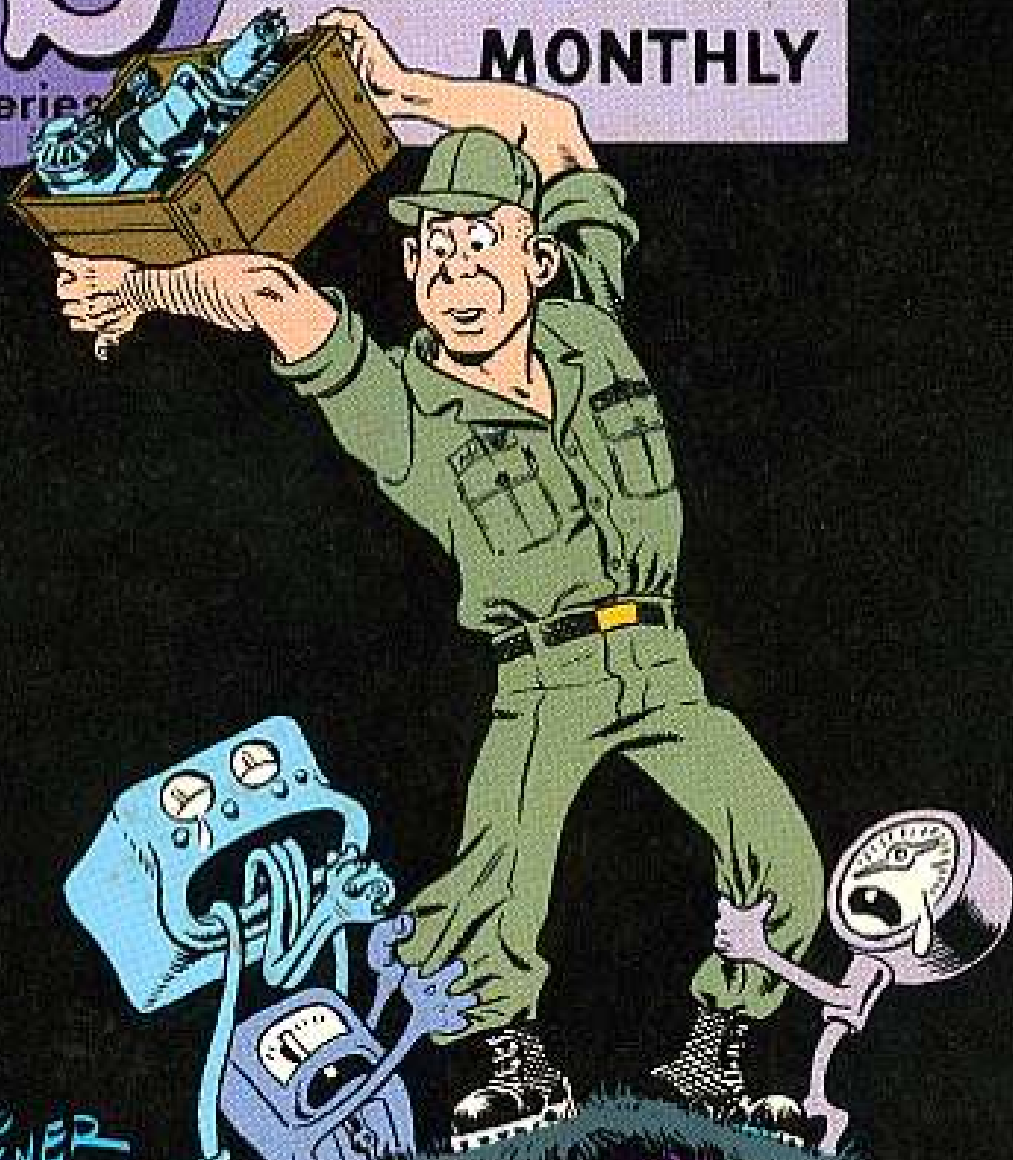


Issue 185

PS

1968 Series

THE  
PREVENTIVE  
MAINTENANCE  
MONTHLY



Will Eisner

FIRST-USE  
YOUR TEST  
EQUIPMENT  
SEE PAGE 14

SALVAGE

# "HOT STUFF" IN SUPPLY

There's something new in supply. It's a microfilm reader setup at support outfits.

It has in it up-to-date info on the more than a million Army FSN's in the Army Master Data File. And the file is updated every 90 days with a new microfilm of the AMDF so they'll have the absolute latest dope.

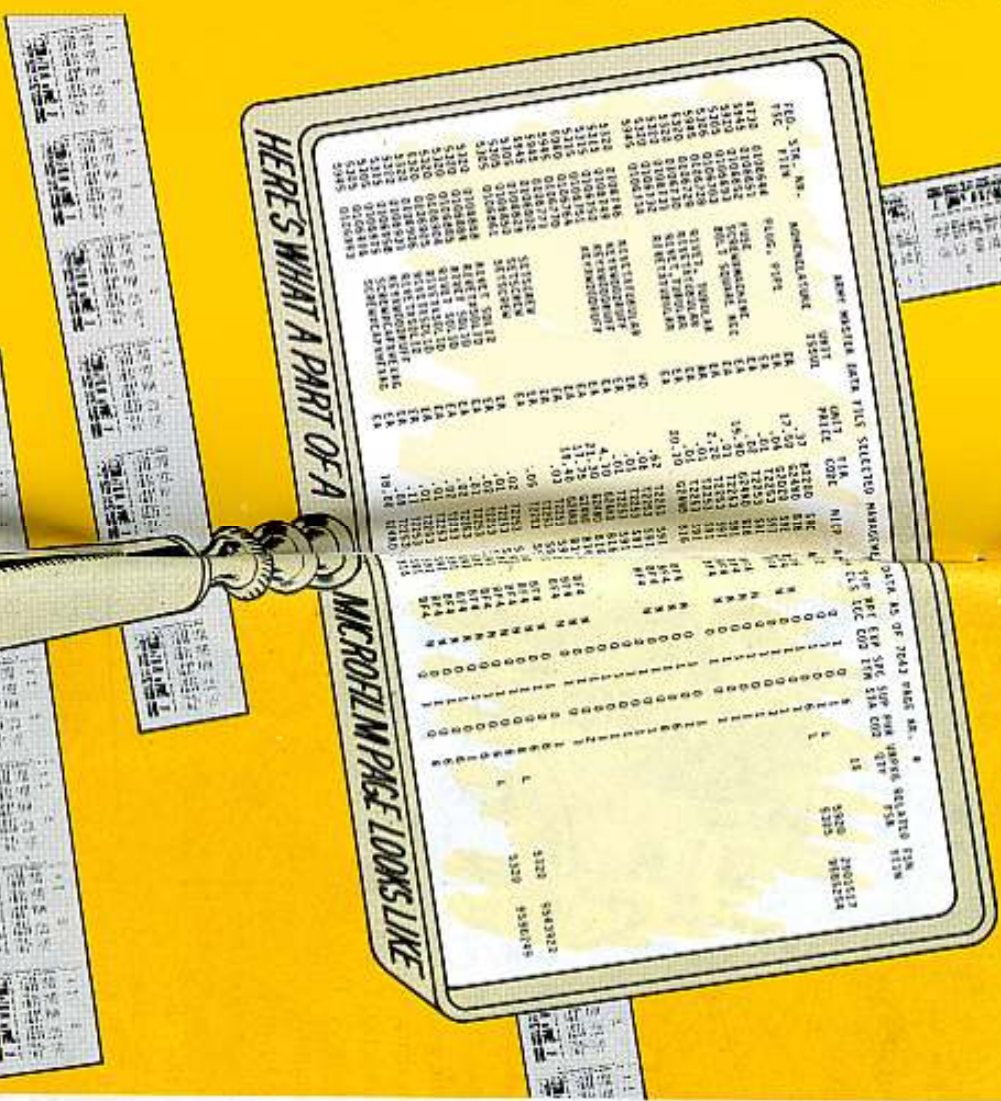
The FSN's are arranged by FIIN. The microfilm shows lots of info about each number like FSC, price, old FSN it replaced, unit of issue and source of supply.

Your support unit checks your requests against the master list on the microfilm since it has the latest info... newer even than your newest parts manuals.

DSU's will also check out on the microfilm questionable FSN's your unit may have.

This is just a thumbnail sketch of the microfilm setup. Before long, support will have microfilm lists of all types of numbers—part numbers, cross reference lists and interchangeability of items... the works.

It's all aimed at giving you faster and better supply of the stuff you need to keep your gear in fighting shape.



**PS**

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THE PREVENTIVE MAINTENANCE MONTHLY  
Issue No. 185 1968 Series  
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Use of funds for printing of this publication has been approved by Headquarters, Department of the Army, 16 February 1968.  
**DISTRIBUTION:** In accordance with requirements submitted on DA Form 12-4.

PS wants your ideas and comments. Write to PS, c/o your command, and we'll get to them as fast as we can. Name and address are kept in strictest confidence. Just write to:

**Sgt. Andy West,**  
**PS Magazine,**  
**Good News, Ky.**  
**40121**



## FIREPOWER

JOIN ME IN A STEP-BY-STEP  
JAUNT AROUND YOUR FADAC!

FOR CANNON COCKERS...

# FADAC

# FACTS

A real rugged 210-lb package of electronic gear—that's your M18 gun direction computer, otherwise called FADAC for Field Artillery Digital Automatic Computer.

It will come up with firing data for tube and rocket artillery after you feed it scoop about things like the target location, your location, and weather. And it'll do it so fast it'll make your head spin.

There's one catch. It needs a helping hand in the form of maintenance. Same goes with equipment used with the M18

—the AN/GSM-70 computer logic test set... AN/GSQ-64 signal data reproducer... 3-KW generator... AN/TGC-14 (V) or TT-537 teletypewriter... gun direction computer field table... a cable and reel assembly... and a cable and bracket adapter.

Here's a fast rundown you can pull to make sure everything's up to snuff. The items in bold type are the ones you want to take care of as fast as FADAC can put you on target. Well, almost as fast.

First... the M18 itself.

**PS** MORE

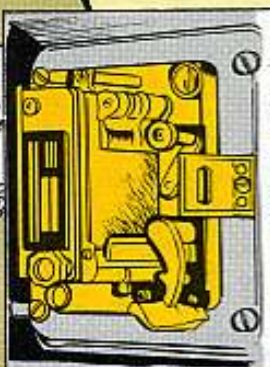
**COMPUTER (Overall)**—Cracked, dented, dirty, wet, paint missing; bolts, nuts, screws and rivets loose, missing; washers missing; lettering and numbers can't be read.

**MARGINAL TEST SWITCH**—Plate loose, switch turns hard; seal loose; knob set-screws loose, missing.



**TAPES**—Torn, missing.

**TAPE READER**—Loose, roller doesn't move freely; roller arm bent, binds; sprocket binds, teeth burred, broken; sprocket knob turns hard; clamp armature doesn't turn freely or hold tape in place; part that touches tape burred; read head clamp loose, bent; chain busted, missing; chain cover missing; tape reader cover cracked, dented; seal loose, missing.



# Computer test

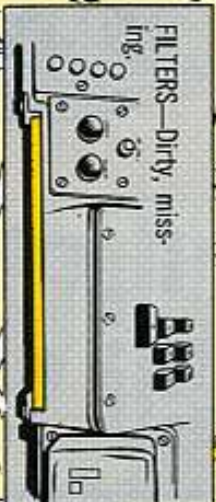
**LATCHES**—Don't hold, broken.

**DUST CAPS**—Hard to take off, not on receptacles when cables are not being used, battered, missing; gasket missing; chain broken, missing.

**HANDLES**—Broken, missing.

**CIRCUIT BREAKERS**—Loose, bind, don't work; retainer nuts loose, missing.

**RECEPTACLES**—Loose in mount; contacts dirty, corroded; retainer nuts loose, missing.



**FILTERS**—Dirty, missing.

HOLD ON,  
CONNIE! I'LL  
RESCUE  
YAI!

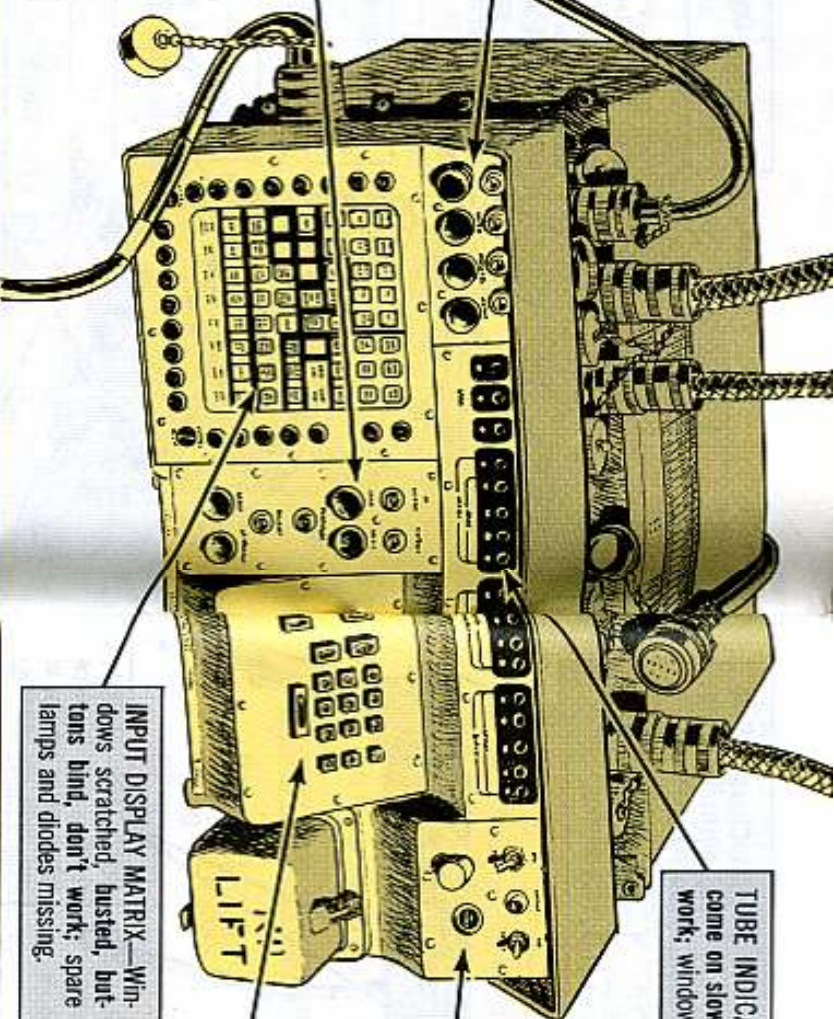
**ELECTRICAL CONNECTORS**—Pins dirty, corroded, bent, busted; cable kinked, loose in connector; insulation cracked; wiring broken.

**TROUBLE INDICATOR PANEL**—Switches bind; don't work; lamps burned out; caps missing; retainer nuts loose; missing.

**OPERATOR PANEL**—Switches hard to work; retainer nuts loose; missing; lamps burned out; caps missing.

**BLOWERS**—Noisy, don't work.

**COVERS**—Cracked, dented; handles broken, missing.



**TUBE INDICATOR DISPLAY**—Lamps come on slowly; spot; indicators don't work; windows scratched, broken.

**POWER PANEL**—Time elapsed indicator doesn't work, glass scratched, busted; switches bind; don't work; switch boots cracked; missing; lamp burned out.

**KEYBOARD**—Keys bind, can't be pushed down, able to push down two or more at same time.

**INPUT DISPLAY MATRIX**—Windows scratched, busted, but lamps bind; don't work; spare lamps and diodes missing.

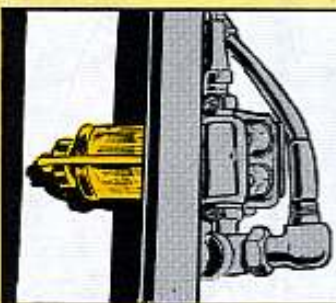
# 3-KW

# GENERATOR

The generator's the heart of all FADAC operations. Power's got to be ready every minute for the long run. That's why you have 2 of 'em—one for use, one for standby. Keep both in A-1 shape.

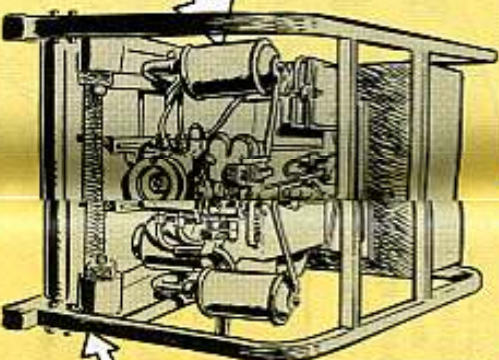
Mostly this means keeping a watchful eye on it to see that it's serviced and grounded and that the controls and instruments read right. Fig 3-1 in TM 5-6115-271-15 (Jun 66) and the troubleshooting section in TM 5-2805-203-14 (Apr 65) will help you.

**FUEL STRAINER**—Gas-ket leaks (tighten thumbscrew); needs cleaning or replacing.



**GENERAL**—Generator not level, not set on solid ground, not protected from weather, not well ventilated.

**GROUND**—Missing, not set up right (This baby can jolt you, so don't miss out on good grounding!).



**RELAYS**—Screws loose, missing.



**CIRCUIT BOARDS**—Cracked, loose, jammed in mounts; contacts and their sockets dirty, corroded; resistors burned, bulged. (Likewise with the Computer Logic Test Set and Signal Data Reproducer Circuit Board.)



**CIRCUIT BOARD EXTRACTOR TOOL**—Out of shape; ribs bent, busted; same goes for Signal Data Reproducer and Computer Logic Test Set.



# COMPUTER FIELD TABLE



HURRY UP!  
THIS IS GETTIN'  
HEAVY!

**TABLE (Overall)**—Dented, paint missing, screws, nuts loose, missing; other hardware (pins, washers, etc.) missing.

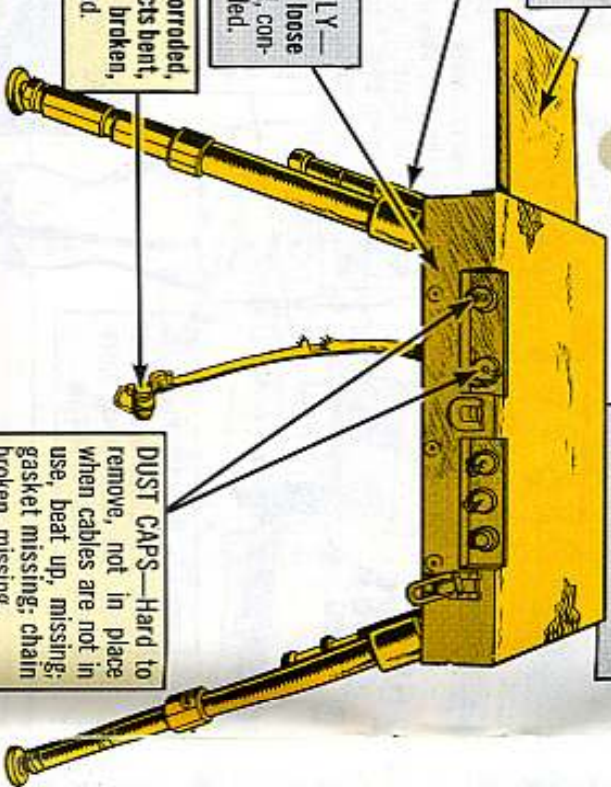
**WRITING SURFACE**—Board doesn't slide in and out easily, missing.

**LEGS**—Can't be extended, collapsed or folded, bent; bases can't be turned, busted, missing; pin broken.

**PANEL ASSEMBLY**—Cable connections loose in mount, damaged, contacts dirty, corroded.

**PLUG**—Dirty, corroded, battered; contacts bent, broken; cable broken, insulation frayed.

**DUST CAPS**—Hard to remove, not in place when cables are not in use, beat up, missing; gasket missing; chain broken, missing.

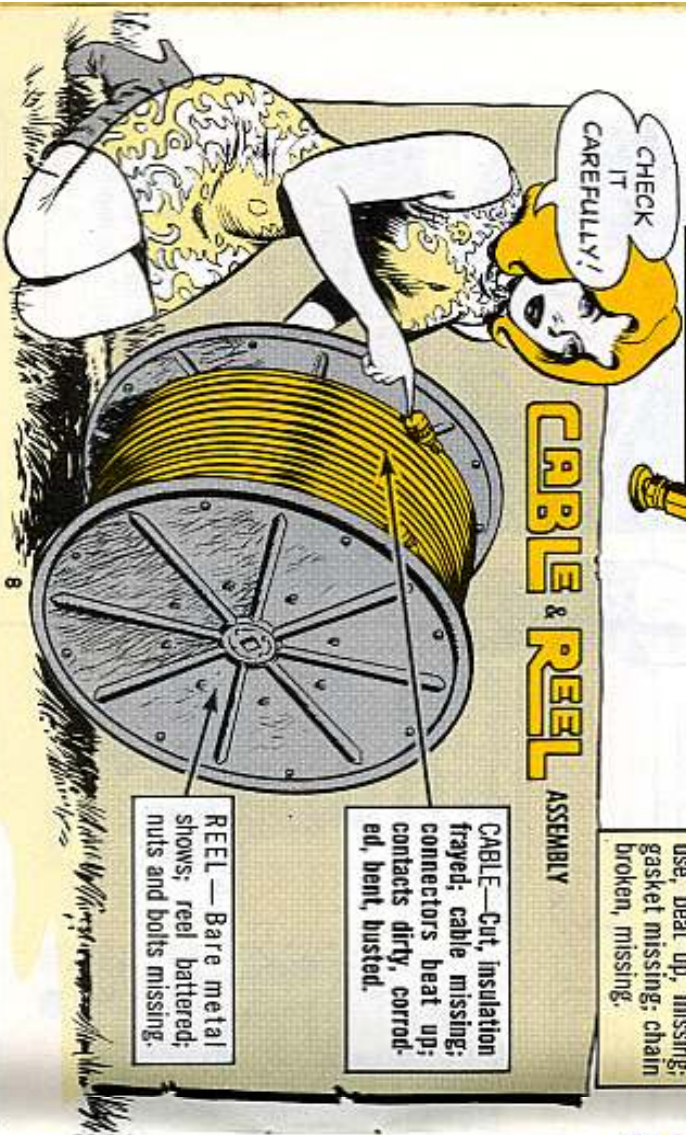


## CABLE & REEL ASSEMBLY

**CABLE**—Cut, insulation frayed; cable missing; connectors beat up; contacts dirty, corroded, bent, busted.

**REEL**—Bare metal shows; reel battered; nuts and bolts missing.

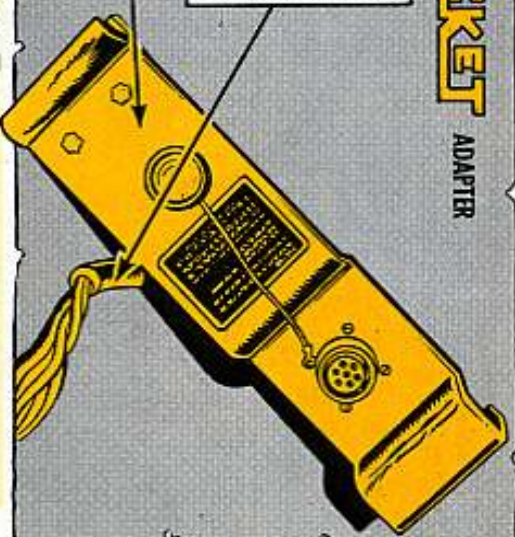
CHECK  
IT  
CAREFULLY!



## CABLE & BRACKET ADAPTER

**CABLE**—Loose in bracket; insulation worn; wiring broken; connector battered; contacts dirty, corroded; dust cap cross-threaded, not on when cable's not in use, missing; gasket missing; chain busted, missing.

**BRACKET**—Bent out of shape, paint missing; bolts, screws and nuts loose, missing; washers missing.



## WORD TO THE WISE

KEEP IT OUT  
OF THE SUN AS  
MUCH AS  
POSSIBLE!

Your M18 has a great memory, but you still have to do some remembering for it.

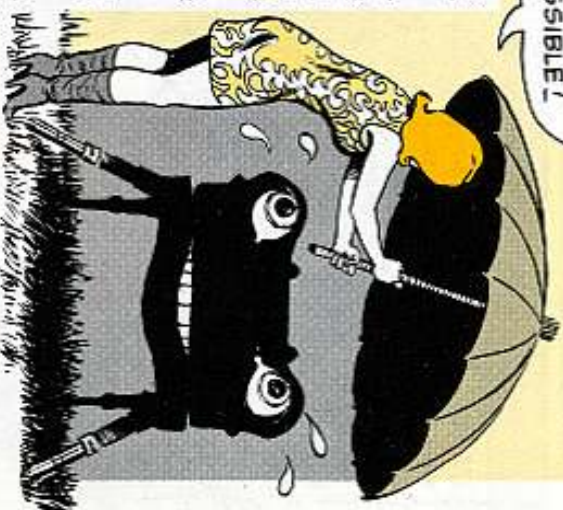
When you're not using it, cover the M18 to protect it from the weather. And when it's being used, do what you can to keep away rain, snow, blowing dust or what have you.

If the computer gets wet, dry it before you put on the covers.

The tape reader is mighty important . . . so use its cover when the M18's not in operation.

Check those air filters now and again—everyday if you're where the sand and dust blow.

And resist the temptation to go to work on the computer to see what makes it tick. It's not your job, no matter what, to open the computer chassis.



Remember, your FADAC's no darned good to anybody if its related pieces won't do a job. So, please to examine each with gimlet eye.

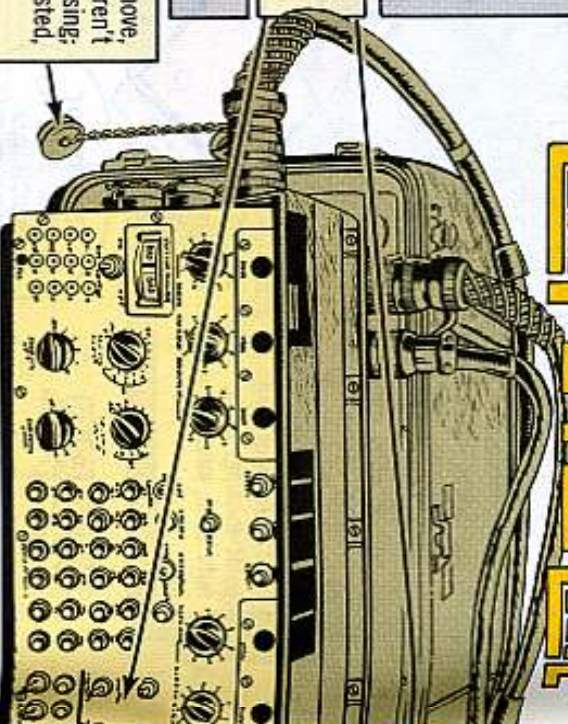
# COMPUTER LOGIC

**OVERALL**—Dented, dirty, wet, fungus-covered; hardware loose, missing; cables and harness busted, cut; connectors loose, damaged; latches don't hold, busted; board extractor tool missing.

**SWITCHES AND CONTROLS**—Don't do what they're supposed to do.

**COVERS**—Dented, cracked; handles busted, missing.

**DUST CAPS**—Hard to remove, not in place when cables aren't being used, beat up, missing; gasket missing; chain busted, missing.



# TEST SET

**VENTILATION BLOWERS**—Won't work when power's on (listen for the whine of that motor).

**AIR FILTERS**—Dirty, damaged.

**ELECTRICAL CONNECTORS**—Pins dirty, corroded, bent, busted.

**CIRCUIT BREAKERS**—Don't work, loose, bind; retainer nuts loose, missing.

**A-B-C INDICATOR LAMPS**—One or more not working (yell for your mechanic).

**TEST TAPES**—Torn, missing.



**READ HEAD**—Capstan binds; glass facing on cable and diode assembly dirty, cracked. (If cracked or real dirty the tape readings will be fouled up.) Tape guide dirty, binds.

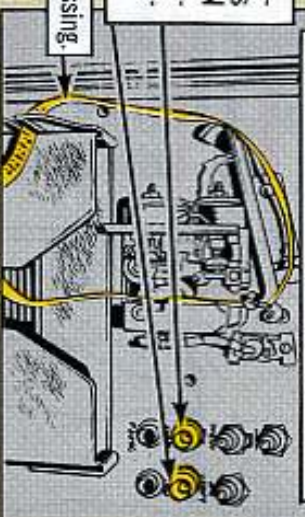
**FILL AND VERIFY LAMPS**—Won't light up (Keep spares handy: Lamp, Glow . . . FSN 6240-682-3364; Lamp, Incandescent . . . FSN 6240-155-7857).

**PROGRAM TAPES**—Torn, missing.

**VENTILATION BLOWER**—Won't work with power on (you should hear the motor).

**ELECTRICAL CONNECTORS**—Contacts dirty, corroded.

**AIR FILTER**—Dirty, damaged.

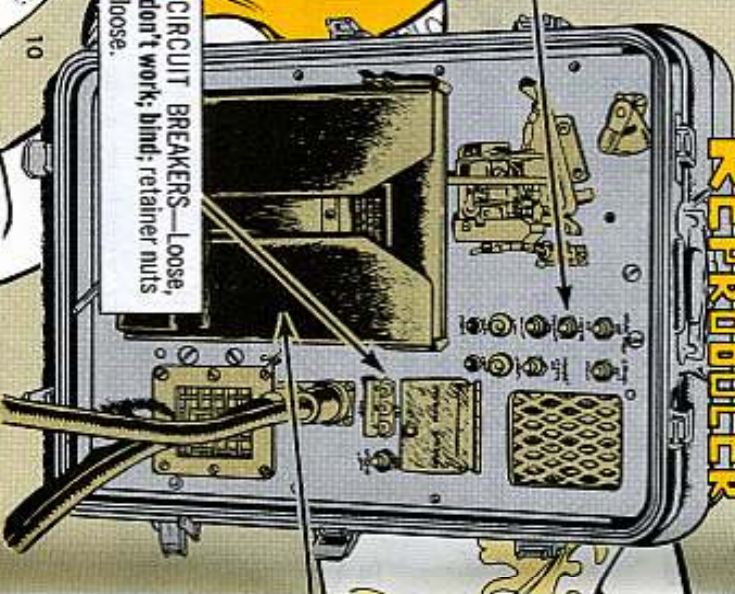


# SIGNAL DATA REPRODUCER

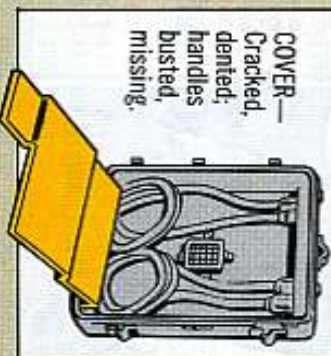
**OVERALL**—Dented, dirty, wet, fungus-covered; hardware loose, missing, damaged; cables and harness cut, badly worn, busted; connectors loose; receptacle pins bent; latches broken, don't hold.

**SWITCHES AND CONTROLS**—Don't work right.

**CIRCUIT BREAKERS**—Loose, don't work, bind; retainer nuts loose.



**COVER**—Cracked, dented; handles busted, missing.



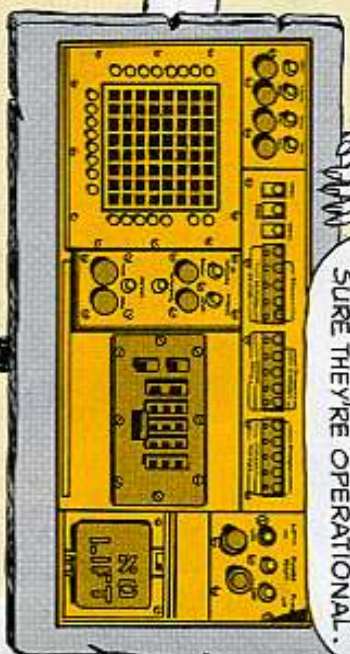
TM 9  
TM 9-1220-221-200

10

11

PS MORE

USING CANNON PROGRAM TAPES? HERE'S HOW TO CHECK YOUR NIXIES TO BE SURE THEY'RE OPERATIONAL.



- C** Push the C and 1 matrix buttons.
- SM** Press the SM (sample matrix) key.
- 9** Push the 9 button 5 times and press the ENTER key.
- C** Push the C and 2 matrix buttons.
- SM** Press the SM key.
- 9** Push the 9 button 5 times and press the ENTER key.
- C** Push the C and 3 matrix buttons.
- SM** Press the SM key.
- 9** Push the 9 button 6 times — but don't touch the ENTER key.
- You should see 16 9's in the nixies.
- RESET** Push the RESET button.
- Now run through the above steps for the rest of the digits, with 0 coming last.
- SM** Next . . . press the SM key.
- +** Push the (+) PERIOD key 16 times. You should see 16 decimal points in the nixies.
- RESET** Press the RESET button.
- C** Push the C and 7 matrix buttons.
- SM** Press the SM key.
- + -** Push the + and - keys. The right one should show in the sign nixie.
- RESET** Press the RESET button to end your checks.

# TT-537 TELETYPEWRITER

Here's the type of trouble to look for on your TT-537 teletypewriter:

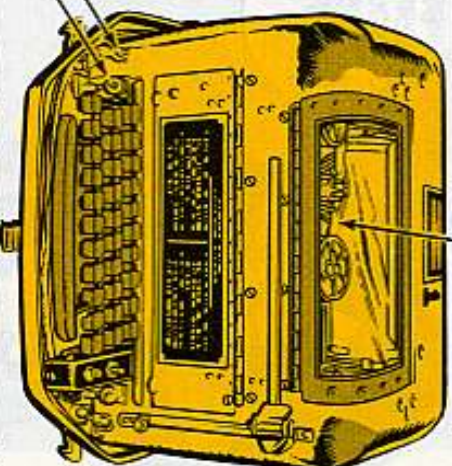
**OPERATIONAL CHECK**—Equipment won't record properly; copy unreadable; characters won't line up right; wrong characters printed.

**OVERALL**—Unit not installed right; painted surfaces bare, rusty, corroded; inside or outside parts missing, busted, wet, rusty, dirty, greasy; fungus-covered.

**BINDING POSTS AND TERMINALS**—Cracked, busted; screws, connectors and mountings loose, dirty, greasy, rusty, corroded, fungus-ridden.

**COVER**—Handle busted, missing; latches don't hold, broken.

**INKING RIBBON**—Installed or threaded wrong; ribbon frayed, cut, worn, torn, twisted.



## PUBLICATIONS

You've got both eyeballs tied behind your back if you don't have the publications that go with the M18 computer and the gear used with it. Here's what you want:

- TM 9-1220-221-10 (Sep 64)
- TM 9-1220-221-20/1 (Nov 65)
- TM 9-1220-221-20/2, Ch 1 (Dec 65)
- TM 9-1220-221-20P (Nov 62), with Ch 2 (Oct 65)
- TM 9-1220-221-45C (Apr 65)
- FM 6-3 (Mar 63)
- FM 6-3-1 for common use (Apr 64)
- FM 6-3-2A for free rocket use (Sep 65) (S)

**AN/GSM-70**

- TM 9-4931-204-12/1 (Jan 66)
- TM 9-4931-204-12/1 (Jan 66)
- TM 9-4931-204-12/2 (Jan 64)
- TM 9-4931-204-20P (Nov 65)

### COMPUTER LOGIC TEST SET

- TM 9-1290-326-12 (Nov 65)
- TM 9-1290-326-20P (Jan 66)

### SIGNAL DATA REPRODUCER

- TM 11-5815-206-12, Ch 8 (Aug 67)

### TELETYPEWRITER

### GENERATOR SET

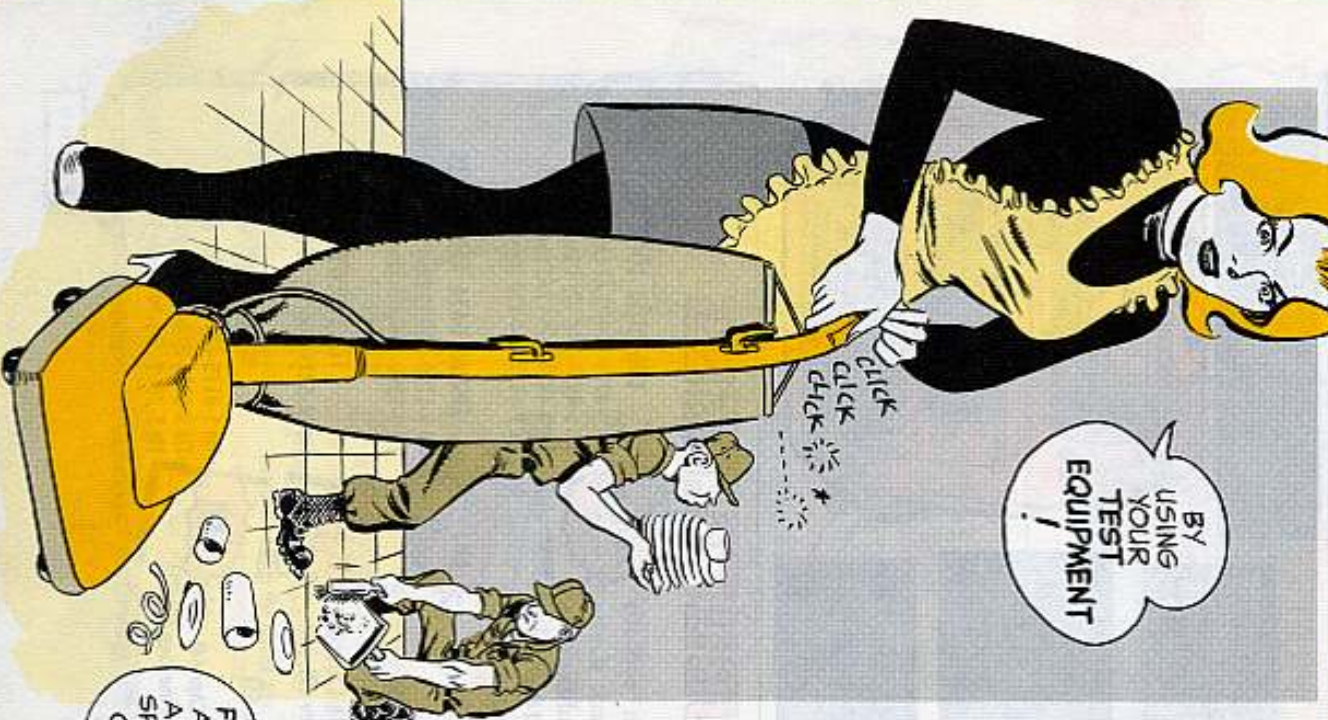
- TM 5-6115-271-15 (9 Jun 66)
- TM 5-6115-271-25P (Nov 66)
- TM 5-2805-203-14 on engine (Apr 65)





# TROUBLE-SHOOT

BY USING YOUR TEST EQUIPMENT!



Any red-blooded,

greasy-fingered, tax-paying knucklebuster knows a test set is mightier than a DX trading store when it comes to saving money and maintenance time — not to mention pride in doing your own repairs. You can take one of two roads when you set out to solve a problem on your equipment. Either you automatically repair by replacement — the pot luck expensive way — or you roll out your test equipment to pinpoint what's actually wrong.

Then, if you find it really is a bum part causing the trouble, you can still replace it. But at least you have the satisfaction of knowing you're a mechanic, not just a parts changer.

FOLLOW ALONG AND I'LL SPELL IT OUT!



# FIRST TRADER LATER

Passing The Workload

Allowing the DX traders to carry you along means putting your maintenance program in the hands of the supply clerk.



I'LL JUST PUT THE NEW PART ON FOR THE OLD ONE... THAT'LL FIX IT.

HOLD IT! SWAP THAT PART AND YOU MAKE FOR REAL TROUBLE... YOU'RE GUESSING. A GOOD MECHANIC KNOWS BEFORE HE CHANGES A PART!

CONNIE'S RIGHT... YOU COULD BE TAKING OFF A PERFECTLY GOOD PART, USE YOUR TEST EQUIPMENT TO BE SURE.

YOU USE PARTS FROM SUPPLY UNNECESSARILY... THEN LATER YOU — OR YOUR BUDDIES IN SOME OTHER OUTFIT—COULD BE VICTIMS OF A PARTS SHORTAGE... SLOW YOU DOWN IN A FLAP!

NO KIDDIN'!

An average of 4 out of 10 turn-ins to a number of DX points recently tested were found serviceable at DS-GS level. Even more were serviceable to start with but got thrown around during transport from using unit to DX repair shop. Some items make it all the way back to depot before they are tested to find out that nothing's wrong with them.

## Log Book Clues

When supply requests for other parts increase too fast you can overrun supply.

YOU CAN BET YOUR SHIRT THAT WHEN PARTS REPLACEMENT STARTS TO CLIMB, SOMEBODY ISN'T TESTING AND IS SWAPPING GOOD SERVICEABLE PARTS AT DX!!



2408-3	Replacements climb... CH CODE REF RESID	2408-14	Supply may be overrun... HEASON PGM DELAY
GENERATOR	REQ #31-15 NOT IN STOCK	GENERATOR	REQ #31-15 NOT IN STOCK
STARTER	PUB REQ #6-12 NOT IN STOCK	CARBURETOR	REQ #31-36 NOT IN STOCK
BATTERY	REQ #31-42 NOT IN STOCK	BATTERY	REQ #31-42 NOT IN STOCK
REGULATOR		REGULATOR	REQ #31-42 NOT IN STOCK

MORE

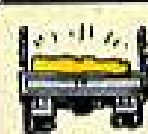
Log book records make a good comparison chart for detecting reasons for sudden changes in supply request pattern. Watch it, they'll tell you what's happening in your motor pool, hangar—or commo shop!

Each DX part has a price tag attached—tho, you'll never see the amount of paper work that goes with each DX turn-in to repair . . . and back to DX stock after test-and-repair.



## Transporting

Another danger is in shipping still-serviceable parts back for repair . . . like somebody tosses those turn-ins into the back of an open truck—one on top of another . . . nothing prevents those parts from bouncing and banging against each other. Delicate components like front panel guards, controls, plugs and jacks on electronic stuff, for instance—may be so damaged they have to be declared un-economically repairable. They get sent to salvage instead of back to DX.



PAD TRUCK BED WITH A MATTRESS

PREVENT DAMAGE



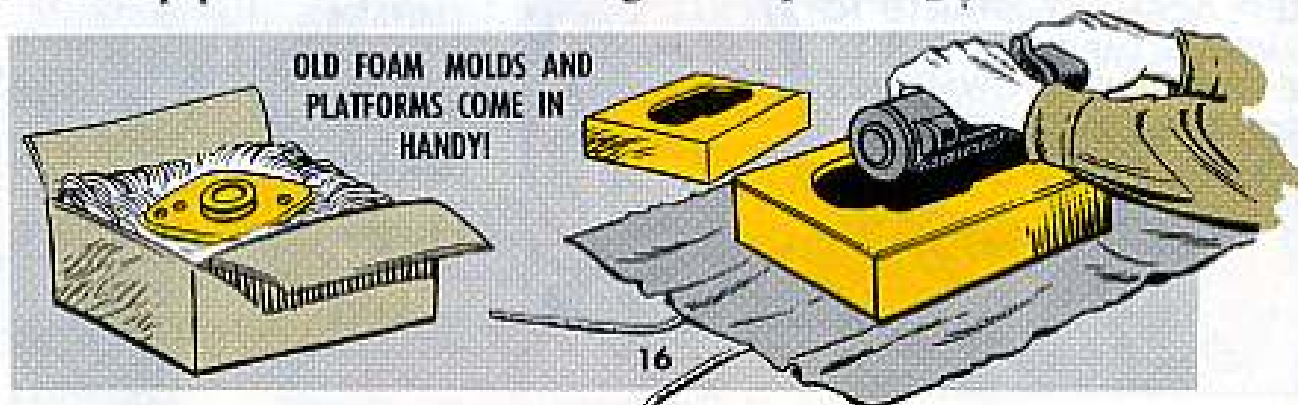
PROTECT PARTS



Cover all exposed openings on parts like distributors, carburetors or regulators by covering them with dust—and moisture-proof hydroscopic tape or by using plastic caps and plugs. Parts that rust or corrode appreciate light coats of preservative lube or grease.

## Some Other Good Ideas

Save old containers, wood boxes, cotton waste and preservative wrapping that your new parts come in with. You can use these to repack returnables. Shredded paper and cotton waste are great for protecting parts in transit.



# A Trouble Shooting SOP Is The Answer

CHECK YOUR TOE TO BE SURE YOU'VE GOT ALL THE PROPER TEST STUFF!

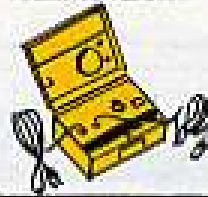


Your TOE allotment of equipment is your authority. Put in a supply request for whatever test equipment you're missing and need. For units with automotive and aircraft equipment, many of these items are part of a tool kit authorized by the TOE.

## Test, Man—Test

HERE ARE A FEW OF THE TESTERS YOU'LL FIND IN YOUR NO. 2 COMMON TOOL KIT!!

TIMING LIGHT



VACUUM TESTER



CYLINDER COMPRESSION TEST SET

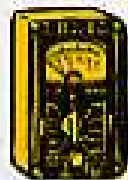


ANTIFREEZE SOLUTIONS TESTER



TACH-DWELL TESTER

MULTIMETER



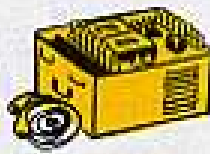
BATTERY ELECTROLYTE SOLUTION TESTER



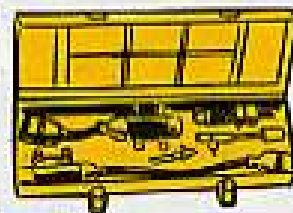
SPARK PLUG CLEANER & TESTER



AUTOMOTIVE TEST SET (LVCT)



ADAPTER SET FOR LVCT



Many of these same test items are in the No. 2 Supplemental (SC 4940-95-CL-AO8) and most of them appear in the No. 1 Common (SC 4910-95-CL-A74) and in the No. 1 Supplemental (SC 4910-95-CL-A73).

Test equipment available for Signal type end items depends on which radios, telephones, radars, teletypes and switchboards your TOE issues you—since the test items are also issued as individual TOE line items.



Aircraft types will find equipment testers mostly in their organizational maintenance tool sets (Army Aircraft) . . . Sets A, A Supp., B, C (SC 4920-93-CL-A71).

Guided missile people will find TOE-authorized test elements housed right in their shop equipment cabinets along with those radar testers individually listed under their own TOE line items.



## Instructions

Most test equipment is covered by at least one set of instructions. DA Pam 310-4 Index of Tech Pubs is where you find them.

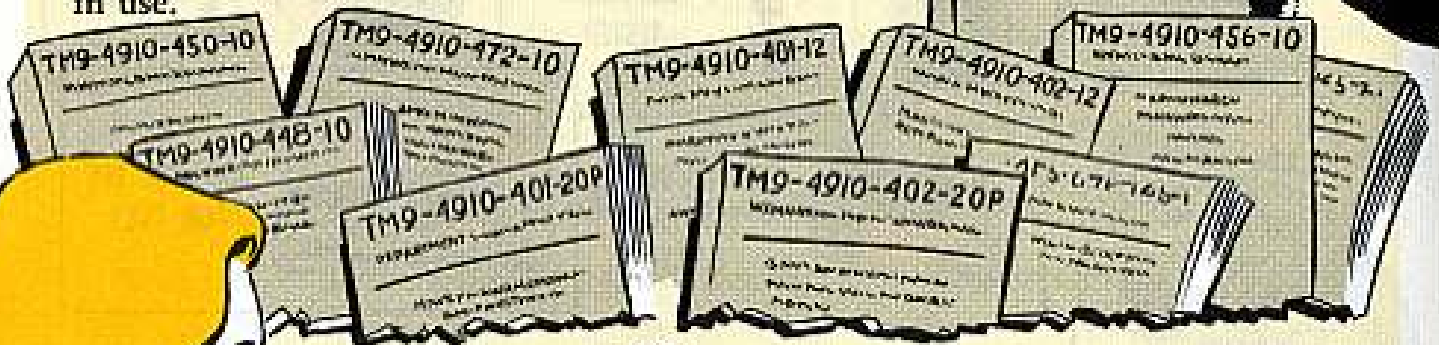
DA Form 17, Request For Publications, is how you order them.

REQUIREMENTS OF REQUESTING AGENCY				
LINE NO.	DESCRIPTION	UNIT	DATE	AMOUNT
1	TM 9-1400-200-12/2 (date)	00		1
2	TM 9-4910-471-10 (date)	00		1
3	TM 9-4910-472-10 (date)	00		1
4	TM 9-4910-477-10 (date)	00		1
5	TM 9-4910-478-10 (date)	00		1

HERE'S HOW YOU FILL IN THE FORM.



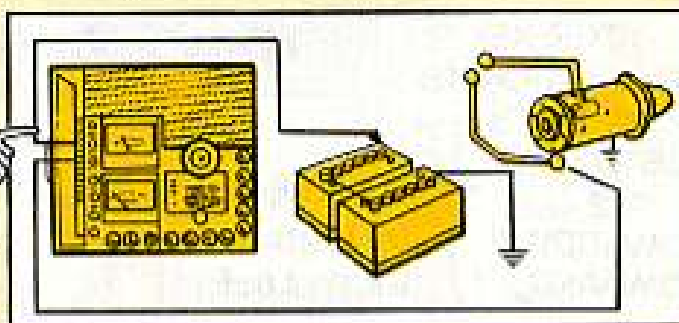
On the low voltage circuit tester, officially referred to as . . . Test Set, Generator & Voltage Regulator, Automotive . . . there are six different sets of manuals for the nine different models in use.



If there is no Army manual, rely on manufacturer's instructions. Write direct to the NMP of the Army Commodity Command with logistical responsibility for that test equipment.



YOU CAN ALSO FIND GUIDES AND HOW-TO-HOOK UP INSTRUCTIONS IN YOUR-20 EQUIPMENT MANUAL... HERE'S A SAMPLE HOOK-UP FOR A LVCT!



## Keep Up The Training

Published instructions are not enough by themselves. You need on-the-job training to both make and keep you acquainted with each piece of test gear. This OJT has to be repeated on a regular basis, so you don't forget technical details.

**HELP!**



Each commodity command has its own group of maintenance technicians waiting to be asked for help. When there's no technician assigned to your area for the type equipment you need help with, forward a request thru channels to the commodity command itself. The proper addresses are listed in AR 700-4.

## Use The System

Troubleshooting is a system which uses a step-by-step search to narrow down possible problem areas until you identify the trouble component. You analyze symptoms, test the defective system to find the faulty part — correct that fault.



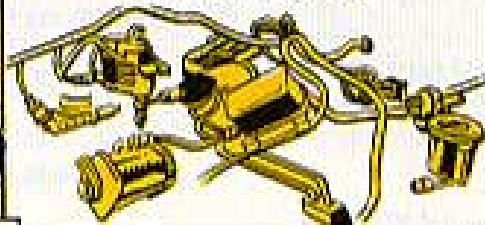
HERE'S AN EXAMPLE.

1. Question the operator or look over the equipment's DA Form 2404.

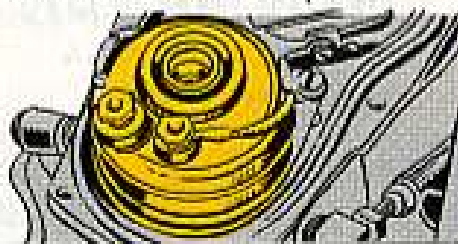
DEFICIENCIES AND SHORTCOMINGS

*engine keeps cutting out*

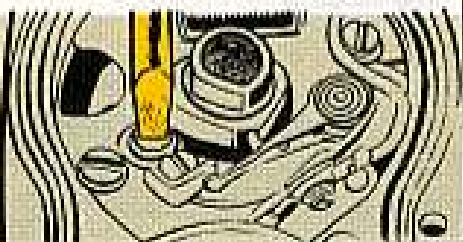
2. Isolate system.




3. Locate defective component.



4. Corrective action.



# How's Your Calibration



YOUR KEY TO  
CALIBRATION TB'S  
IS DA PAM 310-4  
(LISTED BY  
THE  
COMMODITY  
COMMAND)!!

## Electronic Command

Radiac Equipment	TB 11-6665-229-15/1 (16 May 67)
Test & Measuring Equipment	TB 11-6625-692-15/1 (27 Jan 67)
Sets, Kits & Outfits	TB 11-6625-692-15/2 (22 Jun 66)
Meteorological Equipment	TB 11-6660-253-15/1 (3 Feb 67)

## Missile Command

NIKE (all systems)	TB 9-1425-250-25 (10 May 67)
HAWK	TB 9-1425-500-25 (8 Feb 67)
Sergeant	TB 9-1425-300-25 (28 Dec 67)
Pershing	TB 9-1425-399-25 (Jul 67)
M22 Helicopter Subsystem	TB 9-4900-461-35 (5 Apr 66)
ENTAC	TB 9-4900-455-35 (11 Apr 66)
LIGHT TARGET Missile System	TB 9-4900-417-35 (16 Dec 65)
Honest John	TB 9-1340-202-35 (18 Apr 67)
Little John	TB 9-1340-204-35 (22 May 67)
XM3 Aircraft Subsystem	TB 9-1055-217-35 (16 Dec 65)

## Mobility Equipment Command

Tools & Support Items	TB 750-93-10/1 (19 Nov 64) Sect B s/s by TB 750-112 (28 Oct 66)
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## Tank-Automotive Command

Tools & Support Items	TB 750-112 (28 Oct 66)
-----------------------	------------------------

## Aviation Command

Aviation Test & Measuring Equipment	TB 750-931-10/1 (Jan 68)
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## Weapons Command

Tool Sets	TB 750-113 (21 Sep 67) (formerly TB Ord 1060)
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## Munitions Command

Special Weapons (for support)	TB 750-109 (31 Jul 67) TB 9-6625-334-35 (21 Jul 65) (secondary references & transfer standards)
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## Army Security Agency

ASA Equipment	TB 750-32-1 (Feb 67)
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## Make It Pay

A little interest on the part of NCO's, shop officers and commanders goes a long way in encouraging proficiency with test equipment and a corresponding drop in parts usage.



A MECHANIC GOOD AT USING TEST EQUIPMENT TO TROUBLESHOOT, AND WHO SUCCEEDS IN CUTTING THE DX TURN-IN RATE IN A GIVEN PERIOD OF TIME SHOULD BE REWARDED.



Over a long range period, the amount of money or number of hours on pass could be increased progressively with each award to the same mechanic. Each increase in direct return for continuing progress as a troubleshooter. Staying at same level of proficiency is not enough unless the top level of proficiency is reached — and held.



IT PAYS TO USE YOUR TEST EQUIPMENT FOR TROUBLESHOOTERS GAIN--AGAIN AND AGAIN!





## GROUND MOBILITY

TURN SIGNAL BOX ...

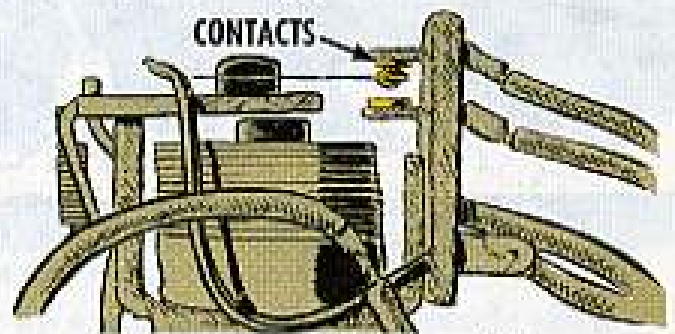
## ENEMY: WATER

... YOU MIND TELLING ME WHICH WAY YOU INTEND TO TURN ... IF ANY?



You've got a private little war if you've got directional turn signals on your tactical wheeled vehicle—especially if you're where it's hot 'n' humid.

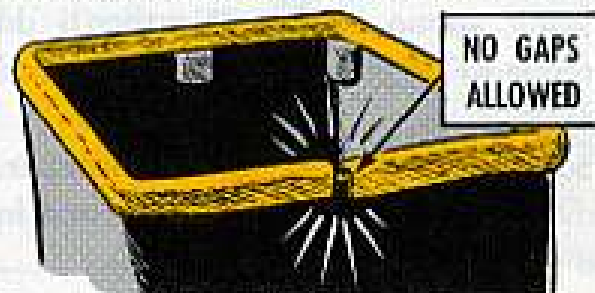
That's the battle to keep water—even moist air—out of your turn signal distribution box. Until the new, solid-state hits the field, you'll have bare electrical contacts in your distribution box. These contacts are the relays that open and close when you operate your turn signals. Just the tiniest bit of moisture will build a coat of corrosion on these contacts. Then—no electrical contact—no turn signals.



Your distribution box seems to pull water like a crowd draws pickpockets. This's one-way water—it'll sneak in around screws, the cover gasket and even the snug-fitting insulators. But it won't leave, even if you get a jugful in there.

So you've got to throw up a real tight "perimeter defense," like so:

1. Take off the cover and check the gasket. Make sure the ends are at the bottom of the box and that they come together. If you can't stretch the gasket around so the ends do meet, get a new one — FSN 2590-953-2177.



2. Then cement the gasket ends together with Gasket Forming Compound, FSN 5330-842-6380, listed in Fed Cat C5330-IL-A (1 Feb 68), or Adhesive, FSN 8040-877-9872 listed in Fed Cat C8000-IL-A (Jan 68).

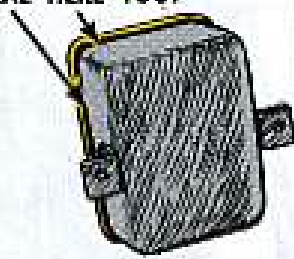


PUSH ENDS TOGETHER & CEMENT.

3. Wait until the adhesive sets (dry to touch) before putting cover back on box.

4. Seal under lip of cover all the way around with Varnish, Oil, FSN 8010-664-5411 (1-pt can), listed in Fed Cat C8000-IL-A (Jan 68).

SEAL HERE TOO!



5. Use same sealant on and around all screws, rivets and terminal blocks.



Take the box out of the vehicle to do a good job on this sealing, if you have to — it'll be worth the trouble in the long run.

M332 AMMO TRAILER ...

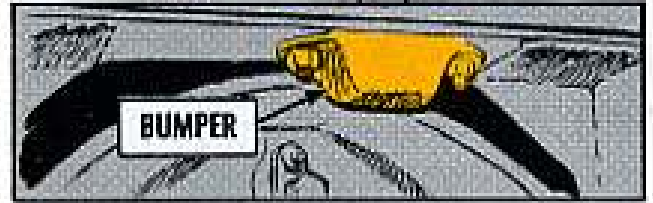
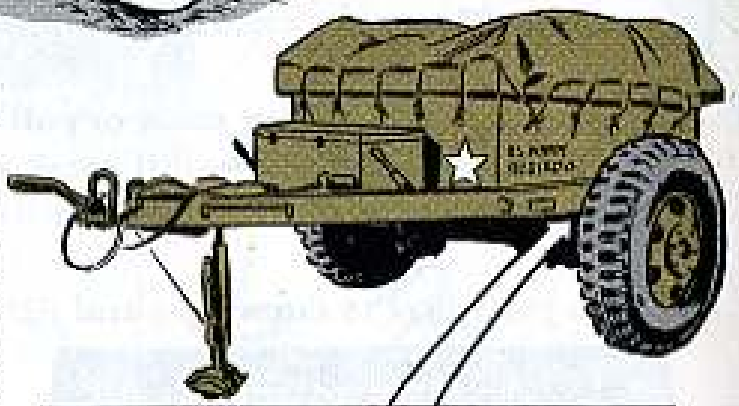
BUM RUBBER BUMPER?



A heavy load of ammo . . . bouncin' cross-country . . . a ditch or a rock . . . axle smacks rubber bumper on frame.

Much of this'll knock the puddin' out of those rubber bumpers on your M332 1½-ton ammo trailer. Weather'll do the rest. The bumpers crack and fall apart.

So you get new ones — Bumper, Rubber, FSN 2510-439-6332, listed in Fed Cat C2510-IL-A (1 Apr 68).



DIESEL BUS-AMBULANCE . . .

## EASY UP -- EASY DOWN



Bearings need oil—or some kind of lube. Right? Right!

Your GMC 44-passenger DSPA 5019 bus-ambulance has a turbocharger that spins on bearings that are pressure lubricated.

Engine oil won't get to your turbocharger's bearings until pressure has built up. So you idle at 700 to 800 RPM for the first minute or so after starting up. This gives oil a chance to get to those bearings while the turbocharger's turning at low speed.

Then, when you step up your engine to normal operating speed and get your turbocharger spinning at about 70,000 RPM, the bearings will be ready to take the gaff.

Same goes for shutting down your engine. If you shut 'er off too fast, you leave your turbocharger spinning like mad with no pressure in the oil system. That means no oil in the bearings. And that means no bearings.

So idle at 700 to 800 RPM for a couple of minutes before shutting down. Right? Right!

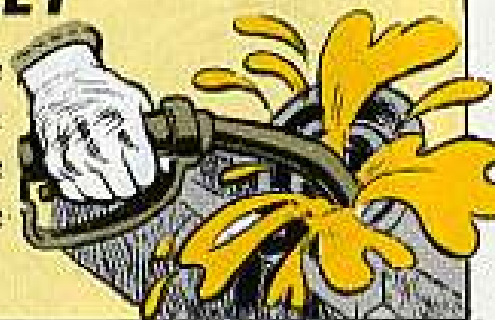


## M151 100-AMP SYSTEM

They're a team, Generator, FSN 2920-999-9324, and Carburetor, FSN 2910-788-8457. That's what it says in Ch 3 (Jul 66) to TM 9-2300-223-20P. The carb is the Zenith job. They pair up so the generator's receptacle assembly won't interfere with the carburetor. The other team is the Holley carb, FSN 2910-678-1857, and Generator, FSN 2920-314-0556.

## REFUEL -- BUT SAFELY

Ever wonder what's the maximum safe refueling rate for your M151 ¼-ton truck? It's 25 gallons per minute. The scoop's in EIR Digest TB 750-981-1 (Jan 67), page 117, para 43. Be sure it's stenciled on your M151's, like para 13g in TB 746-93-1 (Oct 64) tells you.



# UNLOCK THE LOCK

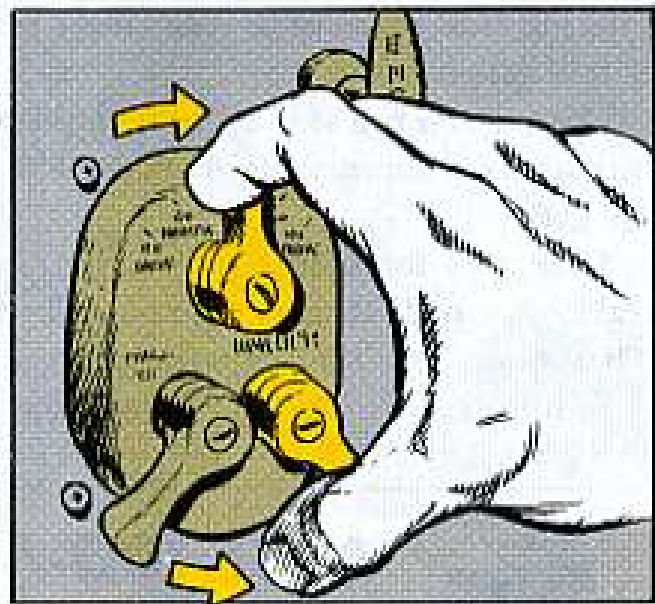
THERE GOES  
SUPERMAN  
AGAIN!



The light switch unlock lever on your M-series track or wheel vehicle serves a good purpose.

The spring-loaded unlock lever prevents accidental movement of the selector lever to any position except to BO MARKER and OFF.

To move the main switch selector lever to any ON position, except BO MARKER, the unlock lever must be lifted to the unlock position—or else! Using muscle on the selector lever without first using the unlock lever will bust the switch for real and sideline your vehicle.

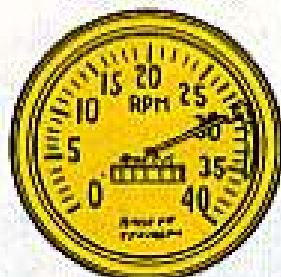


So, to keep busted switches from piling up in the repair shop be sure you hold the unlock lever "up"—then move your selector switch.

G744-SERIES 5-TONNERS . . .

## GASOLINE ENGINE RPM

NO LOAD RPM



2950 RPM

Top governed RPM (no-load) for your R6602 gasoline engine is 2950. You'll see "2750 to 2800 RPM" in Ch 3 (Nov 66) to TM 9-2320-211-20, but that's talking about top governed RPM "under load."

UNDER LOAD RPM



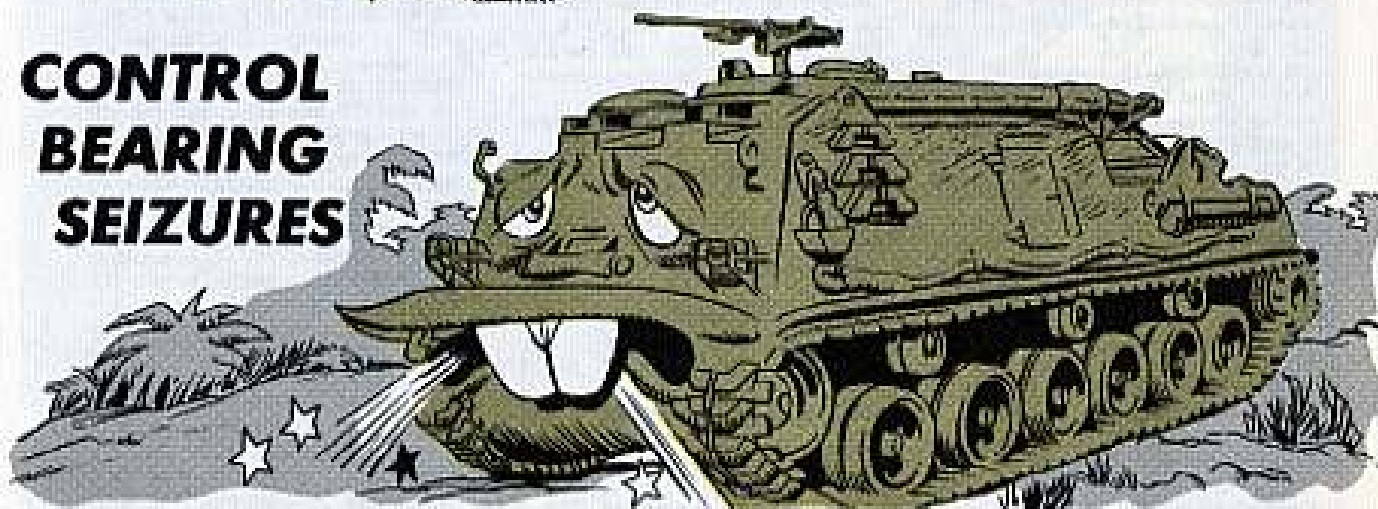
2750-2800 RPM

# HAND-BRAKE SCREW



Need the Bolt, Machine, adjusting, brake-band bracket for your 3/4-ton that's listed under FSN 5305-732-4143 on page 56 of TM 9-2320-212-20P (Feb 60)? Then ask for it by using FSN 5305-622-9484. The FSN listed in the 20P brings the long hook bolt that's shown in Fig 49—not the adjusting screw. FSN 5305-622-9484 is a good number and is listed in Fed Cat C5305-IL-A Vol 2 (Jul 66).

# CONTROL BEARING SEIZURES



Any of the rod-end bearings in your M88 VTR seizing up on you?

There're over 20 of these bearings, FSN 3120-673-3205, in the steering, shifting and throttle control linkages.

They have a rough life because they're out in all kinds of weather without any protection from water, grease, oil and dirt.

So, if the nylon bearing seems to be binding, unhook the rod-end bearing assembly and try working the bearing by hand.

Loosen it and clean the dirt out with mineral base solvent such as kerosene or aliphatic naphtha type II TT-N-95.

Ordinary solvents can soften the nylon and make it seize worse than ever.





# PLUBS

This is a selected list of recent pubs of interest to organizational maintenance personnel. The list is compiled from recent AG Distribution Centers Bulletin. For complete details see DA Pam 310-4, Ch 2 (Aug 67), and Ch 1 (Jul 67), TM's, TB's, etc.; DA Pam 310-6 (Jul 67) and Ch 2 (Jan 68), SC's and SM's; DA Pam 310-7 (Jul 67), MWO's.

## TECHNICAL MANUALS

TM 1-U215, Dec, U-21A.  
 TM 3-1325-232-12, Nov, E15BR2 Cluster Control, Tactical, CS 50-Lb.  
 TM 3-4230-209-20P, Dec, M12A1 Decon Apparatus, Pwr-Dren, Skid-Mid 500 Gal.  
 TM 3-3820-240-15, Nov, Paving Breaker: Dual Purpose Sinker Drill, Paving Breaker GED Cobra 88M 47L.  
 TM 3-3895-216-25P, Nov, Concrete Paving, GED 20 Ft Wide.  
 TM 3-4310-226-15, Oct, Recip Compressor, Pwr-Drn, Whl Mid; 2 Wheel, New Tires, w/Towbar and Lunette Eye, Gas Eng; 4.00 CFM, 3000 PSI.  
 TM 3-4320-248-15, Oct, Fuel System, Transfer, Port, Cent Pump, 100 GPM; 3 HP Gas Eng.  
 TM 3-6115-344-25P, Nov, Gen Set, GED, 2 KW, DC, 15V, Air Cooled, Port, Tubular Frame w/Cylinder Eng.  
 TM 9-1005-223-20, CI, Dec, M14, M14A1 Rifles.  
 TM 9-1005-224-1B, Nov, M60 Machine Gun, M123 Mount.  
 TM 9-1005-237-12, Nov, XM18, XM18E1 Permanent Subsystems.  
 TM 9-1430-268-15P/1, Nov, Nike-Herc, Nike-Herc Imp.  
 TM 9-1430-503-12/1, Nov, Hawk.  
 TM 9-1430-503-15P/1, Nov, Hawk.  
 TM 9-1430-510-15P/1, Oct, Hawk.  
 TM 9-1430-511-15P/1, Oct, Hawk.  
 TM 9-1440-375-12P/1, Oct, Pershing.  
 TM 9-2300-224-20/3/2, C2, Jan, M577, M577A1 Command Post Carrier, Light Tracked.  
 TM 9-2300-224-ESC/4, CI, Oct, M122 Flame Thrower, SP.  
 TM 9-4935-377-15P/2, Oct, Pershing.  
 TM 9-4935-378-15P/1, Oct, Pershing.  
 TM 9-4935-425-15P, Oct, Redeye.  
 TM 9-4935-503-15P/1, Oct, Hawk.  
 TM 9-4935-508-15P/1, Nov, Hawk.  
 TM 10-500-54, Dec, Rigging AN/VRC-59 Radio, PU/623/G Generator.  
 TM 10-500-66, Nov, Airdrop of Supplies, Equip, Rigging 1/2-ton Frontline Ambulances.  
 TM 10-1670-206-23, Dec, Parachute Recovery System.  
 TM 11-5805-467-12, Dec, AN/FCA-17 Telephone Connecting Group.  
 TM 11-5820-540-12, Dec, AN/GRC-103 Radio Set.

TM 11-6200-220-12, Dec, AN/TYS-3 Searchlight Set.  
 TM 11-6625-412-15-1, Nov, AN/URM-44A Radio Test Set.  
 TM 55-1520-202-20PMD, Nov, CH-34.  
 TM 55-1520-204-20PMD, Dec, CH-13.  
 TM 55-1520-209-10, CS, Nov, CH-47.  
 TM 55-1520-209-20PMD, Nov, CH-47.  
 TM 55-1520-209-20PMD, Nov, CH-47.  
 TM 55-1520-209-20PMP, Nov, CH-47.  
 TM 55-1520-209-20PMP, Nov, CH-47.  
 TM 55-1520-210-10, Nov, UH-1D.  
 TM 55-1520-210-20PMD, Nov, UH-1D.  
 TM 55-1520-214-10, Dec, OH-6.  
 TM 55-1520-214-10CL, Dec, OH-6A.  
 TM 55-1520-214-20, Dec, OH-6.  
 TM 55-1520-214-20P, Dec, OH-6A.  
 TM 55-1520-214-20PMD, -20PMP, Dec, OH-6A.  
 TM 55-1520-217-20, Jul, CH-54A.  
 TM 55-1520-221-20, Nov, AH-1G.  
 TM 55-1520-221-20PMD, Nov, AH-1G.  
 TM 55-2915-280-40, Dec, OY-1.  
**MODIFICATION WORK ORDERS**  
 MWO 9-1000-218-30/1, Dec, M107, M110.  
 MWO 9-1000-218-30/3, Jan, M107, M110.  
 MWO 55-1520-209-30/50, Jan, CH-47.  
 MWO 55-1520-209-20/67, Nov, CH-47.  
 MWO 55-1520-209-30/24, Jan, CH-47.  
 MWO 55-1520-209-30/53, Jan, CH-47.  
 MWO 55-1520-209-30/54, Dec, CH-47.  
 MWO 55-1520-209-30/57, Jan, CH-47.  
 MWO 55-1520-210-30/11, Jan, UH-1D.

## SUPPLY CATALOGS

SC 1080-97CL-E03, Nov, Camouflage Net Set, AA Mach Gun, Semi-Rigid.  
 SC 3610-97-CL-E06, Nov, Sign Repro Set, Silk Screen.  
 SC 3820-97-CL-E05, Nov, Crushing, Screening, Washing Plant, Whl Mid; 225 Tons Per Hr.  
 SC 4210-97-CL-E04, Dec, Fire Fighting Equip Set: Trk Mid; Brush, Class 530B, Overseas.  
 SC 4210-97-CL-E09, Dec, Fire Fighting Equip Set: Trk Mid; Pumper, Class 530B; Overseas, Army Aircraft Crash.  
 SC 4920-99-CL-A65, Dec, Aircraft Maint Tool Set, Automobile, CH-47, Org Maint, Automobile Div.  
 SC 4920-99-CL-A67, Dec, Aircraft Maint Tool Set, Automobile, UH-1, OH-13, Org Maint, Automobile Div.  
 SC 5180-97-CL-E04, Nov, Carpenter's Tool Kit, Engr Squad.  
 SC 5180-97-CL-E03, Nov, Carpenter's Tool Kit, Engr Platoon.

SC 5420-97-CL-E10, Oct, Fixed Bridge, Steel, Highway, Semi-permanent; 30 Ft Lg Span.  
 SC 5420-97-CL-E19, Oct, Fixed Bridge Conversion Set, Railway Through Truss, To Convert End Posts Slanted to Vertical.  
 SC 5420-97-CL-E31, Oct, Repair Equip, Aluminum Floating Bridge; Repair and Maint Comp of M-4 Floating Bridge.

## TECHNICAL BULLETINS

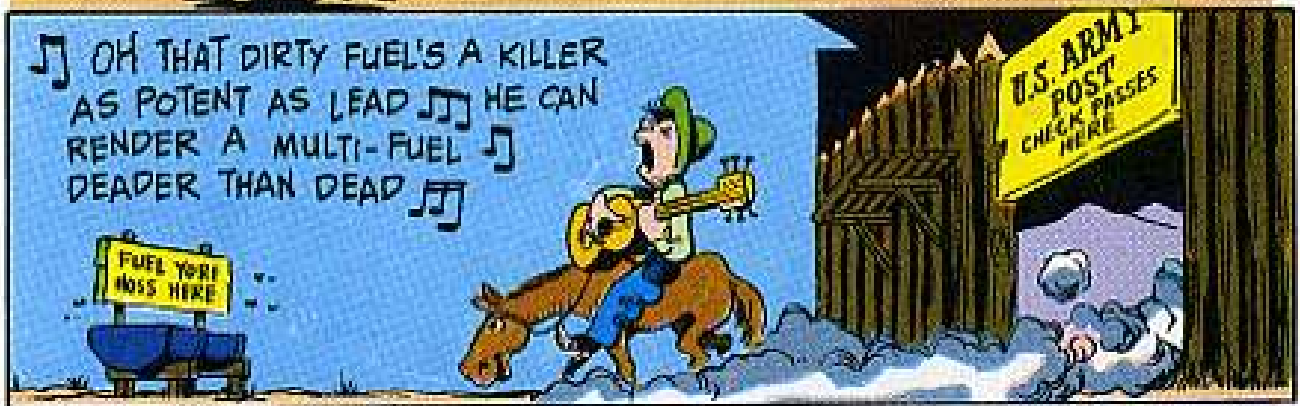
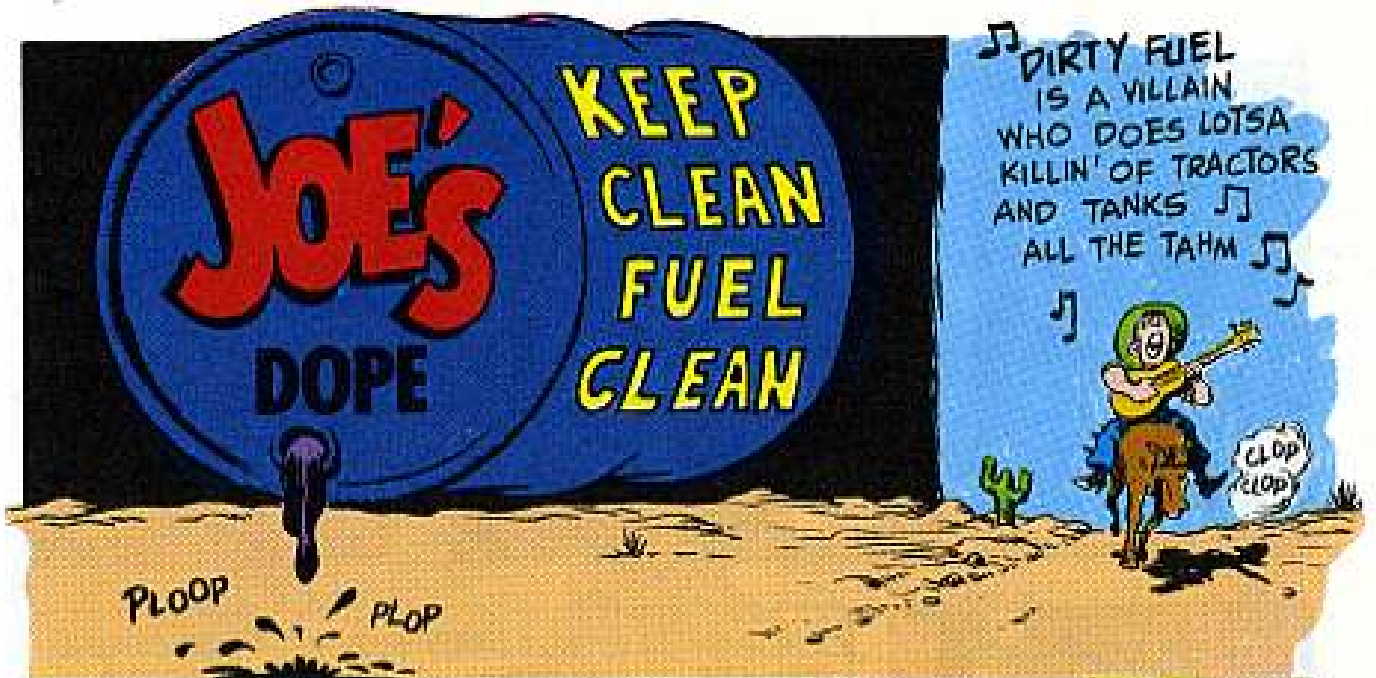
TB 9-1425-300-25, Dec, Sergeant.  
 TB 9-2300-295-15/2, Jan, M715 1 1/2-Ton Cargo Truck; M725 Ambulance.  
 TB 55-1500-208-30/3, Jan, OH-23.  
 TB 55-1510-204-30/3, Dec, OY-1.  
 TB 55-1510-204-30/4, Jan, OY-1.  
 TB 55-1510-205-20/2, Jan, U-1.  
 TB 55-1520-209-30/25, Jan, CH-47.  
 TB 55-1520-214-30/3, Dec, OH-6.  
 TB 55-1520-214-30/16, Dec, OH-6.  
 TB 55-1520-214-20/17, Jan, OH-6.  
 TB 55-1520-221-30/2, Jan, AH-1G.  
 TB 55-4320-270-20, Dec, F/W, R/W.  
 TB 55-4920-222-20, Dec, F/W, R/W.  
 TB 55-4920-224-20, Dec, F/W, R/W.  
 TB 55-4920-228-20, Dec, F/W, R/W.  
 TB 55-4920-316-20, Dec, F/W, R/W.  
 TB 55-4920-349-20, Dec, F/W, R/W.  
 TB 55-6620-319-20, Dec, F/W, R/W.  
 TB 55-6625-747-20, Dec, F/W, R/W.  
 TB 55-6680-258-20, Dec, F/W, R/W.  
 TB 55-6685-302-20, Dec, F/W, R/W.  
 TB 750-99-MISC OPS/2, Dec, F/W, R/W.  
 TB AVN 25-15, Jan, Oper of Aircraft Fuel Booster Pumps.

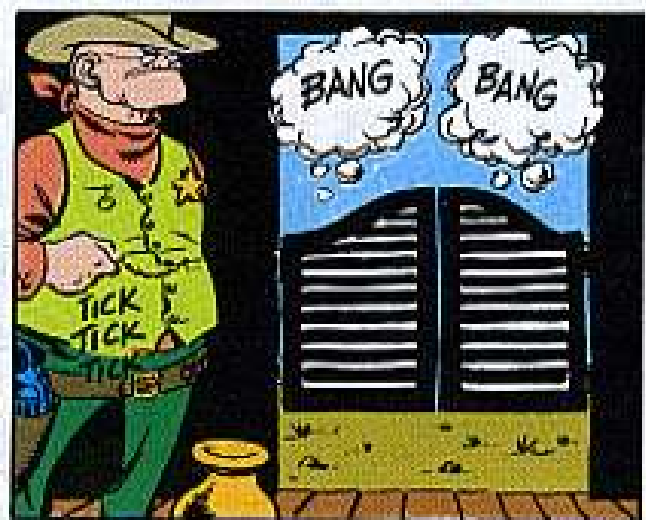
## MISCELLANEOUS

LO 3-1940-201-12, Nov, Bridge Erection, Boat, Marine Equip Sys.  
 LO 3-2420-218-12-1, Nov, Wheel Tractor, DED, w/Backhoe and Front Loader w/Eng IHC 80-154.  
 LO 3-2420-218-12-2, Nov, Wheel Tractor, DED, w/Backhoe and Front Loader w/Engine IHC 80-154.  
 LO 3-3740-200-12, Nov, Insecticide Sprayer, Skid Mid; GED; 40 Gal Per Hour; Fog W/Eng.  
 LO 3-6115-425-12, Nov, Generator Set, DED, 60 KW, W/Cummins Eng C18D.  
 LO 9-1005-257-12, Nov, XM18, XM18E1, Permanent Subsystem.  
 LO 9-2320-244-12, Oct, M715 1 1/2-Ton Cargo Truck; M725 Ambulance.

## NEW CODES ON AGAZ FORM 944:

DC—Publication previously Due Out is now Cancelled.  
 DR—Publication previously Due Out is now released for supply.



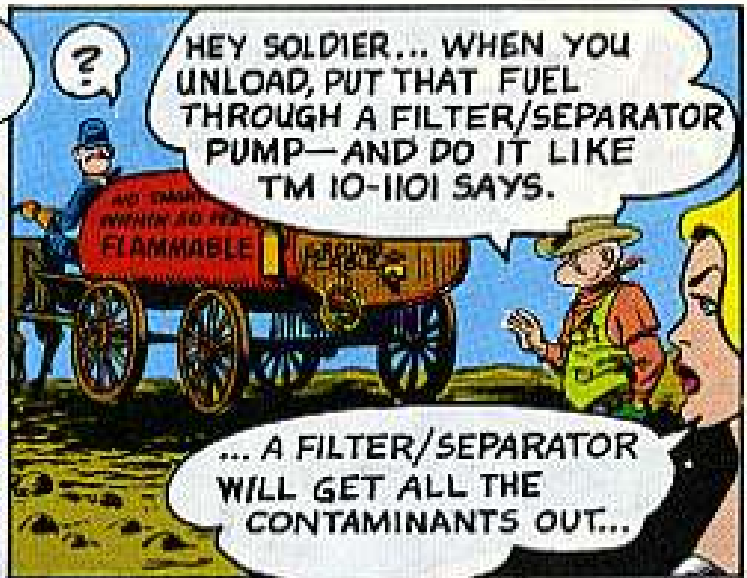






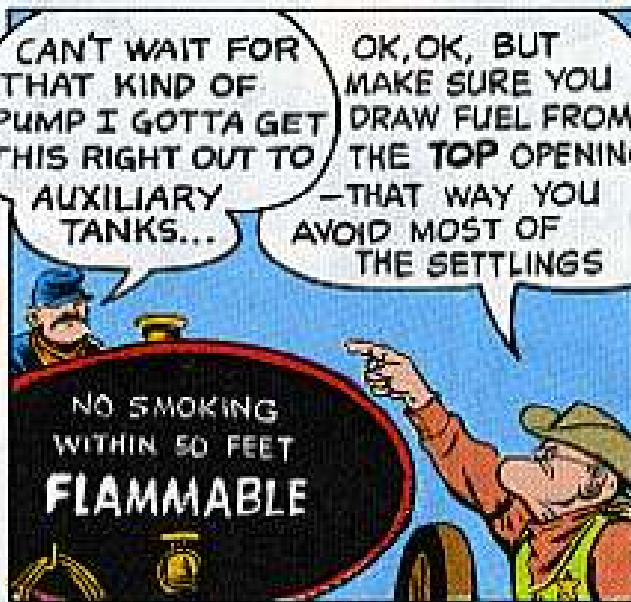
YOU'RE RIGHT, MARSHAL, FUEL CAN BE **KEPT CLEAN** BY A LITTLE CAREFUL **HANDLING** SO, WHY DON'T WE PASS THE WORD TO THE **SOLDIERS!**

RAHT



HEY SOLDIER... WHEN YOU UNLOAD, PUT THAT FUEL THROUGH A **FILTER/SEPARATOR PUMP**—AND DO IT LIKE **TM 10-1101** SAYS.

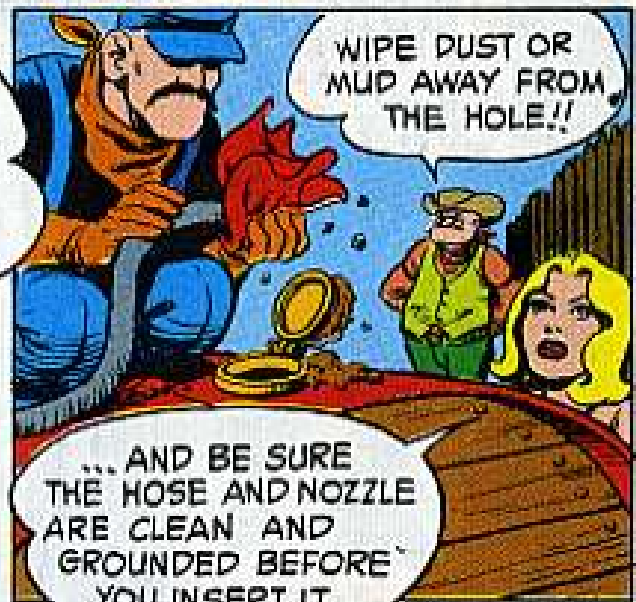
... A **FILTER/SEPARATOR** WILL GET ALL THE **CONTAMINANTS** OUT...



CAN'T WAIT FOR THAT KIND OF **PUMP** I GOTTA GET THIS RIGHT OUT TO **AUXILIARY TANKS...**

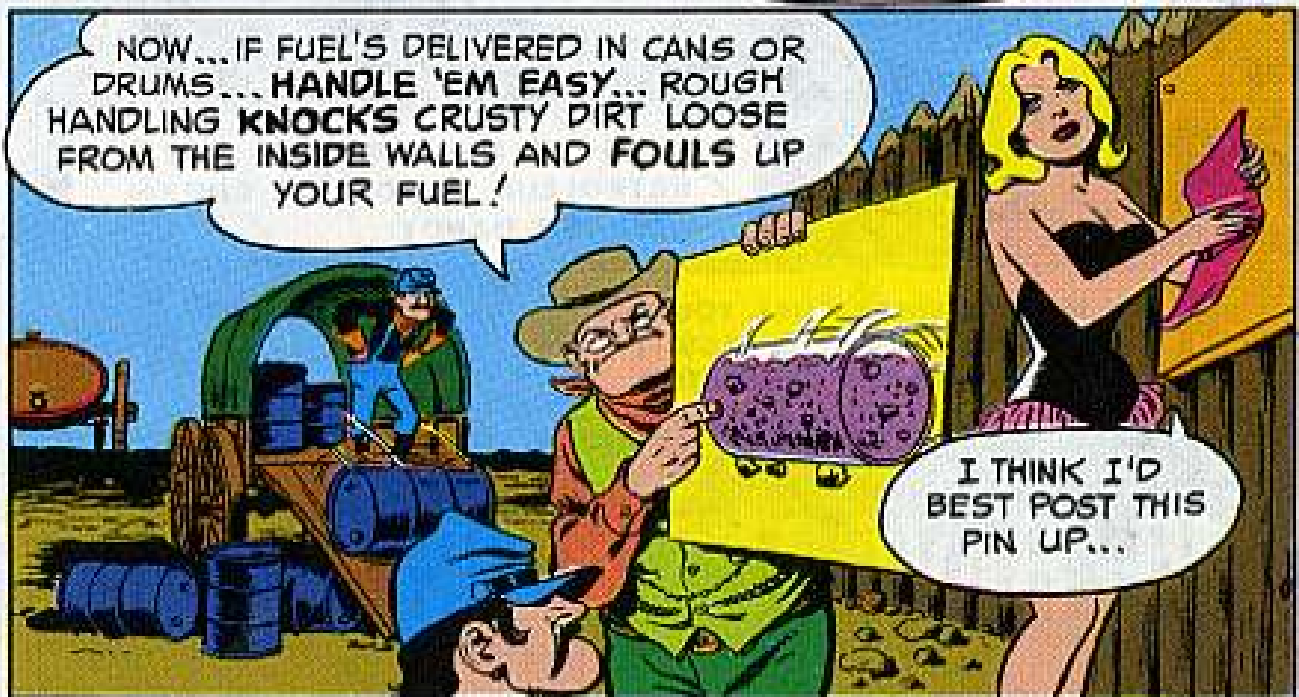
OK, OK, BUT MAKE SURE YOU **DRAW FUEL** FROM THE **TOP OPENING** — THAT WAY YOU **AVOID MOST OF THE SETTLINGS**

NO SMOKING WITHIN 50 FEET  
**FLAMMABLE**



WIPE **DUST** OR **MUD** AWAY FROM THE **HOLE!!**

... AND BE SURE THE **HOSE** AND **NOZZLE** ARE **CLEAN** AND **GROUND** BEFORE YOU **INSERT** IT...



NOW... IF **FUEL'S** DELIVERED IN **CANS** OR **DRUMS**... **HANDLE 'EM EASY**... **ROUGH HANDLING** **KNOCKS CRUSTY DIRT** LOOSE FROM THE **INSIDE WALLS** AND **FOULS UP** YOUR **FUEL!**

I THINK I'D **BEST POST** THIS **PIN** UP...

**Joe's**

# Dope Sheet

## DIRTY FUEL RUINS ENGINES

UGH  
HEAD  
BAD

GO ON  
WARPATH

KEEP  
TAP  
HOLES  
CLEAN

**STORE**  
TANKS AND  
DRUMS  
AND  
PROPERLY  
USE ONLY  
CLEANED  
ATTACHMENTS

**GUARD AGAINST  
DIRTY FUEL**  
HANDLE DRUMS  
WITH CARE

TM 10-1101 AND TM 10-1113 ARE THE  
PETROLEUM HANDLER'S BIBLE -  
KEEP 'EM HANDY!

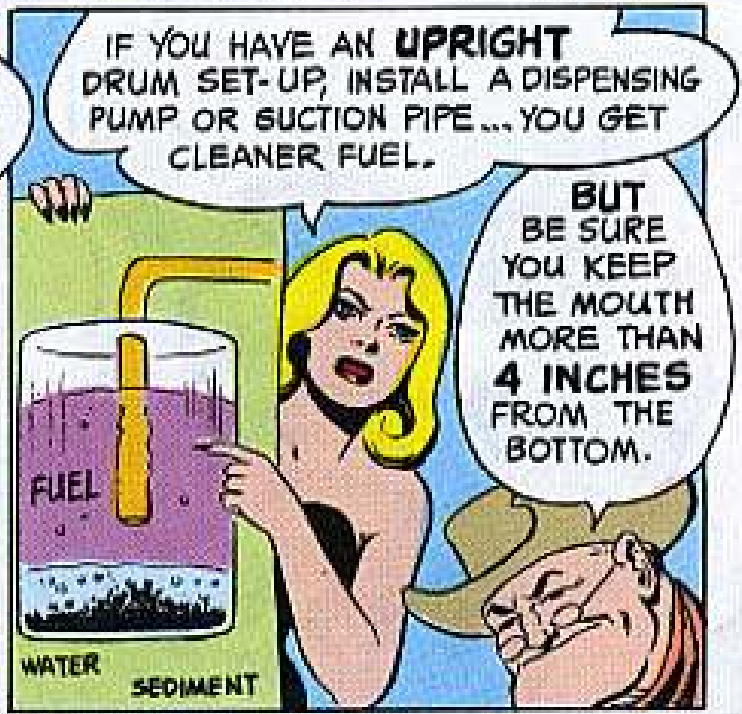
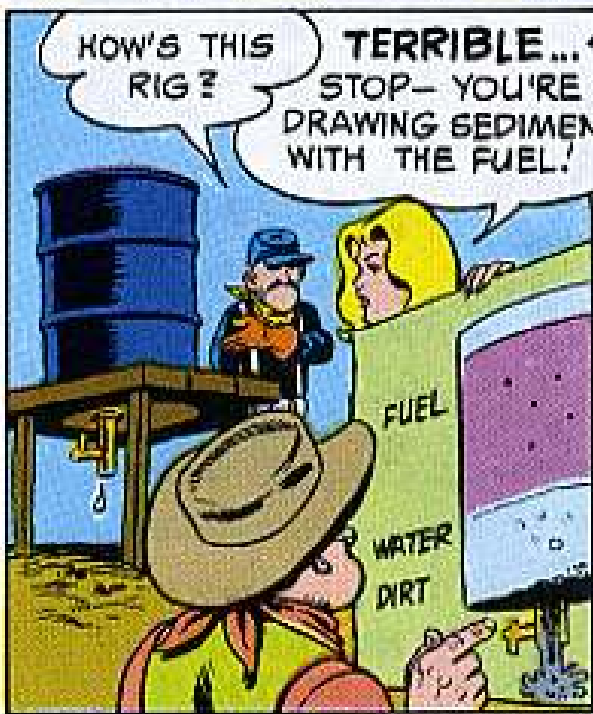
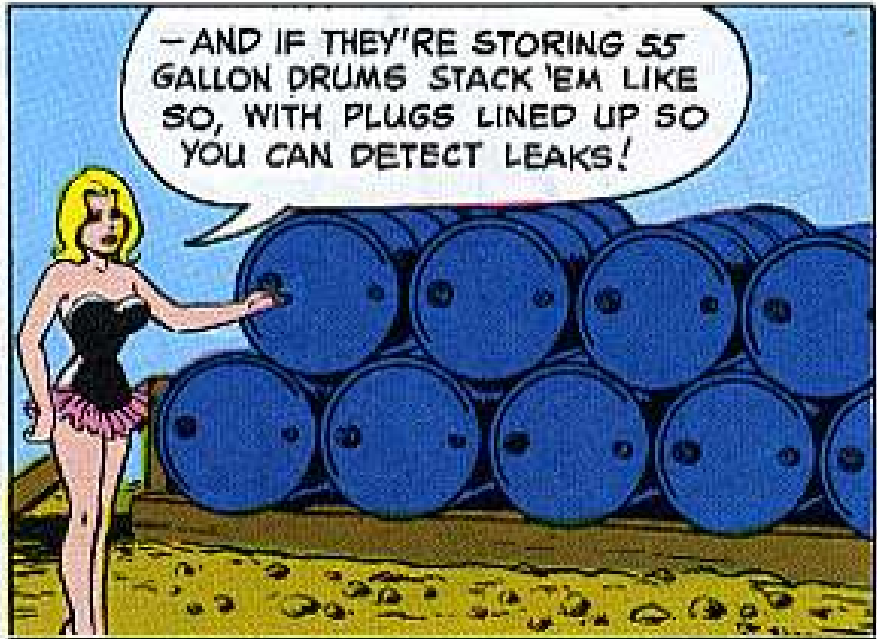
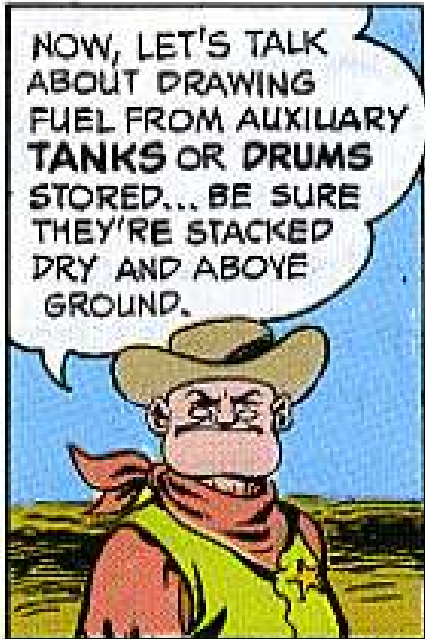
NO MATTER WHAT FUEL YOU USE  
ON AIRCRAFT, ALWAYS PASS IT  
THROUGH A FILTER-SEPARATOR.

**FLAMMABLE  
NO SMOKING  
WITHIN  
50 FEET**

Dirty Fuel's  
The Enemy Within!!  
... That's Where  
Engine Troubles Begin!  
So, Keep Your Fuels Clean  
Store 'N' Handling I Mean,  
Cool Fuel Handling  
Will Sure Save Your Skin!

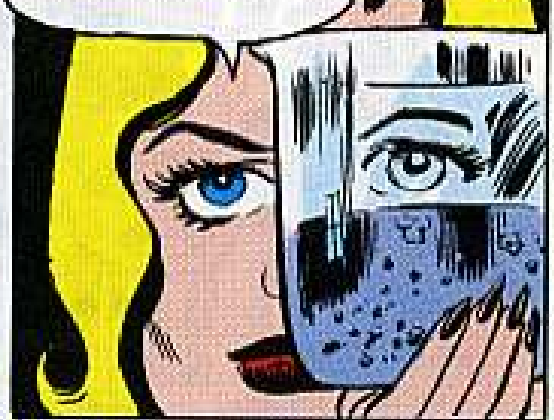
# WE HAVE THE WORLD'S BEST EQUIPMENT ... *Take care of it*

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.



DRAWING FUEL FROM A TAP OR ANY KIND OF SPIGOT? ...FIRST TAKE A SAMPLE IN A CLEAN CAN OR JAR AND CHECK IT FOR SEDIMENT OR WATER!

...IF YOU FIND SOME, LET IT RUN TILL YOU GET THE PURE STUFF! - YOU DON'T WANT TO FEED ANY OF THIS DIRT TO YOUR EQUIPMENT!



HOW DOES WATER GET INTO FUEL ANYHOW?... THOSE DRUMS LOOK TIGHT!

WELL, ONE WAY IS THRU CARELESSNESS LIKE THIS LOOSE PLUG!



THERE ARE TWO COMMON TYPES OF CLOSURES... THE RIEKE AND THE TRISURE ... THEY SEEM TO FIT INTO THE SAME HOLE BUT THEY DON'T FIT RIGHT!!

SO DON'T TRY TO SWITCH 'EM... Y'LL GET A LEAK.



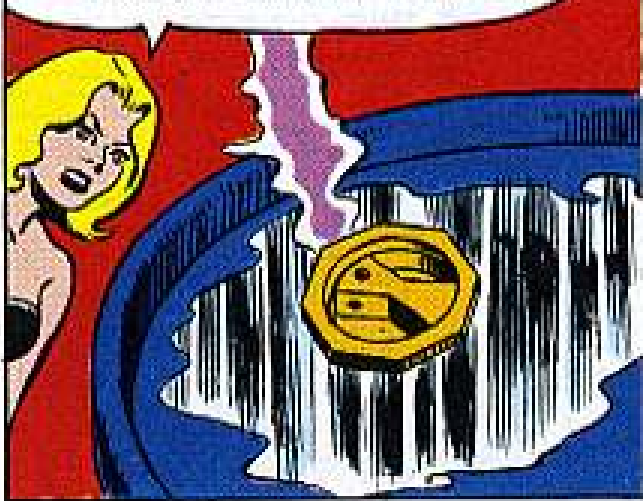
ANOTHER WAY WATER GETS INTO DRUMS IS DUE TO DAMAGED PLUG THREADS ESPECIALLY WHEN DRUMS ARE LEFT UPRIGHT TO COLLECT RAIN WATER.

THE HOT SUN ALSO EXPANDS THE AIR INSIDE.



EXPANDING METAL OPENS COVER A BIT

SOME OF THE EXPANDED AIR ESCAPES THRU THE LEAKY SPREAD SEAMS!



AT NIGHT, OR WHEN THE WEATHER TURNS COOL, THE AIR INSIDE THE DRUM CONTRACTS... A PARTIAL VACUUM DEVELOPS AND SUCKS IN ANY MOISTURE ON THE SURFACE OF THE DRUM.



SO, YOU KEEP CLEAN FUEL CLEAN BY STORING DRUMS PROTECTED AND DRY SO THE WET WEATHER WILL ROLL RIGHT OFF.

ANYTHING THAT TOUCHES FUEL SHOULD BE CLEAN, RIGHT?

DIRTY FUEL'S A KILLER

HOLD IT, CONNIE



BANG  
BANG  
BANG



WHY'D YOU DO THAT, MARSHAL?

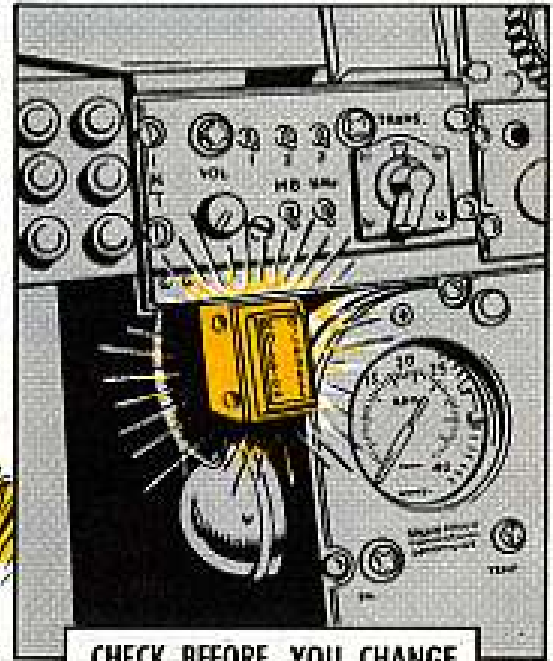
IT WAS HIM OR US, GAL!! HE HAD A DUSTY, DIRTY SNOUT, AH COULDN'T LET HIM CONTAMINATE THE LOCAL FUEL SUPPLY!





# LIGHT ON THE BLINK??

DON'T GET PANICKY, TRY TO TROUBLE-SHOOT IT FIRST!



CHECK BEFORE YOU CHANGE

If your Raven (OH-23G) transmission oil-pressure warning light winks at you — hold everything!

Don't go changing the switch before you eye the troubleshooting chart, Table 7-1 in TM 55-1520-206-20 (11 Oct 65) for other possibilities. Otherwise you might be changing a perfectly good switch.

If there's a drain hose on the transmission oil pump—they're on all "G" models before serial number 64-15176—it could be the problem.

Seems that air enters the hose and can be sucked past the pump impeller seal, setting off the low-oil-pressure warning light.

To draw oil instead of air, follow the corrective action in the chart.

**1** Disconnect the drain hose and toss it.

**3** Cap the tee fitting where the other end of the hose was connected.

**2** Screw in a pipe plug at the pump.

**4** Lockwire the plug, and you've got a permanent fix.



You won't run into this problem on later models—they don't have a drain hose.

**YOUR ORGANIZATIONAL MAINTENANCE ARMY AIRCRAFT A, A SUPPLEMENT B, C TOOL SETS**



**KNOW YOUR TOOLS**

When you hustle up to tech supply and ask for a tool to do a job, you and the supply sergeant should agree on the tool nomenclature and what it looks like.

Which is a pretty good reason why mechanics and supply types are giving SC 4920-93-CL-A71, Ch 1 (31 Oct 67) the once-over-lightly.

Here are the tools that make up the four sets and what they look like. Don't fret if some of your tools don't match exactly. Variations exist between manufacturers.

**THESE ARE THE SETS...**



**USE THIS CODE...**

TO DETERMINE HOW MANY, IF ANY, OF THESE TOOLS GO INTO EACH SET.



**ADAPTER, GREASE GUN COUPLING:** hyd type inlet ftng & noz; strght, flex ext; 10,000 psi max wp; 12 to 14-in lg o/a.



**FSN 4930-288-1511**      1 1 2 6

**ADAPTER, GREASE GUN COUPLING:** hyd inlet ftng, push noz; stght rigid extn; 9½-in o/a.



**FSN 4930-204-2550**      1 1 3

**ADAPTER, SOCKET WRENCH:** male to female, ⅜-in sq male end; ¼-in sq female end.



**FSN 5120-224-9219**      1 1 3

**ADAPTER, SOCKET WRENCH:** male to female, ⅜-in sq male end; ½-in sq female end.



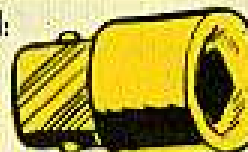
**FSN 5120-240-8702**      1 2 3

**ADAPTER, SOCKET WRENCH:** male to female, ½-in sq male end; ⅜-in female end.



**FSN 5120-240-8703**      1 2 3

**ADAPTER, SOCKET WRENCH:** male to female; ½-in sq male end; ¾-in sq female end.



**FSN 5120-227-8088**      1 1 3 3



**ADAPTER, SOCKET WRENCH:**

male to female; 3/4-in sq male end; 1/2-in sq female end.



**FSN 5120-144-5207**

1 1 1 2

**ANALYZER KIT, IGNITION:**

(See Note A)



**FSN 4920-930-3569**

1 1

c/o the following:

FSN	Item Name	Qty
4920-603-1369	Ignition Analyzer	1
6620-329-0600	Lead Assy, Elect	1
6150-925-4534	Lead Assy, Elect	1
6150-925-4535	Lead Assy, Elect	1
6150-925-4573	Lead Assy, Elect	1
6150-925-4623	Lead Assy, Elect	1
6150-925-4624	Lead Assy, Elect	1
6150-925-4625	Lead Assy, Elect	1
6150-925-4627	Lead Assy, Elect	1
6150-925-4657	Lead Assy, Elect	1
6150-966-2261	Lead Assy, Elect	1
6620-329-0601	Lead Assy, Pick Up	1

**APPLICATOR, DECAL:** plastic, hand type.



**FSN 5120-620-5569**

1 1 1 3

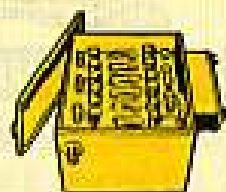
**BAR, WRECKING:** 3/4-in dia stk; 30-in lg o/a.



**FSN 5120-293-0665**

1 1 3

**BATTERY, STORAGE:** 12-cell; 24v, 36 amp hr cap; 5 hr acid electrolyte; 2 term, w/vented fill cap. (See Note B)



**FSN 6140-248-6148**

1 2 4

**BATTERY FILLER, GRAVITY:** jug type, w/pitcher type hdl; 4-qt natural or synthetic rub; 18-in hose; 8-in lg x 8-in w x 12-in h overall.



**FSN 6140-635-3824**

1 1 3

**BATTERY FILLER, SYRINGE:**

6-oz rubber bulb; rigid bent noz, 10 3/4-in lg o/a.



**FSN 6140-643-4490**

1 2 3

**BLADE, HAND HACKSAW:**

HSS, all hard, 24 teeth per in; 0.025-in thk; 10-in blade.



**FSN 5110-237-8107**

1 2 3

**BRUSH, FILE CLEANER:**

wire 1/4-in clear of block; 0.010 dia; 4 1/2-in x 1 3/8-in brushing surface; incl brush & scorer; 9-in lg o/a.



**FSN 7920-224-7987**

1 1 3

**BRUSH, PAINT:** flt, syn fil; sq edge, 1-in thk, 4-in w; 3 3/8-in min exposed lg.



**FSN 8020-245-4519**

1 2 3

**BRUSH, VARNISH:** flt; hog bristle, chisel edge; 1/2-in thk x 1 1/2-in w, 2 1/4-in min exposed lg.



**FSN 8020-260-1305**

2 4 6

**BRUSH, WIRE, SCRATCH:** S wire, curved hdl; rocker rect face; 1 1/8-in to 1 1/4-in lg clear of block, four rows w; 18 rows lg; 5 1/2-in to 6 1/4-in lg brush part; 13 11/16-in to 14 1/4-in lg o/a.



**FSN 7920-291-5815**

2 4 6

**CABINET, STORAGE:** S.O.D. No. X24087 of Fed std 595; enameled fin; o/a dim 27-in d x 35 1/2-in h x 25-in w.



**FSN 7125-330-0130**

1 1 2 3





**CABLE ASSEMBLY, POWER, ELECTRICAL:** 2 cond, 600V; No. 16 AWG: 65 strands, No. 34 AWG: sym rub covered, male & female plugs; 50-ft o/a lg.



FSN 6150-240-8024

1 2 3

**CALIPER, OUTSIDE:** spg joint; 8-in size.



FSN 5210-229-3049

1 1

**CASE SET, TRANSPORT & STORAGE:**



FSN 8115-663-0213

1 1 1

**CHARGER, BATTERY, rectifier, 6 to 60V charging; 12 amp max taper charging; 115/230V, 50/60 cy; sigle ph. (See Note N)**



FSN 6130-222-6204

1 2 2

**CHISEL, COLD, HAND:** 1/2-in w cut; 4-in lg o/a.



FSN 5110-234-1977

1 2 3

**CHISEL, COLD, HAND:** 1/2-in w cut; 5 1/2-in lg o/a.



FSN 5110-106-7107

1 2 3

**CHUCK, AIR, INFLATING:** sigle ft type; 1/2NPT female, w/holding clip.



FSN 4730-277-6948

1 1 3

**CLAMP, C:** light service rating; cast frame; 3-in size; 1 7/8-in deep throat; 3,000-lb test load.



FSN 5120-180-0907

2 4 6

**CLAMP, C:** med service rating; 6-in size; 2 1/4-in deep throat; 11,250-lb test load.



FSN 5120-203-6431

2 2 6

**CLEANER, VACUUM, AIR OPERATED:** hand, w/brush, crevice tool, extension.



FSN 7910-607-3704

1 1 1

**CLEANER & TESTER, SPARK PLUG:** c/o chest, chr & tstr; chr & gapping tools; cing comp; gap gage; spacers, insp lt; noz ph;g; tool holders; vibr unit.



FSN 4910-786-9271

1 1 1

**COCK, PLUG:** Br; w/adj stop; 2-way, 2-port, 90 deg plug turn; 1st end 3/4-14 NPT, male; 2nd end spigot type, fwd lev handle w/lock up.



FSN 4820-528-2924

1 1 2 3

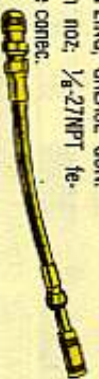
**COMPRESSOR, RECIPROCATING, POWER DRIVEN:** air, hand tk mtd; 2 wheel pneumatic tires; gas eng drive; 3-hp, 8 cfm; 175 psi. (See Note N)



FSN 4310-752-9632

1 1 3

**COUPLING, GREASE GUN:** flush noz; 1/8-27NPT female conec.



FSN 4930-200-1841

12 12 12

**COUPLING, GREASE GUN:** S, 360 deg swiv; 8 kg positions; hyd noz, 1/8-27NPT female conec.



FSN 4930-585-0209

1 1 3

**COUPLING, HALF QUICK DISCONNECT:** sight S body; 1/2-18NPT fluid female, male push-pull coupling.



FSN 4730-142-1860

2 2 6

USE THE RIGHT TOOL FOR THE JOB!



**COUPLING, HALF QUICK DISCONNECT:** sight S body; 1/2-18NPT fluid male push-pull coupling.



FSN 4730-142-1958

2 2 6

**COUPLING, HALF QUICK DISCONNECT:** (When exhausted use FSN 4730-595-1813).



FSN 4730-203-0107

1 1 3

**COUPLING HALF, SELF-SEALING:** sight S body; 1 1/2-in lg o/a; thd female conec; fluid end, 1/2-18NPT, poppet at self-sealing end is recessed.



FSN 4730-595-1813

1 1 3

**CRIMPING TOOL, TERMINAL, HAND:** (When exist use FSN 5120-596-9313).

FSN 5120-293-2319

1 1 3

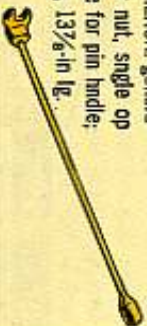
**CRIMPING TOOL, TERMINAL, HAND:** manual comp type, No. 26 thru No. 10 AWG accom.



FSN 5120-596-9313

1 2 2 6

**CROWFOOT ATTACHMENT, SOCKET WRENCH:** generator & strtr nut, sigle op end w/hole for pin handle; 3/8-in opng, 13 3/8-in lg.



FSN 5120-317-9076

1 1 3

**CROWFOOT ATTACHMENT, SOCKET WRENCH:** non-ratcheting type; 12 pt open wall bx; 1/2-in sq size drive; 3/8-in opng.



FSN 5120-541-4073

1 1 3

**CROWFOOT ATTACHMENT, SOCKET WRENCH:** non-ratcheting type; 12 pt open wall bx; 1/2-in size drive; 1/2-in opng.



FSN 5120-238-8266

1 1 3

**CROWFOOT ATTACHMENT, SOCKET WRENCH:** non-ratcheting type; 12 pt open wall bx; 1/2-in size drive; 3/8-in opng.



FSN 5120-541-4074

1 1 3

**CUP, PAINT, SPRAY GUN:** 1 qt cap; clamp type; all w/cover attachment.



FSN 4940-190-5164

2 2 6

**CUTTER, TUBE:** inclosed feed mech type; for close flare cutoff; 1/8-in to 1 1/8-in tube od cutting edges; with deburring tool; sp ctr wheel.



FSN 5110-288-6520

1 1 3

**CUTTERS, ABRASIVE WHEEL DRESSER:** 2 separators, 4 cutters; 1 1/4-in od, 1/4-in bore dia; 0.095-in thk.



FSN 5120-278-6641

1 1 1

**DETECTOR KIT, CARBON MONOXIDE:** colorimetric aspirator bulb attached directly to indicator tube; w/air inlet valve, metal case; 10-ft hose, seal brkr.



FSN 6665-283-0654

1 1 1

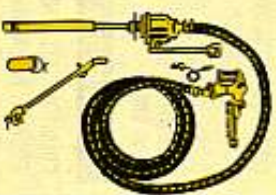
**DISPENSING PUMP, HAND DRIVE:** (When exhausted use FSN 4930-276-0087).

FSN 4930-255-9132

1 1 1



**DISPENSING PUMP, HAND DRIVEN,** piston type; cont flow, 22 gpm @ 100 cy per min; thd plug mtg pump hd, for 2-in bung opn; hose & noz type discharge ftg; 1-in id, nom hose size; 20-ft lg o/a; adj intake pipe, 2 1/4-in min lg, 35 1/4-in max lg.



FSN 4930-276-0087

1 1 1 3

**DRESSER, ABRASIVE WHEEL, HAND,** 1 1/4-in dia revolving cutter wheel type.



FSN 5120-223-8952

1 1 1 1

**DRILL, ELECTRIC, PORTABLE,** 1/4-in nom size.



FSN 5130-226-6384

1 1 1 3

**DRILL, ELECTRIC, PORTABLE,** (When exhausted use FSN 5130-226-6384).

FSN 5130-889-8993



FSN 5110-293-3411

1 1 1 3

**DRILL, SET, TWIST:** HSS, stght rd shank; th cut; No. 60 to 1 size rg; 60 drills in case.



FSN 5133-449-8775

1 1 1 3

**EXTENSION, SOCKET WRENCH:** 1/2-in sq end; 5-in lg.



FSN 5120-243-7326

1 1 1 3

**EXTENSION, SOCKET WRENCH:** 1/2-in sq end; 10-in lg.



FSN 5120-227-8074

1 1 1 3

**FACE, HAMMER, INSERT-ED:** screw-in type, plastic tough 2-in dia striking face.



FSN 5120-293-2997

2 2 5

**FACESHIELD, INDUSTRIAL:** replaceable clear plastic mask w/ forehead guard edges unbound, tiltable, hd gear supported; 6-in lg, 11.5-in w; 0.040 to 0.060-in thk.



FSN 4240-439-3450

1 1 1 3

**FAUCET, SINGLE:** for horiz mtg, cast iron, renewable comp seat; w/ tailpiece sup cone; 2-in NPT, male lever handle, w/ goose-neck supt & locking device.



FSN 4510-640-0944

1 1 2 2

**FAUCET, SINGLE:** (When exhausted use FSN 4820-528-2924).



FSN 4510-277-7174

1 1 1 3

**FILE, HAND:** American pat, fl type, dbl cut bastard edges; 8-in heel to pt.



FSN 5110-249-2848

1 2 3

**FILE, HAND:** American pat, fl type, dbl cut, sm faces; sgle-cut sm edges; 10-in heel to pt.



FSN 5110-249-2860

1 1 3

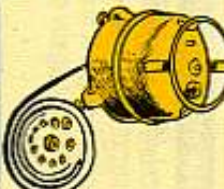
**FILE, HAND:** American pat, rd type, dbl cut bastard face; 3/8-in dia of largest sect; 8-in heel to pt.



FSN 5110-234-8551

1 1 3

**FILTER & BLEEDER, HYDRAULIC SYSTEM:** castor mtd, 3 gal perm, 1/2 gal tank cap; w/o air & fluid separator; 1 press type gage 0-60 psi scale rgt; 120-in lg hose; manual control valve, w/ safety valve.



FSN 4910-580-9750

1 1 3

**FIXTURE, SPARK PLUG GAP SETTING:**

FSN 4920-700-4476



1 1 1

**FLARING TOOL, TUBE, HAND:** comb, self-contained style; for 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, and 3/4-in tubes; 74 deg incl angle of flare produced; capable of dbl flaring 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, and 3/4-in tubes.



FSN 5120-541-6662

1 1 3

**FORCEPS, SHEET HOLDER:** Strght, 8-in lg o/a.



FSN 5120-221-1597

1 1 3

**FRAME, HACKSAW, HAND:** adj, pistol grip hd; 10-in and 12-in blade cap; 3 to 3 1/2-in deep throat.



FSN 5110-289-9657

1 1 3

**FUNNEL:** S, w/o strainer, 2-qt cap; strght rigid spout.



FSN 7240-230-2997

1 2 2 3

**FUNNEL:** S, gvd fin; 8-qt cap; rigid spout w/ removable strainer.



FSN 7240-244-1206

1 2 3

**GAGE, PRESSURE, DIAL INDICATING:** single bourdon tube, br, single reading scale, 0-1,500 psi; 0.5 pct accuracy rating; 250-lb ftg intervals, 25-lb graduated div; 2 1/2-in dial; S case, 1/4-in NPT male conn, w/ accessories.



FSN 6689-627-8915

1 1 1 3

**GAGE, RIVET SELECTOR:** 1/8 & 3/32-in size holes.



FSN 5210-620-1261

1 1 3

**GAGE, RIVET SELECTOR:** (Transfer to FSN 5210-620-1261).

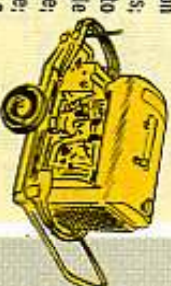
FSN 5120-620-1261



FSN 4910-204-3170

2 4 6

**GAGE, TIRE PRESSURE, SELF-CONTAINED:** for testing air inflated tires; calibrhd 10-60 lb rgt; 1-lb small graduated div; 30 deg angle dual ft type; 12 1/2-in lg o/a.



FSN 6115-017-8237

1 1 3

**GENERATOR SET, GASOLINE ENGINE:** 28v, dc, 3 kw w/dolly; air-cooled, wheel mtd.



FSN 4920-938-8363

1 1 1

**GENERATOR SET:** portable, rub tired, whi mtd; 7.5 to 9.3 kw, 28.5v, dc; two wire; w radio intfr sup. (See Note K)

FSN 6115-914-4642

1 3

**GREASE GUN, HAND:** lever oprtd, sprg primed; 14-oz cap; 6,000 psi min pres; 6 1/2-in lg rigid bent angle tube ext; hyd coup, w/ loader fitting. (See Note C)



FSN 4930-253-2478

2 4 21

KEEP FILES CLEAN AND DRY!



**GRINDING MACHINE, BENCH, HAND OPERATED:** hv dly med grip, 6-in dia x 1 1/4-in thk mdm grit whl.



**FSN 3415-241-3116**

1

**GRINDING MACHINE, UTILITY:** bench mtg, 5/8-in dia dbl-end spdl, 3,450 rpm, 7-in dia x 1-in thk whl; 1/2 hp, ac, 115v, 60 cy, sgle ph, tilt workrest.



**FSN 3415-517-7754**

1

**GUN, AIR BLOW:** sight design, finger grip hdl, button op'd, w/hang-up hook; 5 cfm cap at 50 psi; removable tip, 1/2-18NPT male third coupling.



**FSN 4940-241-5075**

1

1

3

**GUN, HEAT, ELECTRIC PORTABLE:** (When exhausted use FSN 4940-785-1162).

**FSN 4940-357-1369**

1

**HANDLE, FILE, WOOD:** med size, 1 1/4-in dia hand grip 4 1/2-in lg o/a.



**FSN 5110-263-0349**

3

3

6

**HANDLE, SOCKET WRENCH:** hinged flex type; 1/2-in dr end, 12 1/8-in lg o/a.



**FSN 5120-221-7958**

1

2

3

**HANDLE, SOCKET WRENCH:** reverse rcht type; 1/2-in dr end, 9-in min lg o/a.



**FSN 5120-230-6585**

1

2

3

**HANDLE, SOLDERING IRON, WOOD:** 6 1/2-in lg o/a, 1 1/2-in max dia.



**FSN 3439-263-0346**

1

1

3

**HEATER, DUCT TYPE, PORTABLE:** (When exhausted use FSN 4520-915-7789).

**FSN 4520-203-0224**

1

**HEATER, DUCT TYPE, PORTABLE:** gasoline fuel; 400,000 btu output per hr; gas eng and elect driven blower; 2 hp, ac, 208/220v, 60 cy, 3 ph; 1 1/2 hp, 21 gal tank cap, w/auto temp conl; ttr mtd. (See Notes D and K)



**FSN 4520-915-7789**

1

1

3

**HEATER, GUN TYPE, ELECTRIC:** alum, 115v, ac/dc.

**FSN 4940-785-1162**

1

1

3

**HOLDER, INSERTED HAMMER FACE:** screw-in, 2-in face 2 lb nom wt; 2 1/2-in nom hd lg; 13-in nom handle lg w/o face.



**FSN 5120-541-8110**

1

1

3

**HOLDER, SHEET METAL, HOLE:** forceps opt'ed; 3/8-in rivet size; 0 to 1/4-in thk material.



**FSN 5120-242-3709**

10

10

30

**HOLDER, SHEET METAL, HOLE:** forceps opt'ed; 1/2-in rivet size; 0 to 1/2-in thk material.



**FSN 5120-541-1808**

10

10

30

**HOLDER, SHEET METAL, HOLE:** forceps opt'ed; 3/8-in nom rivet size; 0 to 1/4-in thk material clmpd.



**FSN 5120-222-3336**

10

10

30

**HOLDER, SHEET METAL, HOLE:** (When exhausted use FSN 5120-222-3336).

**FSN 5120-242-3790**

1

1

3

**HOSE ASSEMBLY, RUBBER:** (Tr to FSN 4720-356-8577).

**FSN 5120-356-8577**

1

**HOSE ASSEMBLY, RUBBER:** 3/8-in id, w/1/2-in NPT fittings; 25 ft lg.



**FSN 4720-356-8577**

2

4

6

**INDICATOR, DIAL:** 0.001-in graduations; 0-100 dial markings; 0.200-in rg; 1 1/2-in nom dia o/a, adble dial settings cont pt on back; plngr cont pt action; w/clamp attach & tool post holder w/upright spindle.

**FSN 5210-277-8840**

1

1

1

**INDICATOR, PISTON POSITION IGNITION TIMING:** 18 mm complete w/14 mm body assy, w/case; 7 supplemental pivot arms, 10 caliberd scrs, w/battery, mag leads, inst hook, less supplemental btry. (See Note E)



**FSN 4910-300-1344**

1

1

3

**INDICATOR ASSEMBLY:** cold cyl.

**FSN 6885-568-5202**

1

1

1

**INDICATOR TUBE, CARBON MONOXIDE:** glass tube, NBS carb-monoxide color mtr indicating gel; w/color chart 12 per box.



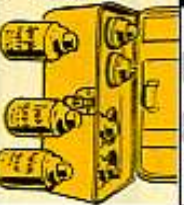
**FSN 6685-276-7545**

2

2

2

**INSPECTION PENETRANT KIT:** c/o 1 can penetrant, 4 cns ptrnt rmvr, 4 cns devlpr; 12-oz Aerosol type cns; MA-6 ptrnt; MS-4 ptrnt rmvr; MC-4 devlpr.



**FSN 6850-826-0981**

1

1

3

**JACK, HYDRAULIC, HAND:** self-contained, 5 ton cap; 5 1/2-in closed ht, 15-in extended ht; single pump w/screw extr.

**FSN 1730-540-2343**

2

2

3

**JACK, HYDRAULIC, HAND:** self-cont'd, 10 ton cap; 8-in closed ht, 21-in extended ht; single pump, w/screw extr.

**FSN 1730-203-4697**

2

2

**JACK, HYDRAULIC, TRIPOD:** 5 ton cap; 23% in low ht, extns, 75% in max extnd ht; w/remble pump. (See Note F)

**FSN 1730-516-2018**

3

2

**KEY SET, SOCKET HEAD SCREW:** L-type handle, hex type; 0.035-in tp 3/8-in w access flts; 17 1/2-in to 6 1/4-in lg arm; 15 keys in set.

**FSN 5120-585-9245**

1

2

3

FSN	SIZE	1	2	3
5120-198-5400	0.035	5120-242-7411		3/2
5120-198-5401	0.050	5120-224-4659		1/2
5120-198-5398	1/8	5120-240-5274		3/4
5120-224-2504	3/4	5120-198-5390		3/4
5120-242-7410	3/2	5120-198-5391		1/2
5120-240-5292	1/2	5120-240-5288		3/4
5120-198-5392	5/8	5120-224-2510		3/4
5120-240-5300	3/4			3/4

**NEVER PRY OPEN CAN LIDS WITH A PUTTY KNIFE!**

**KNIFE, PUTTY:** flex, 1 1/4-in w/blade.

**FSN 5120-221-1536**

2

4

4



44



45



LADDER, AIRCRAFT MAIN-TENANCE: wood, 127-in lg; 9 rungs, 13 1/8-in lg w/ safety shoes.



FSN 1730-293-9982 1 3

LEVEL, BENCH: CI, single face, adj to true vials only; 8-in lg o/a; on level vial, non-graduatd & ungr.



FSN 5210-241-3923 1 1 3

LEVER, LEVEL ROD: circular type, non-folding frame.



FSN 6675-244-0446 1 1 1

LEVEL, POCKET: al or br, single face; nonadj, 3 1/2-in lg o/a; one level vial non-graduatd and ungr.



FSN 5210-293-0553 1 1 3

LEVEL ROD: (When exhaust-use FSN 6657-244-0446).



FSN 6675-507-0645

LIGHT, EXTENSION: 100w lamp med base, 3 cond, cable 100 ft lg excl term; w/guard, hook, phenolic hdl expln-proof globe.



FSN 6230-289-9246 1 2 3

LIGHT, IGNITION TIMING:

3 lead type; 4 1/2v btry reqd; neon bulb element; rect sh met case; 8 1/2-in lg, 3 1/2-in w, 4-in h exclu wire leads; 48-in lg pos lead, 48-in neg lead, 48-in lg high tension lead, spring clip term. (See Note E)



FSN 5910-255-1449 1 1 3

LUBRICATING UNIT, POWER OPERATED: 25-lb tank cap, elect optd, 12v, dc, 12,000 psi max press developed; w/25-ft lg hose, hyd fing coup, 4 rub tired wheels.



FSN 4930-806-7970 1 1 3

LUBRICATOR: Bearing assembly.



FSN 4930-131-9697 2 2 4

MAGNIFIER: (When exhausted use FSN 6650-527-7451).

FSN 6650-256-9058

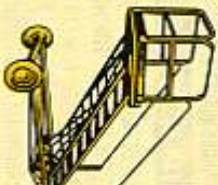


FSN 6650-527-7451 1 1 3

MAGNIFIER: monocular, self-illuminatd; 2 cir lens, 2 in dia, 5X power; plas frame; plas or ml removable hdl. (See Note E)

MAINTENANCE PLATFORM:

hyd adj type; 3 to 10-ft h working level; 1 S pl working platform w/four whls, w/o locks, equipd w/ladder & safety guards around platform; 131-in lg, 44 1/2-in w, 123-in h.



FSN 1730-390-5618 3

MAINTENANCE PLATFORM:

man adj type; 2-ft 3-in to 4-ft working level ht; 2 magnesium wrking plfrms; 2 casters, w/o locks; 30-in w, 54-in h, 104-in lg o/a.



FSN 1730-624-0684 1 2 3

MAINTENANCE PLATFORM:

(When exhausted use FSN 1730-390-5618).

FSN 1730-697-8379

MEASURE LIQUID: 2 qt. cap w/flex S spout & flow control valve.



FSN 1730-255-9113 1 2 3

MULTIMETER: (When exhausted use FSN 6625-553-0142).

FSN 6625-804-0674

MULTIMETER: 0 to 5,000v dc in 7 steps; 0 to 1,000v ac in 6 steps; 0 to 10 amp dc in 8 steps; 0 to 10 mega in 5 steps; 50 ua sensitivity; ml case, w/adjtr; test leads, cords. (See Note E)



FSN 6625-553-0142 1 1 3

NIPPLE, TUBE: brass, cadmium-pltd, 1/4-18NPSM-2, 30 deg angle of seat; 1 1/2-in lg o/a.



FSN 4730-287-1589 2 2 6

OIL GUN, PNEUMATIC: curvd rigid neck; 32-oz cap.



FSN 4930-222-2975 1 1 3

OILER, HAND: 4 to 6-oz cap; force fed by int pump; ml body, 1 1/2-in bottom dia; 6-in flex spout.



FSN 4930-262-8870 2 2 4 6

PADLOCK: pin tumbler, dead bolt locking; 10,000 key chngs; br or bronze case and shackle; 9-in chain; shackle closing 1 1/2-in.



FSN 5340-682-1508 2 2 4 6

PAIL, METAL: iron or S yvd fin; 3 1/2-gal cap.



FSN 7240-160-0455 2 2 4 6

PLIERS: crvd rd, ndle nose; 6-in nom lg.



FSN 5120-239-8250 1 1 3

PLIERS: 7-in nom size.

FSN 5120-321-4507 1 1 3

PLIERS, RETAINING RING: ext flat jaws, strght tips; 0.87 to 1-in ring size, 0.038-in nom dia of tips; w/adj stop & spring, w/bracket.



FSN 5120-288-9717 1 1 3

PLIERS, RETAINING RING: ext flat jaws; 1.430 to 2-in ring size, 0.070-in dia strght tips; w/adj stop & spring, w/bracket.



FSN 5120-293-0049 1 2 3

PLIERS, RETAINING RING: int flat jaws; 1.020 to 1.370-in ring size; 0.036-in dia strght tips; w/adj stop & spring, w/bracket.



FSN 5120-293-0048 1 1 3

PLIERS, RETAINING RING: int fit jaws; 1.750 to 2-in ring size; 0.070-in dia strght tips; w/adj stop & spring.



FSN 5120-293-0045 1 1 3

PLIERS, RETAINING RING: ext flat jaws, strght tips; 3.15 to 3.5-in ring size; 0.115-in nom tip dia; w/o adj stop & spring.



FSN 5120-293-0044 1 1 3

PLIERS, RETAINING RING: int flat jaws; 3 to 3.500-in ring size; 0.090-in dia strght tips; w/adj stop & spring.



FSN 5120-293-0046 1 1 3

PLIERS, RETAINING RING: int flat jaws, dble ratchet, 3.15 to 6.50-in size ring or rg; 0.120-in nom dia of tips.



FSN 5120-293-0188 1 1 3

PLIERS, SLIP JOINT: angle nose, multiple tongue & groove; 10-in size.



FSN 5120-278-0352 1 2 3

PLIERS, SLIP JOINT: con-duit, 9 1/4-in nom size.



FSN 5120-595-9545 1 1 1

TOOLS NEED PM TOO!

A SUPP A B C

A SUPP A B C

A SUPP A B C

A SUPP A B C

PS MORE

PLIERS, SLIP JOINT: strght nose, comb w/cutter, 8-in size.



FSN 5120-223-1397 1 1 3

PLUMB BOB: br, solid body, 6 oz; remov non-adj top brded remov pt; 7 1/2-ft linen cord.



FSN 5210-238-3298 1 1 3

PREOLLER, PICKLER, MULTIPURPOSE: 28v, dc, complete w/gun assy & accessories. (See Note G)



FSN 4920-789-3376 1

PROTRACTOR: (Consolidate w/FSN 5210-212-8747).



FSN 6710-041-2909

PROTRACTOR ASSEMBLY: used for precision mg of equip & checking angle of prop & rotor blades.



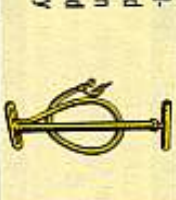
FSN 5220-212-8747 1 1 3

PUMP, BOOSTER, HIGH PRESSURE: air optd; 15 to 1 ratio; sup line air press 1,500 psi.



FSN 4320-390-8556 1 1 3

PUMP, INFLATING MAN-UAL: single act, 1 cpl, unthd outlet end conce, w/30-in lg hose; 0.3002-32 NS end cone; female stationary ft holders.



FSN 4320-852-9036 1 1 3

PUMP, INFLATING, MAN-UAL: (When exhausted use FSN 4320-852-9036).



FSN 4320-473-8348

RATCHET ATTACHMENT, SOCKET WRENCH: rvs 1/4-in sq end.



FSN 5120-277-1207 1 1 1

RATCHET ATTACHMENT, SOCKET WRENCH: rvs 3/8-in sq end.



FSN 5120-227-8129 1 1 1

RATCHET ATTACHMENT, SOCKET WRENCH: rvs 1/2-in sq end. (See Note H)



FSN 5120-243-7322 1 1 1

RETRIEVING TOOL, MAGNETIC: telescopic 16 1/2-in closed lg; 26-in ext lg max o/a.



FSN 5120-545-4288 1 1 3

RIVETER, BLIND, HAND: strght hd, for cherry rivets w/pulling heads, brazer and countersunk rivet hds 1/8, 3/8, 3/4-in dia rivets.



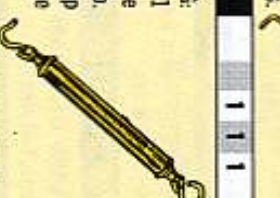
FSN 5120-357-6065 1 1 3

SCALE, DIAL INDICATING: weighing, hanging style, 1 hook ld recur, strght face dial; avdp sys; 0 to 4 lb rge; 2-oz intev of grad sp rg dial mech, w/o cntprse weights.



FSN 6670-240-5819 1 1 1

SCALE, DIAL INDICATING: weighing, hanging style, 1 hook ld recur, strght face dial; avdp sys; 0 to 10 lb rge; 2-oz intev of grad sp rg dial mech, w/o cntprse weights.



FSN 6670-240-5821 1 1 1

SCALE, DIAL INDICATING: weighing, hanging style, 1 hook ld recur, s, strght, face type dial, avdp sys; 0 to 50 lb rge, w/1 lb max val of intv of grad; spng type mech w/o cntprse weights.



FSN 6670-254-4634 1 1 1

KEEP TOOL BOX TIDY.



SCREWDRIVER, OFFSET: opposite ends, ea offset tipped; Phillips type cross tip; No. 1 & 2 tips; 4 1/2-in lg o/a.



FSN 5120-256-9014 1 1 3

SEPARATOR, OIL & WATER, SPRAY GUN: 1 rght, brass wall type mounting.



FSN 4940-242-4100 1 1 3

SHEARS, METAL CUTTING, HAND: compound lever, lh cut, 10-in lg o/a.



FSN 5110-273-0126 1 1 3

SHEARS, METAL CUTTING, HAND: compound lever type, strght cut; 10-in lg o/a.



FSN 5110-273-0128 1 1 3

SHEARS, METAL CUTTING, HAND: strght pat; 12 1/2-in lg o/a.



FSN 5110-293-0089 1 1 3

SHEARS, METAL CUTTING, HAND: strght pat; 16-in lg o/a.



FSN 5110-221-1083 1 1 3

SOCKET, SOCKET WRENCH: 3/8-in sq dr; 3/8-in sq open; 1-in lg o/a.



FSN 5120-711-8554 1 1 3

SOCKET, SOCKET WRENCH: 3/8-in sq dr; 3/8-in sq open; 1-in lg o/a.



FSN 5120-711-8555 1 1 3

SOCKET, SOCKET WRENCH: 3/8-in sq dr, 8 pt, 3/4-in sq wrench open.



FSN 5120-180-1015 1 1 1 3

SOCKET, SOCKET WRENCH: 1/2-in sq dr; 12 pt, 1 3/8-in open.



FSN 5120-189-7933 1 1 3

SOCKET, SOCKET WRENCH: 1/2-in sq dr; 12 pt, 7/8-in open.



FSN 5120-189-7934 1 1 3

SOCKET, SOCKET WRENCH: 1/2-in sq dr; 12 pt, 1 1/8-in open.



FSN 5120-189-7935 1 1 3

SOCKET, SOCKET WRENCH: 1/2-in sq dr; 12 pt, 1-in open, reg lgth.



FSN 5120-189-7927 1 1 1

SOCKET, SOCKET WRENCH: 1/2-in sq dr; 12 pt, 1 1/8-in open, reg lgth.



FSN 5120-189-7913 1 1 3

SOCKET, SOCKET WRENCH: 1/2-in sq dr; 12 pt, 1 1/8-in open, reg lgth.



FSN 5120-189-7914 1 1 3

SOCKET, SOCKET WRENCH: 1/2-in sq dr; 12 pt, 1 1/4-in open, reg lgth.



FSN 5120-189-7917 1 1 3

SOCKET, SOCKET WRENCH: 3/4-in sq dr; 12 pt, 1 3/8-in open, reg lgth.



FSN 5120-189-7928 1 1 1

SOCKET, SOCKET WRENCH: 3/4-in sq dr; 12 pt, 1 3/4-in open, reg lgth.

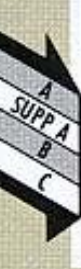


FSN 5120-199-7767 1 1 1

SOCKET, SOCKET WRENCH: 3/4-in sq dr; 12 pt, 1 1/2-in open.



FSN 5120-199-7768 1 1 2 2



**SPANNER ATTACHMENT SET, SOCKET WRENCH:**  
Pin/Key type:  $\frac{3}{8}$ -in sq dr;  $\frac{3}{4}$  to 4-in cap; 3 pin arms, 1 key arm.



FSN 5120-586-8652 1 1 1 3

**SOLDERING IRON, ELEC-TRIC:** (When exhausted use FSN 3439-853-8760).

FSN 3439-241-3221 1 1 1 3

**SOLDERING IRON, ELEC-TRIC:**  $\frac{1}{2}$  lb, 9 tips; 1 stright conical shape; 1 stright spcl shape; 3 stright screwdriver shape; 2 90 deg bent spcl shape; 115w, ac, 55 w, w/thermostat cone, case.



FSN 3439-853-8760 1 1 1 3

**SOLDERING IRON, ELEC-TRIC:** 1 lb, 1/yrnd shpe, set-screw type fstrg;  $\frac{3}{8}$ -in dia tip, 28v, 100 w, dc.



FSN 3439-840-3760 1 1 1 1

**SPRAY GUN, PAINT:** non-bleeder type, hand opnd, exter mix, 8 cfm rated air consumption at 50-60 lb press;  $\frac{1}{4}$ -18 air hose &  $\frac{3}{8}$ -18 fluid hose cone thd size; stright pipe thd w/60 deg incl bevel taper seat, w/suction feed cup.



FSN 4990-261-8413 1 1 1 2

**SQUARE COMBINATION:** (When exhausted use FSN 5210-078-8949).

FSN 5210-540-3513 1 1 1 3

**SQUARE COMBINATION:**  
12-in lg grad blade, grad in 1/100, 1/64, 1/50 and 1/32-in units; cast iron sq & miter hd w/scrber & 1 level; w/cent hd, reversible protractor head w/level.



FSN 5210-078 8949 1 1 1 3

**TENSIONMETER, DIAL INDI-CATING:**  $\frac{3}{8}$  to  $\frac{1}{2}$ -in dia mat accom; 1 scale, 10-200 lb rfg, mtd by clip, w/cryg case.



FSN 6635-530-1128 1 1 1 3

**TENSIONMETER, DIAL INDI-CATING, DIAPHRAGM AC-TUATED:** (When exhausted use FSN 6635-530-1128).

FSN 6635-566-5210 1 1 1 3

**TESTER, BATTERY, ELEC-TROLYTE SOLUTION:** 1 gls bbl, 1 float; 1,000 to 1,35 sp gr rge w/thermometer; minus 60 deg to plus 165 deg F temp rge; integral corre chart.



FSN 6630-171-5126 1 1 1 3

**TESTER, CYLINDER, COM-PRESSION:** direct type, w/9 each 14 & 16-mm adap-ters; dial-indicating press-gages, flex extensions, valve assys.



FSN 4920-086-8851 1 1 1 1

**TESTER, MASTER COM-PASS, SWINGING:** (When exhausted use FSN 6605-055-7658). (See Note I)

FSN 6605-807-2969 1 1 1 3

**TESTER, MASTER COM-PASS, SWINGING.**



FSN 6605-055-7658 1 1 1 3

**THE DOWN KIT, AIRCRAFT MOORING:** c/c (See Note J)

FSN 1730-491-0330 2 21



FSN	ITEM NAME	QTY
4030-641-0321	Anchor, Guy	30 ea
1730-492-3505	Case, Mooring Kit	1 ea
1730-243-9064	Driving Tool, Anchor	1 ea
1730-492-3018	Eye, Aircraft Mooring	15 ea
4020-298-3394	Fib Rope Assy, Sgls lg	15 ea
1730-492-3134	Pin, Aircraft Mooring	1 ea
1730-492-3017	Rod, Aircraft Mooring	15 ea
1730-492-3519	Spoiler, Assy, A/C Moor.	8 ay

**TOOL KIT, AUTOMOTIVE ELECTRICAL:** (Transfer to FSN 5180-422-8594).

FSN 4920-422-8594 1 2 3

**TOOL KIT, AUTOMOTIVE ELECTRICAL:** c/o 9 dble hd opn end midjet wrenches, pliers, screwdriver, roll.

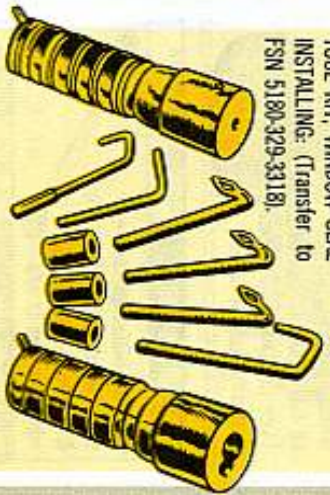
FSN 5180-422-8594 c/o 1 2 3

**WRENCH, OPEN END, FKED**

- 5120-277-3414  $\frac{1}{2}$  &  $\frac{3}{4}$ -in
- 5120-277-8308  $\frac{3}{8}$  &  $\frac{1}{2}$ -in
- 5120-277-8309  $\frac{1}{2}$  &  $\frac{1}{2}$ -in
- 5120-277-8310  $\frac{1}{4}$  &  $\frac{3}{8}$ -in
- 5120-277-8311  $\frac{5}{8}$  &  $\frac{3}{4}$ -in
- 5120-277-8312  $\frac{3}{8}$  &  $\frac{9}{16}$ -in
- 5120-277-8313  $\frac{1}{2}$  &  $\frac{3}{8}$ -in
- 5120-277-8314  $\frac{3}{8}$  &  $\frac{1}{2}$ -in
- 5120-596-4421  $\frac{7}{16}$  &  $\frac{1}{2}$ -in
- 5120-236-2410 SCREWDRIVER, FLAT TIP
- 5120-540-2464 PLIERS, SLIP JOINT

USE THE RIGHT SIZE.

**TOOL KIT, WINDOW SEAL INSTALLING:** (Transfer to FSN 5180-329-3318).



FSN 4920-329-3318 1 1 3

**TOOL KIT, WINDOW SEAL INSTALLING:** in roll.

FSN 5180-329-3318 1 1 3

**TRAMMEL HEADS:** for rect-angular beam; w/scrber points and fine adjnt.



FSN 5210-221-1850 1 1 3

**UNIVERSAL JOINT, SOCKET WRENCH,**  $\frac{1}{2}$ -in sq end.



FSN 5120-269-7971 1 2 3

**WISE, MACHINISTS:** swivel base, 4-in nom w jaw; 6-in nom opng, perm affxd or replaceable jaw faces.



FSN 5120-293-1430 1 1 3

**WHEEL, ABRASIVE:** stright std wheel, al oxide, 36 gr, med gr, spacing No. 5; vitrified bond, gr M; 7-in dia, 1-in thk o/a; arbor hole mtd,  $\frac{5}{8}$ -in dia.



FSN 3460-187-8681 1 1 1

**WHEEL, ABRASIVE:** stright std wheel, al oxide, 90 gr, med gr, spacing No. 5; vitrified bond, gr M; 7-in dia, 1-in thk o/a; arbor hole mtd,  $\frac{5}{8}$ -in dia.



FSN 3460-187-8690 1 1 1



MORE

**WHEEL, BUFFING:** bleached muslin, 60 ply, 6-in od; 1/2-in thk face; 1/2-in thk thru arbor hole, w/o face-plates.



**FSN 3460-516-4636**

1 1

**WRENCH, BOX:** angular offset, dble hd, 12 pt, 1 1/2-in & 1 3/8-in openings, 15 1/8-in min, 18-in max lg o/a.



**FSN 5120-228-9521**

1 1 3

**WRENCH, BOX:** angular offset, dble hd, 12 pt, 1 1/2-in & 1 3/8-in openings, 17 3/8-in min, 19 1/2-in max lg o/a.



**FSN 5120-184-8676**

1 1 3

**WRENCH, OPEN END ADJUSTABLE:** sgle-hd, 0 to 0.760-in jaw opening, 6-in lg overall.



**FSN 5120-204-3795**

1 1 3

**WRENCH, OPEN END ADJUSTABLE:** sgle-hd, 0 to 0.947-in jaw opening, 8-in lg overall.



**FSN 5120-240-5328**

1 1 3

**WRENCH, OPEN END ADJUSTABLE:** sgle-hd, 0 to 1.698-in jaw opening, 15-in lg overall.



**FSN 5120-423-6728**

1 1 3

**WRENCH, OPEN END, FIXED:** dble hd, 15 deg angle, 1-in & 1 1/8-in openings, 1/2-in thk hd; 10 3/4-in lg o/a.



**FSN 5120-187-7133**

1 1 3

**WRENCH, OPEN END, FIXED:** dble hd, 15 deg angle; 1 1/2-in & 1 3/4-in openings, 1/2-in thk hd, 11 3/4-in lg o/a.



**FSN 5120-187-7134**

1 1 3

**WRENCH, PIPE:** strap style, 1/6-in to 1-in ips, 12-in o/a.



**FSN 5120-242-3249**

1 1 3

**WRENCH, PIPE:** strap style, 1-in to 5-in ips; 18-in lg o/a.



**FSN 5120-262-8491**

1 1 3

**WRENCH, PLIER:** straight jaw 7-in lg o/a.



**FSN 5120-277-4243**

1 2 3

**WRENCH, SOCKET:** single socket T-type, fxd handle, 7/8-in hex socket; 4-in nom lg o/a.



**FSN 5120-777-3436**

1 1 1

**WRENCH, SOCKET:** single socket T-type, fxd handle, 7/8-in hex socket, 7 1/2-in nom lg o/a.



**FSN 5120-777-3441**

1 1 1

**WRENCH, SPANNER:** adj hook, fxd pivot pt; 6 3/8-in lg o/a, 3/4-in to 2-in circle dia; 3 1/2-in thk hook.



**FSN 5120-288-6468**

1 1 3

**WRENCH, SPANNER:** adj hook, fxd pivot pt; 1 1/2-in to 3-in circle dia; 1 3/4-in thk hook.



**FSN 5120-277-9075**

1 1 3

**WRENCH, SPANNER:** adj hook, fxd pivot pt; 2-in to 4 3/4-in circle dia; 1 3/8-in thk hook.



**FSN 5120-277-9076**

1 1 3

**WRENCH, SPANNER:** (Consolidate with FSN 5120-513-1753).



**FSN 5120-598-8652**

1 1 3

**WRENCH, STARTER, ATTACHMENT NUT:** single hd, offset box, 12 pt, w/hole for pin handle; 0.566-in opening, 12-in lg o/a.



**FSN 5120-317-8095**

1 1 3

**WRENCH, TORQUE:** rigid frame end dr, micro adjustable torque mech, w/aud & slip clutch indexing mech; 1/2-in sq male drive, 5-150-in-lb cap; w/case.



**FSN 5120-542-4489**

1 1 3

**WRENCH, TORQUE:** (When exhausted use FSN 5120-821-3441).



**FSN 5120-598-8073**

1 1 3

**WRENCH, TORQUE:** rigid frame end dr, micro adjustable torque mech, w/aud & slip clutch indexing mech; 3/8-in sq male dr, 100-750-in-lb cap; w/case.



**FSN 5120-821-3441**

1 2 3

**WRENCH, TORQUE:** rigid frame end dr, micro adjustable torque mech, w/aud & slip clutch indexing mech; 1/2-in sq male dr, 700-1,600-in-lb cap; w/case.



**FSN 5120-270-3121**

1 2 3

**WRENCH, TORQUE:** rigid frame end dr, micro adjustable torque mech, w/aud & slip clutch indexing mech; 3/4-in sq male dr, 100-500 ft-lb cap; th & lh dr, w/case.



**FSN 5120-902-3550**

1 1 1 2

**WRENCH, CONNECTOR, NUT, SPANPLUG:** single open end, 3/4-in opening, T-handle.



**FSN 5120-131-9554**

1 1 2



**NOTE A:** This item's for units working on recs only. It won't come with your set. Permission to get one can be authorized by Overseas or CONARC commander.

**NOTE B:** You gotta have this item if you have wheel-mounted generator set, FSN 4920-938-8363.

**NOTE C:** Flapping units can get an additional grease gun for each pair of birds they have in their flock.

**NOTE D:** Don't get overheated if you don't find this heater in your initial issue. You can get one when it's authorized by Overseas or CONARC commander.

**NOTE E:** You can't get any juice, Bruce? Order batteries from USAECOM. Check SB 11-6 (June 64) to see how many you can have.

**NOTE F:** Hands off it you're Old Reliable (U-1A) types. But Seminoles (U-8) units can get 3 jacks.

**NOTE G:** This is an item only for units servicing aircraft recip engines.

**NOTE H:** Everybody but utility and cargo helicopter types keep hands off this wrench!

**NOTE I:** If you take care of R2000 or R2800 engines you can get 2 each of these testers with Set C.

**NOTE J:** Normally you get 2 tie-down kits. If you need more, 21 can be authorized by Overseas or CONARC commander.

**NOTE K:** Don't fret if this item is not with tool set. Just order it as a separate item from the Managing Activity (MA).

END

USE WRENCHES RIGHT

KNICKLE BUSTERS UNITE



COMMUNICATIONS

MAN, YOU'RE JUST BENDING YOUR ANTENNA ... LET ME CLUE YOU!



YOUR ANGRY -106...

# GET THE MOST OUT OF IT

Be sure you shy away from putting the HV RESET switch on TUNE until you have primary voltage. Why? With a cold set, a surge of high voltage can mean a cracked neutralizing capacitor. And that puts the set out of commission. Seems some guys get mixed up when it comes to the green triangle and gray



circle on the test meter. When TM 11-5820-520-12 (25 Aug 64) talks about the meter being in the green or gray section during checks and adjustments, it means the larger green or gray markings on the scale identified by the symbol triangle or circle.

When you connect the CX-10099/U electrical special purpose cable assem-



CX-10099/U

by to the set, do you tighten both ends at the same time? Good deal. If you don't, the flexible metal piece just might snap. So long assembly!

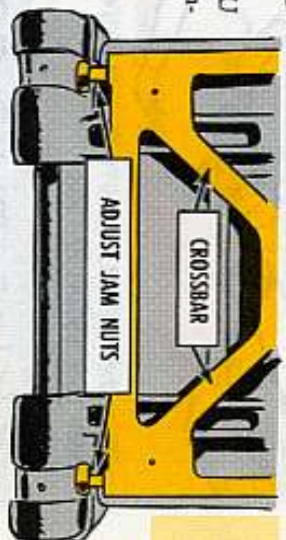
It's a little thing, but it can help to keep your antenna cover in one piece.

That is, when you're using the whip antenna, put the brass antenna sheath clamp on the cover. The clamp keeps the cover from splitting when the antenna gets to whipping.



ANTENNA COVER

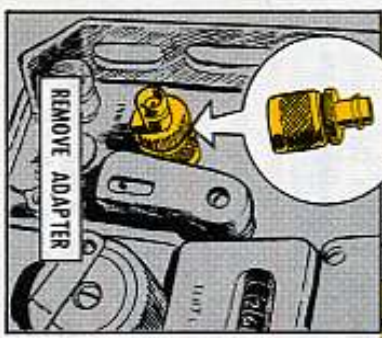
Another thing worth doing is what TM 11-5820-520-12 says about adjusting the crossbar assemblies. If a release handle is too tight, it can't get past the guard. Some guys let go of the handle as soon as it comes out of its securing hole. The handle flies into the guard. Chalk up a busted guard.



CROSSBAR

ADJUST JAM NUTS

Some other guy will keep the handle from smacking into the guard. But when he sees it won't go by the guard, he'll do something just as bad—try to pry it past with a screwdriver. He can end up with a broken guard . . . and maybe a battered screwdriver.

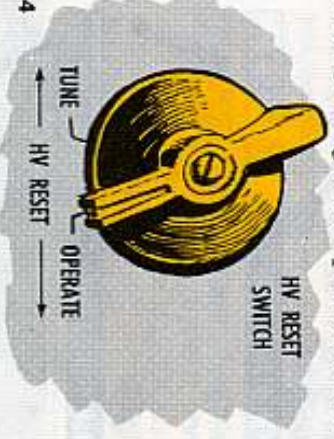


REMOVE ADAPTER

So you're talking up a storm with your AN/GRC-106 radio set, but you're not getting through. Could be that the whip antenna you figure is sending out the word hasn't got a chance of a snowball in the RF section of doing its job. And for a good reason.

All it takes is for you to leave the UG-201A/U adapter connector on the 50-ohm line after you're through with it. The adapter connector holds open the antenna switch, taking the whip antenna out of the picture.

Something else you want to do is make sure the HV RESET switch is always on OPERATE before you turn off the set. If you turn it off with the switch on TUNE, the high-voltage reset relay won't energize. And that leaves you with a non-working set.



HV RESET SWITCH



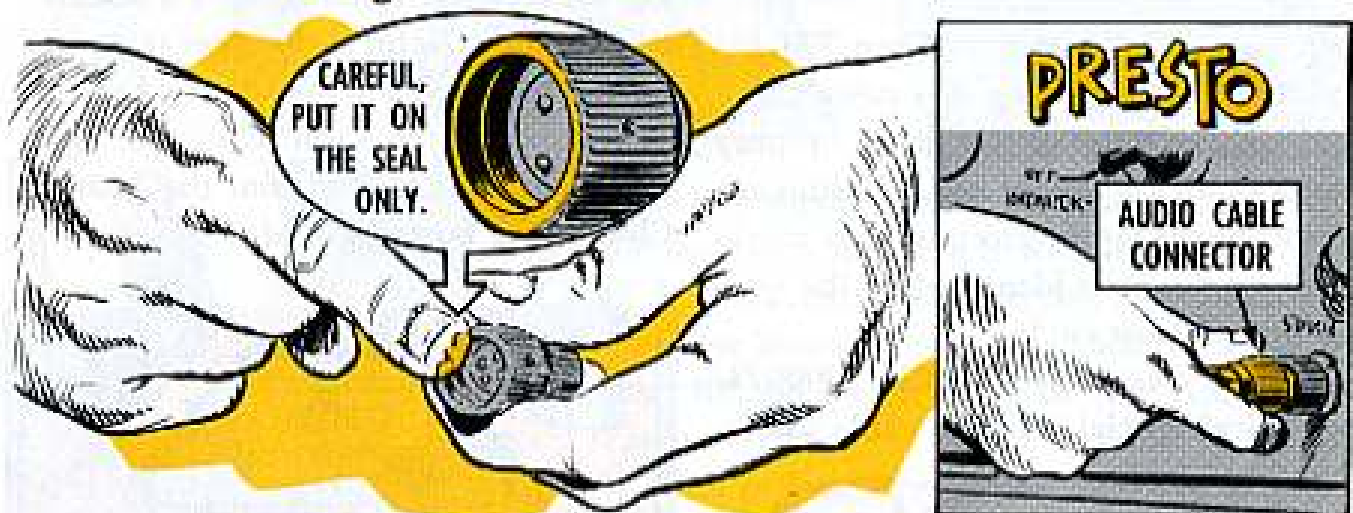
## COMPOUND YOUR TROUBLES



Sure can get you mad enough to where you want to take a hammer to the audio cable connector for equipment like your RT-246 or RT-524 and RT-505 receiver transmitter. You know . . . when you have to fight to get the connector on the set.

What makes for a hard time is that moisture seal inside the connector. But it's a battle that's easily won.

Get yourself some silicone compound and put a light coat on the seal—but not on the conductors. Not only will it make it easier to put on the connector . . . the seal will be given a new lease on life.



Page 4.3 of Fed Cat C5970-IL-A (1 Feb 67) lists an 8-oz tube of the compound under FSN 5970-159-1598.

## CABLES COMING UP

Don't froth, friend, trying to find a replacement cable that goes from the ear-phones to the switch case of your H-161()/U headset-microphone.

You'll find the CX-8652/GR special purpose electrical cable assembly, FSN 5995-051-3088, and CX-8652A/GR, FSN 5995-933-5393, listed in TB 750-911-4 (Jul 67).

These numbers are being added to TM 11-5965-262-13 (Feb 66).

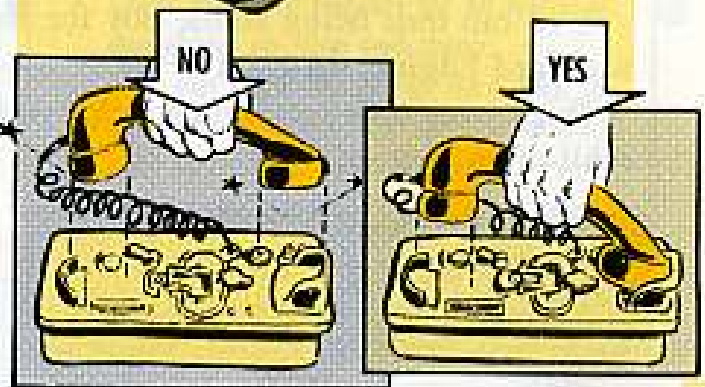
# SPRING, SPRANG, SPRUNG

Mighty handy . . . and it sure looks like a handle. But that handset for your TA-43/PT or TA-312/PT telephone set sure is no handle.

When you use the handset as a handle, there's a heap of strain on the retaining spring on the receiver cradle. Next thing you know, the spring is sprung.

Another thing that'll take the set out of the spring is to remove the handset from the cradle by pulling straight up . . . or replace it by pushing straight down. Either way, the spring takes a beating.

The spring will last a lot longer if you take the handset out of the cradle by pushing it toward the spring and then lifting up on the cord end. And it's replaced by first holding the cord end up while pushing the other end in toward the spring.



## HOT TIME IN A HIGH LINE



Dear Half-Mast,

Since TM 11-5820-348-15 (May 66) makes no reference to a caution plate for the RC-292 antenna equipment, does SB 11-614 (Jun 67), covering caution notice for antenna bases, towers, and other mast structures, apply to the RC-292?

SGT F. E. D.

Dear Sergeant F. E. D.,

Yes . . . because the SB covers many antennas, including the RC-292, which is considered "other mast structures."

ABSOLUTELY!



# STRIP 'ER



OKAY, WE'LL I GUESS WE'LL JUST HAVE TO...

You can quit being stable boy for those 6 oil-drippy horses on that Military Standard Engine, 4A032-1 or -II. With your unit mechanic's help, you can put an end to that wipe-up-and-refill-often routine.

1. Take off the cooling system sheet-metal shrouds, as TM 5-2805-203-14 (Apr 65) says, and drain the crankcase.



2. Clean the engine good. You can use drycleaning solvent (FSN 6850-281-1-985 for 1 gal), keeping liquid out of touchy places like electric boxes and ignition.

3. Make sure the crankcase breather in the air-cleaner elbow is clean, so crankcase pressure won't build up to blow the seals.



4. Eyeball the whole pile for cracks — pan bolts and gaskets, oil filter shell, and specially the valve cover.



# DOWN

5. Check with a good torque wrench every point where there's a torque figure... and extra strain can be as bad as too loose.

TOO TIGHT'S AS BAD AS TOO LOOSE!

7. With the shrouds off, get a big fan blowing right on the engine, and start it up. Get it up to 3600 RPM and run that speed.



9. Repeat the run-inspect act, but not for over an hour total. And best not work where it's too dark; plenty of daylight will give gunge-out oil a shine you can see.

THEY STRIPPED AN ENGINE IN THERE.

6. Wipe clean and dry, refill crankcase, and wipe up any spill.



8. Check every 10 minutes for oil leaks. If one shows up, stop and repair.

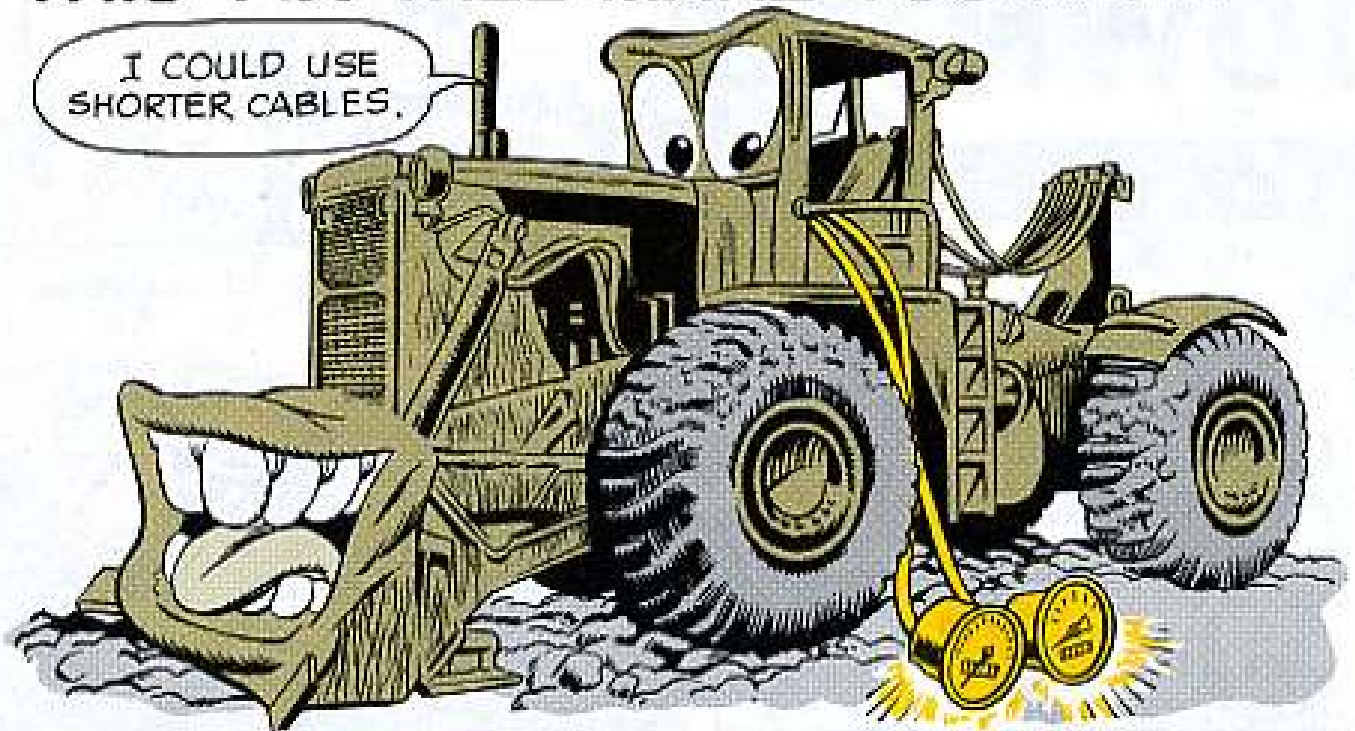
If you stand the engine on a rack to run, bolt it down. It'll shimmy around and fall off a table or bench — very short, disastrous test flight straight down.



EVERYTHING OK? PUT THE SHROUDS BACK ON!



PIQUED BY 290M TACH CABLE —  
**THIS FIX WILL MAKE YOU ABLE**

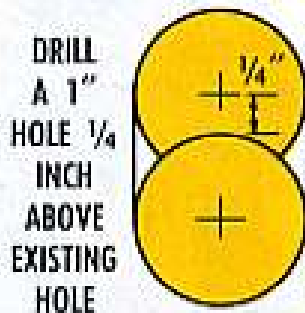
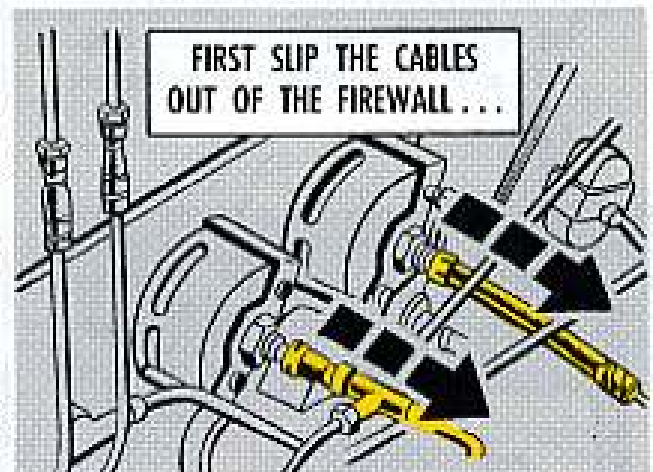


Trying to put that new tachometer drive cable, FSN 6680-732-0561, in that 290M wheeled tractor?

Here's a recipe to make it easy.

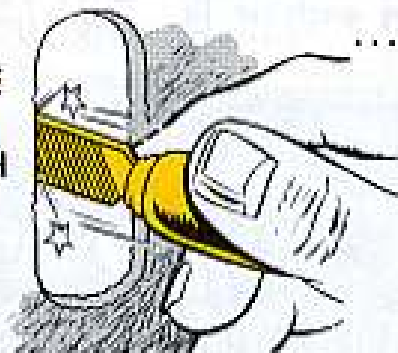
Take out the tachometer head and the speedometer head, and slip the cables to each back out the fire wall.

Enlarge the fire-wall openings for both cables so vibration won't cut them. You want a 1-in diameter hole, centered  $\frac{1}{4}$  inch above the top edge of the existing hole for each cable. Round off the points and sharp edges, and reshape the cab reinforcement brace back of the speedometer hole. Paint the bare metal, and put the new tach cable in and reconnect the tach head and speedometer head.



DRILL  
A 1"  
HOLE  $\frac{1}{4}$   
INCH  
ABOVE  
EXISTING  
HOLE

... FILE  
IT  
SMOOTH




... TOUCH  
IT  
UP



Just one caution. That clamp on the engine end fastens to the center and rear cap screws of the oil-filter housing.

And you're right—this new tach cable is 20 inches shorter than the old one.

# ANTHONY AND CHRYSLER' MHE



MISSING A LUBE POINT  
THAT'S NOT IN YOUR  
TM OR LO?

There may be one lube point on your Chrysler or Anthony 6,000-pound rough-terrain forklift that you may be missing—the differential lock-up hydraulic cylinder. It's not listed in your TM or LO.

It's easy to get to because you can see it right there in the driver's seat. Lift the rubber boot and make sure that OE 10 oil is within  $\frac{3}{4}$  inch from the top. Check it at least every two months.

Wipe the dust and dirt off of the boot and from around the top of the cylinder so it won't fall into the oil while you're checking.



Make sure that rubber boot is back in place or you'll get dirt in the cylinder for sure.

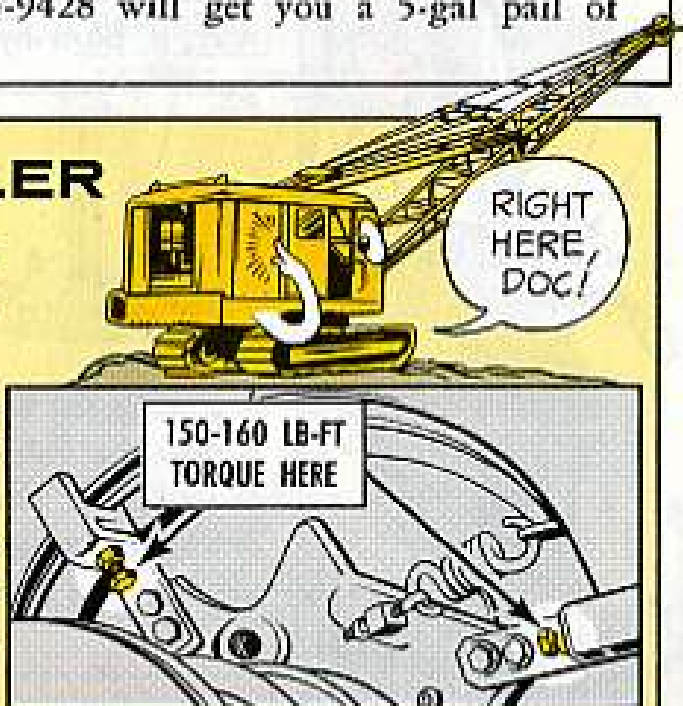
FSN 9150-265-9428 will get you a 5-gal pail of OE 10 oil.

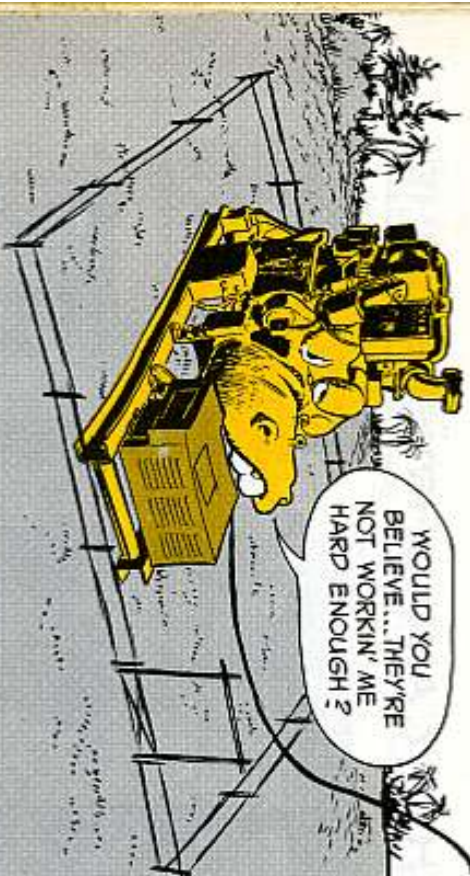
## CRANE CRIPPLER

The right torque on a capscrew can save your P&H Model 855 BG 40-ton crane much pain.

It's at the lower right of the big digging clutch (TM 5-3810-206-10 (Sep 63), Fig 39, items 6, 7, and 8.)

You want 150 to 160 lb-ft torque on the capscrew to keep the eccentric nut from backing out and letting the clutch collar break.





Wondering why the horses in your Caterpillar D353 engine stable seem ailing and balky? Could be you're not working them hard enough. You've got to really work a diesel if you want it to stay ready for work.

Loaded too light (especially when 2 are teamed up), it never gets up to good operating temperature . . . and every old hand on engines knows a cold engine carbons up fast.

# RYE HARD WORK PILLLS

150-KW GENERATOR DIESEL ENGINE



And it helps no end to clean fuel filter and strainer assemblies like TM 5-6115-319-15 (Oct 63) shows (pages 54 thru 56). Clean fuel leaves lots less carbon, and your battery will be on the line when those scanners have to swing.

## EVERY 50 SERVICE HOURS... FUEL FILTER FUEL STRAINER

<p>CLEAN COVER THOROUGHLY</p>	<p>REMOVE ELEMENT &amp; CLEAN CASE</p>
<p>REMOVE FILTER ELEMENTS</p>	<p>WASH IN CLEAN KEROSENE OR DIESEL FUEL</p>

REPLACE & REINSTALL NEW FILTER ELEMENTS REINSTALL ELEMENT

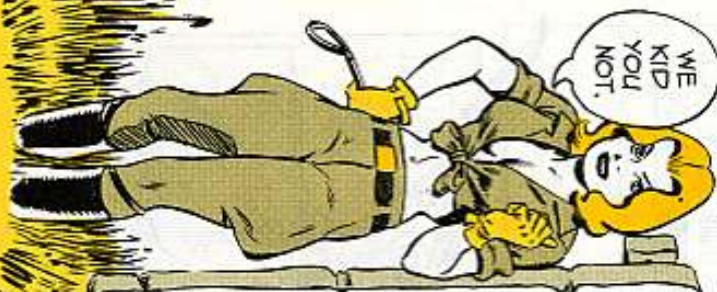
GET IN A GOOD GALLOP

A better idea is a good workout at least once a week, and for no less than an hour. Even if you have to hook in the ice cream plant, the unit laundry, and the front gate lights, put enough load on to make that 150 kilowatts run through.

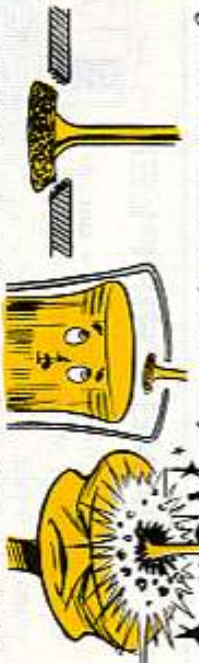
Then your engine will get up to a good operating temperature and stay hot long enough to burn out that carbon. Nice pink-throated manifold outlets and smooth valve stems is what you'll have.

You'll use a 180° thermostat, Mfr Code 11083, Part No. 6L6108, to see you keep good operating temperature, too—and if you don't have one, get one. The right oil is MIL-L-45199A, FSN 9150-680-1104 for one 55-gal drum.

Just to give a little insurance, make your start-up full speed. No slow idle on a Cat D353, please.



Carbon is especially bad on exhaust valves, and that's right where it collects the fastest on a cold-running diesel. Stem shanks get black, then seats and faces get carbon-plated. Before long, the valve won't seat all the way, so blow-by of half-burned fuel strangles the valve guide with more carbon, until finally—**POW!**



Finally the valve sticks open, and the piston hits it and breaks the valve head off. That valve head rattling in the cylinder punches a hole in the piston and maybe cracks the cylinder head . . . and all 290 of those horses are out thru a hole in the fence.

## Cornie Radd's BRIEFS

### You've Moved!

A change of address notice is needed when your outfit moves. . . If you expect your publications to keep up with you, be sure to give the AG Publications Centers (both, Baltimore and St. Louis) your new address (your old address, too) and your account number.

### Today's The Day

Today is the day you send in that DA Form 2028 about the error you found in the technical manual. Send it direct to the outfit that prepared the book; the address is in the front. One copy goes direct.

### Swag's Sense

Hold one, Chinook users. If you have a leaky APU oil filler cap, FSN 2835-961-1412, don't rush out and order a \$21.46 replacement. . . if you can stop the leak with a 9-cent preferrered packing, FSN 5330-815-3509. Makes sense, saves cents!

### Shop Equipment PM

For info on care of shop equipment and tools, look up TB 750-103 (19 Oct 65). Maintenance and Care of Common Type Machine Tools and Shop Equipment. The TB also covers weekly and monthly checks and tells what TM 38-750 records can be used on shop equipment.

### Torque The Bolt

Anytime you bird types find there's no room to fit a torque wrench on a nut, just put it on the bolt and go to the high side of the torque range. You'll find this info, and lots more, in para 70 of Ch 1 (25 Sep 67) to TM 55-405-6 on maintenance tools. Don't miss it!

### New Pub Series

The next time you want to read up on aircraft general maintenance practices reach for TM 55-1500-311-25 (26 Oct 67) because it replaces TM 55-405-1. Fact is, all the maintenance engineering manuals are being re-issued as TM 55-1500-series pubs.

### Flip The Hood

To put the M4 hood (FSN 8415-261-6690) on an M9-series protective mask with a right-cheek canister, all you do is turn the hood inside out. Then you install the hood like it shows in para 17, TM 3-522-15 (Oct 57), for a mask with a left-cheek canister.

### O-1 Pilot Protection

Don't look for an MWO to tell you how to add the pilot's armor kit; FSN 1680-943-0746, to your Bird Dog (O-1). You'll find installation how-to and parts list in Ch 6 (7 Sep 67) to TM 55-1510-202-20.

### Supply Records

AR 345-215 (Nov 67) sets 31 December as the cut-off date for the document register and the document file. See Appendix C. But, remember, cut off doesn't mean the records are dead. You keep the records in a separate file by calendar year, but they remain part of your supply record for 2 years after COFF.

### M60 Mq Pubs

Sure, somebody up there loves you M60 machine gunners. When they superseded your M60 machine gun's bible (TM 9-1005-224-12, Sep 65), they put your share — PM poop, basic issue items list and such-like — in a pub of your very own, TM 9-1005-224-10 (Nov 67). Your armorer's portion is now in the new TM 9-1005-224-25 (Dec 67).

### Trailer Mudflaps

Do you need mudflaps for your M131 5,000-gal semitrailer? Ask for Guard, Splash, Wheel, FSN 2340-860-0575, listed in Fed Cat C2540-1L-A (Apr 66).

### Injector Tips

Collar breaks on fuel injector pumps can usually be stopped before they happen. The recipe is simple: a little less muscle . . . snug is enough.

Just see that the threads are clean, turn the brass fitting in just far enough to prevent seep — and stop turning!

### 5-7oz Multiquel

Wanted: Two small resilient mounts. They go with the securing bracket — radiator end — fastened from the top of the radiator and to the engine on your 5-ton multiquel trucks. Found: Mount, Radiator, FSN 2930-919-2875. You can see the bracket hookup in Fig 136.1 in Ch 1 (Jul 64) to TM 9-2320-211-20 (Mar 63). Order the mount from ATACOM — RIC is B 24.

### No Tire Painting

Tire painting's for the birds — gooney birds, that is. Dolling up your equipment this way is a waste of time. This time would be better spent on PM that really counts. Paint's bad for tires, too. Most paints, solvents and fuels eat into the rubber and rot it. Use water and a brush to clean your tires — that's good enough.

### Matched V-Belts

Here's another number to jot down so you can have it handy — especially for that 4.2-KW, 28V, DC gasoline engine generator set on your M577 command post! Ask for FSN 3030-684-8004 to get a matched set of V-belts. If you order by the number listed in TM 9-6115-202-24P (FSN 3030-984-7635), you'll get belts that're too short.

Would You Stake Your Life <sup>right now</sup> on

the Condition of Your Equipment?

# KEEP YOUR P.M.

## UP TO DATE

You Can't Handle  
Modern Army Equipment  
Unless You Use  
Up-To-Date Manuals!  
So, Keep On Top  
Of Your Indexes... or  
You're "23-Skiddoo"\*

### USE YOUR INDEXES

Set up your Pin-point  
order for 'em on  
DA Form 12-4

\*Ask Grandpa What That Means.



DA PAM  
310-1  
AR'S, PAM'S  
CIRCULARS  
GO'S

DA PAM  
310-2  
BLANK  
FORMS

DA PAM  
310-3  
FM'S, TC'S  
TOE'S, TDS  
TA'S

DA PAM  
310-4  
TM'S  
TB'S  
SB'S  
LO'S

DA PAM  
310-6  
SC'S, SM'S

DA PAM  
310-7  
MWO'S

DA PAM  
310-9  
COMSEC PUBS

DA PAM 108-1  
FILMS, GTA,  
RECORDINGS,  
CHARTS