

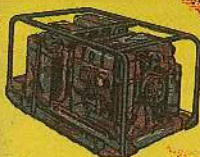
Issue 416

PS

★
July
1987

THE PREVENTIVE MAINTENANCE MONTHLY

TB-43-PS-416



CAN OUR COUNTRY
DEPEND ON THE
CONDITION OF *YOUR*
EQUIPMENT?

Approved For
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THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-416, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user.

ISSUE 416

JULY 1987

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You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems, questions or comments on material published in PS. Just write to:

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By Order of the Secretary of the Army:

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Driver Brake Inspection...

Your

Deadliest Enemy - You?

I SURE HOPE YOU CHECKED YOUR BRAKES!



Will your vehicle's brakes do the job when you need to stop?

Are you sure? Would you stake your life on it?

You are staking your life on your brakes when you pull your Before Operation PMCS. Testing your brakes is about the simplest—yet the most critical—check you're expected to make. Next most important—as far as your life is concerned—is steering. But even steering failure can be less life-threatening if your brakes work right.

Most drivers are pretty good about checking their engine oil level before

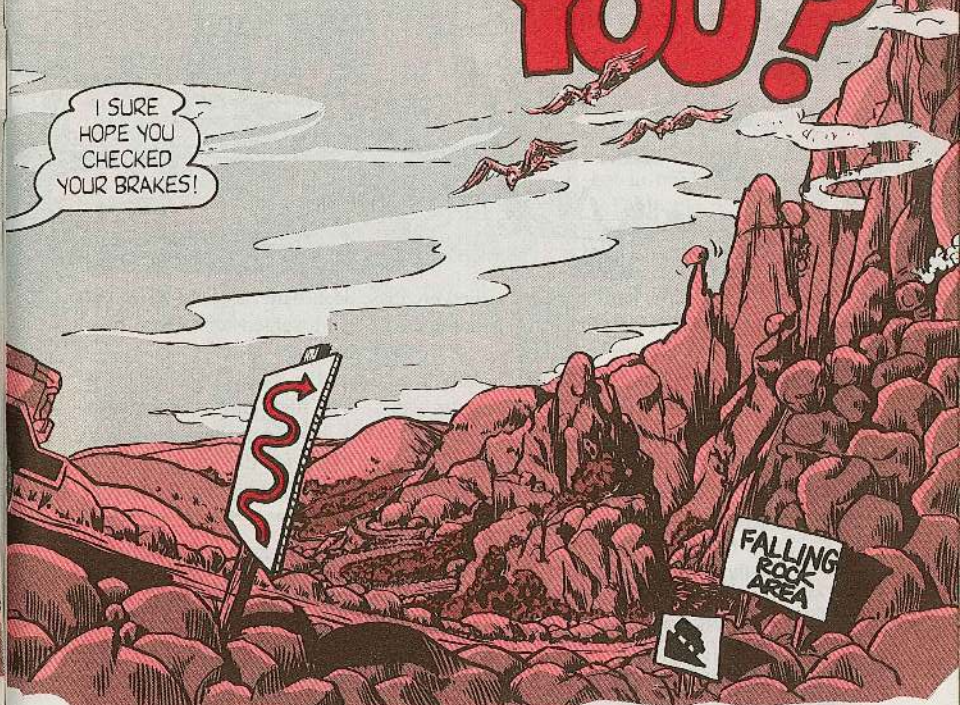
starting up. Great! They're concerned about engine life. And they make lots of other checks to insure that their equipment will go...and keep going.

But accident investigations prove that too many drivers are willing to risk their lives—and the lives of others—on untested brakes. If the brakes worked yesterday, they assume they'll have no brake trouble today. It's a dangerous gamble!

Take no chances—even if you operated your vehicle...and the brakes worked OK...only an hour ago. Apply brakes and be alert for any unusual action. Report any indication of brake trouble immediately!

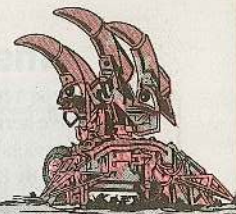
Certain risks and dangers are normal in soldiering.

You don't need to be a threat to yourself!





Pull the Plug on Generator Problems

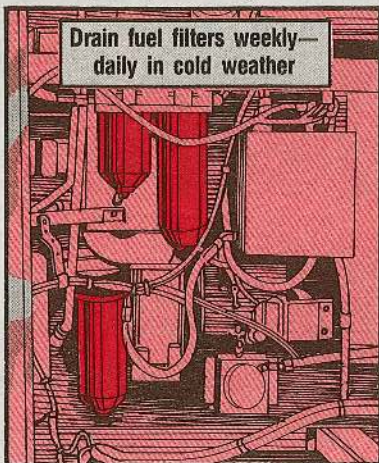


I CAN'T GENERATE ANY POWER BECAUSE YOU DIDN'T DO YOUR PM!

Ruined fuel pumps, hard starting, stalled engines, dead batteries, and burnt-out pins on your HAWK's MEP-115A generator can be prevented with these tips:

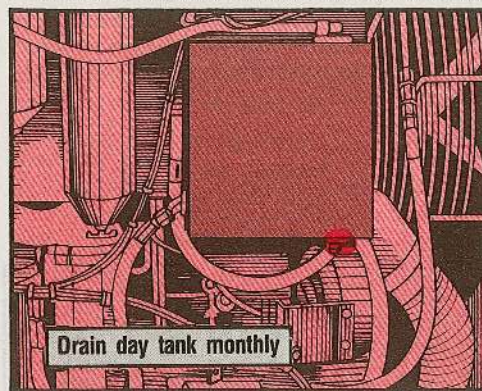
 Drain fuel filters at least weekly...daily in cold weather when condensation—water—is more of a problem. Water and dirt can destroy fuel pumps. Water also makes for hard starting. To drain the primary filters, just open their draincock valves. The two secondary filters need a 7/16-in wrench for draining.

When you repairmen replace fuel filters, don't muscle the bolts holding the filters'



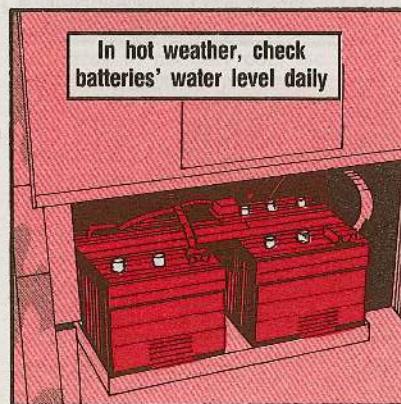
housing. You can easily strip the housing's threads...or even crack the housing. That's a DS repair. Tighten the bolts until you feel resistance, then stop.

 Fill the fuel tank at the end of the day—like it says in the PMCS in your -10 TM. Otherwise, moisture condenses in the tank and causes rust and starting problems. Keep fuel clean by capping fuel cans when they're not in use.



Drain the main tank weekly and the day tank monthly—like it says in your PMCS. That gets rid of any water and sediment in the fuel.

In dusty areas, you repairmen may need to give the day tank more cleaning help. During semi-annual maintenance, remove it and steam clean its insides. That gets all dirt out.



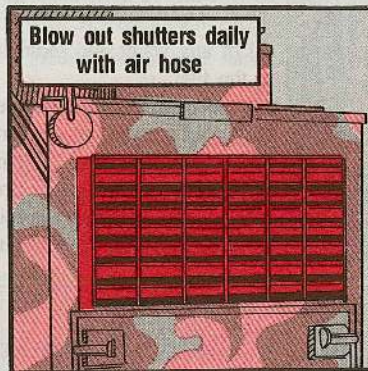
 In hot weather, check the water in the batteries every morning before start-up. The temperature around the batteries reaches 200° F during operation. That dries up water fast.



Tip-off to AN/MPQ-57 Problems

When you repairmen remove or install batteries, keep your wrench away from the positive terminals as much as possible. If the battery arcs, the ground wire from the special relay box to the starter can be burned out. That's a DS fix. Prevent arcing by disconnecting the negative terminal first during battery removal and connecting it last during installation.

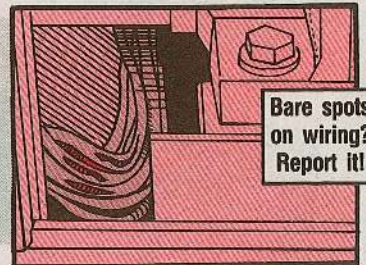
After shutdown, move the shutters up and down and blow away dirt with an air hose. That helps keep the shutters from sticking. If the shutters stick shut during operation, the generator shuts down and can cause major damage to radar units.



Feel the alternator cannon plug's lacing for tightness during daily PMCS. If the lacing comes loose during operation, the plug's pins can arc and burn out. The generator's down until the plug is replaced. That can take up to a month.



Also during daily PMCS, look for bare spots on the wires running across the top of the fuel tank to the outlet plug. The wires rub on the tank and lose their protective covering. The 416 volts running through the wires could burn through the tank or burn anyone grabbing a wire in the wrong place. Report bare spots.



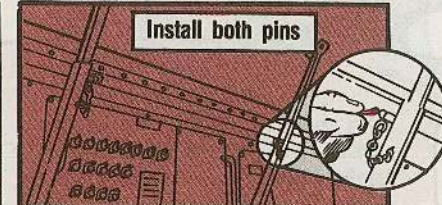
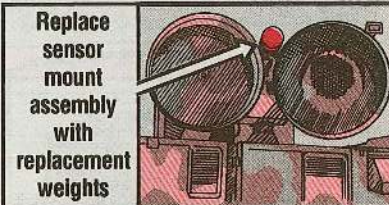
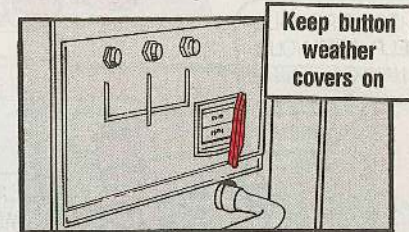
Be sure to keep water hoses and steam cleaners away from electrical components. Water causes big-time electrical damage. Operate the generator at least 15 minutes weekly. This prevents oil seals from drying up and leaking.

Prevent AN/MPQ-57 radar test button failure, sticking antennas, damaged components, and needless troubleshooting with these tips:

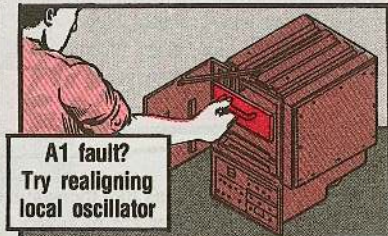
Always keep the weather covers on test buttons. Covers protect the buttons against sand, dirt and moisture that cause the buttons to short out or stick.

When you remove the tracking adjunct system sensor for storage or repair, immediately put the replacement weight assembly in its place. If you don't, the radar antenna will be difficult to manually elevate and could drop suddenly when the power's shut off. That damages the counterbalance spring and other head assembly components. The replacement weight's part number is APN 11568681, its FSCM 18876, and its RIC B64. The weight is Item 37 of Fig 1 in TM 9-1430-1536-24P.

Use both hinge pins to secure the AN/MPQ-57's front door. The door's weight can be too great for one pin. If a pin breaks or falls out, the door bangs down damaging components...and hurting you if you're in the wrong place.



Keep your feet off the cable running to the cooling cabinet. If you step on it and break it, not only does the cable have to be replaced, but also the hoses, cabinet and cooler.



If you perform the transmitter test on the transmitter control unit and get an A1 fault, could be the local oscillator's not seated right. Open the unit's door and pull out and push back in the local oscillator. This might save you a heap of troubleshooting time.

The Rap On Radar

THESE TIPS WILL
HELP KEEP YOUR
HAWK ALERT!

HELP KEEP
ME ON
TARGET!

Keep the insides of radar units clean. Dirt and sand interfere with radio frequency (RF) power and cause waveguide arcing. That means waveguide damage, shorts and false readings. Clean out the radars' insides with low-pressure air and cheesecloth. A vacuum cleaner with a hose helps suck up dirt. Stay away from fragile wiring while wiping. Never spray water inside the radar units. You'll cause big-league electrical damage.

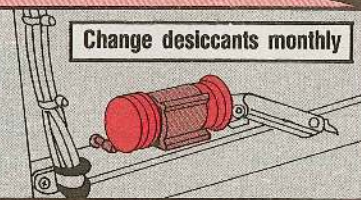


Feel components for looseness.
Keep insides of radar units clean

Make sure components like the side band tuneable filter driver and intermediate frequency (IF) amplifier are mounted tight. Just hold the component and feel if it's loose. A loose component will lose its ground to the chassis, causing bad readings. If the radar bumps through rough country, the component could fall out and be damaged. Hand-tighten loose mounting screws.

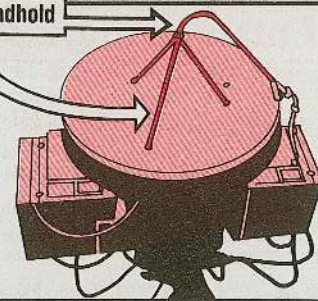
Change radar desiccants monthly—like your -12-1 TM's tell you. If a desiccant can't do its job, valves clog and the radar won't pressurize.

Change desiccants monthly

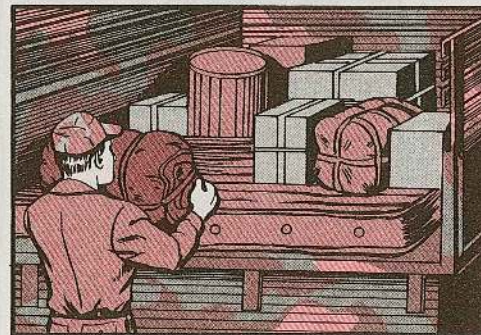


Hands off antenna waveguides. Just grabbing a waveguide can bend it... using it as a handhold will break it off. A bent or broken waveguide means a useless radar.

No handhold



Protect backup and broken radar components during transport. If something like a radar chassis bounces around loose on a truck bed, a minor repair quickly becomes a major repair. NSN 8135-00-142-9016 gets you bubble pack to wrap around the components and lay on the truck bed for bump protection.



ALSO, BLOCK IN OR STRAP DOWN
THE COMPONENT ON THE TRUCK BED
SO IT CAN'T BOUNCE AROUND!



Keeping Sting in Stinger

A little TLC
(Tender Loving Care)
will keep your Stinger
RFB (Ready For Battle).



Antenna Angles

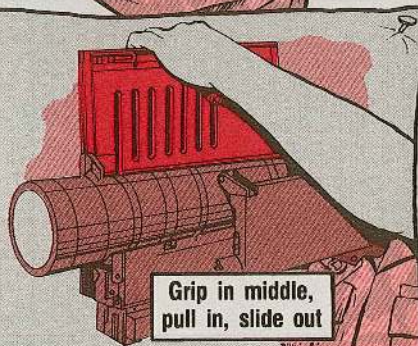
If you jerk the antenna up, you can rip it completely off. The antenna's held to the launch tube only by two pins in a plastic housing... easily broken by jerking.

Do it right. First, grip the antenna at top center and pull it toward the launch tube to release the catch.

At the same time, lift the antenna and pull slightly to your left.

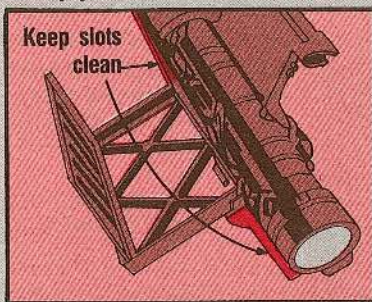
If the antenna won't slide, STOP! Look for the problem—don't make it worse.

Help your antenna slide by keeping the antenna slots clean.

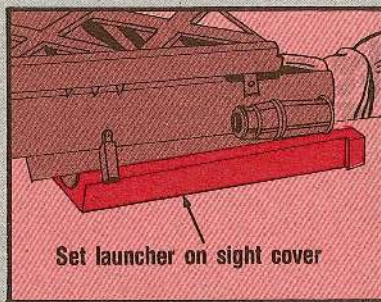


Grip in middle,
pull in, slide out

Keep slots
clean



Set launcher on sight cover



Also, never set your launcher down with the antenna on the ground. You'll damage the antenna. Never stand the launcher on either end. You'll damage the front cover or glass window. Lay it flat on the sight cover opposite the antenna. Your Stinger's cushioned for that.

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Sight Saver

Too much force can also crack your sight. Never grip the sight in the middle to raise it. Grip just in front of the frame cushion and bring the sight out and up.

Grip in front of
frame cushion,
pull out and up!

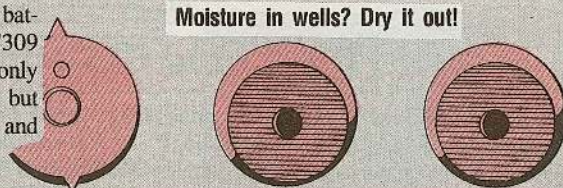


Battery Boosters

Before you charge or install a Tracking Head Trainer (THT) battery, eyeball the charging or battery wells for moisture, especially in rainy or high humidity conditions. Moisture destroys battery contacts. If you spot moisture, wipe it away with a dry cloth.

Never put a damp battery in your PP-7309 charger. You'll not only damage the battery, but the charging well and charger, too.

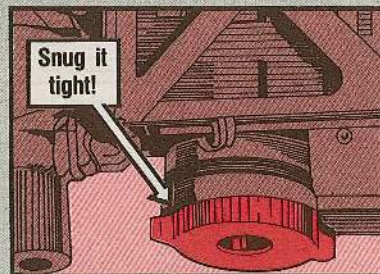
Moisture in wells? Dry it out!



When you install the THT battery in the gripstock, screw it in tight. If you don't, the battery can work loose, fall out and put your THT out of action, besides causing expensive battery damage.

Keep metal—like your watch and ring—away from exposed battery contacts. Metal shorts the contacts and gives you a volt jolt. And the battery will be out of action.

Snug it
tight!

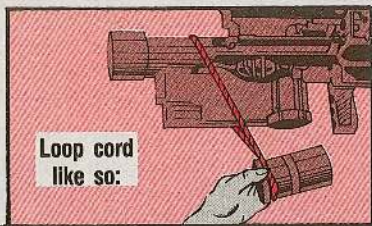


Remove
jewelry before
working with
battery



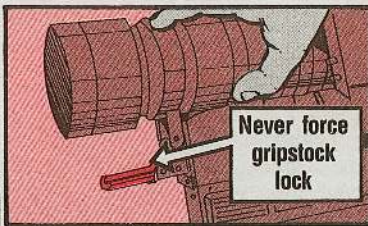
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If you have to remove and install the battery repeatedly during training, give it extra protection by tying one end of a cord around the neck of the battery and the other end around the front end of the THT. Then, if there's a slip, the battery won't crash to the ground.



Gripstock Lock Talk

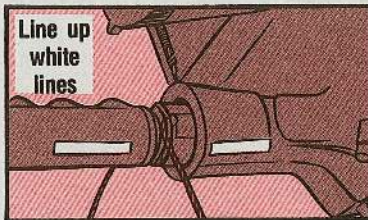
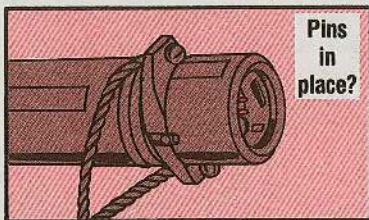
Never force the gripstock's forward hinge lock closed. You'll break it. If the lock won't close, probably the gripstock and launch tube aren't aligned. Realign and try again.



IFF Cable Closeup

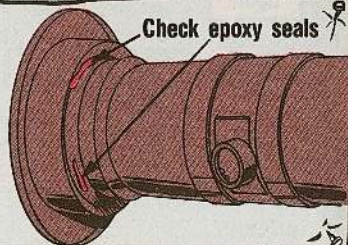
During PMCS, look for the three spring pins in the IFF interrogator's cable connector. The pins are under the inside lip. If any pins are missing, turn the IFF in. Even one missing pin can let the IFF cable work loose and cause cable damage... plus put you out of action.

When you connect the cable to the gripstock, line up the connector's and gripstock's white lines before you push it in. That saves connector pins.



Epoxy Moxie

The protective shock ring on the rear of the launch tube is held on with two strips of epoxy sealer. Eyeball the sealer during PMCS. If it's cracked, the shock ring can unscrew. Turn it in.



In and Out

If you're not thinking, you can easily damage things like the sight and eyeshield while taking the launch tube assembly out of the storage case or putting it back in.

Never pull the launch tube out with a twisting motion. You could break the sight or pop open the gripstock latch.

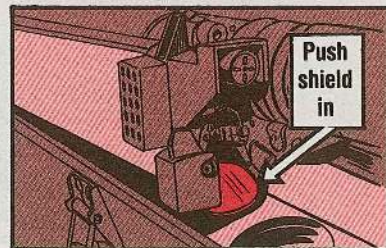
Lift the launch tube out like this:

- Grip under the tube's middle with your right hand.
- Grip directly in front of the gripstock with your left hand.
- Tilt up the rear of the tube to a 45° angle.
- Bring the launch tube straight back to your shoulder. You're ready to fire.

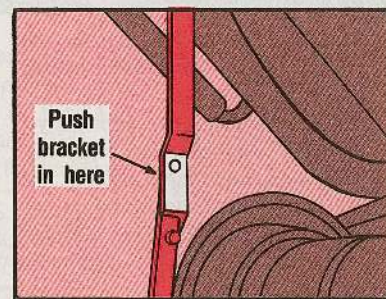


Do this when you put the launch tube assembly away:

- Push the eyeshield forward toward the launch tube's front cover. That protects the eyeshield and prevents it from tearing up the storage container's padding.



- Make sure the launch tube's front cover is fully on. There's not much room between the cover and the top of the container. If the cover's half-off, you damage the cover or container when you close the lid.



Keep the Fuel in the Right Tank

KEEP DIESEL
FUEL IN ITS
TANK!

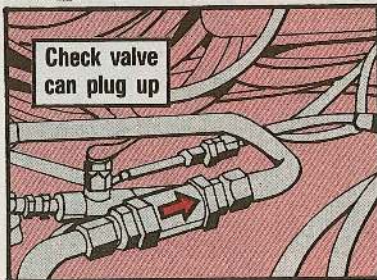


Diesel fuel does not belong in the hull, crewmen. Makes for a safety hazard, right?

Well, that's one of the problems you can have if crud in the fuel plugs open the fuel line check valve and the filler neck vent system is not working.

If the fuel line check valve gets plugged, fuel can flow from the rear tank to the front tank.

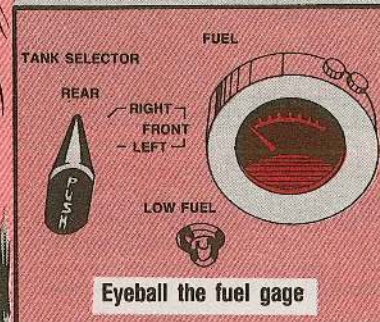
Check valve
can plug up



Once the front tank is full, the fuel may overflow. If the filler neck seal is good, the fuel drains onto the ground. If not, the fuel goes into the hull. Your mech can replace a bad seal with NSN 5330-01-083-5613.

You can also have fuel seeping overboard or into the hull because the filler neck vent system is not working right. Too much pressure in the fuel tank forces fuel out the filler cap. Depending on the condition of the filler neck seal, you could get fuel in the hull.

Drivers can keep an eye on the fuel gage and catch fuel "moving" from the rear tank to the front. That's one tip-off there's something wrong.



Look for fuel stains at the #1 shock absorber housing on either side of the tank. Fuel in the hull will seep out there.

Also look for fuel slop-over on the hull and on the ground around the tank.

You mechs can find info to replace a plugged check valve, NSN 4820-00-289-2499, starting on Page 4-24 of TM 9-2350-255-20-1-3-2 for the M1 and IPM1, and on Page 4-24 of TM 9-2350-264-20-1-3-2 for the M1A1.

IF YOU'VE GOT VENTING
PROBLEMS, REPLACE THE FILLER
CAP, NSN 2910-01-083-5674.



DECALS ARE SAFETY REMINDERS

IF YOU'VE GOT M48A5 OR M60-SERIES TANKS OR THE M728 COMBAT ENGINEER VEHICLE IN YOUR UNIT, LISTEN UP!

There are two decals, each used twice, to be installed in your vehicle to help you remember turret safety precautions. Until the decals are applied, your vehicle cannot be used for training.

WARNING

DO NOT APPLY TURRET POWER OR STAB POWER OR OPERATE TURRET CONTROLS UNTIL ALL PERSONNEL ARE IN SAFE POSITIONS AND PREPARED FOR TURRET OR GUN MOVEMENT

WARNING

DO NOT ENTER OR EXIT DRIVERS COMPARTMENT UNTIL:
1. TURRET POWER SWITCH IS OFF
2. TURRET TRAVERSE LOCK IS IN LOCKED POSITION

DA-107-2019 (10-96)

IF YOU DO NOT ALREADY HAVE THE DECALS, GET THEM FROM ONE OF THESE SOURCES:

CONUS Active Army—Local LAO offices

CONUS Army Reserve—Training and unit commanders

CONUS National Guard—State maintenance offices

Europe—USALAO, Europe (AMXLA-E)

Korea—USALAO, Far East (AMXLA-FE)

US Marine Corps—Marine Corps Weapons System Equipment Support Manager, Albany, GA

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MOUNTING INSTRUCTIONS COME WITH THE DECALS. MAKE SURE MOUNTING SURFACES ARE CLEAN AND THE TEMPERATURE'S AT LEAST 32°F BEFORE APPLYING DECALS

THEN GIVE THE VEHICLE'S USA AND SERIAL NUMBER TO YOUR LOCAL LOGISTIC ASSISTANCE REPRESENTATIVE

TACOM SAFETY-OF-USE
MSG AMSTA-M 171335Z
NOV 86 HAS THE WORD

T142 Track...

Center Guide Wear Criteria Changed

Next time you're gaging track parts for wear and tear, mechs, keep these new center guide wear criteria in mind:

Condition Code A—7/8 inch minimum

B—3/4-7/8 inch

C—5/8-3/4 inch

F—1/2-5/8 inch

H—less than 1/2 inch

Measure here

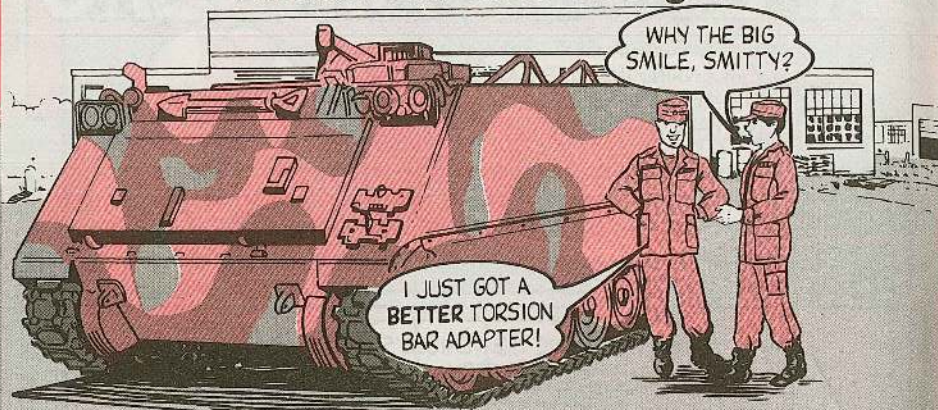
The measurement is made 1 inch down from the tip of the center guide.

This change will show up in a revision of TM 9-2530-200-24, Standards for Inspection and Classification of Tracks, Track Components and Solid-Rubber Tires.

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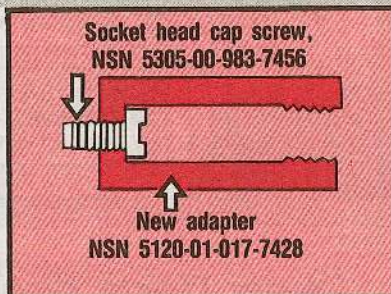
Torsion Bar Tool Changed



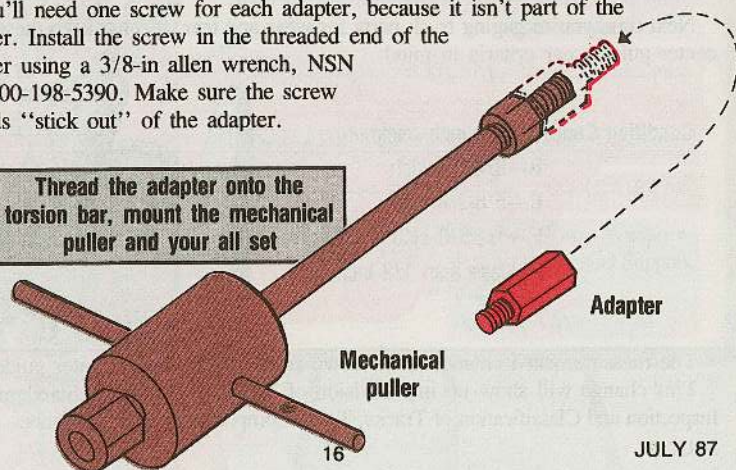
When you get a different torsion bar adapter for your M113-series vehicle, smile—it's an improvement over the old one.

The new adapter, NSN 5120-01-017-5328, won't break as easily as the old one. It's designed to use a socket head cap screw, NSN 5305-00-983-7456, as the connection to the torsion bar. That's a stronger connection than was provided by the old nipple style.

You'll need one screw for each adapter, because it isn't part of the adapter. Install the screw in the threaded end of the adapter using a 3/8-in allen wrench, NSN 5120-00-198-5390. Make sure the screw threads "stick out" of the adapter.



Thread the adapter onto the torsion bar, mount the mechanical puller and your all set

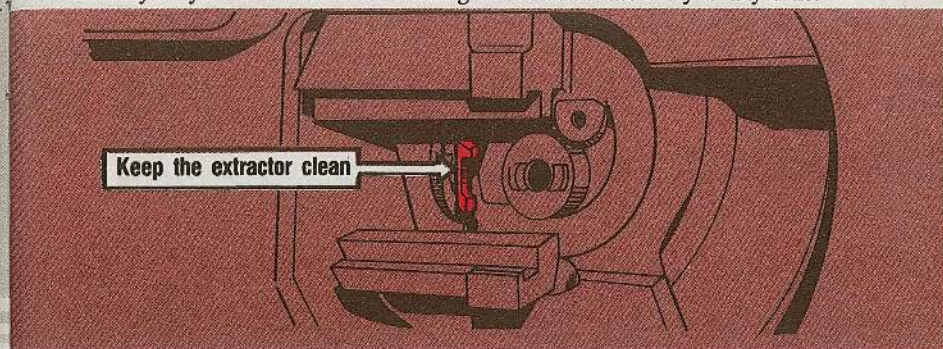


Extractor Assembly Needs Care, Too

The extractor assembly on your M198 is part of the breechblock assembly. What does that tell you?

It should tell you that you clean the extractor at the same time you clean the breechblock—even tho it's not specifically mentioned in TM 9-1025-211-10 or LO 9-1025-211-13.

Many of you crewmen aren't cleaning the extractor assembly at any time.



That gets you an extractor that won't work...or it's so crudded up that it'll have to be replaced.

Just clean the extractor assembly with RBC or CLP. Then wipe it dry and apply PL-S or CLP to all surfaces.

Remember, the extractor is not an orphan. It belongs to the breechblock...and gets treated the same way.

Perfection Demanded

The air line connections between your M198 towed howitzer and your prime mover are only as good as the preformed packings (grommets).

If the grommets are cut, nicked, torn or painted, they won't seal right. Anything less than a perfect grommet means air leaks—and that's bad news (as in burned up brakes).

Eyeball the grommets every time you hook up. Check each end of the air line. Have your mech replace any bad grommets before you move out.

Your mech can replace the grommets using NSN 5330-00-090-2128.



Hub Seals Source of Bearing Problem

HERE WE ARE—
CONDEMNED TO A
PILE OF BUSTED
BEARINGS!

AND ALL BECAUSE
WE WERE NOT
KEPT LUBED!

If you install the inner hub seal wrong, you'll get ruined wheel bearings. It's that simple.

And so is the procedure to make sure the seal is installed right.

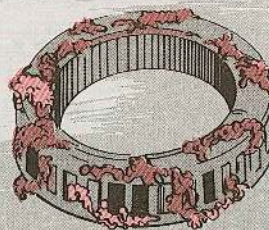
You can use the fabricated seal removal tool described in Appendix E of Change 3 to TM 9-1025-211-20&P (29 Oct 86) or whatever tools you have. Just be sure to follow the instructions on Pages 3-110.12 and 3-110.13 of the TM if your hubs have spacers and retainers. If your hubs don't have Items 32 and 33 shown on Page 3-110.13 of the TM, see the bottom of page 19.

The seal is completely installed when it is 1/4-to-5/16 inch below the edge of the hub—not the disk!

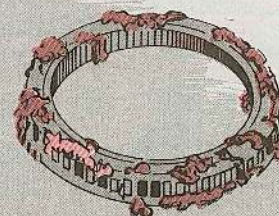
Measure from this surface...

...not from this one

This is critical, mechs. Measure from the hub surface, not the disk surface. If the seal is installed too shallow, it will "blow" out—letting all sorts of junk into the bearings.



Don't let
this happen
to your
bearings!



Then you'll have more work to do, for sure.

Updating Your Hubs

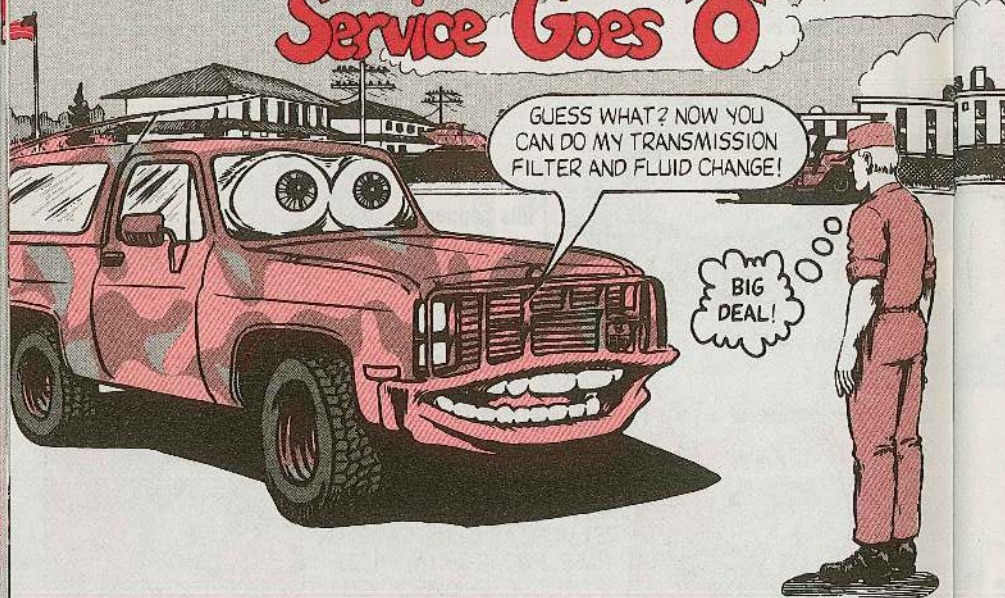
EARLY MODEL HUBS DIDN'T
HAVE A SPACER OR SEAL
RETAINER AS ILLUSTRATED ON
PAGE 3-110.13 OF TM 9-1025-
211-20&P, CHANGE 3. YOU
CAN BRING YOUR OLD HUBS
UP TO SNUFF LIKE THIS:

Have your supply buddies order Items 13.1 through 13.4 and Item 19 from Fig 23 in the TM.

Once you get the parts, disassemble the hubs using the instructions beginning on Page 3-107, until you have removed the disk.

Replace bearings and seals if necessary as you reassemble the hubs according to the instructions. The new self-locking bolt is 1/2-in longer than the ones used on the old hubs. Tighten the bolts completely and continue with the installation.

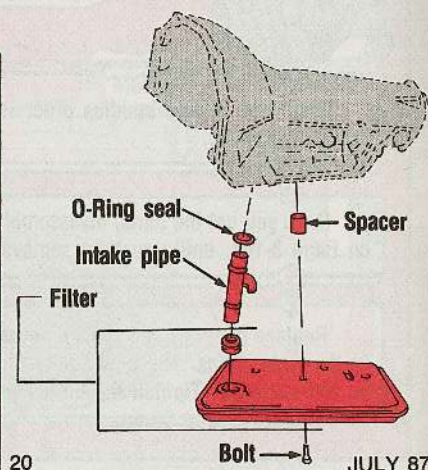
Transmission Service Goes "O"



Now hear this! You no longer have to send a CUCV back to DS every 2 years for a transmission filter and fluid change. Now you can do it.

Here's what you need:

NSN	ITEM
2520-01-121-6350	Filter Kit, with gasket
5330-01-043-5568	O-ring, intake pipe
9150-00-698-2382	Dexron II transmission fluid (You'll need 4 quarts)
6850-01-159-4844	RTV sealant, 10,4-oz tube



Here's how you do it:

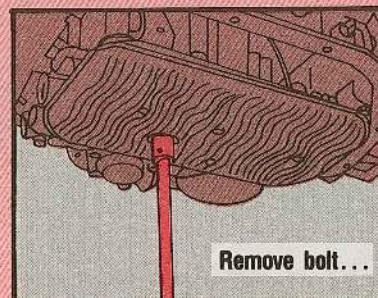
Remove the bolts around the sides and front of the oil pan.

Loosen the three bolts at the rear of the pan about 4 turns.

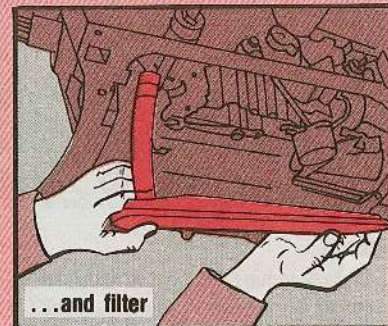
Use a screwdriver to carefully pry the front of the pan loose and let the fluid drain out. After most of the fluid has drained, remove the pan.

Clean the pan and the transmission housing flange with P-D-680 solvent and let dry.

Remove the one bolt holding the filter in place and remove the filter.



Remove bolt...



...and filter

Remove the intake pipe and replace the O-ring.

Put the intake pipe back in.

Install the new filter. Torque the bolt to 120 in-lb.

Before installing the oil pan, look at the flange on the pan. If there's a ridge on the flange, use the gasket. If there's no ridge, run a 3/32-in bead of RTV sealant around the pan's sealing edge. Cut the tip of the sealant's tube off so you get a bead that size.

Line up the pan and re-install the bolts. Torque 'em to 144 in-lb.

Add 4 quarts of Dexron II transmission fluid.

Start the engine and put your foot on the brake. Shift the transmission thru all the gears, then put it in PARK. Check the fluid level. If it's low, add a little at a time until you get it right. Look under the vehicle for leaks before you shut down.



Put gasket or RTV sealant around this edge

Oil pan

The parts you need will be showing up in your -20P and the procedure in your -20 TM. But until then, use TACOM Msg AMSTA-MTA 121300Z Nov 86 as your authority to service the transmission.

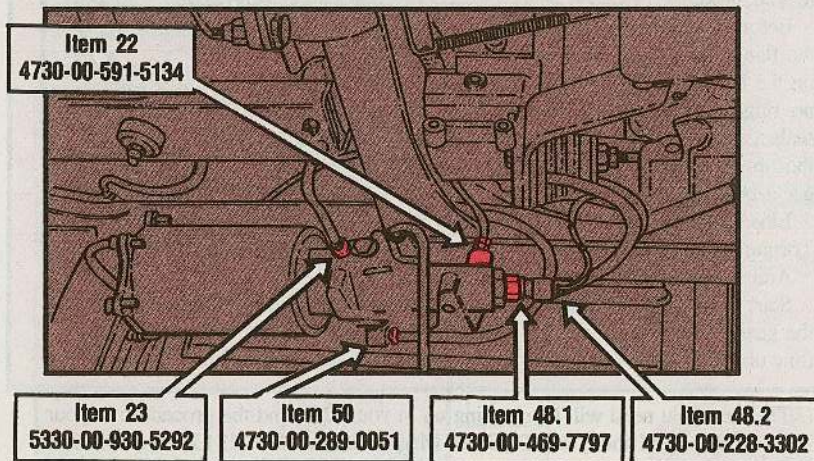
Air-Hydraulic Cylinder



Does searching for the air-hydraulic cylinder's five fittings in TM 9-2320-209-20P seem to be a game of hide-and-seek?

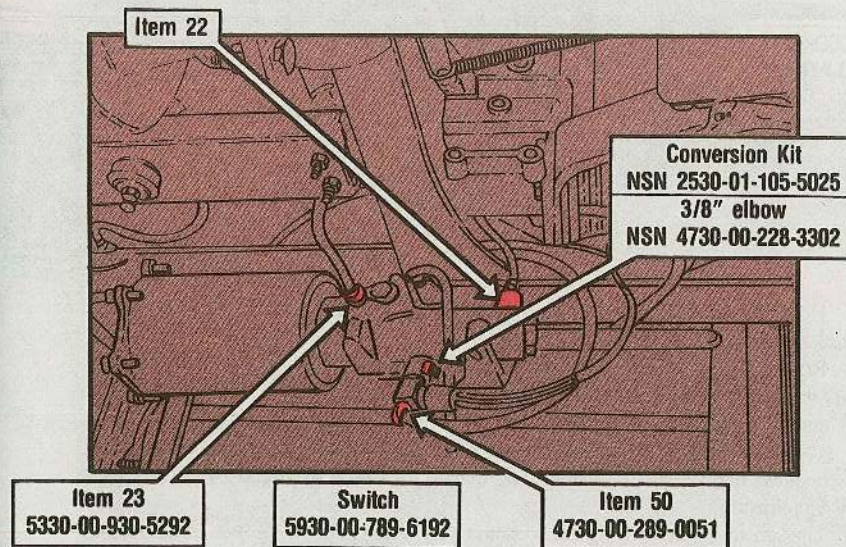
They're hard to find, but they're all there—part of 'em in Fig 117 and the rest in Fig 122. Some are not even called fittings, tho.

Plus, the brake light switch hooks up two different ways. If your truck has the original setup—shown on Page 13-121 of TM 9-2320-209-20-3-2—use these fittings:



Fitting Rundown

If the brake light switch has been converted to the air line on your truck, use these fittings:



A pipe plug, NSN 4730-00-221-2136, replaces Items 48.1 and 48.2. You can get the plug from the fitting box in the No. 1 Common shop set.

Items 22 and 23 are in Fig 117 of the TM. Items 48.1, 48.2 and 50 are in Fig 122.

Air Cleaner Latch NSN

Use NSN 5340-00-162-1987 to get the complete latch assembly for the 2½-ton truck's air cleaner. The lower half of the latch comes with the air cleaner shell, Item 19 of Fig 18 in TM 9-2320-209-20P. The upper half of the latch was left out of the TM.

Tires ...

Rotate As Needed

YOU LOOK WORN AROUND THE EDGES, BUDDY!

YEAH, I SURE HOPE THEY ROTATE US SOON!

Hold on before you rotate your vehicle's tires. There's a new word on scheduled tire rotation.

Rotate tires only when they show uneven wear. If tires are wearing unevenly, rotate as shown in your vehicle TM. Nothing there? Use the rotation pattern on Page 2-6 of TM 9-2610-200-24.

PMCS tables in some vehicle TM's read like tire rotation is required during every scheduled maintenance. Wrong! The update of TM 9-2610-200-24 will clear-up the confusion.

Uneven tire wear is a tip-off something is wrong, like improper inflation, bad alignment, steering or suspension problems. Check it out.

Two Flaps Are Too Much

Check that new tire before you stick in a flap. Some new tubetires come with a flap rolled up inside.

Some mechanics put a used flap in a new tire without checking.

Two flaps are not better than one! The rolled up flap will cause the tire to shimmy and wear unevenly.

A flap is required in a tube-type tire mounted on a flat-based rim. The flap shields the tube from the bead and the base of the rim.

Check tire for new flap

M915A1 Truck Tractor ...

Lube Switcheroo

HOLD ONE, MECH, BEFORE YOU LUBE THE WHEEL BEARINGS ON THE FRONT AXLE

THE TRUCK HEADSHED SAYS TO CONVERT THE BEARINGS FROM WET LUBE (GO 90) TO GREASE (GAA)

Procedures are in Para 2-13 of TB 43-0001-39-1 (Jan 87)



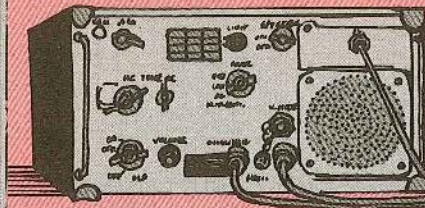
If you haven't received a copy of the TB, contact your local Logistic Assistance Office (LAO) or write MSG Half-Mast.

M931/M932 Towed Load Update

Forget the Note in Table 4-5 (Tire Inflation Data) of Change 1 to TM 9-2320-272-10 that says M931A1 and M932A1 tractor trucks with a towed load are not designed for cross-country, mud, sand or snow operations. That's wrong. The note should say, "The A1 tractor has the same mission support design as the M931 and M932 basic tractor model."

Also, the tire pressure ratings for M931A1 and M932A1 change to this:

Highway	Cross-country	Mud, Sand, Snow
80/551	Standard (PSI)/Metric (KPA)	25/173
	40/275	



PUBS

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list was made from a computer printout provided by the Adjutant General.

TM 5-1940-273-10 Jun 15-person assault boat (NSN 1940-00-540-5609)
TM 5-3610-286-10-HR May Topographic support system, printing press (NSN 3610-01-214-1245)
TM 5-6675-238-24P Apr Test set, position and azimuth determining system; AN/USM-427
TM 9-1230-476-20-2 May AH-64A helicopters, fire control system
TM 9-1270-476-20-2 Apr Target acquisition designation sight (AH-64A attack helicopter)
TM 9-1425-600-12 Apr Patriot missile
TM 9-1425-601-14 Apr Patriot missile
TM 9-1440-485-20P Apr LANCE missile
TM 9-2330-362-14&P Apr XM971/XM971E1 data center semitrailer van
TM 9-4935-395-24P Mar Pershing II missile
TM 9-4935-396-24P Mar Pershing II missile
TM 11-5805-201-23P Jan 87 TA-312(P) telephone sets
TM 11-5805-756-12-2 Apr 85 Telecommunications line controller (TLC) 100-6046 (T)
TM 11-5805-757-12-3 Apr 84 CBX

for military applications system service VOL II
TM 11-5805-757-12-4 Jul 85 Rohn T1/D3 feature system
TM 11-5805-758-12-2 Feb 86 D448 PCM trunk carrier system
TM 11-5815-620-12-3 Apr 85 Mallfax 3500 secure facsimile transceiver
TM 11-5820-1015-12-2 Jan 85 RF-2301/RF-2301A HF tactical transceiver
TM 11-5821-322-13 Apr 85 AN/ARW-83(V)5 radio remote receiving set
TM 11-5835-255-13-2 Apr 85 TW-451/TSC-16 reperforator
TM 11-5865-223-24P-1 May S-250/G electrical equipment shelter
TM 11-5865-234-10-1 Apr 85 AN/TSC-105(V)4 surveillance information processing center
TM 11-5865-234-10-2 Apr 85 AN/TSC-105(V)4 surveillance information processing center
TM 11-5865-237-13-2 Apr 85 CP-1603/ARW-83(V) and CP-1604/TSC-105(V) digital processor
TM 11-6625-602-12-1 May AN/USM-181B test set, telephone
TM 11-7021-207-12-2 Apr 85 8260AT video display terminal
TM 11-7021-207-12-4 Mar 84 8260AT video display terminal, VOL II
TM 11-7021-207-12-5 Apr 85 8260AT video display terminal
TM 11-7021-208-12-2 Oct 84 CX

1400 color graphics computer system TM 11-7021-208-12-3 Dec 84 CX
1400 troubleshooting and maintenance manual
TM 11-7025-255-12-2 Dec 84 SC7000/B1 (RM03/RM05/RM80 compatible) disk controller manual
TM 11-7025-256-12-2 Nov 84 SC72/BX disk controller
TM 11-7025-260-12-2 May 78 Sperry UNIVAC 1652 dual monitor terminal
TM 11-7025-260-12-3 Jun 78 OJ-389(V)/G 1652M digital computer input-output console
TM 55-1520-236-23P-1 Apr AH-1P, AH-1E, AH-1F
TM 55-2305-001-10 Apr LACV-30
TB 43-0002-4 Apr 79 Maintenance expenditure limits for FSC groups 16, FSC classes 1610, 1615, 1620, 1630, 1650, 1660, 1670 and 1680
TB 43-0216 Apr Safety and hazard warnings for operation and maintenance of TACOM equipment
TB 55-1520-237-20-84 Feb Inspection of three tail rotor drive shaft spline couplings and removal of material under crew seats
TB 55-1520-240-20-14 Mar Inspection of aft transmission to cooler fan quill shaft, CH-47D
AR 385-40 Apr Accident reporting and records
SC 6675-97-CL-E21-HR May Surveying set (NSN 6675-00-641-3639)

Maintenance & Safety-of-Use Messages

AMCCOM SOU-MSG— Maintenance Advisory, M1A1 Tank firing mechanism procedure. AMSCM-MAW, 211620Z Mar 87.

MICOM SOU-MSG— Advisory, Operational, antenna positioner failure on Antenna mast group OE-349/MRC. AMSM-LC-AM, 071520Z Apr 87.

TACOM SOU-MSG-87-29— Operational, suspend swim operations of M2/M3/M3A Bradley Fighting Vehicles. AMCPM-LCV-TF, 131130Z Apr 87.

TACOM SOU-MSG-87-27— (Rescinded TACOM MSG-87-14) Establish New Operational, inspection/disposition instructions for fire extinguisher control valve on M113-Series vehicles except M113A3. AMSTA-MCB, 081200Z Apr 87.

TACOM MSG— Maintenance identification and correlation of brake

boosters to CUCV model. AMSTA-MTA, 211230Z Apr 87.

TACOM SOU-MSG-87-14— (Rescinded by TACOM MSG-87-27), Operational, M113-Series vehicles except M113A3. Fire extinguisher control valve malfunction. AMCPM-LCV-TF, 091300Z Mar 87.

TACOM SOU-MES-87-26— Follow-up of one-time inspection of 5-ton M939/M939A1 series trucks brake system. AMSTA-QWM, 082000Z Apr 87.

TACOM SOU-MSG-87-21— Advisory, Technical/Maintenance, Altec digger derricks velocity fuse malfunction. AMSTA-MVA, 031600Z Apr 87.

TACOM SOU-MSG-87-20— Advisory, Operational, Use parking brake not reverse lever to park vehicle. AMSTA-MVB, 191205Z Mar 87.

TACOM SOU-MSG-87-15— Op-

erational, Use 5-ton dump truck cab protector. AMSTA-MTB, 171700Z Mar 87.

TACOM SOU-87-13— Advisory, Technical/maintenance, M149A2 400-gal water trailer, brake hoses reversed. AMSTA-MVA, 191400Z Mar 87.

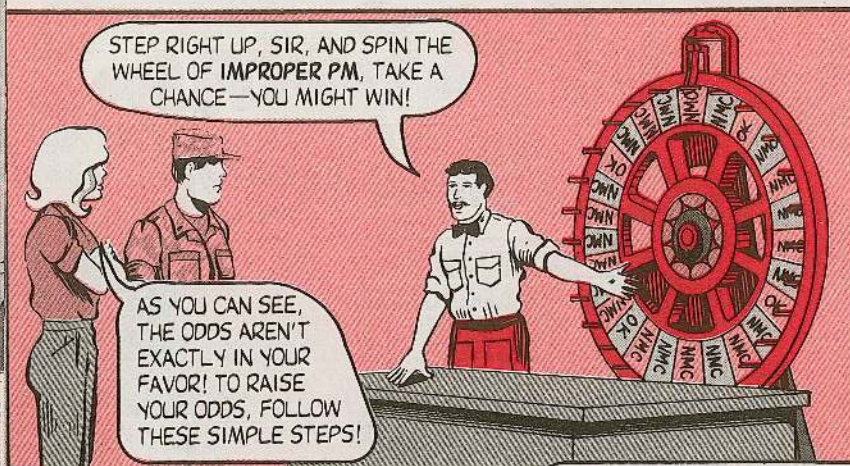
TROSCOM SOU-87-05— Maintenance Advisory, alteration to personnel canopy T-10B, NSN 1670-10-007-8558. AMSTR-MES, 191530Z Mar 87.

TROSCOM SOU-87-04— Maintenance Advisory, inspect oil line on 150-KW gas turbine engine driven (GTED) generator set, NSN 8115-01-113-1093. AMSTR-MES, 171230Z Mar 87.

Your Direct Support or Logistic Assistance Office (LAO) can provide you with more information.

Keep FM Commo Communicating





BEFORE HEADING TO THE FIELD, GIVE ALL KNOBS, SCREWS, SWITCHES AND CONNECTORS THE ONCE OVER. IF ANY ARE BROKEN OR MISSING, GET THEM REPLACED!

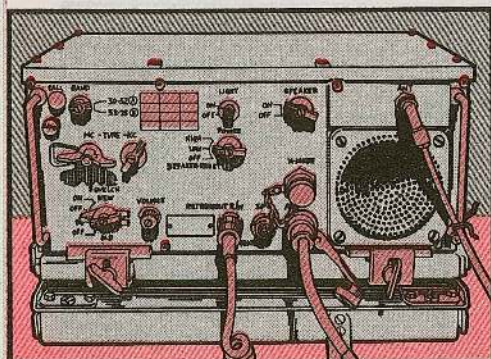


MAKE SURE ALL RECEPTACLE LOCKNUTS ARE SNUG, TOO. LOOSE ONES MAKE FOR TWISTED WIRING. EYEBALL RECEPTACLE CONTACTS.

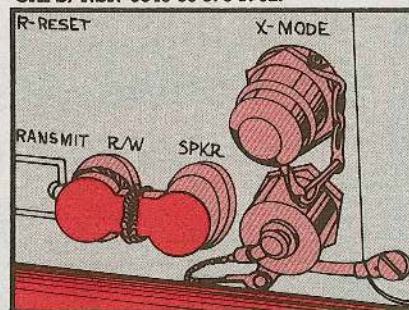
IF THEY'RE DIRTY OR MAKING BAD CONTACT, SHINE 'EM WITH A PENCIL ERASER!



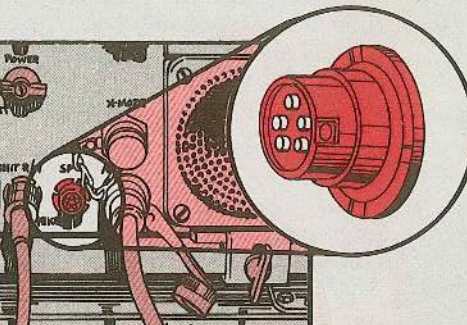
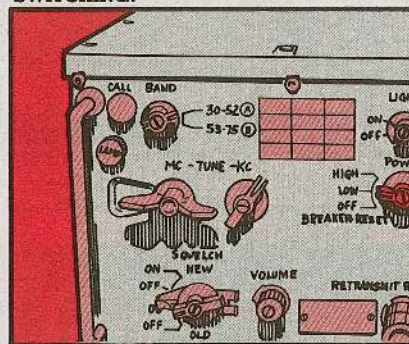
IF A PANEL OR COVER SCREW IS LOOSE OR MISSING, TIGHTEN OR REPLACE IT. A MISSING SCREW WILL LET DIRT AND MOISTURE GET INSIDE YOUR SET!



WHENEVER YOU'RE THROUGH WITH THE AUDIO CONNECTORS, KEEP OUT DIRT BY COVERING THEM WITH RUBBER DUMBBELL CAPS. NSN 5340-00-973-1732.



... CLEAN INSIDE CONTACTS BY TURNING THE MC-TUNE-KC SWITCHES BACK AND FORTH A FEW TIMES. ON THE RT-246. MOVE THE BAND SWITCH FROM AUTO TO A OR B. THAT INSURES PROPER CHANNEL SWITCHING.



IT SHOULD BE FAIRLY OBVIOUS TO YOU NOW THAT, BY NOT TAKING CARE OF YOUR RADIO SET, YOU COULD BE TAKING A BIGGER CHANCE THAN YOU HAD THOUGHT! BUT THAT'S NOT ALL ...

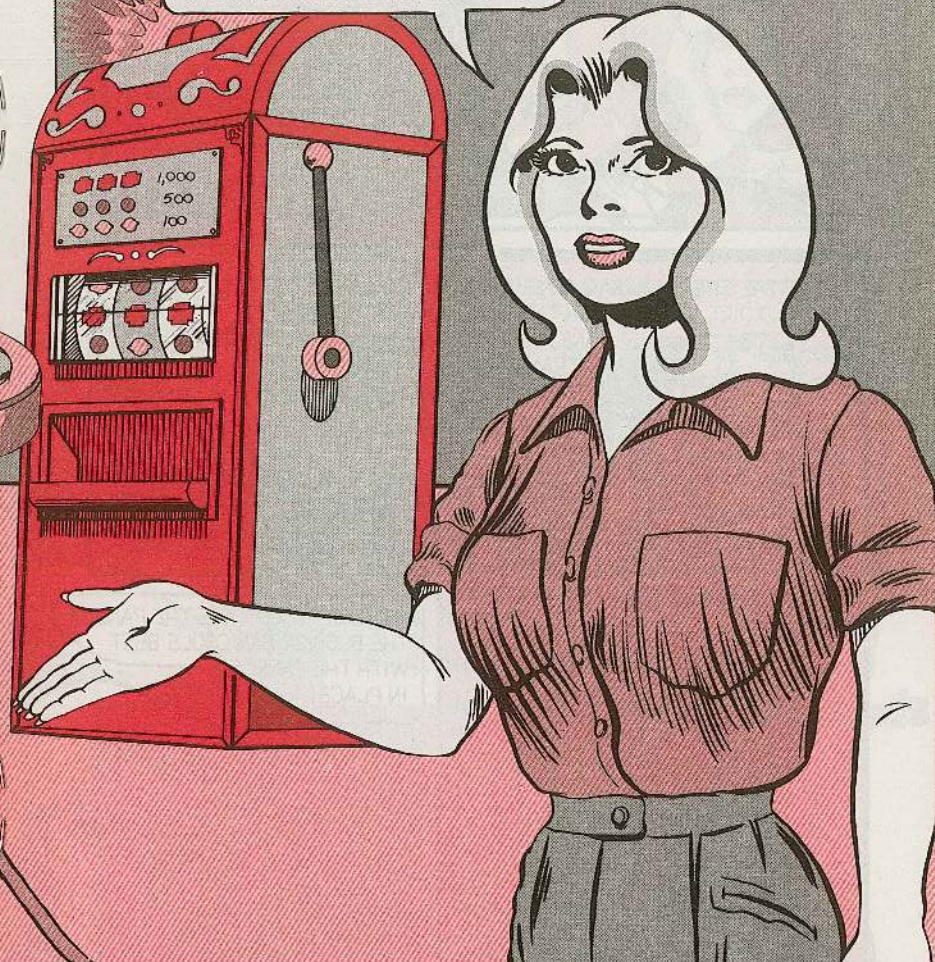


ALWAYS TURN YOUR RADIO OFF BEFORE SLIDING THE RECEIVER-TRANSMITTER INTO THE MT-1029 MOUNT. LEAVING THE SET ON WILL CAUSE ARCHING BETWEEN THE RT'S CONNECTOR AND MOUNT RECEPTACLE!





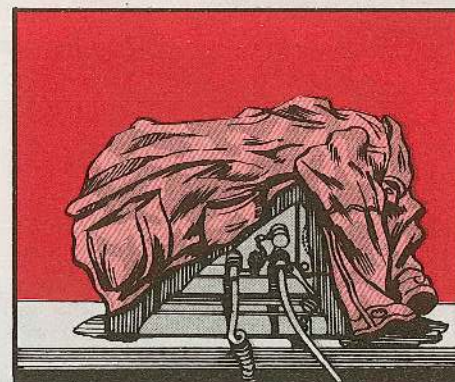
PM IS YOUR RADIO'S BEST BET,
TO AVOID THE GAMBLER'S DEBT.
FOR WE KNOW IT'S SO—
IT'S PM THAT KEEPS IT A-GO,
AND THE TM WON'T LET YOU FORGET!



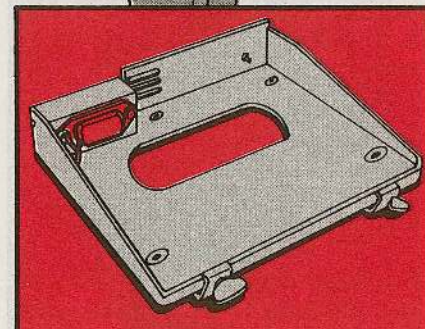
WE HAVE THE WORLD'S BEST EQUIPMENT ... *Take care of it*



32



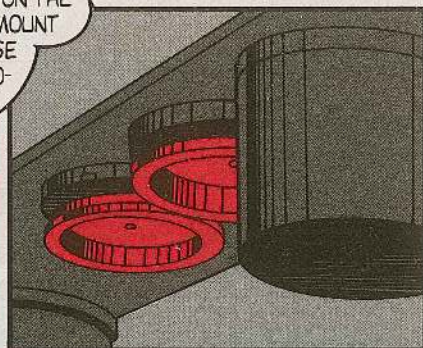
- PUT RAGS SOAKED IN COLD WATER ON THE RT TO KEEP IT COOL.
- SHADE THE RT WITH THE VEHICLE'S CANVAS TOP, OR PARK IN A SHADED SPOT.
- USE LOW POWER FOR TRANSMISSIONS OF LESS THAN 15 MILES. LOW DRAWS LESS CURRENT, MAKING LESS HEAT THAN HIGH.
- IF YOU'RE TRANSMITTING MORE THAN 15 MILES, USE HIGH POWER. BUT KEEP TRANSMISSIONS SHORT. WHEN YOU'RE THROUGH, SWITCH BACK TO LOW POWER.



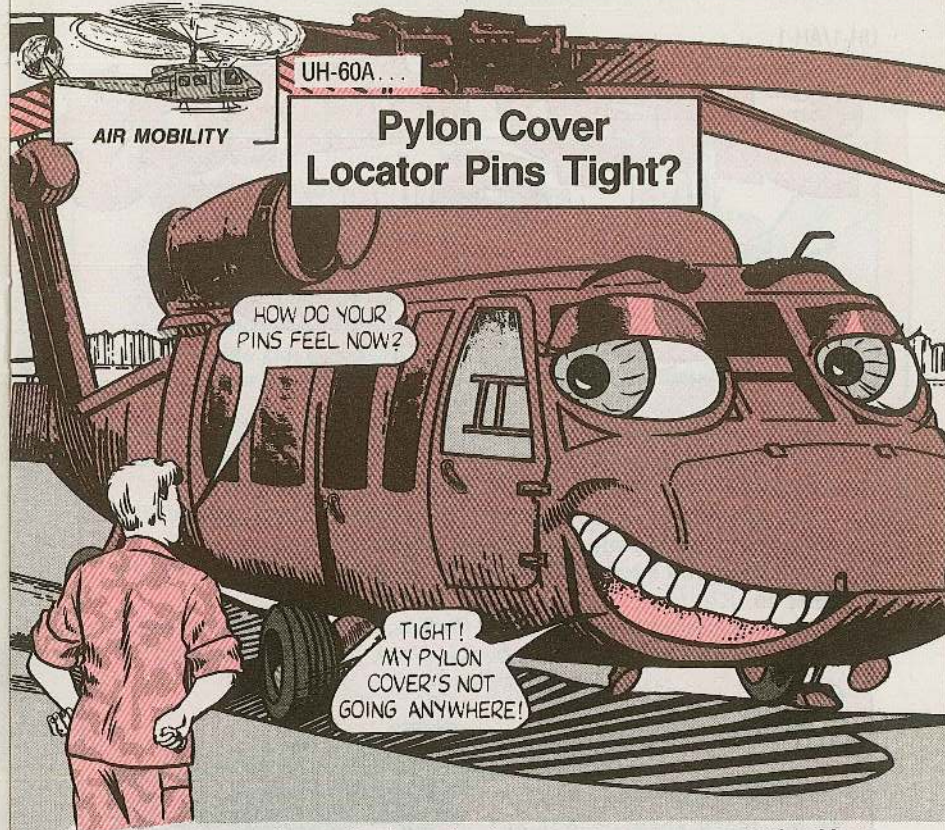
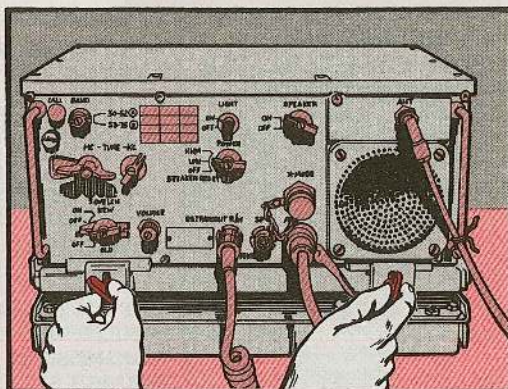
MT-1029, -1898 Mounts

WHEN THE RT'S OUT OF THE MOUNT, PROTECT THE RECEPTACLE WITH A COVER, NSN 5935-00-911-2323!

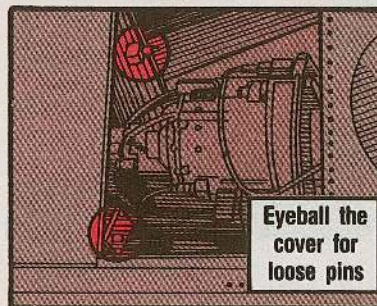
33



AFTER YOU SHOVE THE RT OR R-442 IN THE MOUNT, TIGHTEN THE CLAMPS WITH THE WINGNUTS. SNUG THOSE WINGNUTS OFTEN TO MAKE SURE THE SET'S SECURE IN THE MOUNT!



Loose locator pins on the forward pylon cover mean you may not be able to secure the sliding cover. It could slide back during flight.



So the next time your bird is in for scheduled maintenance, eyeball the cover for loose pins. If you find any, tighten them according to the instructions in Step 1 of Task 12 in TM 55-1520-237-23-5. But watch it! That task is misleading.

It calls for checking only 4 pins, but you need to check and torque all 8 pins—2 forward, 2 in the middle and 4 aft.

To make sure the pins are torqued right, loosen the nuts that hold them in

place. Then snug 'em up finger tight. Open and close the cover a couple of times to make sure the pins and cover are lined up. Then torque each nut to 304-336 in-lb, like it says in the TM.

Snap Ring's a Snap

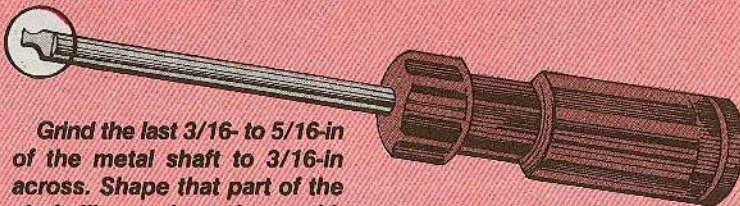
Dear Editor,

It's a pain to remove the spiral retaining rings on UH-1 and AH-1 tail rotor drive shaft and gearbox couplings using a knife blade, screwdriver or awl, like it says in TM 55-1500-204-25/1.

We spend lots of time getting the rings out and scratch the coupling's cover plate and jab our hands.

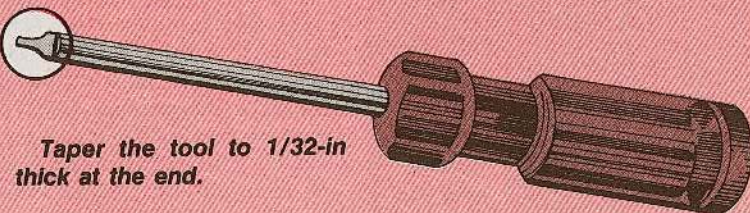
I've designed a tool that makes it a snap to remove the ring. It's safer to use, too.

You can salvage a broken No. 2 Phillips, offset or standard screwdriver, or use 3/16 or 1/4-in bench stock 4-to-6 inches long.



Grind the last 3/16- to 5/16-in of the metal shaft to 3/16-in across. Shape that part of the shaft like an hourglass, with the middle 1/8-in wide.

Use a bench grinder or hand file to shape the tool head like so:



Taper the tool to 1/32-in thick at the end.

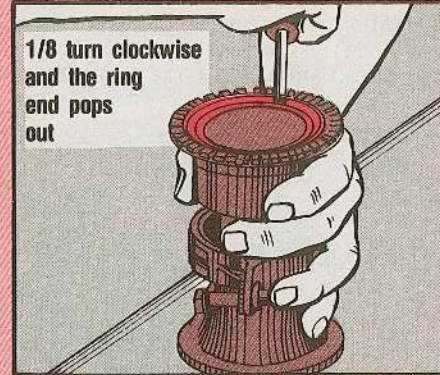
Put the tool's tip into the slot between the retaining ring's exposed tang end and the recessed groove, at right angles to the ring and coupling face.

Bear straight down on the tool, turning it clockwise about 1/8 turn.

The tang pops out and up, free from the groove. Complete the removal by grabbing the snap ring end and peeling it out. Be sure to hold the cover against the internal spring load.

Garry C. Waliczek
AASF #2, NYARNG
Niagara Falls, NY

1/8 turn clockwise
and the ring
end pops
out



(Editor's note: Thanks for making this job a snap!)

UH-1...

Ground Wheels Fix

Locking the ram cylinder assembly into the trunnion of your Huey's ground handling wheels can damage the cylinder and trunnion threads.

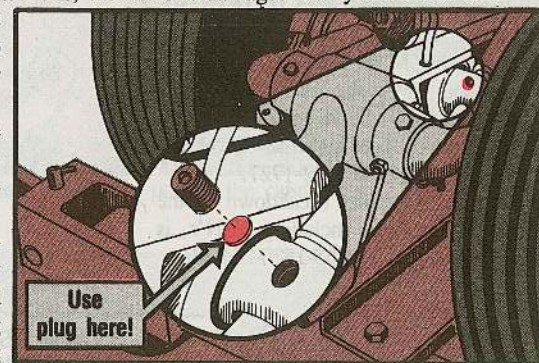
The setscrew that locks the ram cylinder in place is the culprit. The screw has to be tight, but the tighter it is, the more it damages the cylinder's threads.

When the cylinder is removed, threads strip out. Then the cylinder has to be replaced.

Cost—\$22.82. If the trunnion has to be replaced, that's \$18.24 more.

SSG Derone B. Cushman of the 88th Army Reserve Command solved the problem by installing a soft aluminum plug between the setscrew and the cylinder threads. It binds the cylinder without damaging the threads.

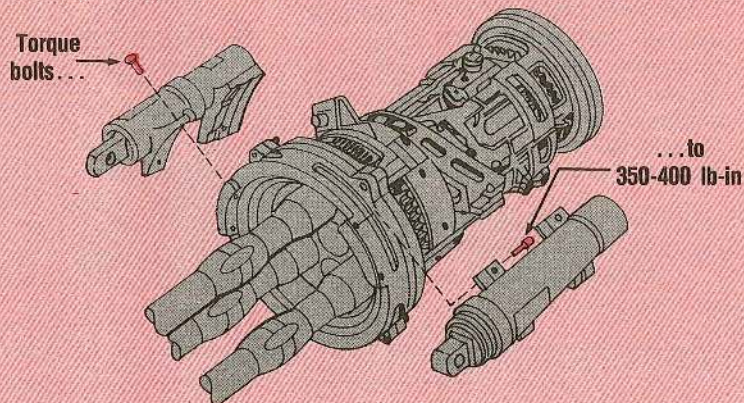
You can make the 5/16-in diameter plug from .040-in aluminum 2024-0 soft sheet.



Use
plug here!

Torque 20-MM Gun Bolts

When you armament mechs install the slider and recoil adapter of the Cobra's 20-MM automatic gun, be sure you torque the bolts to 350-400 lb-in (39.54-45.19 NM). Instructions for torquing the bolts are being added to Para 3-54 of TM 9-1090-206-20-1 and TM 9-1090-206-20-2.



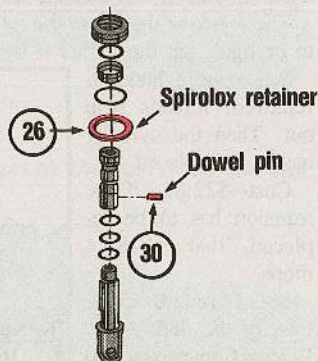
AH-1S (Mod)...

Damper Assembly Repair Kit

Every part you normally need to repair your Mod Cobra's damper assembly is in repair kit, NSN 1615-00-167-8150. But the Spirolox retainer, Item 26 of Fig 6-21 in TM 55-1520-234-23, and the dowel pin, Item 30, are not in the kit.

You can get the retainer with NSN 5365-01-091-1039 and the dowel pin with NSN 5315-00-682-1727.

A complete parts breakdown of the damper assembly, including NSN's, is being added to TM 55-1520-234-23P.

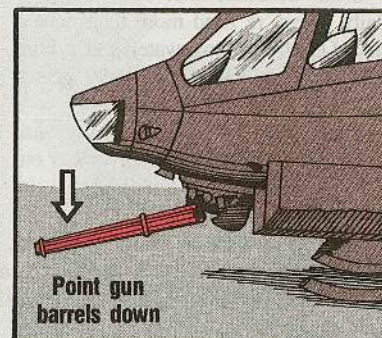


UNTIL IT'S ADDED, SEE FIG-29A OF TM 55-1520-234-23P-1 FOR A COMPLETE BREAKDOWN.

Keep Guns High and Dry



Moisture, dirt and other gremlins can get into the Cobra's 20-MM cannon and cause it to misfire—or not fire at all. So, clean and lube the cannon like the TM and LO's say.



And when you complete a mission, protect the cannon by pointing the gun barrels down.

THAT WAY, RAIN CAN'T GET INTO THE BARRELS AND RUN DOWN INTO THE GUN HOUSING.



Keep Launchers Launchin'



Dirty, corroded and unlubed 2.75-in lightweight launchers are temperamental. So you have to keep those launchers clean and well-lubed, like it says in Table 3-2 of TM 9-1055-460-13&P. You just can't expect 'em to work right if they're dirty, rusted or not lubed.

Clean launchers after each firing, or daily if they're fired more than once a day. Use hot, soapy water and a bore brush. NSN 7930-00-282-9699 gets a gallon of mild detergent.

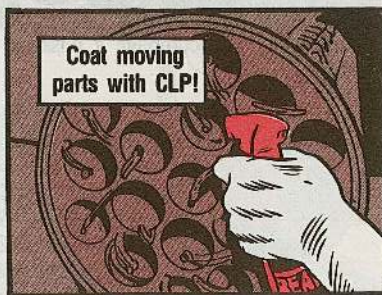
Scrub each tube and then rinse with clean water. Be careful to keep water out of the launcher's firing umbilical sockets. Let the tubes air dry.

Then apply CLP to all moving parts, surfaces that will rust and the fuse umbilical connectors on M260 and M261 launchers. NSN 9150-01-079-6124 gets a 4-oz bottle of CLP. NSN 9150-01-054-6453 gets a pint and NSN 9150-01-053-6688 gets a gallon.

Clean the connectors with an acid swabbing brush, NSN 7920-00-514-2417. Flush away the residue and blot off any excess fluid with a cloth or towel.

Store the launchers in a sheltered, well-ventilated area or cover them loosely with a tarp.

Never seal launchers with tape or put them in plastic bags. That'll just make for rusty launchers.

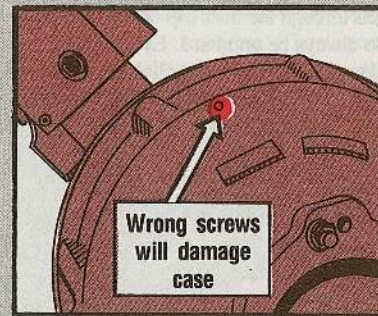


Right Screws in Right Holes



Careful, Cobra mechs, when you re-install the tail rotor drive gearbox covers. Some of the screws you use to attach the covers to the tailboom structure are longer than others.

If you get the screws mixed up, you could damage the gearbox case beyond the limits described in Fig 6-41 of TM 55-1520-236-23-1. Then you have to replace the gearbox—and those things cost Uncle big bucks!



To install the gearbox covers, use machine screws, NSN 5305-00-849-4642 and NSN 5305-00-912-7307. You need 16 of each.

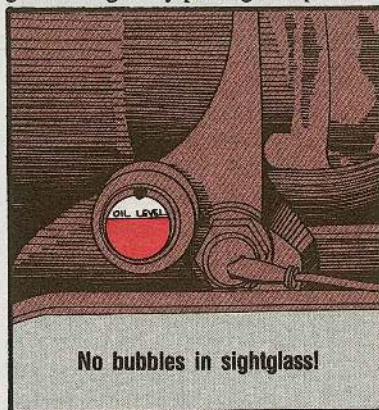
See Fig 44 of TM 55-1520-236-23P to see which goes where. The shorter screws are Item 58. The longer screws are Item 57.

Gearbox Contamination?

MY INSIDES
FEEL ALL
MUSHY!

The oil in your bird's tail rotor gearbox is constantly being attacked, both from within and from without.

Moisture in the air contaminates oil. It gets through the filler cap or through seals. So always be on guard. Eyeball the sight glass during every pre-flight inspection.



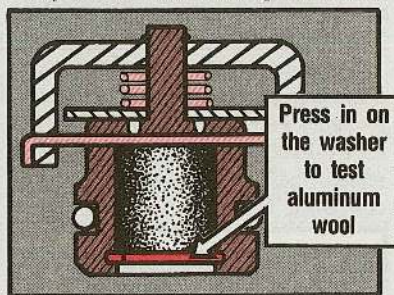
No bubbles in sightglass!

If you see any water bubbles; or if the oil has a dirty, milky appearance, drain and flush the gearbox. Refill the gearbox like it says in your bird's maintenance manual.

Another source of oil contamination is the aluminum wool that's part of the gearbox filler cap assembly.

If the AOAP lab says you have high aluminum wear in the gearbox, check out the filler cap.

Lay it on a workbench upside down.



Press in on the washer holding the wool in place, then release. it. If the washer springs back against the retaining ring, the wool's OK. If it doesn't spring back, the wool is worn out.

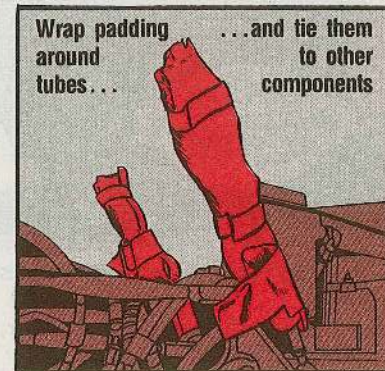
Replace the wool with NSN 5350-00-286-4851. Use enough to put the washer under tension, then insert the retaining ring.

Protect Loose Tubes

Protect disconnected cyclic and collective control tubes, Kiowa mechs.

If you walk off and leave 'em dangling in the breeze, you're asking for trouble. Somebody could unwittingly hit the control sticks and send the tubes banging against each other and other components. Then you'll probably have to replace 'em.

Do like the note says in Para 11-76 of TM 55-1520-228-23—take precautions against damage when the tubes are disconnected.



Attach caution signs to the flight controls

Tie the loose ends of the tubes to another component with string. Then attach caution signs to the control sticks. This lets others know the tubes are disconnected and cautions them against moving the sticks.

A few extra minutes spent tying off tubes and posting caution signs could save a lot of time, effort and money in replacing damaged tubes.

AVIATION MESSAGES

CAT 1 EIR Phone
AUTOVON 693-2066
(24 hours)

If your unit has not received a message you have an interest in, check with your next higher headquarters.

AH-64-87-06, SOF, Maint Mandatory, Inspection for fuel cell leaks, 081800Z Mar 87.

AH-64-87-07, SOF, Maint Mandatory, Electrical cable chafing inspection, 231430Z Mar 87.

AH-64-87-08, SOF, Operational, Restriction on firing area weapon system, 312330Z Mar 87.

CH-47-87-04, SOF, Technical, Inspection of transmission to cooler fan quill shaft, 051915Z Mar 87.

UH-1-87-04, SOF, Maint Mandatory, Revision to inspection of swashplate control assembly for proper serialization and identification, 201530Z Mar 87.

UH-1-87-05, SOF, Maint Mandatory, Inspection for nonconforming 90-degree fittings, 122330Z Mar 87.

UH-60A-87-03, SOF, Technical, Inspection of first three tail rotor drive shaft couplings, 132215Z Mar 87.

UH-60A-87-04, SOF, Maint Mandatory, Revision to inspection of eyebolt, NSN 5306-01-102-8797, 242300Z Mar 87.

SOF-GEN-87-01, SOF, Technical, Night Vision Goggles operations, 280030Z Mar 87.

MIM-AH-1-87-XSOF-01, Main rotor bearing, 800-hr bolts kit, tail rotor clamp nut, rod end bearing, 122030Z Mar 87.
MIM-AH-1-87-XSOF-02, Correction to message concerning tail rotor drive shaft clamp nuts, 301700Z Mar 87.
MIM-UH-1-87-XSOF-01, Component update number 3, 021800Z Mar 87.
MIM-UH-1-87-XSOF-02, Engine exhaust pipe clamp assembly, 031730Z Mar 87.
MIM-CH-47-87-XSOF-01, Modification of automatic flight control system computer, 312100Z Mar 87.

A Little Care



Audio accessories are small on the scene, but they play a big part when it comes to keeping your commo gear communicating.

So, while you're taking care of your radio, radars, telephones, teletypewriter, computer and the like, add PM care for the accessories.

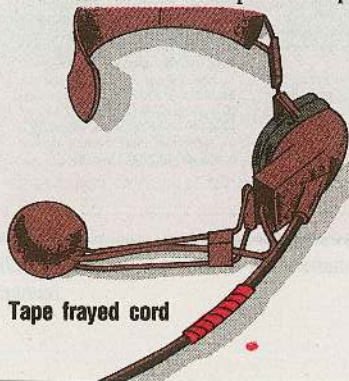
Are caps, cups and connectors clean, dry and free from breaks and cracks? Are mouthpieces and earpieces snug? Do they have all their parts? Are connectors and plugs tight and making good contact?

Eyeball cords and cables for cuts, cracks, kinks or frays; headsets for cracks or dirt; headband for wear or breaks.

Cord, Cable Care

When it comes to cords or cables, treat them with respect. Twisting, pulling or yanking tears up inside wiring or pulls the cord loose from the case.

Sometimes damage doesn't call for replacement. You can usually repair a frayed or scuffed cable with a piece of tape, NSN 5970-00-419-4291. If a wire or the insulation is exposed—but there's no evidence of wire damage—go ahead and tape.



Tape frayed cord

Use at least two layers of tape. Tape an inch beyond the damaged area in both directions. Forget taping if you see dry rot, damaged wire or two or more bare wires.

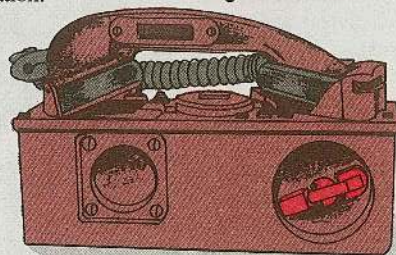
You can keep your cable flexible and head off dry rot with a thin coat of silicone grease, NSN 6850-00-880-7616, on the insulation.

is a Big PM Plus

Dry's a Must

Keep moisture out of your accessories. Wetness will wash it out of operation.

Make sure rubber boot's over push-to-talk and ring generator switches are present and in good shape. No cuts, cracks or holes are allowed—except for the TA-1 telephone set's cover which comes with a small vent hole.



Make sure handset, generator works

Many handsets come with moisture shields to protect the elements from weather. Be sure they're on the job.

If the shield goes on the outside of the handset—like the H-60—keep it there. It won't fight moisture as well if it's on the inside of the cover.



Moisture shields cracked? Replace 'em!

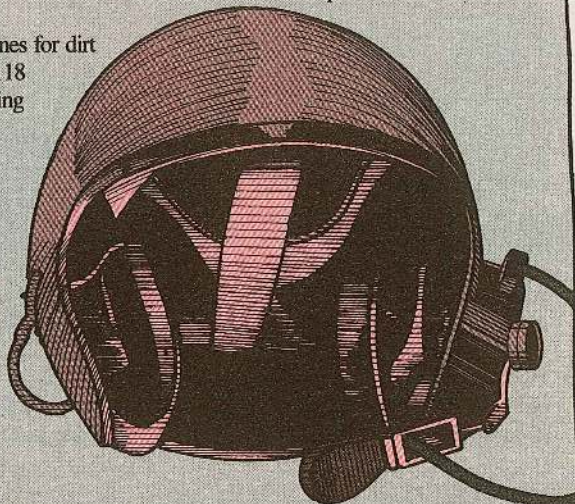
For the Case

Keep the outsides of your accessories in good shape with care and cleaning. They're tough, but they won't take a lot of banging and knocking. Plastic cases need extra care, especially in cold weather when they get brittle.

Use cleaning compound, NSN 6850-00-597-9765, to keep your accessories clean.

For CVC helmets and headset headbands, use mild soap and warm water for cleaning.

Look inside the earphones for dirt and moisture. TB 43-0118 gives you info for fighting mildew, fungus and corrosion.



Keep clean
with warm,
soapy water!

Connection Protection

Make sure your connector has its O-ring. Without it, moisture creeps in and knocks out your accessory and, maybe, the entire commo configuration.

A light coat of silicone grease on the O-ring makes for a snugger fit. If you get any grease on the contacts, wipe it off.

Eye the keys and keyways. Be sure to mate them before you tighten the connection.

A bad connection line-up damages keys or contacts. Then, other damage—like shorts—will knock out major components.

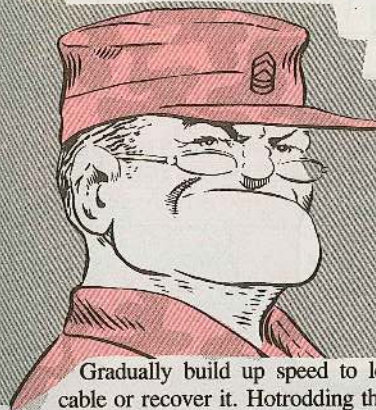
If you have a headset with a break-away connector, make sure it will. If it fails to come apart easily, the cord may snap instead.

Keyway



Make sure
O-ring is
there

Keep Reel Ready and Rolling

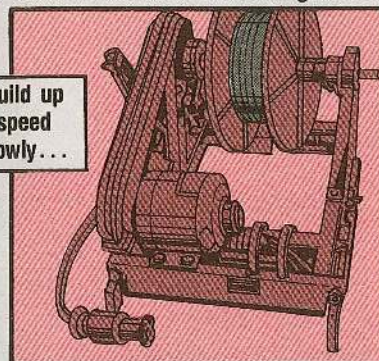


A LITTLE MIND WORK
CAN SAVE YOU SOME TOUGH
HAND CRANKING WITH THE
RL-172 REELING MACHINE!
PUT YOUR MENTAL
PENCIL TO THESE PM TIPS:

Gradually build up speed to let out cable or recover it. Hotrodding the reel

Make sure the crank handle is tucked into the control and crank arm when

Build up
speed
slowly...



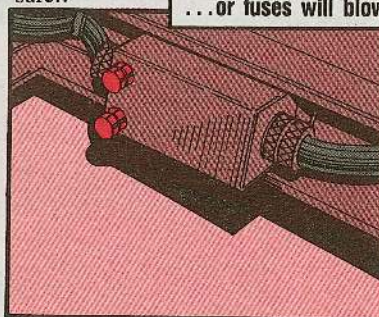
Handle crank handle snug?

you're not manually operating the reel. It'll get damaged or broken if it's left sticking out. It could even wallop an unwary person.

Give the power cable insulator covers an eyeball before hooking the cables up

will knock out those 20-amp slo-blow fuses. You'll go "reel" slow then for sure!

...or fuses will blow



Check the insulator covers

to a power source. If the covers are torn, cracked or missing, get them replaced. Without them, you'll wind up with a short or a shock.

PM Now Gets Party Later



THINK AHEAD WHEN
IT'S TIME TO PACK
UP AND MOVE ON.
YOUR PM NOW WILL
HELP YOU
COMMUNICATE LATER!

Pack-it-up-and-move-it-out time for your switchboard is PM-plus time...to make sure you can communicate the next time.

When you disconnect the field wire, never yank it. You'll damage the terminal binding post. Then the post won't grip the wire next time you need to hook up.

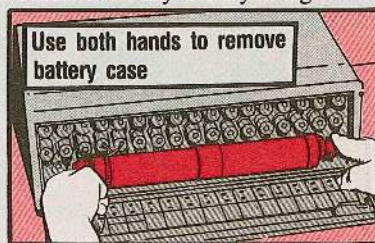
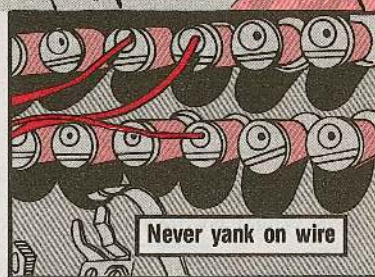
Remember to push the spring-loaded post in before taking the wire out!

If a binding post sticks, loosen it with a dab of silicone, NSN 9150-00-257-5358.

You can tell a post is sticking if the wire comes out easily when you tug on it.

Be sure to recover your ground rod, too. Operating your switchboard without a ground rod is an electrical accident waiting to happen—a zapped switchboard or, worse, a charred you!

Use both hands to take out the battery case, like it says on Page 2-5 of TM 11-5805-262-12. Using one hand to twist out the case damages the spring contacts.



Be sure to take out the batteries before putting the case back in the SB. Batteries left in your gear can leak and corrode—silencing your set when you need it most to communicate.

Eyeball the spring clips. They need to be snug on the battery case's end contacts. If the clips are too loose, they'll make poor contact.

Squeeze the clips, gentle like, to keep them making good contact.

Eye the rubber cord sleeves on the TA-222 line jack. If they're splitting, cut 'em back. Taper the cut so re-seating's easy.

Never cram the operator's cord into the switchboard before snapping the cover on. You'll damage the cord, line pack plugs, and cateyes.

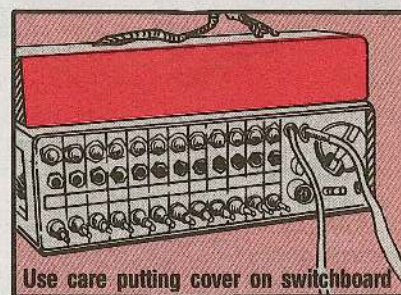
When you're storing your SB after using it, wrap the operator's cord round the line jack plugs. Then it's easy to button up the cover latches.

Eye the plugs before stowing your switchboard. Dull plugs make for poor contact or no contact at all.

Clean the plugs with a treated cotton polishing cloth, NSN 7920-00-985-6849—either when you're shutting down or when you're back at garrison.

Never use solvents or abrasives, such as steel wool or metal polish. You'll shorten the life of a plug.

Be sure to tuck the H-182 headset-microphone into the SB cover. Never cram the headset...you'll have to force on the cover, and that can break the headset or mangle plugs.



PACK THE HEADSET
LIKE IT SHOWS YOU IN
FIG 1-0 OF THE TM.



Snug Lugs Are Gear Savers



Arcing and corrosion are knocking out commo gear!

A loose connection between the CX-10761 power cable and PP-4763 power supply damages the cable, power supply or both. This stops AN/GRC-122, -142 radio teletypewriter set operations.

When you hook up the CX-10761 to the lugs in the power supply, be sure you match polarity.

Put the positive cable lug over the power supply's positive load terminal. Then match the negative lug to the negative terminal.

If you reverse 'em, you'll damage your AN/GRC-106 radio set.

Also, be sure to make the internal power setting for 115 or 230 volts, like it tells you in Para 2-4 of TM 11-5820-765-12.

After you've got the cables on the right terminals, make sure the lugs are snug.

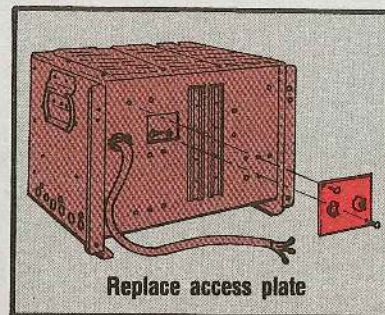


Then coat the lugs with silicone compound, NSN 6850-00-880-7616, to head off corrosion.

Put the lugs under the terminal nuts and tighten. Replace missing nuts with NSN 5310-00-939-2653.

Loose lugs are a setup for arcing and corrosion that'll blow the power supply's M2 output current meter.

Be sure to replace the output terminal access plate and secure the cable clamps. This helps keep the lugs from working loose.



Back off with the boots when you're turning on the power switch and circuit breaker. Use your finger instead.

Even though it's handy to use your foot—since the power supply's on the shelter floor—forget it. A swift kick will tear up the switch for good.

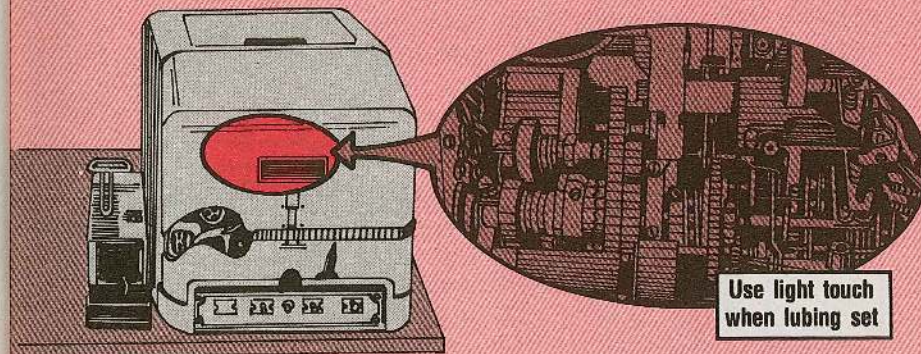


Teletypewriter...

Little Lube Goes Far

A dab of oil goes a long way in lubing your AN/FGC-25 teletypewriter set. Too much oil makes moving parts of the machine stick.

Lube the perforator only where instructed in TM 11-5815-244-12. Never use more oil than is called for.



An oil film buildup will freeze "T" levers. So, clean off excess oil.

If the levers stick, free them with a squirt of Freon. NSN 6850-00-105-3084 gets a 16-oz can.

If this fails, get DS to loosen up the levers of the perforator.

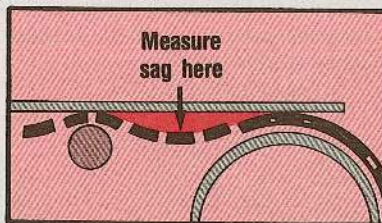
Track Adjustment Talk



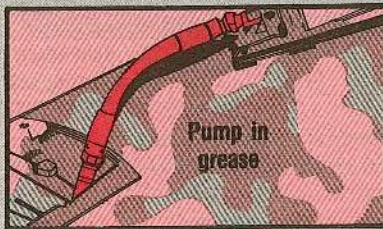
TO GET THE MOST OUT OF YOUR D7 OR D8 CATERPILLAR'S UNDERCARRIAGE, PROPER AND FREQUENT TRACK ADJUSTMENT IS A MUST!

If your track's too tight, it puts a lot of stress on undercarriage and drive train components. If it's too loose, it whips around, wearing out roller flanges and sprocket teeth.

The amount of sag in your track tells you when adjustment is necessary. Measure sag by laying a straight edge across the top of the track from the idler to the front track support roller. If the track sags more than 1½ inches on a D7 or 2 inches on a D8, it's time to adjust.



Here's how to adjust track:



Make sure your tractor's on level ground, but keep it in its working environment.

Open the cover to the track adjusting mechanism and connect a grease gun to the lube fitting. Pump in grease until the track idler is as far forward as it'll go.

At this point, the track will be almost straight between the front carrier roller and the idler.

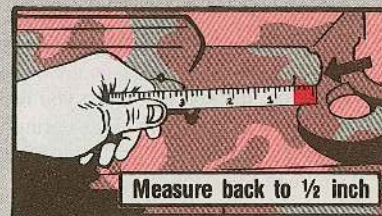
Mark the track roller frame one-half inch behind the rear edge of the idler bearing assembly wear plate.

Open the hydraulic relief valve one-sixth turn at a time. You can tell if grease is escaping by watching your track. It'll get loose.

Never look directly into the relief valve. A shot of high pressure grease could blind you.

Once the track is loose, place a track pin or drawbar pin between the sprocket teeth and the track.

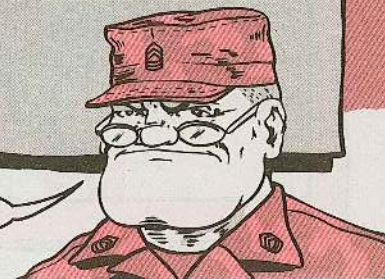
Start your tractor and back it up until the idler backs up one-half inch or more. The pin will be at roughly the 12 o'clock position.



Now move the tractor forward until the pin can be removed.

Close the relief valve. Connect the grease gun and pump in grease until the rear edge of the idler bearing assembly aligns with the mark on the roller frame.

SAG MAY VARY FROM ONE VEHICLE TO ANOTHER, BUT TRACK IS PROPERLY ADJUSTED.

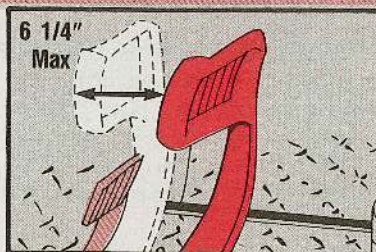


Steering Brake Adjustment

OH, NO! MY
STEERING BRAKES 'RE
NOT WORKING!

"Pedal to the metal" may be great at the racetrack. It's not, tho, when you're pushing a D7 Cat...and the steering brake pedals are to the floor!

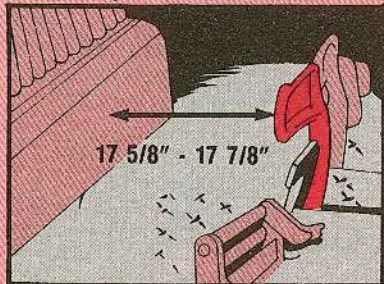
It's time to adjust the brakes when the pedal travel is more than 6 1/4 inches with the parking brake disengaged. Measure it at the center of the pedals. Check 'em every 250 hours and adjust if necessary.



Remove the guard and the brake screw cover.

Use a torque wrench and turn the adjusting screw clockwise until you get a reading of 15 lb-ft.

Back off the screw 1 1/2 turns (9 clicks). This gives the right clearance between the brake linings and the drum.



Tighten...then back off

Adjust the pedal linkage so there's between 17 5/8 and 17 7/8 inches between the brake pedal face and the front of the seat support.

Repeat the procedure for the other pedal.

Replace the cover and guard. Replace the cover gasket if it's damaged.

Filter Hose Shortage

I GOT FUEL FILTERS
WITHOUT HOSES... WHAT
DO I DO NOW?

Dear Half-Mast,

Some of the in-line fuel filters we get for our M4K forklifts come without hoses or with hoses that are too short. Others have two 4-in long preformed hoses that work just right.

What gives?

SGT T. J. B.

Dear Sergeant T. J. B.,

As you found out, not all in-line fuel filter kits are equal under NSN 4330-01-159-5840.

A change in the hose style puts several lengths under the same NSN.

Until the old style hose is out of the supply system, there's no telling which length you'll get.

You can get the fuel filter and hoses separately. NSN 2910-00-847-9503 gets the filter, and the 4-in long preformed hoses come with NSN 4720-01-159-7979.



You need two 4-in long
preformed hoses

Half-Mast

One Too Many Shear Pins

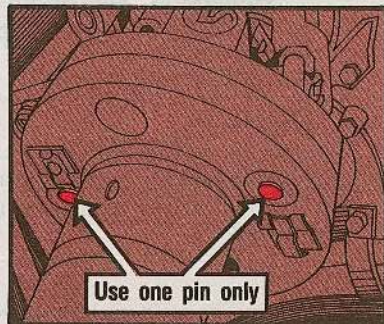
MY SHEAR PINS
DIDN'T SHEAR!



Before operating your rotary tiller, make sure the transmission-to-rotor-drive prop shaft coupling has just one shear pin.

If the coupling has two pins and the tiller binds up on a rock or log, two pins won't shear. Other parts of the rotor and jack axle are damaged.

Tillers coming from the factory have two shear pins holding the coupling together. One has to be removed. So let your mech know ASAP if you find two pins. He'll remove one of 'em using instructions on Page 1-4 of TM 5-3895-359-14&P.



600 GPH ROWPU Pins

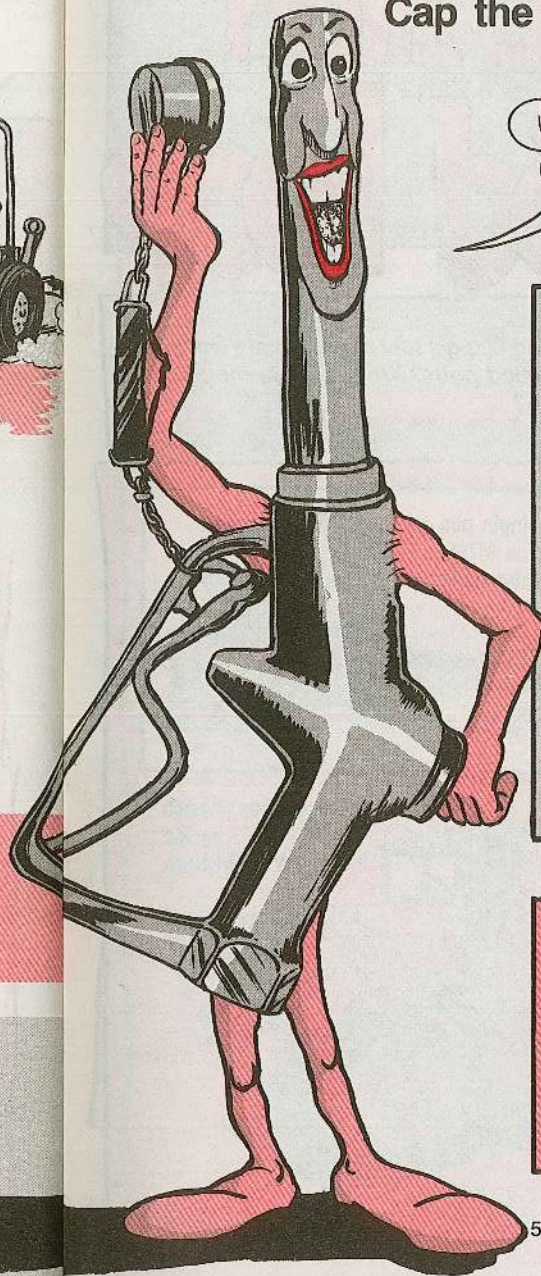
Quick release pins, NSN 5340-01-138-2151, Item 24 in Fig 13 of TM 5-4610-215-24P, are too short. Use longer pins, NSN 5340-00-159-3739. The NSN is not on the AMDF yet, so order on a DD Form 1348-6.

Portable Tool Outfit Hinge/Seal

To get the tool box or side door hinge/seals on your portable electric pioneer tool outfit's trailer body, use PN SW11809M, FSCM 98255 and RIC A12. Order on DD Form 1348-6. In the form's Remarks block, write the end item's NSN and whether the seal is for the tool box or trailer.

Cap the Nozzles

WATER AND DIRT CONTAMINATE
THE FUEL IF YOU DON'T
USE NOZZLE DUST CAPS.



Pump operators, if your caps are broken or missing, order a new cap assembly:

Nozzle Size (in)	NSN or PN
13/16	296CA-13-16
1	5340-00-832-7796
1 1/8	4730-00-360-0614
1 3/8	296CA-1-3-8
1 5/8	4930-00-119-0452
1 3/4	296CA-1-3-4
2 1/8	296CA-2-1-8
2 1/4	296CA-2-1-4
2 5/8	296CA-2-5-8

For PN requests, order on a DD Form 1348-6 using RIC S9C and FSCM 81718.

If you have the cap but need to replace the hook, chain or spring use:

Name	NSN
S-Hook	4030-00-803-0272
Chain	4930-00-120-9602
Spring	5360-00-522-2247

600-Gallon Fuel Pod Poop

Dear Half-Mast,

What's the straight story on hauling 600-gal fuel pods? What vehicles can we use? Can we carry non-baffled pods? What are the methods for tie-down, blocking and bracing?

SGT I. D. K.

Dear Sergeant I. D. K.,

TROSCOM Msg. AMCPM-PWL, DTG 181430Z Feb 87, has the latest bare bones info. Here're the details.

You can carry a single 600-gal fuel pod on an M796 bolster trailer or a 2½-ton cargo truck.



A single pod
on an M796
bolster trailer

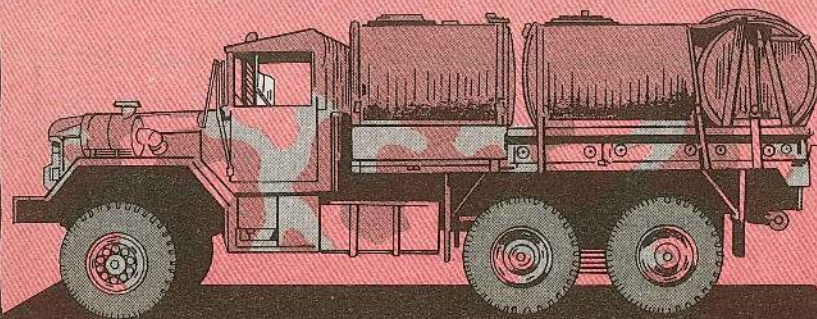


Two pods...each
half full...on the
2½-ton truck

The 2½-ton truck can carry two pods only if each pod is half-full... 300 gallons per pod...or less. Never transport more than 600 gallons of fuel on a 2½-ton truck.

JULY 87

You can haul two full 600-gal pods on a 5-ton cargo truck. It is the prime hauler of the tank and pump unit. It is the only truck that can carry a full load...1,200 gallons of fuel.



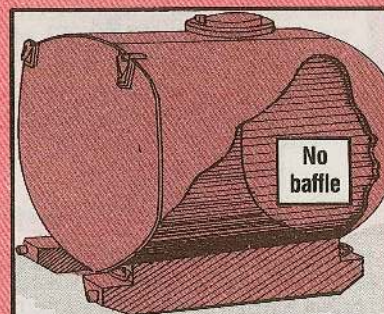
Two full 600-gal pods—on the 5-ton truck

Non-baffled pods can be transported, but because of fuel sloshing there is a greater risk of unbalancing your vehicle and turning it over.

So, non-baffled pods should be used in stationary locations and only carried on a vehicle when baffled pods are not available.

When you do use non-baffled pods on vehicles, avoid sudden stops, lane changes and go slowly cross country.

Para 4-4 in both TM 10-4930-204-13 and TM 5-4930-230-13 has the tie-down, blocking and bracing info. See your Troop Support Logistic Assistance Representative (LAR) for diagrams for each vehicle. They were included as a part of TROSCOM Ltr. AMCPM-PWS, 25 Nov 85.



Non-baffled pods are only carried when baffled pods are not available

Half-Mast

JULY 87

59

BDU Patching

**Dear Half-Mast,
Can BDU's be patched? If so, with what?**

SSG L. C. S.

Dear Sergeant L. C. S.,

Unit maintenance can patch BDU's if the hole is no bigger than 2 inches. Use NSN 8305-01-084-1670 for the woodland camouflage cloth. Unit of issue is a yard. Use thread, NSN 8310-01-066-0973. The NSN's are not on the AMDF, so order on a DD Form 1348-6. Enter in the Remarks block, "NSN not on AMDF."

Or use iron-on patch, NSN 8305-00-460-4200.

Follow the instructions for patching in Para 4-5(5) in TM 10-8400-201-23 Jun 86.



Half-Mast

POL Hotline Help

Not sure if a particular lube's the right one for ground equipment? Got questions about the quality of fuels and lubes? Get the answers from the ground equipment POL hotline, AUTOVON 354-4325. When you call, be ready to give the Qualified Product List (QPL) number. It's on the lube container. There are two letters and then three or four numbers, like ML-1234. A QPL is given to each lube that meets military specs. The QPL is all the info the hotline people need to identify the lube you have.

THE QPL IS ALL THE
INFO HOTLINE PEOPLE NEED
TO IDENTIFY THE LUBE YOU HAVE



**Connie's
POST
SCRIPTS**



GOOD PM ON ME
IS GOOD FOR YOU!

M113-Series FOV

The PMCS changes on Pages 2 and 3 of PS 415 are included in Change 2 to TM 9-2350-261-10 (Apr 87) as "during operations" checks. If you don't yet have Change 2, follow the info in PS, with all of the checks made during operation, not before.

Pocket-Size PMCS

If you don't already have one, you'll soon be getting a pocket-sized PMCS chart for your M113A2-series carrier.

It's TM 9-2350-261-PMC. The 3x5, varnished paper is water resistant and fits easily in your jacket pocket.

The TM lists all Daily Before-, During- and After-Operations checks for the M113A2-series carrier's driver, commander and gunner. It has safety cautions and warnings, and a blank page for "Notes."

If you didn't get your copy of the mini-manual, get your pubs clerk to request it from the Baltimore Publications Center, on a DA Form 4569.

AS-1425/GRC Antenna

No need to order a new dish when the inserts break loose from the ring on your AS-1425/GRC antenna. Get the ring assembly with NSN 5985-01-176-0013. It's not in your TM, so make a note.

☆U.S. GOVERNMENT PRINTING OFFICE: 1987-748-003/60008

Cylinder Valve Cover Up

If you need one, you can get a cap for an oxygen cylinder with NSN 8120-00-179-0076. This cap fits tanks with 3 1/8-in diameter necks. Use NSN 8120-00-178-9814 for a cap to fit acetylene tanks with 3 1/2-in diameter.

ECU Trim Tool Change

Stop using the jewelers screwdriver called for in your M1-series tank's -20-1-2-2 for making Electronic Control Unit (ECU) trim adjustments. If the screwdriver hits the side of the circuit card, it'll short out the card and give you a shock. Instead, use the TA621 ECU trim adjustment tool found in the STE-M1/FVS test set. It's shown in Fig 19-10 on Page 19-31 of TM 9-2350-264-20-1-2-2 and in Fig 19-4.6 on Page 19-22.9 of TM 9-2350-255-20-1-2-2.

Training Package Available

It's easier to stay ahead of vehicle corrosion if you know the facts. TACOM has a training package that includes a guide, viewgraphs and a 35-MM slide presentation. Request it from:

**US Army Tank-Automotive Command
ATTN: AMSTA-MTC
Warren, MI 48397-5000**

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

Distribution: To be distributed in accordance with DA Form 12-5-R, for TB 43-PS-Series.

**JUST A
LITTLE OL'
NEGLECTED
CONNECTION**

CAN...

... DELAY A MESSAGE...

... STALL A TANK...

... DOWN AN AIRCRAFT...

... LOSE A BATTLE!