do before you connect a lead battery: Be sure the green switch is off, and be sure the voltage adjust switch is in the 1 position after the voltage adjust switch and in the 1 position before you turn the set on. Never charge in a closed room.



Before using and connecting wires and all else, always use connections without using the key and always push the cable instead of twisting of the connector. Always pulling the cable apart, cables are dropped, repeat the process again.

Leave all along with the one system, make sure you, make sure off, the work.





## SHELTER PUB

It may be looking for a shift somewhere, or you may never have gotten it, or it's looking some other kind of shift over life, but if you own an H-100, -100, -200, -280 or -500 motor shelter, you also should have some in TB 758-340 (Oct 85).

The TB gives you the beautiful facts on repair and maintenance of the above basic shelters (which might take on another number, depending on what you're doing).

Among the good stuff are such items as emergency repair of body damage,



denture, painting, lifting, part replacement, painting and such at the organizational level.

Makes good reading on a rainy day.

## SOUND TRACK TACK



WANT THE SOUND?

Hey, man, don't get uptight over those "SOUND" and "SILENT" raised markings on your 80-25A projection unit.

You'll notice that the markings are placed over . . . which means, spots down. The only things you need are the 50 and 80 cycle markings. The "SOUND" and "SILENT" bit is just a carryover from the commercial unit. Actually, you get moved in other position in the railway version.

But in, if you put the knob on "SOUND", or "60 CYCLES," you're going to get guided sound . . . which might lead you to call your equipment. Normal operating position for the 80-25A is the lower one, or "60 CYCLES."

When you go with the 50, your sound goes in level and clear.

## WATCH THAT GRAB!



Hey, friend, you about to flip the **SENYON** switch on the radar set control **CARD** of your **AN/MPQ-34A** radar set?

Then first you better step out of the way of the antenna mount if you don't want the antenna or range computer housing to pick you up and crush you against the radar frame.

WE SHOW A SAFETY TRICK  
IN "SAFETY" BOX.

"You  
try  
you  
planning  
to  
blow  
relay?"



WHEN YOU SWITCH THE **SENYON** ON,  
THE ANTENNA STOPS.

Stops? Simple. When you switch the **SENYON** switch on **ON**, the antenna drive around to the position it was in before power was turned off.

When you're repairing the set, you can make a safety switch out of the **RANGE ONLY AUTO SWITCH** on the upper right corner of the antenna-range indicator by keeping the switch in **CALIBRATE** position. That way you deactivate the relay that drives the antenna.

## WHAT'S THE FLAP?

WHAT'S THAT GUY OVER THERE?

IT'S MURPHY—HE'S REPAIRING MY FLAP!

The flap, friend, could be a lifesaver if you want to get down to business on the eyeball flap in night vision equipment systems.

If your flap is missing, for any reason, you're not only lost a dear lid, you're lost position security. Like when you put your springs on or pull it away from the appliance, you give Charlie a beautiful green glow reflection to aim at.

So, if your flap's damaged or gone, get it replaced. When you get, don't let it get damaged in the first place.



## SET IT RIGHT!

Before you put the probe to your multimeter, be sure you've got the voltage switch set for what you're measuring.

Like, if it's volts, set the switch to the correct range, too. If you don't know the range, start at the highest setting and work down, then go to the range in the voltmeter (ohm) settings.

And, don't say tomorrow: AC voltage with a DC setting.

Use the ideal flap-it . . . and avoid all damage to your test meter.



## HOT-GAR MUFFLER... JUST A CUT UP



CONVERT MUFFLER

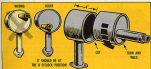


WELDED MUFFLER



Fixed-up muffler assemblies have gotten in the supply lines for Hot-Gar 10-KW W.R.V. generators sets. You can tell easily which is which, if you have to do a muffler replacement set than set. Here's how:

Turn the muffler so it matches on the manifold flange and so you can look right into the pipe where the exhaust gas comes out. If the pipe is about 2 inches on the muffler end, or at upper right when you see it from the side, you have a lesson. The only way you can use it is to get it turned so the exhaust outlet will lead past the hole cut out for it at the side of the muffler. You want the completed muffler to look like this:



You get it here sharp by cutting through the outer skin 4 inches from the hole end. Then turn the cut-off part half way around, weld it back, and install.



## GRADER THROTTLE FIX

GET THE LOWDOWN

Dear Staff Writer,

Recently we've been asked on our Model 7000 grader. When you go in strike top cable work, it sometimes get stuck in winter, too. What?

BOB K.L.

Dear Sergeant B. S.,

Old MWD 3-3883-2(8-104) they did was wrong in correct that, in your riggs must have failed to. Clean the cable and housing, and take off the yoke. Slip on rubber hose, 4-1/2-in long a 3/4-in inside diameter, like P/N 24150-4490. Attach the hose to the yoke with clamp, P/N 4770-285-1881. Balance wire to cable. Periodically lube the cable in the housing with light oil, like CE-50. *Handwritten note: 2-1/2 in long*



## ANTI-MUD COATING



Dear Editor,

We've found a trick to help keep buckets, scraper bowls and other shovels that used in the street in keeping them wet. We used to make most of the first 2 or 3 days after the eggs because scraping they used off that wet. Now we use the foam with CE type of latex out of it to 1 inch deep, and before we use for day to give it.

OWEN E. Smith

11 Lewis, WA

Old Man—Under these circumstances, I'm with you. Ordinarily, more heavy-duty coating is never justified, but that they can be done right otherwise.)

**COVER  
YOUR  
BREAKERS**



**HEY!  
HEY!  
HEY!**



**USE YOUR COVER ... AND GUY!**



It only takes you a snap, but I expect to get back the breaker point cover on your 4-HP M10 500 Engine after you've worked on the breaker. Why, then, are so many covers being left off?

Sure, you may have a bag of covers to leave the cover off when you're in a hurry. Maybe, you gotta take the magnum over with you or the wrench you'll use you use backwrench or you've going to replace the contact point soon and so forth.

But think of the breaker point being wide open to dirt, water and corrosion. In this stage it won't be long before you lose the use of the engine or a generator or any other equipment it's with.

You'll find the breakers on how to take off and put on the breaker cover on page 4-15 of TSB 3-2804-203-1-1 (Dec 85).

**THE HAPPY BUCKE ...**

## **BLOWN-AWAY TOOL BOX**



**Dear Editor,**

The tool box on the rear of our 880000 Ford coupe got crushed regularly. Car store repairing was not worth the effort so we took it off and welded a holding plate where the box had been.

Thought other engine builders would like to know about this effort saving minor alterations.

**The Shop Gang, 4400 Engle,  
El Paso, TX**

*Old Pro's—Good deal—and to save anyone else, minor equipment alterations are covered in #R 759-11.*

EMERGENCY EXITING...

## PUSHING IS A NO NO

ANY TRAIL PUSHERS OR PULLERS?



Come a time when your **HOME** Cat model won't crank up and you have to resort to emergency starting methods—keep our big advice in mind!

It's "push" meaning...

When being pushed you need to **THINK** on the job; you can't do it without hydraulic pressure. Dual engine gets no hydraulic pressure and no running.

On emergency starts, use the tractor forward only. And do it like it's spelled out on page 43 in **THE 5-3470-115-11** (Aug 87), and table looked up like it's shown in **Change 3** (Jan 78).

Backward work or pushes are not new, but can damage the hydraulic starting system.



## HOLD TILL FURTHER WORD



Dear Mr. **W.H.B.**,

I have a question concerning the magazine merchant's deal for **THE 5-3470-115-11**. When **THE 5-3470-115-11** was published it contained several additional items to you in. The new **EC 5-3470-115-11** (the **PH** edition) all the tools that were added in **1988**. Do we have to keep hold? We will need some of 'em.

**W.H.B.**

Dear Mr. **H.W.B.**,

I'd suggest you go a little slow in running in your tools. There's a new coming in the mail, so wait until you find out what's in it.

*Hay-Master*



# HONEST IPD'S

PLACING PAST AND LOSING WITH TOP PRIORITY IPD'S (YOUR PRIORITY VENDOR-SERVING) WILL SUIT YOU IN THE END.



## HERE'RE SOME BAD THINGS YOU'LL CAUSE:

1. Slow-load and long-down priority from users from all your important units.



EVERYBODY'S DISSENTING!

1. Many priority issues on your real business campaigns.



SURE, YOU CONTROL THE WAY AN INDUSTRY BUT THE WHOLE BUSINESS ARE A REAL INDUSTRY!

1. Slow-up issues on your routine requests.



A ROUTED MESSAGE? WHAT YOU I NEVER THOUGHT TO SEE THE WAY.

1. Slow-up the IPD system for yourself and everybody else.



EVERYTHING'S TOP PRIORITY SO WHY HAVE YOU?

1. Get pissed for abusing the IPD system.



SO FINE-UP ON IPD BODY!

The routine IPD's (LOW) on routine requests.

The top priority IPD's (L-8) only on authorized requests. You'll have to sign 'em.

Issue April 14, 1985.







# LO SYMBOLS ARE BEST



Dear Manufacturer,

ISO 28170 lists only **L** as the symbol to be used for lubrication scheduled on ISO 214. What's the best way to identify the different lube intervals outlined on equipment ISO of ISO J. F. C.

Dear Ingegnier J. F. C.,

Your chart found in the note in page 1-631430 is the TM.

This permits "subsymbols and prefixes" and additional symbols as long as they don't conflict with the required symbols such as **L** for lubrication. The note also says the intervals scheduled will be obtained from the TM or LO for the equipment.

The drawing shows a grid with a vertical axis labeled 'ISO 28170' and a horizontal axis labeled 'ISO 214'. A large 'L' is drawn in the center of the grid. A yellow arrow points from a callout box to the 'L'.

**ADDITIONAL SYMBOLS (OR SUBSYMBOLS) ARE OK**

1. LUBRICANT TYPE (e.g., SAE 10W-30)
 2. LUBRICANT GRADE (e.g., ISO-VG 68)
 3. LUBRICANT MANUFACTURER (e.g., Shell, Mobil)
 4. LUBRICANT CONDITION (e.g., New, Used)
 5. LUBRICANT TYPE (e.g., SAE 10W-30)

ISO 28170: 10W-30  
 ISO 214: L  
 ISO 28170: 68  
 ISO 214: L

Your best bet on lubrication intervals is to use the interval identification from the LO as an additional symbol or subsymbol.

Here's one approved way to identify those lube intervals — using additional symbols **L**, **S**, **A**, and **D** from ISO 9-2520-209. **L** for the TM and grades. Make sure they're explained in the remarks block of ISO 214 or in the note ISO.



**Cummins**  
**Mini Mins**



### *Coolant Test Kit*

Test kit, accurate reliability. F24-5632-1-24-1508, is what you need to check your engine cooling system this spring. TR F24-563 (23 Jan 71) is your authority to request the kit. Each kit is good for testing 25 cooling systems, to get enough kit to do your checking this spring.

### *Loss Detection*

For "the word" on missing switches to aircraft transparent acrylic plastic, which showed a pilot from his cockpit, received a copy of TR 24-1560-235-24/1 (23 Mar 70). Polish 'em out with Polish 24. Also, F24 1560-400-2402, re-issued in final para, monthly.

### *Worry/Worry Like New*

Worried because you can't get the hydraulic hose that 24-15280-217-12 (July 69) calls for in the steering shaft ballhead bearings of your AH-64/AR-60P helicopter? Well, worry no more. The engineer and production types have OK'd the use of good old 2446 green instead.

### *Light is Better*

Heavy loads on your baby with extra weight — cargo or passengers — during hot flights, airplane drivers, that's the word in TR 24-1580-21-12 (Mar 70) on hot flights.

### *Minorie Rebuild*

If you've got a "tick" 24-comp alternator, handle it with care when you pass it on up to your support. It may be going to the "hospital" — factory rebuild. This service was offered only in CONRAD, Rowell and Alaska, but now it applies worldwide — applicable, so far, just to the Lucas-Fluville alternator, F24 2408-200-2482. The word went out in L241AC001 Para 1 (23NOV) Mar 70.

### *Aircraft Report Speedup*

For 5 types of aircraft (C47-12, C47-17B, C47-144, A41-10) and C47-147, maintenance manhour reports on DA 2407 must be speeded up for evaluation under AF 11-10. Get 'em to your command data center fast. If there's no local data center, direct to LFC, Washington, within 3 working days of monthly check-out. Word went out in DA Mag 100-244-PM80 230001E Dec 70.

### *Oh, The Air Sucks*

Now, you know (24-284) trouble (perhaps even up your bird engine and then wait to test on the rollers as current ratings won't damage the airplane gear. No need to wait until the generator output drops to 18-20 amps, tho. You 'em on at 20-40 amps, per para 3-20, Ch 1 (Jan 71) of DA, 55-1199-238-13 and you still won't get damaging surges.

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



# **NO STRIP** **WHEN YOU SHIP**

When you pack an item for shipment or turn it in for repair — make sure you include **ALL** its components.

*Include Everything*  
**covered by the FSN**

That means **ALL** components:  
parts, cables and connectors, brackets and **BE** . . .

# **ALL OF IT... MAN!**