

Issue 285

PS

August

1976

PREVENT
MAINTENANCE
MONTHLY

Maint. Bn.
DX

MUST BE A TYPO,
CONNIE!

BUT... THIS MEMO
DOES SAY "TURN IN
ALL RECOVERY ITEMS
TO YOUR DX."

SHOULD SAY,
"RECOVERABLE"
EH?

See
"M578 RECOVERY VEHICLE
ROUND UP"

Page 2

MURPHY
ANDERSON

the SOUND of SILENCE FOREVER!

Silence can be golden, but only when it's your choice. Fool's gold may be at the end of your rainbow—when your hearing finally slides into a dark pit of jumbled sounds... whispers... maybe even nothing... complete silence... forever.

It's usually painless, creeping into your ears like a smothering fog.

You may not even notice the cause—the everyday sounds around you. Engines. Air compressors. Shop equipment.

You may even shrug off the sounds of gunfire and hammering.

It's all "noise"—too much noise. More than your ears can stand—whether you notice it or not.

Noise is the enemy. The Army's enemy. And it should be your enemy.

If you can't hear another person talking normally 5 feet away from you, this enemy is chipping away at your hearing.

So sound off. Yep, make a noise—fight fire with fire. Let your Safety Officer know about it.



He'll check the noise levels in your working area—both steady noise and impact, or impulse, noise. If these noise levels measure beyond the limits allowed by the Army, you'll be issued equipment to protect your hearing—ear plugs, ear muffs or a helmet.

Your choice?

No.

It's required under AR 40-5 (Sep 74), Health and Environment and TB MED 251 (Mar 72), Noise and Conservation of Hearing.

And all of the details are in the Technical Guide, Noise Hazard Evaluation—Sound Level Data of Noise Sources. It's available to your Safety Officer from the US Army Environmental Hygiene Agency, Aberdeen Proving Ground, MD 21010.

PS THE PREVENTIVE MAINTENANCE MONTHLY

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Within limits of availability, older issues may be obtained direct from Editor, PS Magazine, c/o US Army Maintenance Management Center, Lexington, KY 40511.

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PS wants your ideas and contributions, and is glad to answer your questions. Name and address are kept in confidence. Just write to: Or call: AUTOVON 745-3503.

MSG Half-Mast
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Lexington, KY
40511

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PS 285

M578 RECOVERY VEHICLE ROUNDUP

PART 1

YOUR M578 RECOVERY VEHICLE IS ABOUT AS GOOD AS ANYTHING YOU CAN FIND IN THE ARMY!

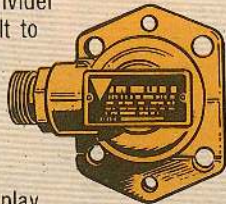
SO WHY DO YOU SEE SO MANY ON DEADLINE?

Mainly because some crewmen don't operate or maintain them right.

The M578 is a bantam weight recovery vehicle—under 54,000 pounds fully equipped—

BUT IT'LL DO A FINE JOB FOR YOU IF YOU HANDLE IT RIGHT!

Its flow divider valve is built to take high hydraulic pressures and heavy flow rates but if you play "cowboy" with the traverse pedal you can overload the valve. So stop jolting the cab around by changing direction without slowing down at the end of the swing. Give the hydraulic system a split second to recover before you tromp your foot down and make the cab turn in the opposite direction.



Use sub-zero engine lube oil MIL-L-46167 as your hydraulic oil. You never use OHC/OHA (cherry juice). The old Lubrication Order for the M578 calls this out as OES; the new LO as OEA.

Hydraulics is where it's at with the M578. Keep your hydraulic lines tight and you've won half the fight.

However, you never tighten any hydraulic line when the system is pressurized.

WATER AND HYDRAULIC FLUID JUST CAN'T MAKE IT TOGETHER... SO KEEP 'EM AFTER!

GOTCHA!

HEY, CONNIE!... HOW 'BOUT A HAND UP HERE?

ME TOO! I HEAR YOU ARE A WINCH EXPERT!

I CAN USE SOME SCOOP ON AIR FILTERS!

The most likely place for a water leak into your hydraulic fluid is at the hydraulic reservoir filler cap. (First see that the drain groove is clear so water won't stand around the filler cap.) Then check the reservoir filler

cap gasket for cuts or nicks that can let water thru. If you need a new gasket it's NSN 5330-00-684-7851.

When you clean the reservoir strainer (quarterly or oftener if it's

real dusty) check the condition of the 2 gaskets, one on each side of the strainer neck. Make sure there are 2. Replacements come as Gasket, reservoir filter and strainer, NSN 2520-00-991-8401. It's a good idea to drain a little hydraulic oil out of the reservoir to see if there's water mixed with it.

YEAH--
HYDRAULIC
LINE NEEDS
REPLACING,
CONNIE!

REPAIRING HYDRAULIC LINES

HOP TO IT, MEN...
WE GOT 40 GALLONS
TO GO...

PUFF!

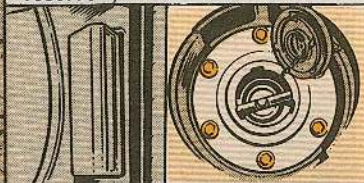
BUT WE ONLY HAVE
30 MORE CANS!

OH, NO!
DIDN'T ANYBODY
TELL YOU GUYS ABOUT
SEALING OFF THE
BOTTOM OF THE
RESERVOIR?

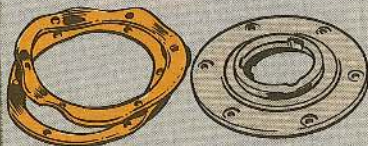
No need to drain the 140 gallons of fluid out of the hydraulic reservoir if you have to replace any hydraulic line between the reservoir and the slip ring.

Seal off the bottom of the reservoir like this...

1. Take out the 6 screws and lock washers attaching the flange (part number 10908877) to the reservoir.



and remove flange and 2 gaskets. Do not damage the gaskets or you'll have to replace 'em.

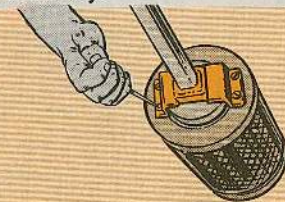


2. Open the reservoir filler cap and turn the T-handle several turns counter-clockwise.

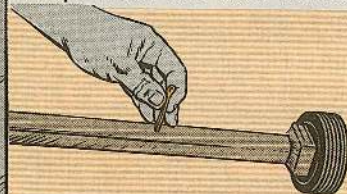


Then you can pull the T-handle straight up and the whole strainer filter assembly will come with it.

3. Now get a screwdriver and remove screws and bracket to detach the filter from the rest of the assembly.



4. Take out the cotter pin that keeps inner and outer handles



together. Pull up on the inner handle until the total assembly is as long as it was before you took the filter off. Keep it at that length by putting the cotter pin back to



lock inner and outer handles together.

Instead of the cotter pin some handles have a spring-loaded stop. Work this by pressing the button and sliding the handles to the maximum lock position.

5. Lower the whole assembly back into the reservoir and turn the handle clockwise to screw the threaded plug into the threads at the bottom of the reservoir. The



SEAL OFF
RESERVOIR
WITH PLUG

plug will keep the hydraulic oil from coming out of the reservoir so hydraulic oil lines between the reservoir and the hydraulic pump can be changed with a minimum loss of oil.

6. After you get your new line in, reverse everything you have just done, put the filter back on the outer handle and screw the whole assembly back into place.

CAUTION

CAREFUL NOW, BUDDY... NO DIRT IN MY RESERVOIR, PLEASE!

?

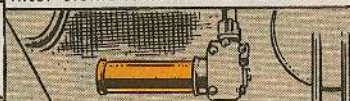
BESIDES THE HYDRAULIC SYSTEM...

Never operate the PTO switch to turn on the hydraulic system until reservoir filter and strainer are reassembled and installed right.

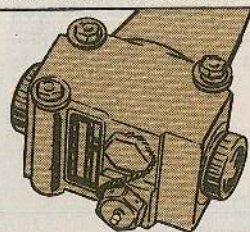
In all of these operations, be careful not to knock any dirt into the hydraulic reservoir.



HYDRAULIC FILTER—The hydraulic filter element in the well under the



floor of the cab is supposed to be replaced when the indicator button



sticks out. Order the element as part



of the filter repair kit NSN 2520-00-

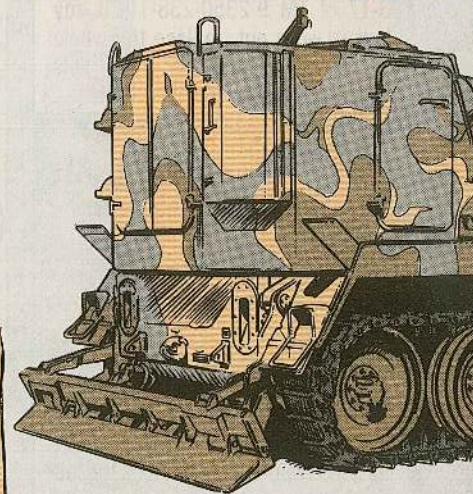


478-5862 (5703761). This is a later number than the one in your -20P TM, but it's good in the AMDF.

LAZY LUBRICATION

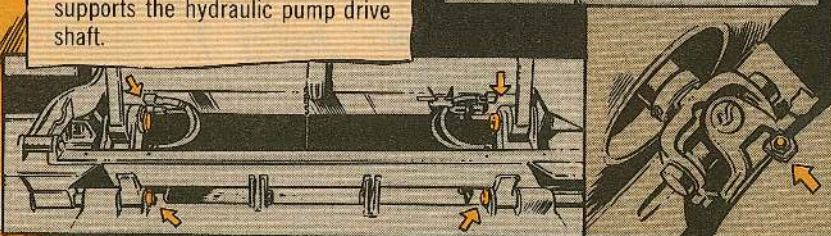
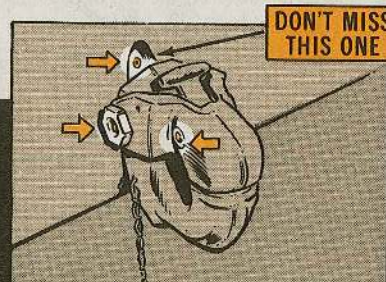
LUBRICATION ORDER **LO 9-2350-238-12**

HERE ARE THE MAIN THINGS TO WATCH ON YOUR M578...



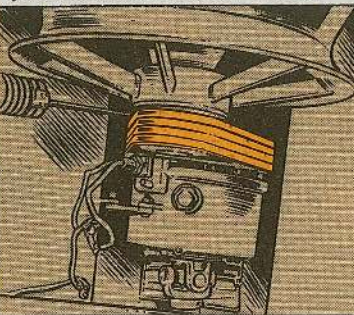
Lazy lubrication ruins lots of M578's. Always look at the latest edition of LO 9-2350-238-12 when you lube. Go over it page by page including the detail views. Lube fittings often missed on the M578 include... Left hand and right hand upper road wheel arm, inner bearing and outer bearing, third lube point on tow pintle, two fittings at universal joint near fan, moldboard hinge pin, spade strut hinge pin, spade cylinder bracket hinge pin, and 2 fittings on universal joint behind drive shaft bearing that supports the hydraulic pump drive shaft.

DON'T MISS THIS ONE



COOLING SYSTEM

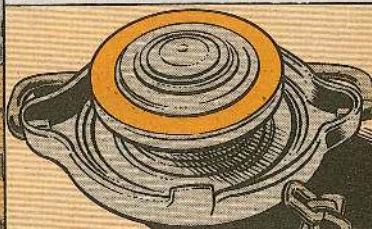
FAN BELTS—Check belts for wear and tightness the way it says on page 3-17 of TM 9-2350-238-10. If any belt is worn out, replace the whole set. NSN 3030-00-133-5761 gets you the complete set of 4 belts.



Be sure MWO 9-2350-238-40/1 has been applied. Also, check the fan sheave installed on the fan because the new fan belts will not fit the old original sheave. You may need fan sheave NSN 3020-00-179-6782 (11642806).

COOLANT LEAKS—The M578 doesn't have a lot of reserve coolant capacity so you need to keep the cooling system up to snuff or you'll overheat. Any time you get a loss of more than 2 qts of coolant during one day's operation the whole cooling system needs to be checked for leaks.

RADIATOR CAPS—Replace if they're damaged or won't hold the 18-21 PSI they're supposed to. A new one is Cap, radiator, NSN 2930-00-950-0740. Remember, there are 2 and you have to take both caps off



whenever you add water to the radiator, if the vehicle is on fairly level ground. If your vehicle is on a side slope, remove only the cap from the high side radiator.



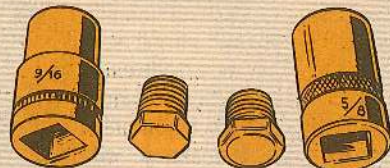
HEY,
MAN...
WHAT A
TERRIFIC
COOLING
SYSTEM!

OK, MEN! THAT'S IT!
FOR COOLING AND
SUSPENSION SYSTEMS!
TAKE AN
HOUR'S
BREAK.

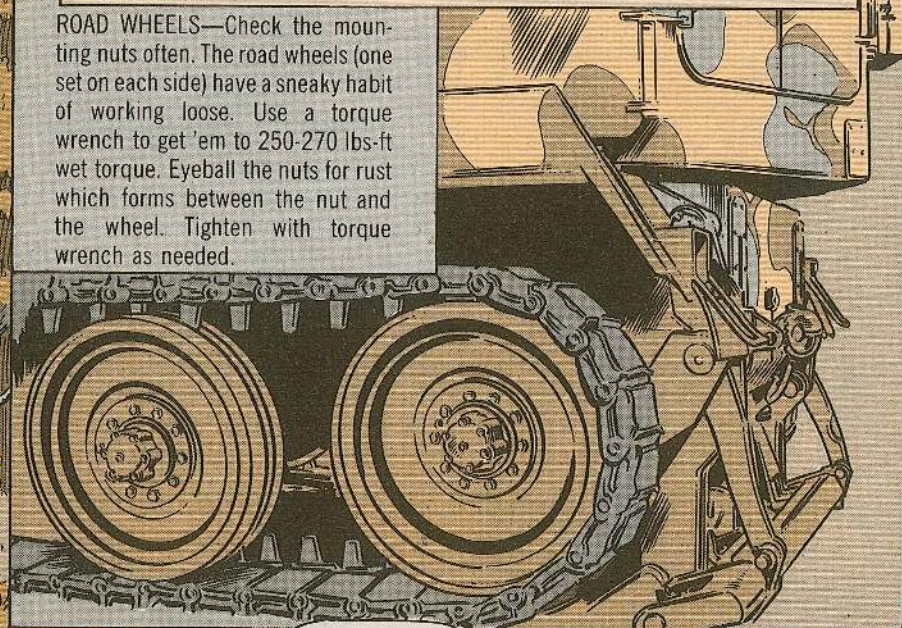
WAY TO GO,
CONNIE!

SUSPENSION SYSTEM

ROAD WHEEL CHECK PLUGS—The check plug, NSN 4730-00-940-8067, that you have to take out quarterly to check your oil level can have either a $\frac{3}{16}$ -in head or an $\frac{9}{16}$ -in head, so have both size sockets handy. Never use a cold chisel to loosen these plugs. You'll round off the corners.



ROAD WHEELS—Check the mounting nuts often. The road wheels (one set on each side) have a sneaky habit of working loose. Use a torque wrench to get 'em to 250-270 lbs-ft wet torque. Eyeball the nuts for rust which forms between the nut and the wheel. Tighten with torque wrench as needed.



NOT T' MENTION
THE SUSPENSION
SYSTEM!

RIGHT ON!
IT'S TH' GREATEST
I'VE EVER SEEN!

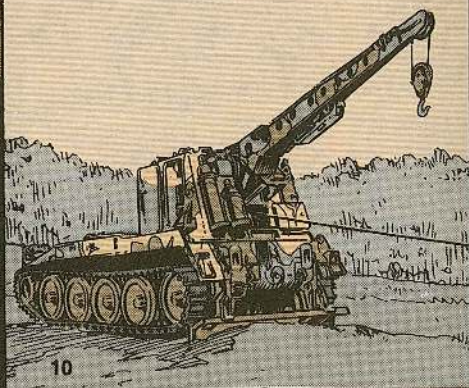
THINGS TO REMEMBER

TOW BAR SHORTAGE—Treat your tow bars as if they were made out of solid gold. Actually, they are harder to get than gold bars. If you break one you'll have to make do with welding.

TRAVERSING SYSTEM—The traversing system power unit for the M578 (NSN 2520-00-087-8360) is in short supply. You can help by exercising it often to keep gears, bearings and brake lubricated.

CABLE WINDING—When you put a new wire rope on the boom winch or tow winch or when you're winding the cable back up after reeling all of it off the drum, you gotta remember that it has to be tightly wrapped as you wind it back. If you wrap it in loose rolls the top wrap will pull through to the lower layer of rope and crush or kink it. To prevent this, install the boom winch wire rope with a line pull of 7,500 pounds. For the tow winch use 30,000 pounds pull. See Para 2-20 in TM 9-2350-238-10 (Mar 72) for details.

CAREFUL WHEN WORKING WITH WINCHES! YOU'RE DEALING WITH TREMENDOUS FORCES... AND THE **ONLY** WAY TO GO IS "BY THE BOOK"—TM 9-2350-238-10 (Mar 72), THAT IS!



10

DON'T OVERLOOK THE HULL DRAIN PLUGS! THEY GET WEEKLY CARE!

HULL DRAIN PLUGS—The 2 drain plugs at the rear underside of the hull are often neglected. These plugs are just inboard of the trailing idler wheel arms. You take them out weekly and drain the water, hydraulic oil and whatever. By doing this you get rid of moisture that could seep through the trailing idler upper arm seals and damage the bearings in the hull.

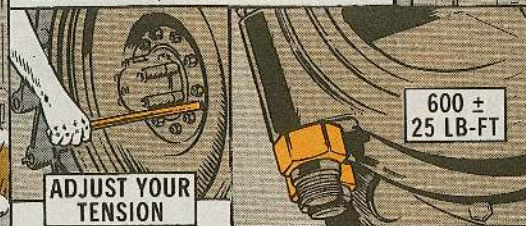
SNATCH BLOCK—The NSN for the 35-ton snatch block in TM 9-2350-238-10 is wrong. Order the 35-ton block with NSN 3940-00-489-8340. The 35-ton block has a 12-in diameter sheave. Any other size sheave means you have the wrong snatch block. Replace it.

PS MORE

TORQUE

TOPICS

ECCENTRIC SPINDLE—After you adjust track tension the way it says on pages 3-25 to 3-29 of your TM 9-2350-238-10, the nuts on the



ADJUST YOUR TENSION

eccentric spindle screws have to be 600 + or - 25 lb-ft (wet) or 1000-1200 lb-ft (without lube) using socket wrench NSN 5120-00-980-9283. A lower torque won't hold 'em.

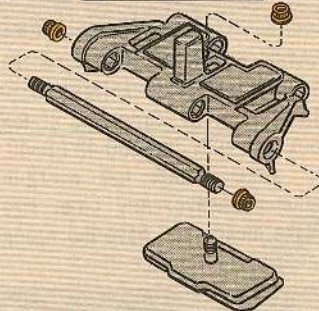
TRACK SHOES—The nut that holds the track pads and the 2 nuts at the 2 ends of the track shoe link pins are all self-locking nuts that must be torqued down to 160-200 lb-ft. Always use new nut instead of putting the old nut back on. Self-locking nuts lose holding power every time you take 'em completely off and then put 'em back on. The second time you use one of these nuts it has lost a third of its holding power.



IS IT REALLY NECESSARY TO GET SO UPTIGHT ABOUT TORQUE, CONNIE?

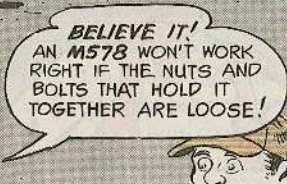
600 ± 25 LB-FT

THESE NUTS GET 160-200 LB-FT



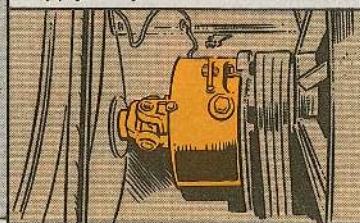
WINCH ADJUSTMENT—The P30 15-ton boom winch and the P60 30-ton main winch on your M578 have to be adjusted and torqued by your DSU.

NOTE: The brake adjusting nuts on the winches will NOT increase the holding capability of the brake. All they control is brake plate clearance. If the nut is not set properly, internal winch parts will fail.

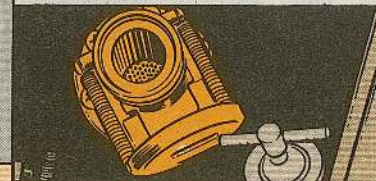


BELIEVE IT! AN M578 WON'T WORK RIGHT IF THE NUTS AND BOLTS THAT HOLD IT TOGETHER ARE LOOSE!

AUXILIARY DRIVE CLUTCH—The auxiliary drive clutch NSN 2520-00-084-0769 for the M578 is in short supply. All you can do about this is



keep from breaking one. You do this by making sure MWO 9-2300-391-40 has been applied and by seeing that the oil level is OK.



NORMAL

Time compliance period begins 15 April 1970

MWO 9-2300-391-40

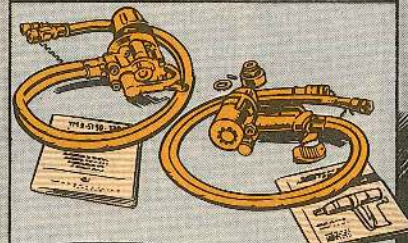
DEPARTMENT OF THE ARMY MODIFICATION WORK ORDER 13

GUN, FIELD ARTILLERY, SELF-PROPELLED:
155-MM, M107 HOWITZER, HEAVY, SELF-PROPELLED: 8-INCH M110

IMPACT WRENCH SOCKET—On your impact wrench use only the special impact wrench socket. It is made with extra thick walls and has an O-ring to hold the safety pin in place. **SAFETY**



IMPACT WRENCH MODELS—The hydraulic impact wrench NSN 5130-00-790-2284 you get with your M578 can be either of 2 kinds. Each needs its own operation and maintenance manual.



SEE THE NEXT ISSUE OF PS MAGAZINE FOR MORE ON YOUR M578!



PS END OF PART I

SOLID STATE REGULATOR RUNDOWN

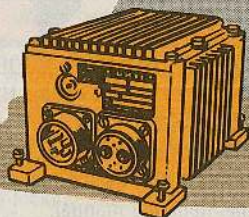
If your M48/M60 series tank has one of the new space-age solid state voltage regulators, you need a little run-down on how to operate and maintain it.

THE POOP WILL BE IN FUTURE TANK MANUALS. BUT THIS WILL HELP YOU OVER THE ROUGH SPOTS...

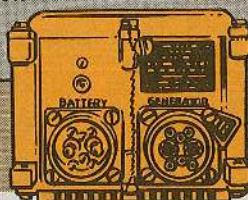
TO FIND OUT

First off, you need to know if your tank has the solid state regulator, NSN 2920-00-088-3989 (11659111), or the old-type regulator, NSN 2920-00-335-4264 (MS51005-1).

SOLID
STATE
OR . . .



OLD CARBON
REGULATOR
TYPE?

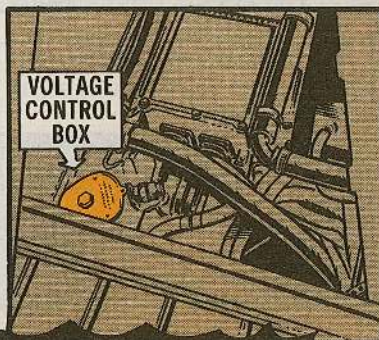


To check on this you . . .

1. Turn off the Master switch.
2. Open the turret platform access door.
3. Hand traverse the turret until you get the access door positioned so you can see the voltage regulator (it's near the batteries).

Look for a voltage control box (adjusting rheostat). It's a small, oval-shaped, box with a cable leading into the regulator.

VOLTAGE
CONTROL
BOX

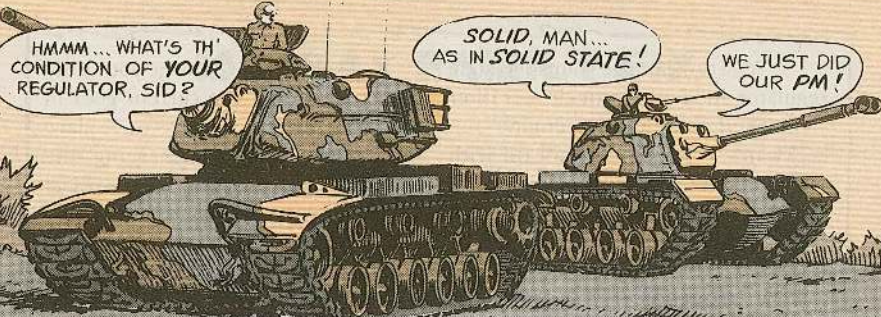


IF THERE'S A VOLTAGE CONTROL BOX, YOU'VE GOT ONE OF THE OLD REGULATORS AND THIS ARTICLE DOESN'T APPLY TO YOU

HMMM... WHAT'S TH' CONDITION OF YOUR REGULATOR, SID?

SOLID, MAN... AS IN SOLID STATE!

WE JUST DID OUR PM!



WATCH OUT FOR THESE

On 'tuther hand, if there is no voltage control box, you've got one of the new solid state regulators and you'll have to watch for these things:

1. When you first start the tank the generator may not charge.

You can tell because the battery-generator gage won't show in the green and the air cleaning blower motors won't work.

Let the engine warm up the way the operator's manual says. At this point if the generator is not charging, bear down on the accelerator for a couple of seconds, speeding the engine to 1600 RPM, then letting it fall back to idle speed. The generator should now start charging and continue to charge at all engine speeds.

2. Sometimes when the engine is running you can get a sudden voltage surge that will trip the circuit breaker on the voltage regulator. When this happens, you can tell because the battery-generator gage will drop out of the green showing the system is not charging and the air cleaner motors will stop.

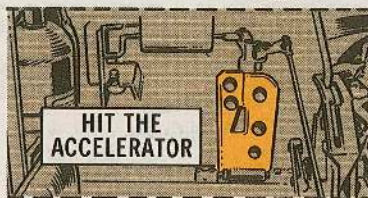
To reset the circuit breaker, you open the turret platform access door and hand tranverse the turret so you can get to the voltage regulator. Push in the reset button. (It's on the voltage regulator above and between the 2 electrical connectors.) If the generator is not charging call your organizational mechanic only if you can't fix it yourself.

GAGE
NOT IN
GREEN . . .

NOT
CHARGING



HIT THE
ACCELERATOR



SHOULD
START
CHARGING
NOW



SUDDEN
SURGE
TRIPS
BREAKER . . .



. . . BAT-GEN DROPS
OUT OF GREEN

PUSH RESET
BUTTON . . .



TO RESET
CIRCUIT BREAKER

3. You can damage your solid state regulator and foul the air cleaner filter element if you let the engine run backward. The element will fill with carbon and must be cleaned or replaced immediately. You'd get carbon in the element if the tank goes backward while the transmission is in a drive range or if the tank goes forward while the transmission is in reverse.

In an emergency (such as when your brakes have already burned out) you may have to use the engine as a brake when going down a steep hill. In that case, before you start down the hill, raise the safety cover on your generator ON-OFF switch and turn it



to OFF. (That'll cut the generator out of the system so's it doesn't ruin itself by running backwards.) 'Course, you gotta remember to stop all forward motion of the tank when you get to level ground again and flip the generator switch back ON.



OTHERWISE, YOUR GENERATOR WON'T BE CHARGING, YOUR BATTERIES!

4. You can also damage your solid state regulator if the current goes in the wrong direction when you're slave starting the tank or charging the batteries. So, use only the special

CONVENTIONAL CABLE
NSN 4910-00-474-9135



NATO CABLE
NSN 2590-00-148-7961



purpose electrical cable assemblies in the No. 2 common tool set. They're NSN 4910-00-474-9135 for the conventional cable or NSN 2590-00-148-7961 for the new NATO cable to slave M60A1 (RISE) tanks. If you use any other kind of cable, you might get the polarity wrong between the 2 vehicles when slaving or charging batteries and that can ruin your voltage regulator.

5. After the tank has been slave started or the engine has run backwards, make sure your generating system is operating. The battery-

GREEN MEANS ALL SYSTEMS ARE GO!



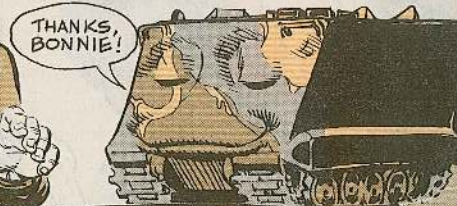
generator gage will be in the green and the air cleaner blower motors will be running.

M113A1 FAMILY FIX



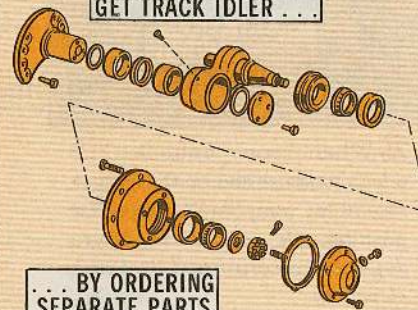
Dirt and water can get into the air pump on your M113A1-type vehicle and cause damage. (The pump's part of the air aspirated cold start system.)

Page 62, article 9d, in TB 43-0001-39-1 (Apr 76) tells you how to make a connection that'll give you clean air and nothing else.



M113A1 TRACK IDLER GOSSIP

GET TRACK IDLER . . .



... BY ORDERING SEPARATE PARTS

You can no longer get a complete track idler assembly for any member of the M113 or M113A1 family of vehicles under one NSN.

Get the track idler by ordering the separate parts listed for Fig 119 on pages 78 and 79 of your TM 9-2300-257-20P (Aug 75).

Next Month In PS

DOWN WITH TOOL ABUSE ★ GAMA GOAT GOODIES

MOBILE ASSAULT BRIDGE TOUR

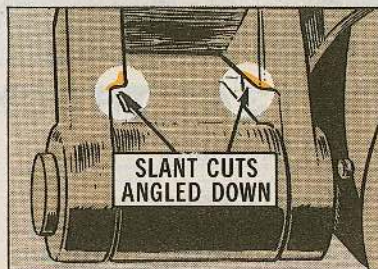
★ ALLPURPOSE LIGHTWEIGHT INDIVIDUAL CARRYING EQUIPMENT

M551 SHERIDAN

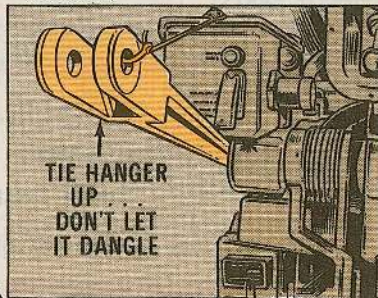
LOTS OF HANGER ASSEMBLIES USED WITH M119/M127 SERIES TELESCOPES IN SHERIDANS ARE GETTING BROKEN!

TO KEEP YOUR HANGER, NSN 1240-00-906-7945 IN GOOD HEALTH, YOU NEED TO...

1 Make sure it's installed the right way with the slant cuts on the inside of the fork angled down. (If it's put in with the slant cuts angled up, the hanger will bind and break if you elevate the gun more than a few degrees.)



2 When you unhook the telescope, raise and tie the hanger assembly temporarily in that position. (If you let it dangle down, it'll get crushed if the gun is elevated.)

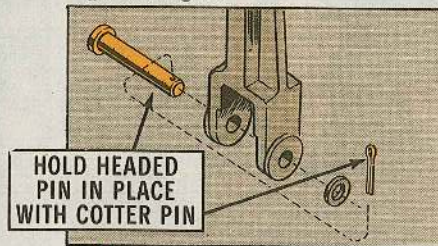


18

HANGER HANGUP

DO THESE 4 THINGS RIGHT AND YOUR HANGER WILL WORK FOR YOU!

3 The headed pin that attaches the bottom of the hanger to the telescope must be held in place with a cotter pin. (If the cotter pin is not there, the headed pin will slide out of the hanger when the gun is raised and the hanger will get damaged.)



4 The headed pin must be put in so the cotter end is closest to the telescope. (If it's put in so the cotter pin faces toward the gun/launcher, the hanger can get damaged.)



19

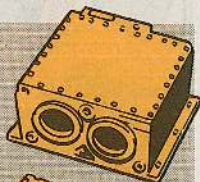
TELESCOPES AND SHILLELAGHS

YER TROUBLES
ARE OVER, OL' GIRL!

THERE
NEVER WUZ ANY
GEAR MADE THAT I
COULDN'T MAKE
WORK!

Rough handling of Shillelagh missile system components and the telescope in your M551 Sheridan and M60A2 tank can put that equipment down.

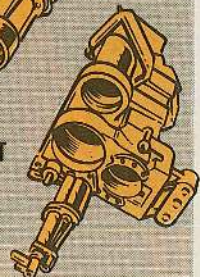
TRANSMITTER



TRACKER



TELESCOPE MOUNT



HANDLE THEM CAREFULLY

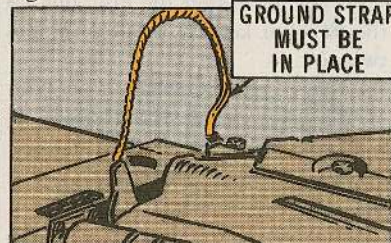
The equipment can take rough rides and recoil shock once it's snug in the mounts. But, when you're handling it (during installation, hook-up or whatever) you've got to be extra careful not to bounce, bang or toss it around.

Circuitry and other parts (in the missile system, especially) must be protected. Careful handling is the only way.



TRACKER

When you install the tracker on the telescope mount, attach the ground strap from the tracker to the mount. Otherwise, the tracker can't do its job right.



A little caution goes a long way with those expensive cables that connect to the telescope mounts in your tank and Sheridan... like the W6 cables going to the 9J1 and 9J2 jacks on the M149 mount in your Sheridan and the W36 cables to the M153 mount in your M60A2.

Use the straps provided for hanging the cables... so they can move when the main gun is raised or lowered.

If the cables aren't hung right, the main gun can tear them loose from the jacks... and that's a costly repair job.



When you connect the cables, line up the keyway... hold the connector firmly... and twist the connector sleeve clockwise. If you've gotta force 'em, you're not lined up... and you can damage the connectors.

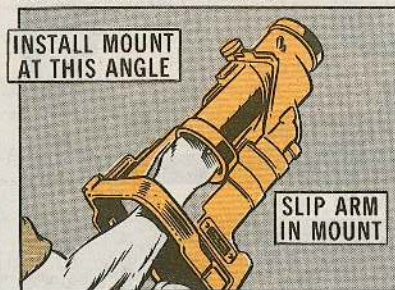
When you release the connector, turn the sleeve counter-clockwise until it's free. A slight tug should get it off.



If you have to pull or yank, the connector's not free. That could mean more damage.

STOP WINDOW BREAKAGE

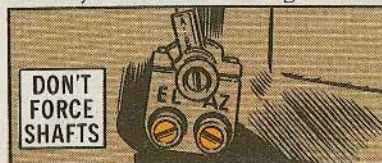
Tight quarters in the turret make for broken telescope mount windows. You can beat that problem if you install the mount at an angle pretty much like the one below:



If you slip your arm into the mount like it shows in the picture, you can control the angle a lot better.

AZ AND EL SHAFTS

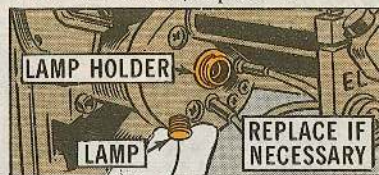
The "AZ" and "EL" shafts on the telescope mount have built-in stops. When you turn 'em full right or left



and get resistance, quit turning. The shafts are tough, but if you twist 'em beyond the stops, you'll make a repair job.

Best thing to do if you can't get the check sight lamp aligned within the

normal shaft turn is to check the lamp. If it's burned out, replace it.



Also, check the reset fuse. Replace it, if necessary.

If lamp and fuse are OK and you still can't get an alignment, have your support check it out.

That reset fuse, by the way, is spring-loaded. To remove it, push it in until the key on the fuse and the keyway on the fuseholder line up. It'll practically pop out of the fuseholder.

When you install the fuse, line up the key and keyway, push it in, and twist it.

PURGING

Whenever you install the telescope, purge the mount. Purge it, too, at first sign of internal moisture . . . and during the Q-service.

REMEMBER...
STICK TO YOUR
OWN LEVEL OF
MAINTENANCE!



You've got enough to do without getting in over your head by trying higher level maintenance.

ADD CARTRIDGE MODEL

When you fill out Column C on DA Form 2408-4 (Weapons Record Data), make sure you enter the cartridge model as well as projectile type and rounds fired.

REDEYE GUIDED MISSILE SYSTEM

BE SURE YOUR
LAUNCHER WORKS AS
ADVERTISED! DO...

THE IN
THING!

Be sure the BCU—Battery Coolant Unit—is fully and firmly seated in the launcher's receptacle.



If you're sorta lazy about putting the BCU in right, the 4th contact ring, on the BCU won't mate with its launcher contact. Sure, you'll get battery fire, but all 4 BCU contact rings must make contact with those in the launcher before you get a missile sizzle. Otherwise, it's a missile fizzle.

LAUNCHER LAMENTATIONS?

Aim that M203 grenade launcher right and you'll hit anything within its range. Aim to keep it that way. Use TM 9-1010-221-10 (Feb 72) . . . often.



TSK! THE
TARGET AREA
IS 180° THE
OTHER WAY!

IT'S OL'
AIMLESS
AMES
AGAIN!

GLAD WE'RE
NOT 50 YARDS
CLOSER!

REDEYE BATTERY HAZARDS



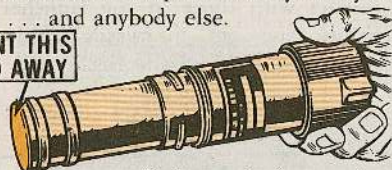
Caution is the word when handling or charging the nickel-cadmium batteries used with the M76 Redeye trainer.

The batteries can burst open, gases formed during charging can explode, and the electrolyte can seriously burn any part of your body it contacts.

So what to do?

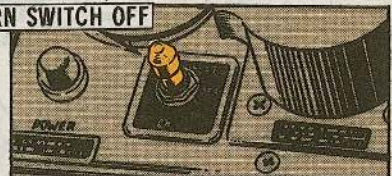
When you handle the battery, keep the contact end pointed away from you ... and anybody else.

**POINT THIS
END AWAY**



Charge or discharge the battery in a well-aired location. Turn off the

TURN SWITCH OFF



charger before you install or remove a battery. Open flames are taboo in the

charging area. Never lean over the charger when batteries are in it.



Wear rubber gloves and apron, plus protective goggles, when you handle leaky batteries. If you get the electrolyte on your skin, splash lots of water on it. If you've got vinegar or lemon juice handy, put that on, too, and rinse again with water. Be a good idea to keep an acetic acid solution handy too, for the exposed area. A 3 per cent acetic acid solution serves the same purposes as the vinegar or lemon juice.

IF YOU GET
ELECTROLYTE
IN YOUR EYES,
RINSE WITH
WATER... AND
FIND A DOCTOR!

PRONTO!

CHAPARRAL HARDWARE

Dear Half-Mast.

When I checked out my Chaparral missile M570 shipping container, some of the hardware that was supposed to come with it was missing or damaged ... things like the spacer and fin retainers and the spacers, too. I need the parts, but I can't identify them in the manuals. Can you help?

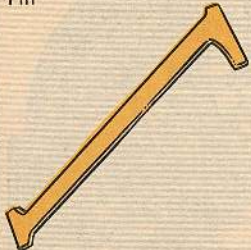
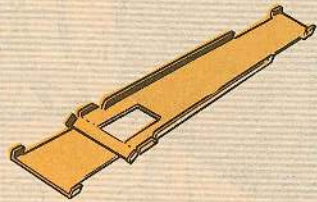
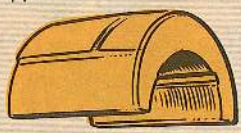
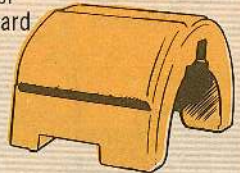
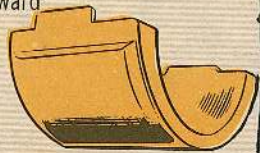
1LT R.J.W.

SOME PARTS
MISSING, SIR...

WOTTA
WE DO?

LET'S
ASK
HALF-
MAST!

GLAD TO,
SIR! THOSE
PARTS HAVEN'T
BEEN ASSIGNED
STOCK NUMBERS,
BUT THEY DO HAVE
PART NUMBERS.
HERE'S HOW YOU
IDENTIFY 'EM...

PART	PART NUMBER	PART	PART NUMBER
Retainer, Fin	11074562	Retainer, spacer	10678803
			
Spacer, upper aft	11074581	Spacer, upper forward	11074805
			
Spacer, lower aft	11074797	Spacer, lower forward	11074806
			

YOU CAN
GET THEM
BY FILING
AN EXCEPTION-
TYPE REQUISITION!

FAAR CABLES

and

GEAR OIL

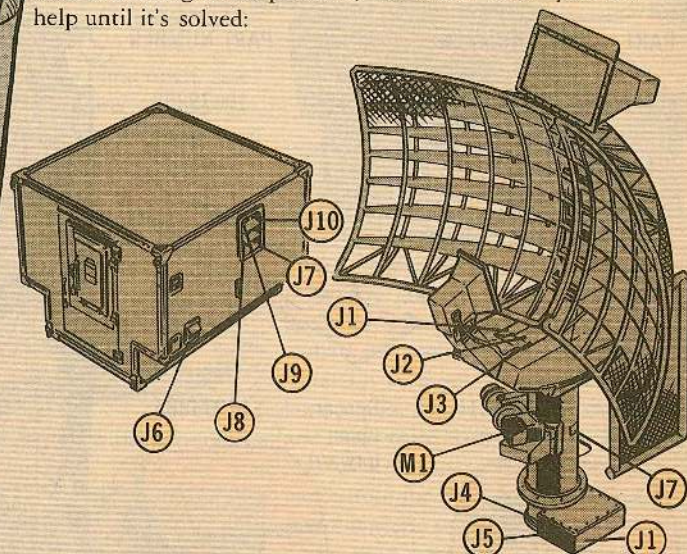
The W20 cable assembly and connectors on your AN/MPQ-49 forward area alerting radar system (FAAR) get a little tired and worn with use (don't we all?).

However, a few cautions on your part and an eyeballing here and there can help get the most out of them.

And, if you've been having a problem getting special gear oil for gear motor lubing (as it tells you in LO 9-1430-588-12), hang in there a minute. Help's on the way.

FIRST,
THOSE
CABLES...

Regular use of FAAR causes W20 cable slippage, which makes for wear, damage and loose connections. The head shed is working on the problem, but here's how you can help until it's solved:

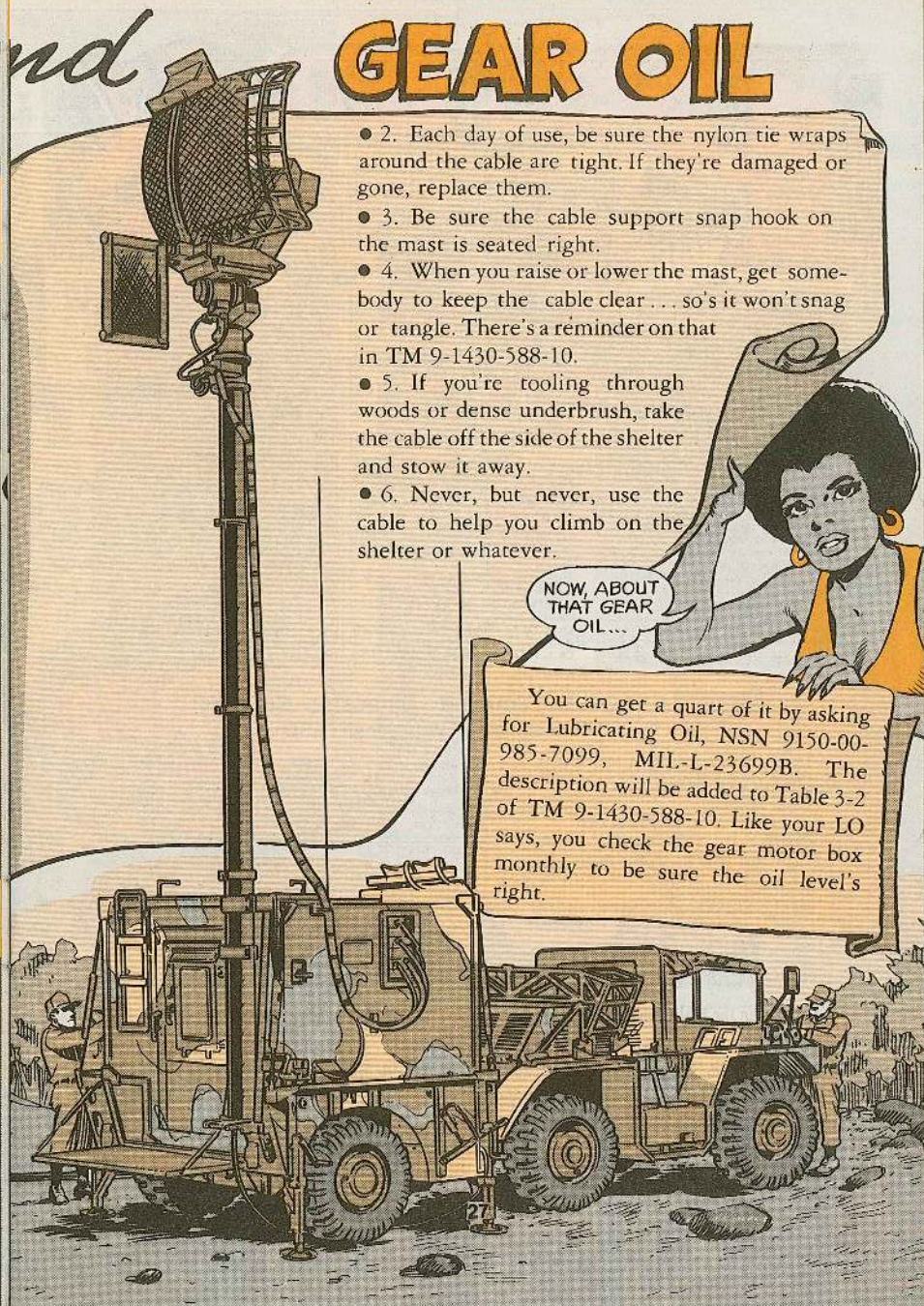


- 1. Eyeball the connectors at the J1, -2, -3, -4, and -5 jacks on the antenna and mast and the J6, -7, -8, -9 and -10 jacks on the shelter, and the J1, J7 and M1 on the pedestal every day you use the system. Be sure they're tight. If they're damaged, notify your support.

- 2. Each day of use, be sure the nylon tie wraps around the cable are tight. If they're damaged or gone, replace them.
- 3. Be sure the cable support snap hook on the mast is seated right.
- 4. When you raise or lower the mast, get somebody to keep the cable clear... so's it won't snag or tangle. There's a reminder on that in TM 9-1430-588-10.
- 5. If you're tooling through woods or dense underbrush, take the cable off the side of the shelter and stow it away.
- 6. Never, but never, use the cable to help you climb on the shelter or whatever.

NOW, ABOUT
THAT GEAR
OIL...

You can get a quart of it by asking for Lubricating Oil, NSN 9150-00-985-7099, MIL-L-23699B. The description will be added to Table 3-2 of TM 9-1430-588-10. Like your LO says, you check the gear motor box monthly to be sure the oil level's right.



PUBS

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Nov 74), and Ch 3 (Oct 75), TM's, TB's, etc., DA Pam 310-6 (Jul 75), and Ch 3 (May 76), SC's and SM's, and DA Pam (O) 310-9 (Aug 74), COMSEC Pubs.

TECHNICAL MANUALS

TM 3-4240-280-23 & P Mar M24 and M25/M25A1 Mak and Accessories
TM 5-2330-360-14 Mar 40-Ton CCE, Mar 70
TM 5-4310-277-14 Mar Compressor 15-OFM 175-PSI (Champion)
Ch 5, TM 5-1005-249-20 Mar M16A1 Rifle
TM 9-1090-203-12-1 Apr M28A1E1 Armament Subsystem
TM 9-1115-485-12 Apr Prelaunch Procedures M234, M234E1 and M234E2 Atomic Warhead Sections M240 Training Atomic Warhead Section
TM 9-1425-525-ESC-2 Apr Improved HAWK
TM 9-1425-585-10-1 Feb Chaparral
TM 9-1440-585-20 Mar Chaparral
TM 9-1450-379-20P Apr Handling Equip For Pershing IA M80GE1
Ch 4, TM 9-1450-485-ESC Apr M667 Guided Missile Carrier
TM 9-1459-485-20 Apr M667
Ch 5, TM 9-2300-257-ESC Apr M113A1 Series Carrier
TM 9-2320-258-ESC Apr M746 Truck-Tractor 22'-10"
TM 9-2330-294-14 May M747 80-Ton Semitrailer
TM 9-2330-294-24P May M747 60-Ton

Semitrailer

Ch 5, TM 11-5805-356-12 Apr AN/TTC-29 Telegraph-Telephone Terminal
TM 11-5805-582-24P Apr AN/TTC-29 Manual Telephone Central Office
TM 11-5895-227-ESC May AN/MSC-25 Communications Operations Center
Ch 2, TM 11-6110-245-15 Apr CN-514/GRC Voltage Regulator
TM 11-6625-682-24P May ME-61/GRC Field Strength Meter
Ch 3, TM 11-6625-1749-12 May AN/GPM-61 Radar Calibrator Set
Ch 8, TM 55-405-9 Apr Weight and Balance
TM 55-1510-204-20PMP1 Apr OV-1A, OV-1B and OV-1C Aircraft
Ch 1, TM 55-1510-204-20PMP1 Apr OV-1D Aircraft
Ch 3, TM 55-1510-204-20PMP Apr OV-1A, OV-1B and OV-1C Aircraft
Ch 1, TM 55-1510-204-20PMP1 Apr OV-1D Aircraft
Ch 2, TM 55-1510-204-20-1 Apr OV-1A Aircraft
Ch 9, TM 55-1510-204-20-2 Apr OV-1B and OV-1C Aircraft
Ch 2, TM 55-1510-204-20-1 Apr OV-1D Aircraft
Ch 1, TM 55-1510-204-20-1-2 Apr OV-1D Aircraft

Aircraft

Ch 11, TM 55-1520-219-20 May UH-1B Helicopter
Ch 3, TM 55-1520-221-20 May AH-1G AH-1Q and TH-1G Helicopters
MISCELLANEOUS
AR 735-112 Apr Reporting of Item Discrepancies (ROID), Attributable to Shippers
DA Cir 310-84 Mar Rescinded Publications
DA Cir 750-37-32 Dec Sample Data Collections Government Vehicles
DA Pam 700-1 Mar Supply Management
LO 9-1005-286-13 Jan 20 MM, M167 Gun Towed
SB 746-1 Apr Pubs for Packaging Army General Supplies
Ch 1, SC 5180-90-CL-N07 Apr Canvas Worker's Set
SC 5180-91-CL-R13 Mar TK-101/G Tool Kit, Electronic Equip
SC 5895-91-CL-E02 Mar Electronic Equipment MK-253/OSO
TB 55-1500-338-20-1 May One-Time Inspect Power Turbine Governor T63-A-5A/A-700 Engines, OH-58A and OH-6A
TB 55-1620-228-20-19 May One-Time Inspect Main Rotor Hubs and Latch Bolts, OH-58A Aircraft

TEC LESSONS (Training Extension Courses)

These are available at your local TASO

020-171-1671-E M551 Searchlight Operation
020-171-1675-E M551 Cupola Operation
020-171-5352-F Boreighting Machineguns, M60/M60A1 Tank
020-171-5355-F Boreighting Main Gun, Range Finder, Gunner's Telescope, Periscopes, M60/M60A1 Tank, Part II
020-171-5366-F Before, During, After Operation
020-171-5370-F Main M60/M60A1 Tank

043-441-1015-F TADDS Emplacement, Operation, Maint
043-441-5934-F Loading, Downloading Vulcan (SP) Part II
043-441-5943-F Boreighting Vulcan Cannon Part I
043-441-7801-F Chaparral Pre-energizing,
043-441-7803-F Energizing, De-energizing
043-441-7804-F Checks

043-441-7814-F Chaparral Weekly Maint
043-441-7819-F Checks, Parts
250-061-6316-F FDC Computer's Record: Subsequent Fire Command-Part I
936-061-0116-F Tactical FM Radios - RT524A, R442 - 1-6
936-061-0117-F Tactical FM Radios - RT524A, R442 - Maintenance

936-061-0128-F Splicing Field Wire
940-071-0087-F M203, Lesson II
940-071-0088-F M203 Grenade Launcher Zeroing, Target Engage
944-441-0020-F Gamma Goat, Unusual Conditions
947-071-0070-F Constructing Wire Obstacles
947-071-0071-F Breaching Artificial Obstacles
947-071-0108-F Claymore Mine - Non-Electrical Arming, Firing

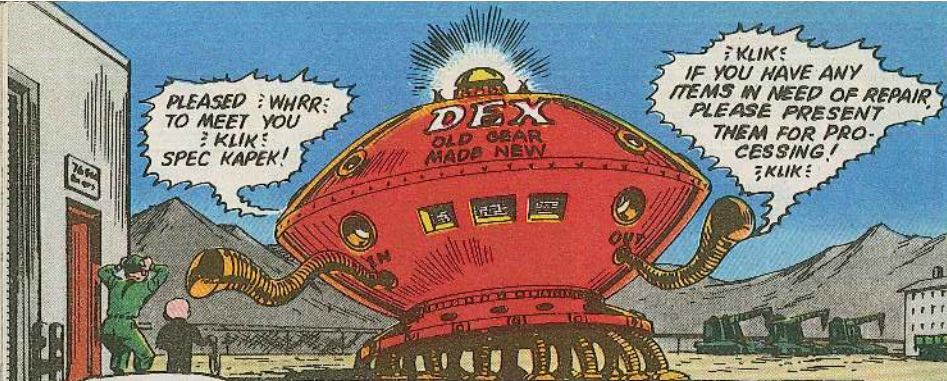
Sampling Pads Available

If you're in the fuel transporting business, you now test for water using Auto/Aviation Fuel Detector Kit, NSN 6640-00-244-9478. When you run out of sampling pads in the kit, tho, you'll need more. NSN 6640-00-235-3820 will get you 50 pads.

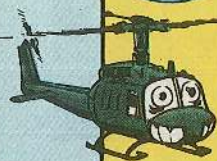
Nuts! We Goofed!

PS Magazine 281, page 54, told you Kiowa types to scrap nuts NAS1022A14 and MS 21245L14. You do for those removed from the main rotor head by MWO 55-1520-228-30-20 (Oct 73). But for a lot of other uses on other aircraft they're still OK—so hang on to those in stock.





Joe's Dope Sheet



MY
PAL!

BING!
ONE
REPAIRABLE
FRAMMIS
RECEIVED!

HERE
Y'ARE,
DEX!

GREAT
CONTRAPTION,
HEY?

YOU
KNOW IT,
MAN!

THANKS,
DEX!

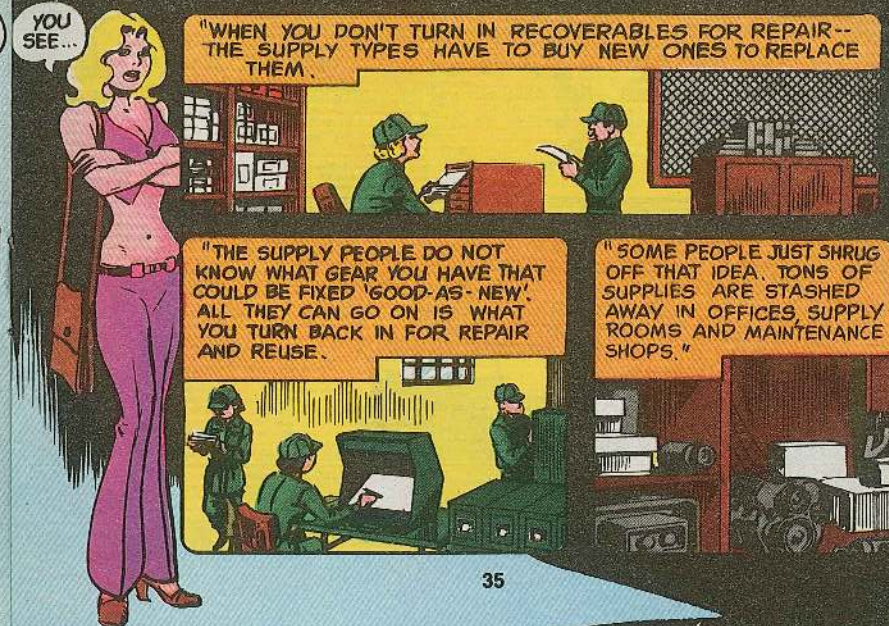
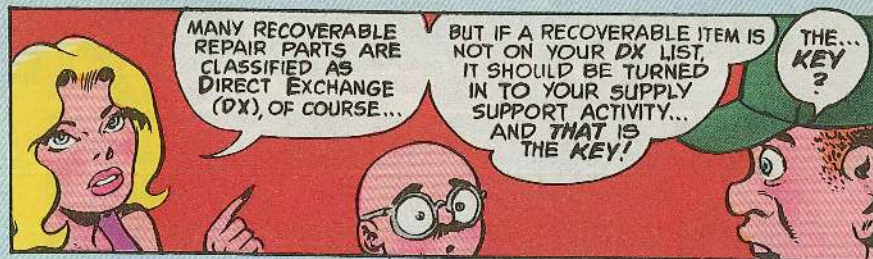
HE'S ARMY
GEAR'S BEST
FRIEND!

BONG!
ONE
MADE-NEW
FRAMMIS...
DELIVERED!

Want to separate the PRO from the Mechs?
Watch the **RECOVERABLES** he collects!...
Straight, *IF* he's a PRO,
To DX he'll go...
Swapping for the **REPLACEMENTS** he expects!

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.





'COURSE THAT ADDS UP TO A HEAP OF DOLLARS WORTH OF REPAIRABLE AND REUSABLE GEAR-- WASTED!

?GULP: LIKE IN OUR UNIT STOREROOM, HUH?

"YOU'RE GETTING THE MESSAGE! WHEN THE HOARDERS FINALLY GET AROUND TO PUTTING IN A REQUEST FOR NEW ITEMS, STATUS CARDS COME BACK SAYING, **BB** (BACKORDER)--THIS WILL TAKE A WHILE."

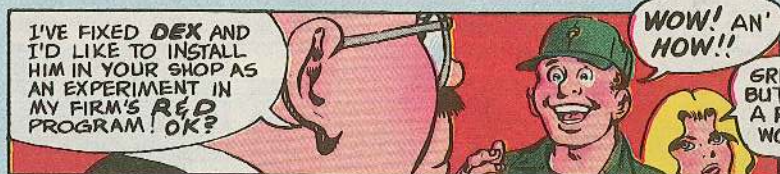


TAKE A CARD--ANY CARD!

THEY'RE ALL **BB**'S.



BUT WHEN YOU REGULARLY TURN IN BUM GEAR-- **DX** ITEMS TO THE **DX** SHOP AND OTHER RECOVERABLES TO SUPPORT FOR HIGHER LEVELS TO REPAIR OR USE-- THE SYSTEM STAYS FULL OF ITEMS WAITING TO FILL YOUR REQUESTS!



I'VE FIXED **DEX** AND I'D LIKE TO INSTALL HIM IN YOUR SHOP AS AN EXPERIMENT IN MY FIRM'S **RED** PROGRAM! OK?

WOW! AN' HOW!!

GREAT! BUT I'VE A FINAL WORD...

CHECK OUT **YOUR** SHOP! EVERY TIME YOU TURN IN OLD RECOVERABLE GEAR, YOU TAKE OUT A LITTLE INSURANCE AGAINST TOO MANY ITEMS BEING BOUGHT AND TOO MANY ITEMS ON BACKORDER TO THE MANUFACTURER.

EITHER WAY, THAT INSURANCE PAYS OFF IN THE TAX DEDUCTIONS ON **YOUR** CHECK!

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GROUND MOBILITY

M151A2 1/4-TON TRUCKS

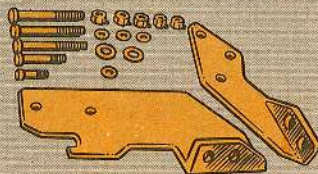
NSN FOR BRACKET KIT

NSN?... SURE!

...BUT MAYBE YOU CAN GET THE KIT **FREE!**

If your 1/4-ton M151A2 needs a rear differential mounting bracket kit, you may be able to get the kit free.

"RETROFIT KIT" **FREE? MAYBE...**



IF NOT, YOU CAN ORDER KIT WITH NSN 2520-01-005-5238

If your truck was produced by AM General under contract No. DAAE07-71-C-0103, and it's less than 5 years old with less than 20,000 miles on the odometer, you can get the kit free. Follow the procedures in TACOM Msg AMSTA-FTJ 291910Z Jul 75.

If your truck's not covered by the warranty, order the kit with NSN 2520-01-005-5238. Use TACOM Msg AMSTA-FTJ 151846Z Aug 75 as authorization.

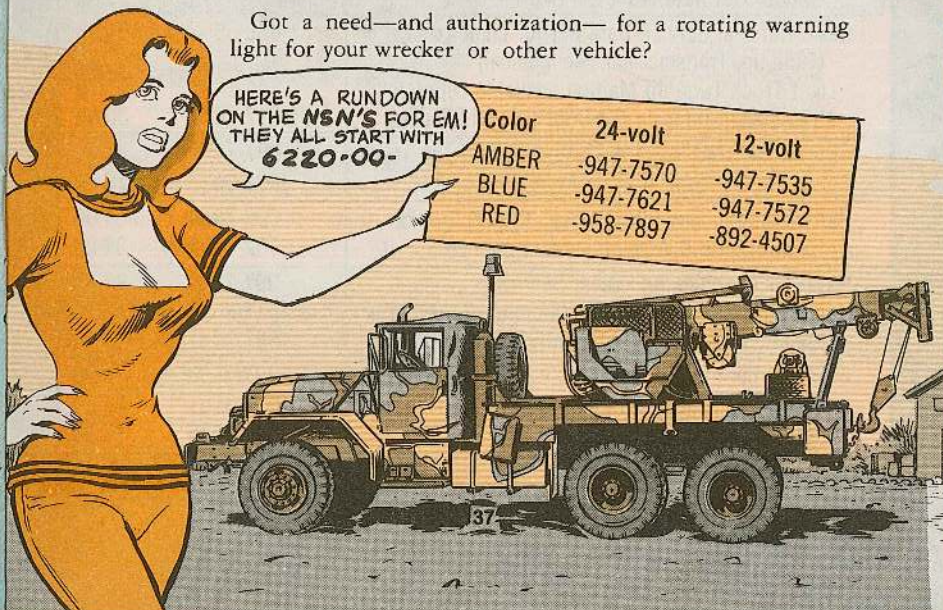
See TM 9-2320-218-20P (Dec 78) page 177

BUBBLE GUM MACHINES

Got a need—and authorization—for a rotating warning light for your wrecker or other vehicle?

HERE'S A RUNDOWN ON THE **NSN'S** FOR EM! THEY ALL START WITH **6220-00-**

Color	24-volt	12-volt
AMBER	-947-7570	-947-7535
BLUE	-947-7621	-947-7572
RED	-958-7897	-892-4507



37

COMMERCIAL AUTO MANUALS BY NSN

Now you can get tune-up and troubleshooting manuals—by NSN—for your domestic (U.S.-made) commercial-design autos and light trucks.

Until they show up in the Army Master Data File, they'll have to be ordered by "exception data." Supply source is the Defense General Supply Center (Routing Identifier Code S9G).



HERE'S THE
TITLES AND PRICES
OF THE MANUALS
OFFERED...

SUBJECT	NSN 7610-00 (some are -01)	PRICE (approx)
Basic National Service Data Set for Cars (Tune-up, Transmission, Mechanical)	-097-7868	\$136.00
1976 Update Service Data Set for Cars	-01-017-3421	23.00
Chassis Flat Rate & Parts Price for Cars	-097-7843	28.20
Update Flat Rate & Parts Price for Cars	-097-7878	19.00
Basic National Service Data Set for Light Trucks (Tune-up, Transmission, Mechanical)	01-009-5902	139.95
Light Truck Tune-up Manual available separately	-544-1457	56.70
1976 Update Service Data Set for Light Trucks	01-017-3420	30.00
Chassis Flat Rate & Parts Price, ½-thru 2-Ton Trucks	-097-7862	31.40
Update Flat Rate & Parts Price for Trucks	-491-0523	19.00
Parts & Assemblies Interchange, Cars & Trucks	-097-7854	34.00
Update Parts & Assemblies Interchange	-507-8858	34.00
Basic Air Conditioning-Heater Service	-097-7860	32.65
1976 Supplement, Air Conditioning-Heater Service	-01-017-3550	13.00
Student's Handbook, Air Conditioning	-097-7861	3.75
Emission Control Service Data	-097-7855	28.50
1976 Supplement, Emission Control Service Data	-01-017-3551	13.00
Student's Handbook, Emission Control	-544-1475	4.10
Service Center Handbook	-01-017-3552	28.00

38

AIR CLEANER GASKETS ...
**NO STICK-UM
WITH SLICKUM**
HOW MANY...?



A few cents' worth of silicone lubricant can save lots of engine air cleaner gaskets—and even a lot of \$40 air cleaner elements.

This lube—NSN 9150-00-823-7860—should be used on all diesel



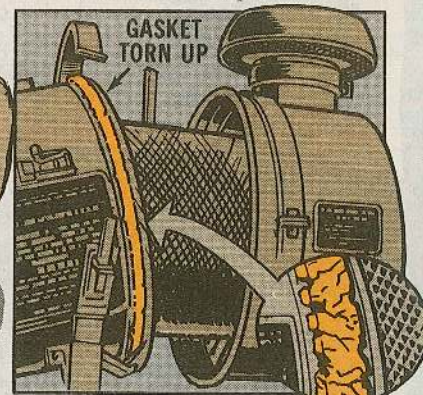
USE ON
DRY-TYPE
AIR CLEANER

(and multifuel) engine-powered equipment that has a dry-type air cleaner element in a "can."

IS
IT
USED
FOR
ANY-
THING
ELSE?

These air cleaners suffer somethin' fierce from sticky—and torn-up—gaskets.

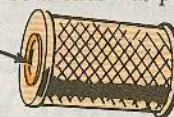
Use this slickum on the gasket that's between the 2 parts of the air



cleaner housing. Then, when you open the housing to clean or change the filter element, you won't tear up the gasket.

Some elements have a rubber gasket on the end—or both ends—as part of

**RUINED
GASKET
WILL LET
DIRTY AIR
INTO ENGINE**



the element. When this gasket's torn or chewed up, dirty air can slip past the element—and right on into your engine. So you have to put in a whole new element—to the tune of \$35-\$40.

But some silicone lube on those end gaskets will keep 'em from sticking—and save the cost of a new element.

AND SAVE
THE COST OF
A NEW
ELEMENT!



39

SUBSCRIPTION PRESCRIPTION

Getting some of those new M880 series 1 1/4-ton tactical trucks? You'll need to get on the subscription list for their manuals.

Write in your requirements for 'em on line A-15 of DA Form 12-38 (Feb 74). (Line A-14's for the TM-218 series 1/4-ton vehicles.)

Hold it, though, before you cancel your requirements for the old TM-244 series 1 1/4-ton trucks. The first batch of -266 manuals are being distributed according to those lists.

A-13)

22 1/2-TON TRUCK

TRACTOR: 22 1/2-Ton, 8 x 8, M746

A-14) 1/4-ton trucks

Utility; M151, M151A1, M151A1C, M151A2, M825

Ambulance: M718, M718A1

A-15) 1 1/4-Ton Truck

Cargo: M880, M881, M882, M883, M884, M885, M890, M891, M892

Ambulance: M886, M893

A-16)

97)

105)

113)

DA FORM 12-38
1 FEB 74

SHOE FOR TRUCKS 'N' SEMI'S

Brake shoe-with-lining, NSN 2530-00-162-1986, is for all TM-211-series and TM-260-series 5-ton trucks. Don't order NSN 2530-00-152-2250 in TM 9-2320-211-20P (May 73) or NSN 2990-00-152-2550 in TM 9-2320-260-20P (Nov 72).

The new brake shoe NSN also replaces NSN 2530-00-864-2990 for these semi-trailers—M127A2C, M128A2C, M129A2C, M197A1 (late

model) and M198A1 (late model). And it replaces NSN 2530-00-162-1986, brake shoe for M131A4, M131A4C, M131A5, M131A5C and M131A5D semitrailers.

MAKE A NOTE IN YOUR PARTS MANUALS!

THAT GOAT PACKS A ROD



Dear Half-Mast.

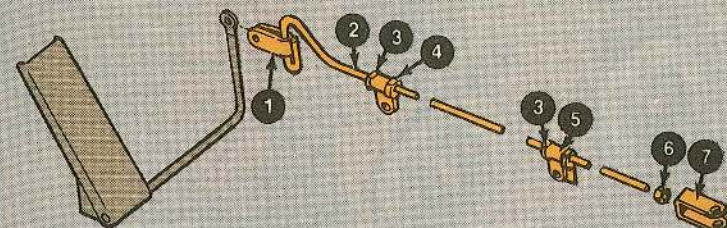
My Gama Goat has an accelerator rod instead of a cable. But the -20P manual lists only repair parts for the

cable. What are the repair parts for the rod-type system and their NSN's?

SFC H.L.K.

Dear SFC H.L.K.,

The organizational repair parts for the accelerator rod are:



- 1 Clevis 5340-00-187-9011
- 2 Rod 5306-00-159-0027
- 3 Bearing (2) 3120-00-031-7718
- 4 Clamp 5340-00-597-5322

- 5 Clamp 5340-00-286-2494
- 6 Nut 5310-00-934-9751
- 7 Clevis 5340-00-230-6692

Half-Mast

M792 1 1/4-TON AMBULANCE...

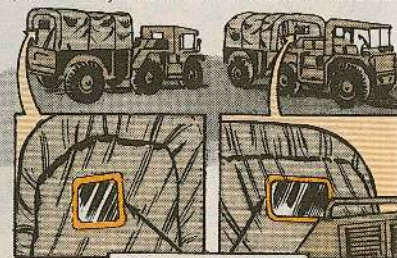
SEEING IT THROUGH

When you order the Gama Goat ambulance canopy, NSN 2540-00-936-7812, it comes without windows

or the window frames. There're only holes.

So you'll need to save the windows, frames and hardware from the old canopy for the new one.

If you need new frames, you can order 'em with NSN 2540-01-016-2213 for the outer frame, and NSN 2540-01-016-2025 for the inner frame. The source code in TM 9-2320-242-20P is being changed from X1 to PA.



SAVE THE FRAMES!

TIEDOWN tip

YAH-HOO.
600-gal POL TANK
BUCKAROO!...
EYEBALL YOUR
TANK'S BRAND---
PRONTO!
JUST MIGHT KEEP
IT OUT O' YOUR LAP!

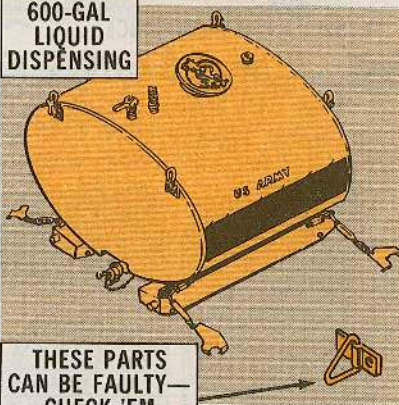
When you set your 600-gal POL tank on an M104-or M105-series trailer—and hogtie it down like it says in para 4-1d, TM 5-4930-220-12 (Oct 72)—you expect it to stay put.

And it will . . . unless.

Unless your tank was branded with DSA contract 700-73-C-9315 or 700-75-C-8161. A heap of tanks made by Advance Industries, Inc have a couple of bum parts that could make life hectic on a trail ride.

They're tiedown link, P/N 13217E7094 (97403) and tiedown retainer, P/N 13217E7093 (97403).

TANK UNIT
600-GAL
LIQUID
DISPENSING



THESE PARTS
CAN BE FAULTY—
CHECK 'EM

Any sudden stops—or rough cross country travel faster'n 10 MPH—could cause the trailer to pitch the tank right into your lap.

So, come outta your PM chute like a champion calf roper and eyeball these parts to see if they're broken, cracked or distorted. If so, replace 'em PRONTO!



HOLD
ONE,
PODNER!

The new, stronger repair parts have the same P/N as the faulty ones. You can identify the stronger, improved ones by the thickness of the tiedown link, and the diameter of the "eye" of the tiedown retainer.

THE TIEDOWN LINK MUST BE 1/2-INCH THICK, AND THE TIEDOWN RETAINER'S "EYE" MUST BE .562-INCH IN DIAMETER (OR A MITE LARGER THAN 1/2-INCH). YOU CAN GET THESE MEASUREMENTS CLOSE ENOUGH WITH A 6-INCH MACHINIST'S RULE.

1/2-INCH THICK
TIEDOWN LINK

1/4-INCH
CAPSCREW

TIEDOWN
RETAINER

When you get 'em, use a 3/4-in box or open-end wrench to remove both 1/4-in long capscraws, NSN 5305-00-071-2067—item 30, fig C-1.1 (Change 1, Jun 74) to TM 5-4930-220-12.

TIRE PRESSURES

Dear Sarge.

I just received a half-dozen laundry units mounted on 3 1/2-ton 2-wheel trailers. I can't find the tire pressures in TM 9-2330-274-14 (Nov 72).

Can you give me the right tire pressures?

CW4 R.C.H.

SURE CAN... AND
HERE Y'ARE, CHIEF!

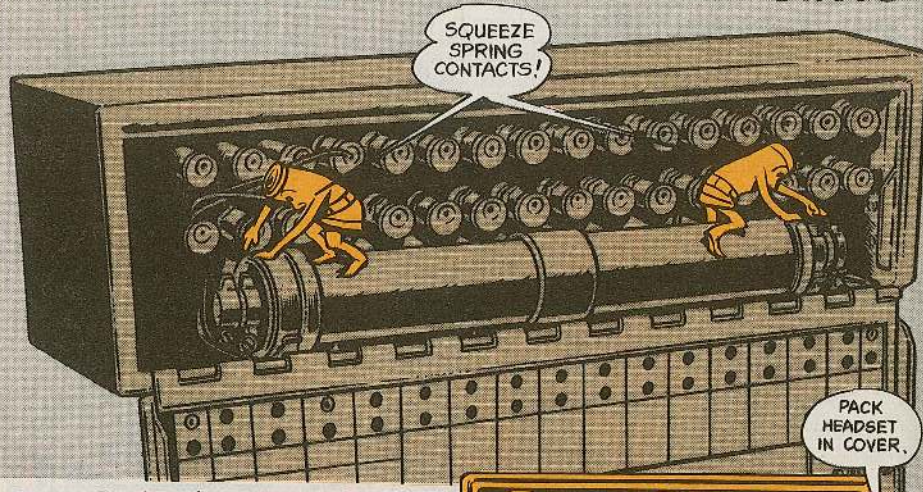
AIN'T IN
TH' TM!

WE'LL ASK
HALF-MAST!



MODEL	NOMENCLATURE	CROSS COUNTRY	HIGHWAY
M536	3 1/2-ton, 2-whl laundry unit	40	60
M537	2 1/2-ton, 2-whl bakery oven	50	50
M794	4-ton, 4-whl general purpose	30	35
M795	4-ton, 4-whl dough mix unit	30	35

SB-22 PRESSURE POINTS



Putting the squeeze on your SB-22/PT switchboard can be good and bad, depending on where you're putting the pressure.

It's good to open the rear cover and gently squeeze those spring contacts.

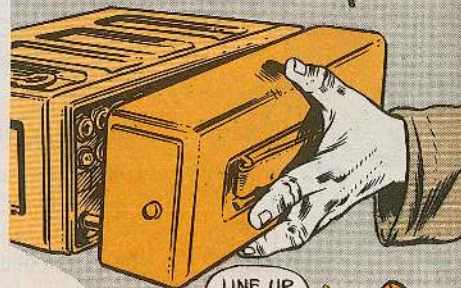
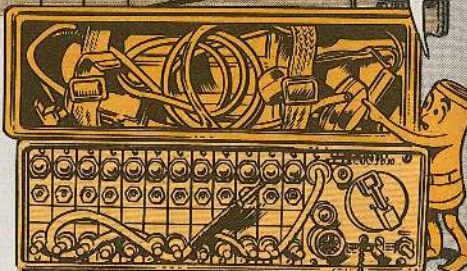
This'll give you better contact with the battery case terminals.

It's bad to put on the switchboard's front cover when the headset is pressing against the plugs on the telephone circuit panel.

You can wind up with bent plugs or broken headset.

So, pack your headset in the cover, like it is in Fig 25, Ch 4, of TM 11-5805-262-12 (Dec 60).

Then, make sure the cover is lined up on the SB-22 case before putting pressure on the lock latches.



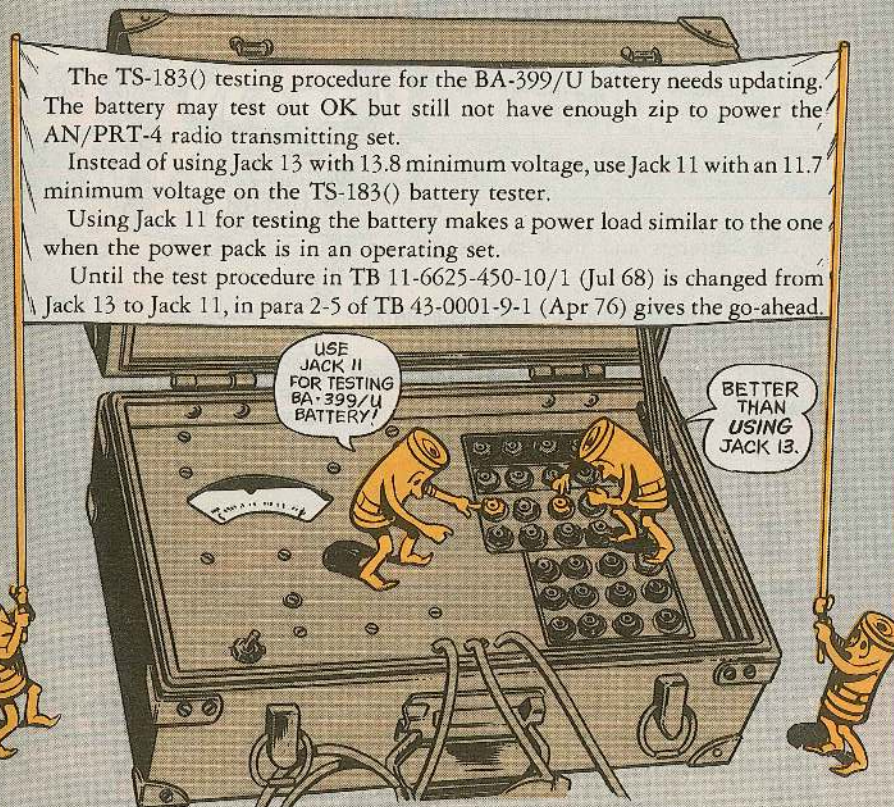
TEST CHANGE FOR BA-399/U

The TS-183() testing procedure for the BA-399/U battery needs updating. The battery may test out OK but still not have enough zip to power the AN/PRT-4 radio transmitting set.

Instead of using Jack 13 with 13.8 minimum voltage, use Jack 11 with an 11.7 minimum voltage on the TS-183() battery tester.

Using Jack 11 for testing the battery makes a power load similar to the one when the power pack is in an operating set.

Until the test procedure in TB 11-6625-450-10/1 (Jul 68) is changed from Jack 13 to Jack 11, in para 2-5 of TB 43-0001-9-1 (Apr 76) gives the go-ahead.



Did You See Half-Mast?

Sergeant Half-Mast and his crew of helpers get out often to visit you soldiers in field units. They talk with troops who have things to say about maintenance—problems, helpful hints on PM, quirks in supply and such.

If you don't happen to run into Half-Mast or somebody else from PS Magazine, it's because the Army is a big outfit and they can't go everywhere. So, when you do have a problem or idea, jot it down and send it to MSG Half-Mast at PS Magazine, Lexington, KY 40511.

He'll try to get to your outfit next trip.

BATTERIES FOR MULTIMETER

Dear Half-Mast,
I need batteries for the multimeter,
USM-223. How can I get 'em?

SFC C.S.B.

Dear SFC C.S.B.,

The batteries and stock numbers are:

2 ea BA-1098 NSN 6135-00-556-8318 (preferred)

or

6 ea BA-1312 NSN 6135-00-269-5843

and

1 ea BA-42 NSN 6135-00-120-1010

or

1 ea BA-3042 NSN 6135-00-935-5301 (long lasting)



ONE—
BA-42
BATTERY
HERE



THREE—
BA-1312/U
BATTERIES HERE
AND HERE

AN/USM-223
MULTIMETER

"HERE'S MY
BATTERY
STORY!"

CUT DOWN ON
CORROSION—
PULL BATTERIES IF
YOU'RE NOT USING
THE METER FOR A
MONTH OR MORE!!

ON AM-1780 TWISTING DAMAGES DIMMER

Too much twisting on your AM-1780, audio frequency amplifier's dimmer knob can leave you in the dark.

So, back off with heavy hands.



NO-- PLEASE!
MERCY!

Use only a thumb and finger to give that power indicator light knob a quarter of a turn clockwise or counterclockwise.

When you feel the knob touch the stop . . . stop!

This'll save your amplifier from getting its wires twisted up inside or broken, and shorting out your gear.

EASY
DOES IT!

TELEPHONE PANEL SCREW

Missing panel screws for your TA-43/PT or TA-312/PT telephone sets? NSN 5305-00-879-5446 gets the screw that holds the front panel and the buzzer assembly.

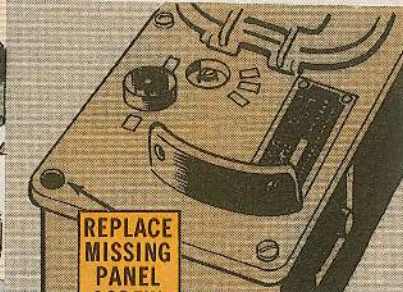


REPLACEMENT
PANEL SCREW
REPORTING
FOR ACTION

?

NSN 5305-00-
879-5446

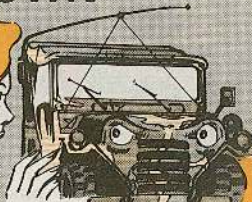
REPLACE
MISSING
PANEL
SCREW



SLIPPED TIP TIED DOWN



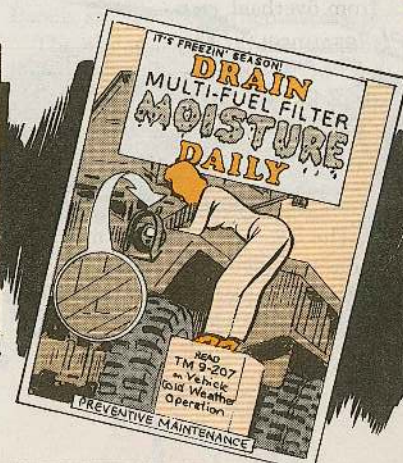
SORRY 'BOUT THAT!



The right NSN for the tieddown kit for AS-1729/VRC and AT-912/VRC antennas is NSN 5820-00-908-6416. It was wrong on page 24, PS 274.

PM POSTERS

For multifuel truck drivers: DA Poster 750-73, "It's Freezin' Season! Drain Multifuel Filter Moisture Daily." Order copies today. Be ready for winter.





AIR MOBILITY

GET READY
FOR ...

the

NEW LOOK

HE SAYS IT'S
TH' UNIT'S
REPLACEMENT,
CONNIE!...

HMMM!

FACE UP TO IT, LADS!
NO MORE "LIKE NEW" BIRDS
FROM DEPOT!

SPAD

Clean up your tools and straighten out the tool box, knucklebusters. You'll be bending those wrenches a bit more often, based on the latest word from overhaul.

For example, components are no longer zero-timed. To completely overhaul a low-time engine, transmission or gear box was a waste of much moola. The maintenance allocation chart shows you can change 'em in the field . . . makes sense.

Components are tested and repaired, as required. But if there is a reasonable amount of time left before TBO, those parts go right back on the bird. Components are not completely painted, either. Spot painting may be all that's needed to protect surfaces against corrosion.

The "like new" bird you used to get from the depot is no more. But you'll get a completely serviceable one, without the "window dressing."

LOOK

PAPERS ARE IN ORDER,
SARGE--

HIS
LAST DUTY
WAS WITH
ROBERT
LEDFORD!

ANTIQUE
FLY-IN
AIR
SHOW
TODAY

?

HOW
'BOUT
THAT?!

JUS' LIKE
TH' ONE MY
GRANDDADDY
PILOTED!

So, skip the practice of substituting high-time components for low-time ones on a bird scheduled for overhaul. You won't gain any ground.

TECH INSPECTORS
SAY HE'S FINE!

GREAT!

The new look is a follow-on to On Condition Maintenance. OCM inspections in the field determine which first-line aircraft need maintenance that can be done only at the depot.

Course, the airframe gets the full treatment. Wiring is tested and replaced as needed. Corrosion is removed and the airframe is painted. Panels are replaced, when necessary.

The bird that rolls off the assembly line meets the standards of serviceability for transfer, zeroed to the next Periodic inspection.

When it comes to roost on your pad, don't be surprised if some of the sparkle is missing.

...AFTER ALL
BEAUTY IS ONLY
SKIN DEEP! IT'S
PERFORMANCE
THAT COUNTS!

RIGHT ON,
CONNIE!

HUEY BLADE
INSPECTION/
WIPEDOWN ...

SIMPLE, SAFE, QUICK

HERE'S A SHARP IDEA
FOR ALL YOU
HUEY-BIRD TYPES!

Dear Editor,

We've come up with a better way to comply with item 4.3 of TM 55-1520-210-PMS (22 Sep 75).

First, we applied some TLC to our B-1 maintenance stand. We padded the top rails with 1/2-in felt, covered with old fire hose.

1/2-IN
FELT ...

... COVERED
WITH OLD
FIRE HOSE

IT SURE IS
A GREAT
TIME SAVER,
CAPTAIN
PORTMAN!

PLACE STAND 90° TO HUEY ...
... 1 BLADE LENGTH AWAY.

To perform the wipedown and inspection, we first position the stand 90° to the UH-1H and one blade length away. The crew chief checks that area and then moves the stand in 5-7 feet at a time.

The stand's wheels contact the UH-1H's skid on the last move to prevent the top of the stand from hitting the cabin roof.

THAT STAND
WON'T HIT
CABIN
ROOF ...

... PUT WHEELS AGAINST SKID

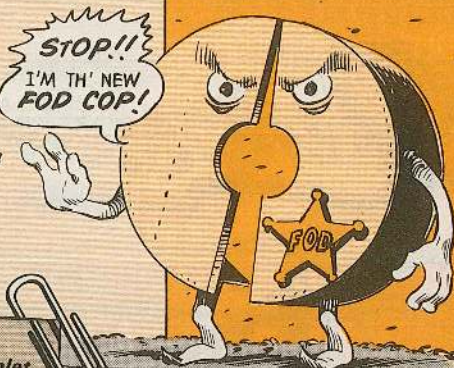
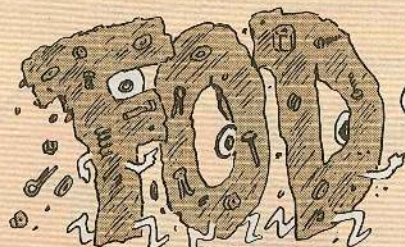
To check the blade root the stand's front rail is pivoted in, allowing the crew chief to step onto the cabin roof. When the first blade is finished, the

CHECK BLADE ROOT
FROM CABIN

main rotor head is rotated 180° and the procedure is repeated while moving the stand outward away from the Huey.

Advantages of this procedure are: Only one person is required; it's simple and quick; and it's safer than the A-frame ladders normally used. The padded rails prevent blade damage if the wind or a nearby hovering helicopter flaps the blade down onto the rails.

Cpt Robert L. Portman
Ft Ord, CA



PREVENTER

Dear Editor,

A 0.032-in aluminum engine inlet protector is worth its weight in gold when working on the Huey or Cobra transmission and rotor head. It prevents lock wire, nuts, bolts and other hardware from ending up in the engine.

The cover can be made in a variety of ways. It can be hinged, or left in 2 halves. One half will cover the top of the particle separator.

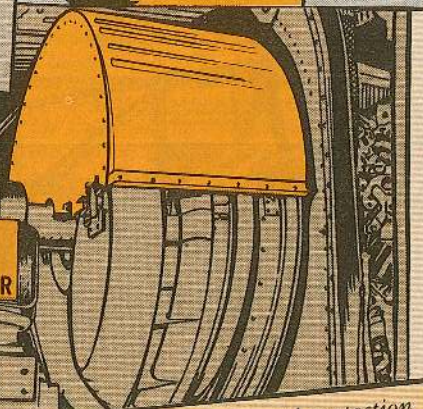
Our cover has a diameter of 25 inches, a depth of 9 inches, with a 5-in diameter hole to allow for the main drive shaft . . . works like a charm.

SP5 Wayne Bragdon
Hunter AAF, GA

HOP TO IT,
JOCKS!
STOP
FOD!

ONE HALF WILL
COVER TOP OF
PARTICLE SEPARATOR

(Ed Note: Looks like real protection for those times when you pull extended maintenance.)



52

NO SAFETY

HEY, DON'T WE
USE LOCK WIRE
ON THESE NUTS?

FUNNY--
TM DOESN'T
SAY!

HEAVEN
HELP ME!

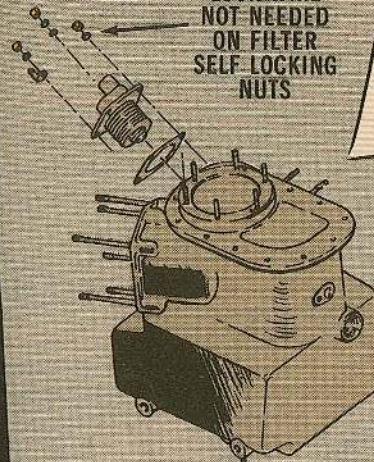
Dear Windy,

At one time it was standard operating procedure to safety the Huey primary oil filter. NSN 1560-00-772-7714, in the transmission sump.

I no longer see this requirement in TM 55-1520-210-20 (Sep 71). Do we still use lock wire on the nuts, Windy?

SP6 M.J.S.

LOCK WIRE
NOT NEEDED
ON FILTER
SELF-LOCKING
NUTS



Dear Specialist M.J.S.,

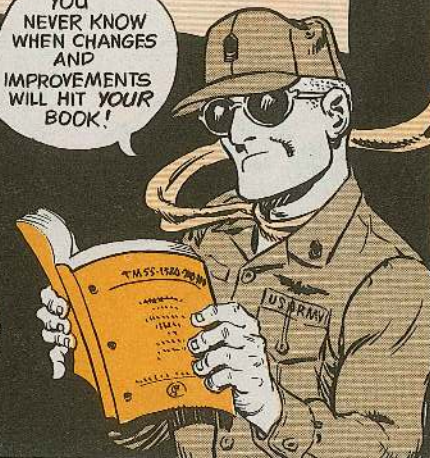
That's progress for you . . . turn around and somebody puts self-locking nuts on the filters.

'Course, those self-locking nuts, NSN 5310-00-807-1475, item 7, Fig 145 of TM 55-1520-210-20P (Apr 74), do not require lock wire.

Just be sure you torque the nuts in the sequence spelled out in para 7-9 of the organizational maintenance manual.

This is just an example that shows how important it is to keep an eye on the manual . . . and not rely on your memory.

YOU
NEVER KNOW
WHEN CHANGES
AND
IMPROVEMENTS
WILL HIT YOUR
BOOK!



53

SAVES ELBOW GREASE

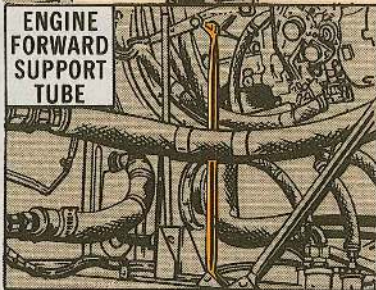


When you replace a damaged forward support tube on the T53 engine mount in your Huey, it may not be necessary to pull an alinement check.

Here's the way she reads:

The main drive shaft alinement check is not needed unless a different mount is used, or the shim stack-up is changed. That's the word in TM 55-1520-210-20 (Sep 71).

ENGINE
FORWARD
SUPPORT
TUBE



NOT UNLESS
YOU ADD THE
TARE TORQUE!

TORQUE TALK



AW--
C'MON!
LET'S TORQUE
THIS OVER!

TORQUE CHARTS
ARE BEING ADDED
TO SOME AIRCRAFT
MANUALS

Standard torque values are in TM 55-1500-204-25/1 for all bird hardware. Torque charts are being added to some aircraft manuals.

If an exception to standard torque is needed, look in the text of your particular aircraft's pubs.

Table 2-5, Recommended Torque Values, of TM 55-1500-204-25/1 also applies to self-locking nuts. Don't forget to add tare torque to the values for self-locking nuts.



NO MURPHY, PLEASE!

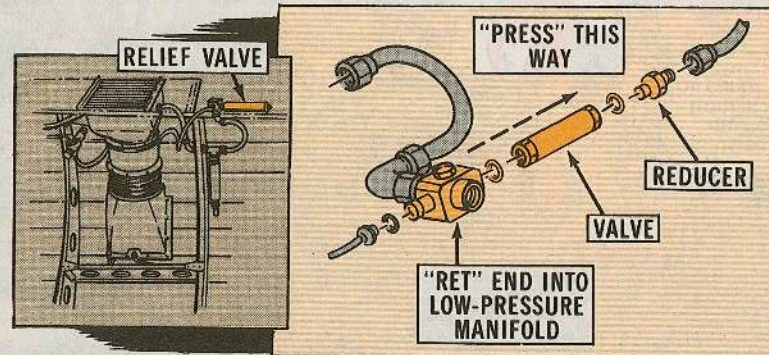


Comes the time you have to put a high-pressure relief valve in the utility hydraulic system of your Chinook, watch out for a Murphy.

The valve will fit either way, but if it's put in the wrong way you wouldn't believe what will happen . . . rupture of the valve, tubing and other components!

So, when you put in valve, NSN 4820-00-960-3984, make sure the "PRES" end goes into the reducer. 'Course the "RET" end goes into the low-pressure manifold.

The pressure end is ink-stamped but if you can't read it, the nameplate is also at the pressure end of the valve.



THE BEND OF THE WINDOWS

Dear Windy.

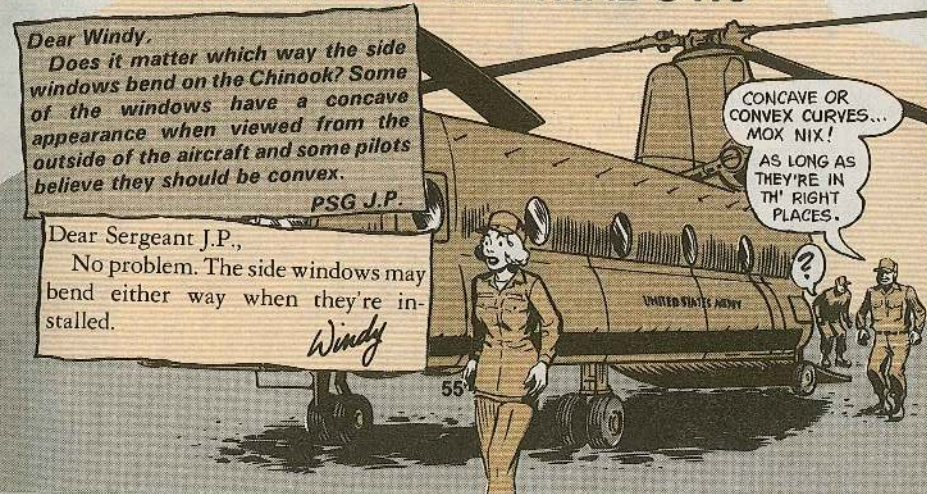
Does it matter which way the side windows bend on the Chinook? Some of the windows have a concave appearance when viewed from the outside of the aircraft and some pilots believe they should be convex.

PSG J.P.

Dear Sergeant J.P.,

No problem. The side windows may bend either way when they're installed.

Windy



COMBAT SUPPORT

BE YOUR OWN INSPECTOR . . .

YOUR HANSON H446/H446A CRANE

THERE SHE IS--
5 TONS OF
ROUGH-COUNTRY
TRAVEL AND
LIFTING POWER...

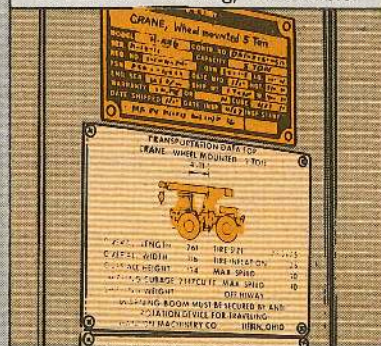
ALL YOURS TO
CHERISH
AND
PROTECT!

SHE'S A
BEAUTY,
CONNIE!

Get with the daily PM bits in your
TM 5-3810-233-12 (Jun 72). Besides
being good practice, it's free life
insurance for your handsome Hanson
crane.



ID PLATES—Missing, unreadable.



GOOD HABITS DOUBLE UP

Speaking of practice, you can't know your load-slinger too well. And one best way to stay well-acquainted is to give it the systematic PM sharp-eye. After you've had it in use a while, you may think you know all about it. That's a dangerous idea—so get on speaking terms with every part of your rig.

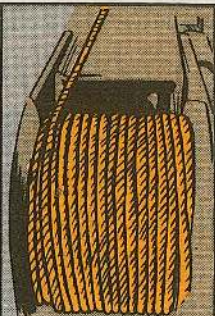
BOOM SWING GEAR
BOX—Dented, corroded;
bolt threads stripped.

TIRES—Pressure low
(25 lb is correct); cut,
cracked. Mounting
nuts loose, missing.

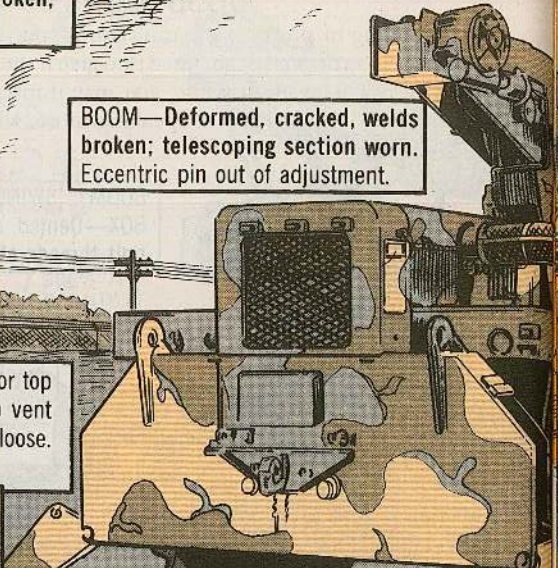
CONSIDER
ITEMS SHOWN
IN **BOLD TYPE**
SERIOUS.

TRANSMISSION/TRANSFER—Lube
leaking out. Universal joint bolts
loose, worn. Fluid level low (check
while engine is stopped); Torque
converter bent, dented, worn.

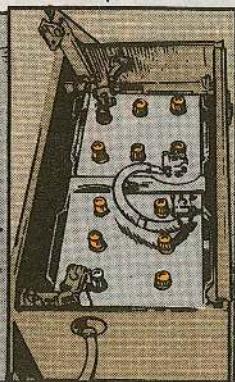
HOIST CABLES—Wires broken, worn badly, rusty.



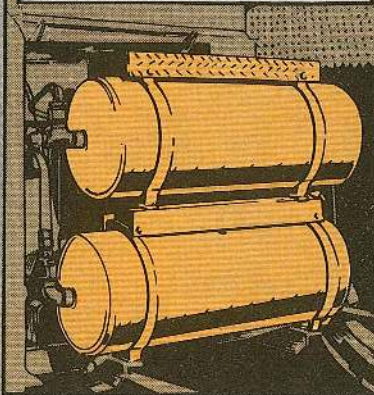
BOOM—Deformed, cracked, welds broken; telescoping section worn. Eccentric pin out of adjustment.



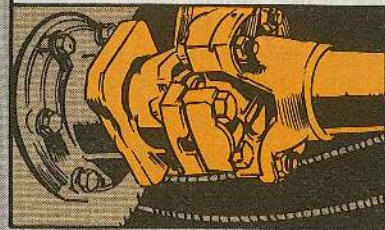
BATTERIES—Corroded, case or top cracked, liquid low, filler cap vent holes plugged; hold-downs loose. Terminals, clamps corroded.



AIR BRAKES—Loose fittings, lines leak, frayed. Mechanical linkage worn; rear steer lock won't work right. Cylinders or hoses defective.



UNIVERSAL JOINTS—Loose, worn, rattling.



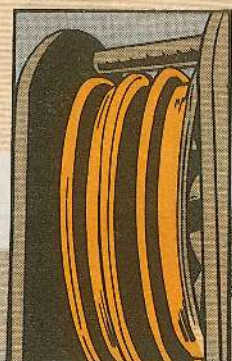
58

PEDALS, CONTROL LEVERS—Won't work right. When you start up, give these a run-thru to be sure.

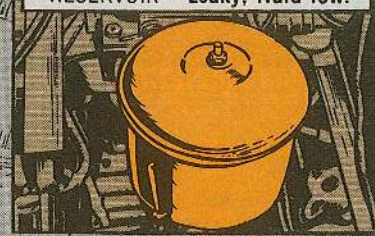


FRONT OUTRIGGERS ARE WORKING FINE!

CABLE SHEAVES—Cracked, broken, rusty; wobbly on pins; bearings need replacement.



STEERING HYDRAULIC RESERVOIR—Leaky, fluid low.



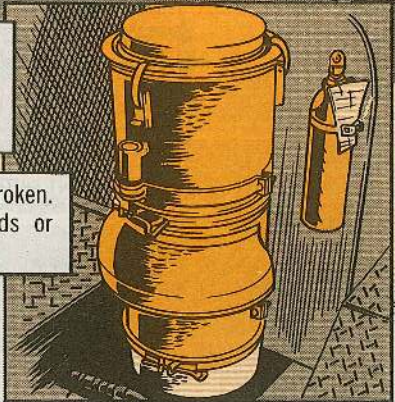
AIR BRAKES CHECK IS A MUST!

GOT IT, CONNIE!

FUEL TANK—Strainer/cap, vent dirty, damaged, missing. Mountings loose, broken. Lines leaking. Cap gasket dry, cracked. Needs top-off.

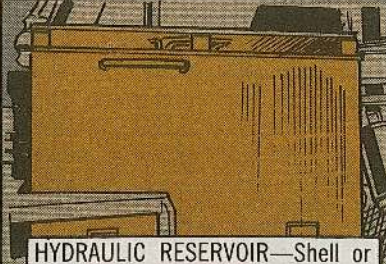


59



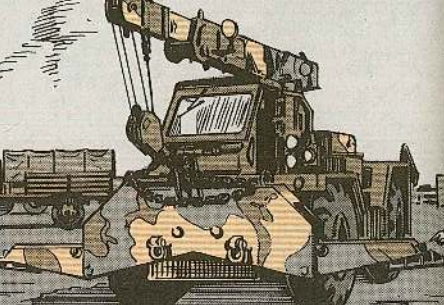
AIR CLEANER—Corroded, dust cup full. Element needs service. (O-level mechanic gets a call). Case not tight; gaskets leaking.

FIRE EXTINGUISHER—Seal broken. Weighs less than 4½ pounds or pressure is below 125 PSI.



HYDRAULIC RESERVOIR—Shell or element dirty, cracked; internal (sump) filters or tank cover need cleaning. Oil low, not serviced (replace element quarterly).

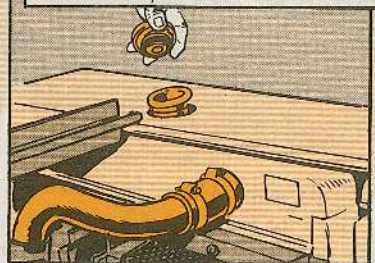
FUEL FILTERS—Leaky, dented, corroded. Element water-logged, clogged (drain tube and strainer to be sure).



OUTRIGGER ARM—Arm well full of dirt or trash. Micro-switches not working right (operational check!).



OIL FILTER—Connections or mount loose, dripping. Hose frayed, cracked.



RADIATOR—Coolant level low (1½-inch below filler neck is right). Hose cracked or frayed. Core dirty. Loose connections or mounts. Wrong size pressure cap (4 pounds is what it should have).



BELTS—Worn, frayed, loose. Face cracked. Rubber age-hardened. Squealing on pulleys. Sheaves worn, cut. Too loose/tight (½- to ¾- in deflection is right. Call O-level mechanic for any adjustment).

OUTRIGGER ARM WELL IS FULL OF DEBRIS, CONNIE!

WRITE IT UP-- NOW EYEBALL THE HYDRAULIC RESERVOIR!

TAKE CARE OF THESE DETAILS AND YOUR MODEL H446 WILL BE READY WHEN YOU ARE!



WINDSHIELD WASHER—Hoses cracked, cut, leaks. Reservoir empty.

Get the Right Light

The instrument board on your Hanson H446 5-ton crane will glow better if you put in the right lamp. In TM 5-3810-233-20P, page 30, line 10, change FSN 6120-725-7021, P/N 380668-2 to NSN 6210-00-478-9003, P/N 1-380-677-2 (00779) or P/N 20277 (13841). Your Change 2 will clue you.

GET IT OFF YOUR CHEST AND . . .

GRRRR!! IF I COULD ONLY LAY HANDS ON TH' DODO WHO DESIGNED TH' FRAMMIS!



LAY IT ON 'EM!

Lotsa gripes are about deficiencies or failure in equipment or procedures. When you run across such bugaboos, let somebody "way up there" know about 'em. Keep no secrets if there's a

Gripe, gripe, gripe.

Good for lettin' off steam, OK, but otherwise not much help unless you do something about the problem itself.

ARRGHHH! SECOND TIME IN A MONTH A SHIPMENT GOT HERE ALL BUNGED UP!

SOB! TWO BOLTS SHORT AGAIN!



deficiency in your equipment, or in procedures that are supposed to work and don't.

You don't need a fancy electric typing machine to send off your "gripe

!!@-- THE JERK WHO WROTE THIS TM SHOULD HAFTA RUN THIS TEST!

sheets." You can get the job done with a good ballpoint, or even a battered pencil stub if that's all you've got handy.

USE DA 2407 WHEN YOU WANT TO MAKE AN EQUIPMENT IMPROVEMENT RECOMMENDATION OR REPORT EQUIPMENT FAILURES OR DEFECTIVE MATERIAL RECEIVED.

DA FORM 2407

EDITION OF 1 JAN 64 WILL BE USED UNTIL

*Reference to line numbers will	
TYPED NAME, GRADE OR TITLE	TELEPHONE EXC PLUS EXTENSION

DA FORM 2028

REPLACES DA FORM 2028, 1

17. FUNDING AND ACCOUNTING DATA

18. VOUCHER NUMBER

20. DISTRIBUTION OF COPIES

the paragraph or subparagraph.

USE DA 2028 TO SUGGEST CHANGES TO PUBS AND FORMS

USE SF 364 FOR GOOF-UPS IN SUPPLY

ACTION CODES

action instructions requested (reverse)
not being retained (See re-
serving supply documentation
and still required expedite ship-
purchase material to be re-
d or supplier's expense when
dition instructions to the can-
six received within 15 days
reversal)
shipment requested (See re-
action requested (See re-
4)

OK! THAT'S IT IN A NUTSHELL!

YOU'RE THE GUY (OR DOLL, MAYBE) WHO HAS THE RESPONSIBILITY OF TAKING IT FROM HERE, SO TELL 'EM LIKE IT IS!

- DA Form 2407 Equipment Improvement Recommendation
- DA Form 2028 Recommended Changes to Publications and Blank Forms
- SF 364 Report of Item Discrepancy
- DD Form 6 Report of Packaging and Handling Deficiencies

DD FORM 6

EDITION OF 1 FEB 60. IS OBSOLETE.

STOCK NUMBER PROBLEM? AUTOVON 977-7431

INSPECT THE INSPECTORS

DIABOLICAL,
WATSON! THE TI IS
INNOCENT! THIS IS
NOT HIS RED X
THAT HE INSPECTED!

IT'S AN
ADROIT
FORGERY!

Dear Windy,
Can a maintenance supervisor or TI
who works on an aircraft also sign off
on the DA Form 2408-13 as the TI?

SFC A.A.

Dear SFC A.A.,

No. When a TI or maintenance supervisor personally works on a red X or circle red X condition, the work must be rechecked by another maintenance supervisor or TI delegated by the commander to sign off on those conditions. He cannot inspect himself.

But, if only an inspection is required—no repair work or maintenance at all—that TI or maintenance supervisor may perform the inspection and sign off with no recheck.

Windy

A TI OR MAINTENANCE SUPERVISOR
WHO WORKS ON A RED X
OR CIRCLE RED X FAULT,
CANNOT ALSO SIGN OFF
AS HIS OWN INSPECTOR.

FUEL (Gals or Lbs)				OIL (Quarts)				AFU		OIL	
SERV	NO	GRADE	ADDED	TOTAL	GRADE	ADDED	TOTAL	ADDED	TOTAL	ADDED	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12
10 STATUS 11 FAULTS AND/OR REMARKS 12 ACTION TAKEN 13 SIGNATURE ENG TACH INOPERATIVE D.C. Buell REPLACED ENG TACH W. Hampton D.C. Buell											

HOLD EIR EXHIBITS

Patience pays when you're holding Equipment Improvement Recommendation (EIR) exhibits for disposition instructions.

It may take up to 30 days for most items, 15 days for others—as para 3-17 of TM 38-750 says. Also, if you're notified that instructions are coming, hold onto the exhibit until you receive instructions.

Keeping the exhibit long enough to get it examined will help get your problem solved.

Connie's
★ POST ★
SCRIPTS

CONNIE--I HAVE A
MAINTENANCE PROBLEM.

GRRRR!

BEWARE
DOG

No Paint on Canvas

Keep camouflage paint off your truck's canvas. Even though the pictures you get to guide you in camouflage pattern painting show paint on tarps, skip that part for now. Ignore the PS pictures of painted canvas, too. A paint for canvas is being developed. Wait for it.

Camouflage Action Line

Got questions about pattern painting or any thing else about camouflage?

The US Army Mobility Equipment Research and Development Command (MERADCOM) at Ft. Belvoir has a user service called Camouflage Action Line.

Call the experts at AUTOVON 354-2654 or commercial (703) 664-2654.

Fire Control Contact

Thinking about mailing an equipment improvement recommendation (EIR) or a change to a pub to the fire control equipment's head shed? Wait one. DA Forms 2028 (changes to pubs) and 2407 (EIR) should now be sent to: Commander, US Army Armament Command, ATTN: DRSAR-MA, Rock Island, IL 61201. So, ignore the Frankford Arsenal address in your fire control TM's.

Fire control maintenance engineering and the National Maintenance Point are being transferred from Frankford to HQ, USAARMCOM.

☆U.S. GOVERNMENT PRINTING OFFICE: 1976-657-631/15

Would You Stake Your Life ^{right now} on
the Condition of Your Equipment?

Calibration Scheduling

Getting ready to schedule calibration? Put away your DD 314's. Schedule calibration services on DA Form 2416. Para 6-5 of TM 38-750 has the word.

Timely Action, Please!

As part of the 2-year warranty on the AAU-32/A altimeter encoder, NSN 6610-00-134-5625, and AAU-31/A altimeter, NSN 6610-00-005-9151, you have to report any failure within 60 days. Otherwise, Uncle pays the bill. Be sure you include all the info you have on the DA Form 2407, per para 3-18 of TM 38-750, before forwarding it to the head shed (AVSCOM).

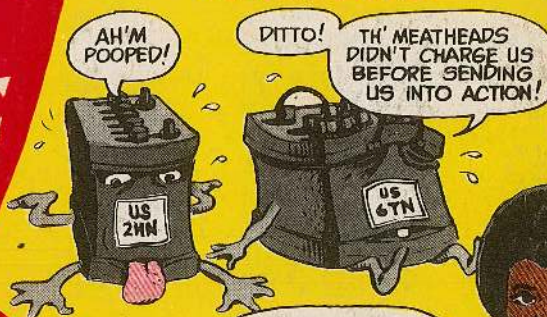
Report New 1¼-Tonners

DA Message DALO-SMM-F 022009Z Jun 76 added the entire M880/890-series vehicles—except the M887 truck chassis—to Appendix C of TM 38-750. The message went into effect for the DA 2406 report beginning 21 Jun 76. Be sure to keep the NORS/NORM time on the DD 314's for these vehicles for your next 2406 report.

No GO 90

That new TM 9-2320-266-10 (Jan 76) is wrong when it specifies GO 90 or 80 for the transfer case of the M880-series 1¼-ton trucks. Follow the LO, which calls for OE/HDO 30 or OE/HDO 10.

**NEW
CHARGED-AND-DRY
LEAD-ACIDS
NEED
INITIAL CHARGING
BEFORE USE!**



**DON'T BE A
BATTERY POOPER!
CHECK THE 7M!**



**CHARGE IT!
CHARGE IT!
CHARGE IT!**