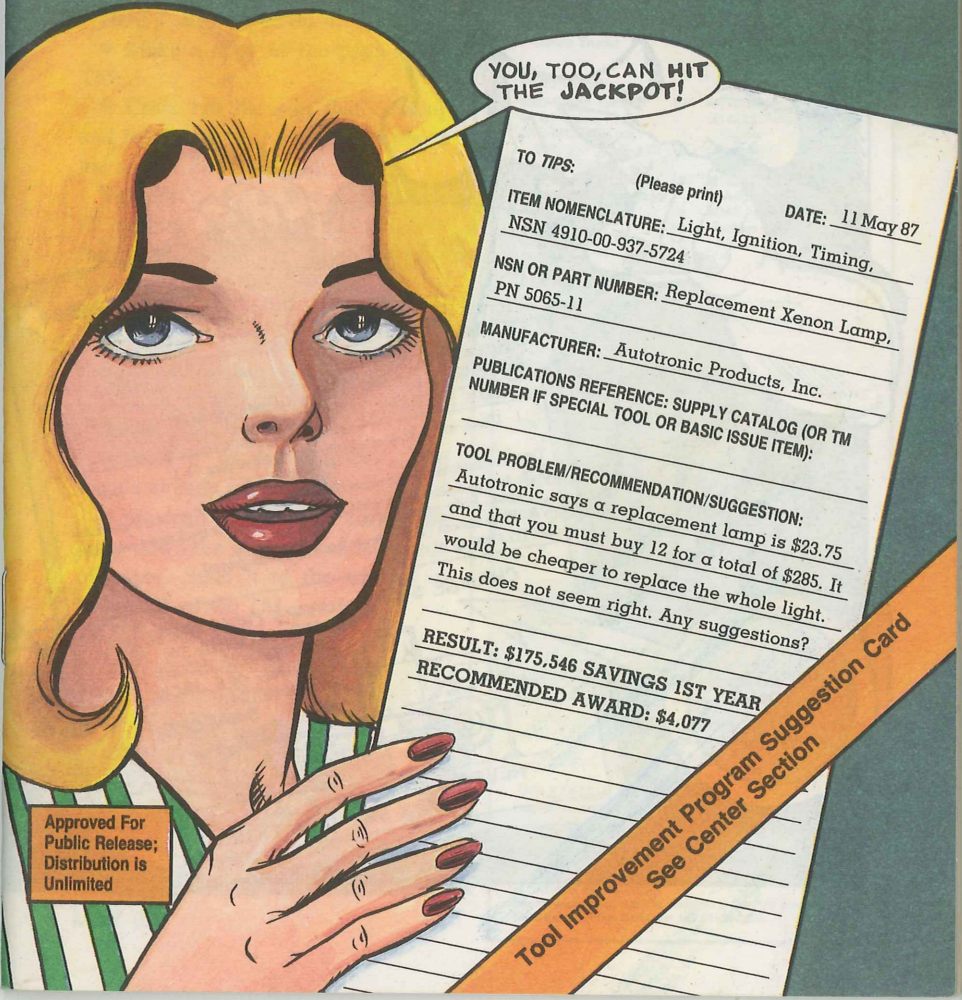
Issue 438

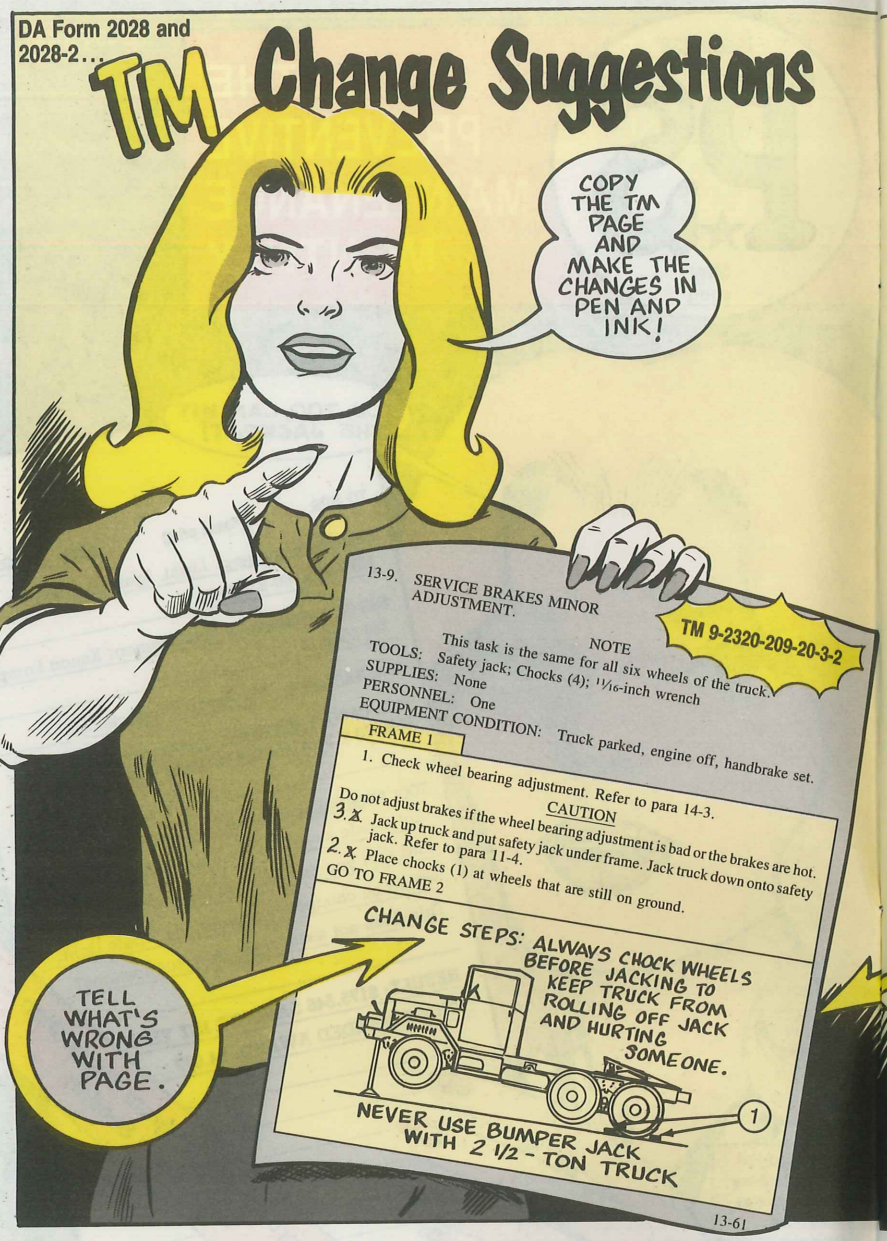
PS

May 1989

THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-438





Made EASY

Good news! Now there's no need to go to all the work of filling out a DA Form 2028 or 2028-2 to suggest improvements to equipment TM's.

You can just fire off a pen-and-ink change to the incorrect page. It will be processed just like a 2028.

Here's one way to do it:

- Make a copy of the page in the TM.
- Cross out the part that's wrong and jot down your suggestion above the text or in the margin.

You don't need to give a solution to the problem. But if you'd like to give the reason behind your suggestion, jot it down on the front of the 2028 or 2028-2 form.

- Staple the TM page to the 2028-2 form from the back of the TM.

Write your rank, name, address and phone number on the form.

- Send it to the headshed. The form's already addressed.

If you can't locate this form, just write down the information on a piece of paper. Send it to the address in Chapter 1 of the TM.

PS THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-438, 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 438 MAY 1989

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:

MSG Half-Mast
The Preventive Maintenance Monthly
Lexington, KY 40511-5101

By Order of the Secretary of the Army:

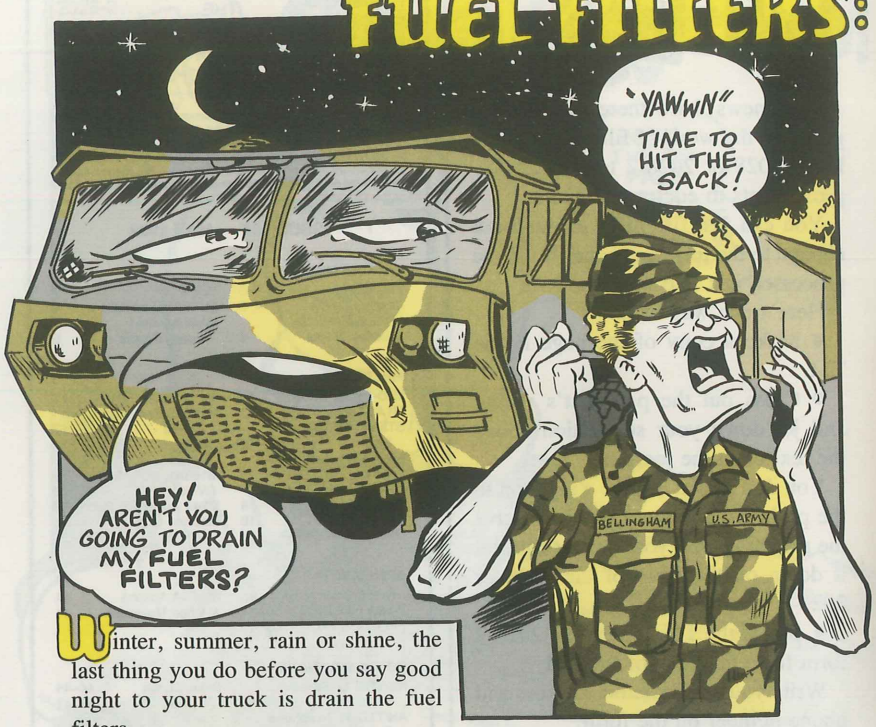
CARL E. VUONO
General, United States Army
Chief of Staff

Official:

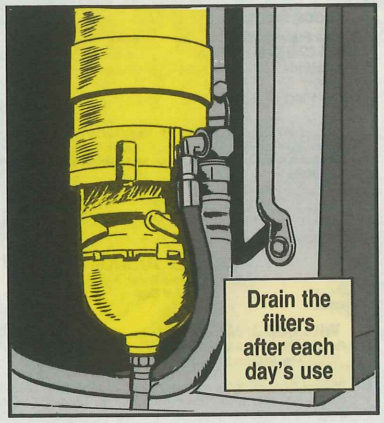
WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Washington, D.C. Second Class Postage is paid at the Lexington, KY post office and at additional mailing offices.
Postmaster: Send address changes to Cdr. US Army Pubs Ctr, 2800 Eastern Blvd, Baltimore, MD 21220-2896.

FUEL FILTERS:



Winter, summer, rain or shine, the last thing you do before you say good night to your truck is drain the fuel filters.

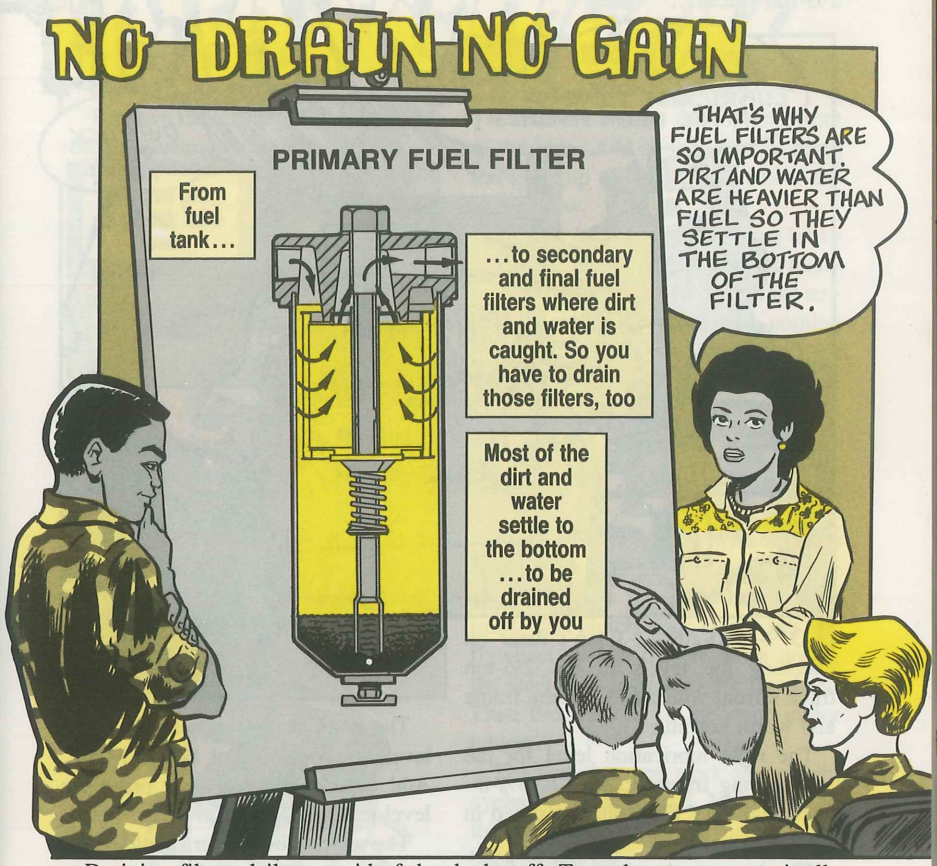


A funny thing happens if that's not the routine. One morning you go out and crank your truck's engine. The engine starts, runs, coughs, chokes down and then dies. You crank and crank, but the engine won't start again.

The problem is water in the fuel. Water sneaks into a vehicle's fuel system through condensation or it gets pumped in when you refuel. Any water is bad news for diesel and multifuel engines.

Water fouls up the fuel injector. In winter it freezes and ice clogs the fuel lines and filters.

NO DRAIN NO GAIN



Draining filters daily gets rid of that bad stuff. To make sure you get it all, drain into a glass or clear plastic container. Water contaminated fuel looks cloudy and dirt looks like dirt. Keep draining until you see only clean fuel. Then dump the bad fuel in an approved container.

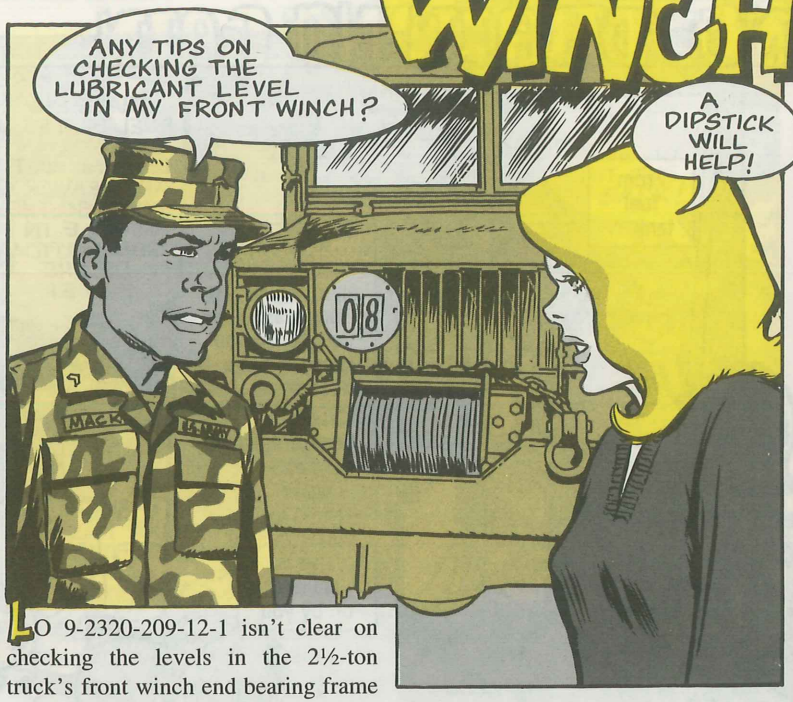
Change the filter elements on schedule and by the book—the LO or TM. Use all the right parts, elements and gaskets called out and clean the filter housing and reusable parts before you put the filter back together.

In winter always keep your truck's fuel tank topped off to the fill line. The more fuel in the tank, the less room condensation has to form and that means less water in the fuel system.

If your truck doesn't have a fill line, get your mechanic to paint one on. Instructions are on Pages 40–41 of TB 43-0209.

2½-Ton Trucks...

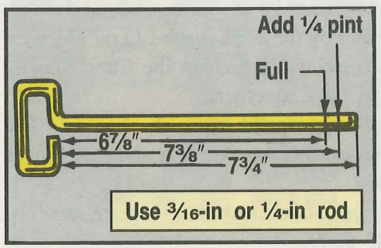
WINCH LUBE CHECK



LO 9-2320-209-12-1 isn't clear on checking the levels in the 2½-ton truck's front winch end bearing frame and worm housings.

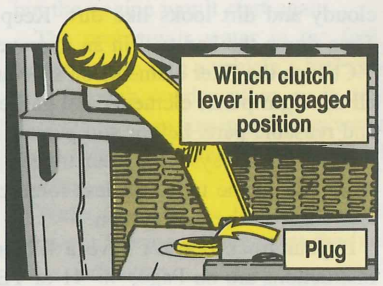
The right lubrication level for the end bearing frame housing is 6⅞-inches below the filler plug as stated in Note 6 of the LO.

Checking the level is easier if you make a dipstick from a 3/16-in or ¼-in rod. Use a file to mark it like this:

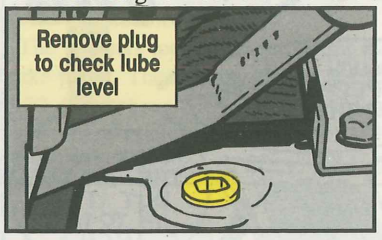


The mark at 7⅜ inches shows the level at about ¼ pint below FULL. Add exactly that much to bring the level up to FULL.

The winch clutch lever should be engaged—positioned all the way over to your left as you face the truck.



Remove the check plug from the top of the housing to check the lube level.



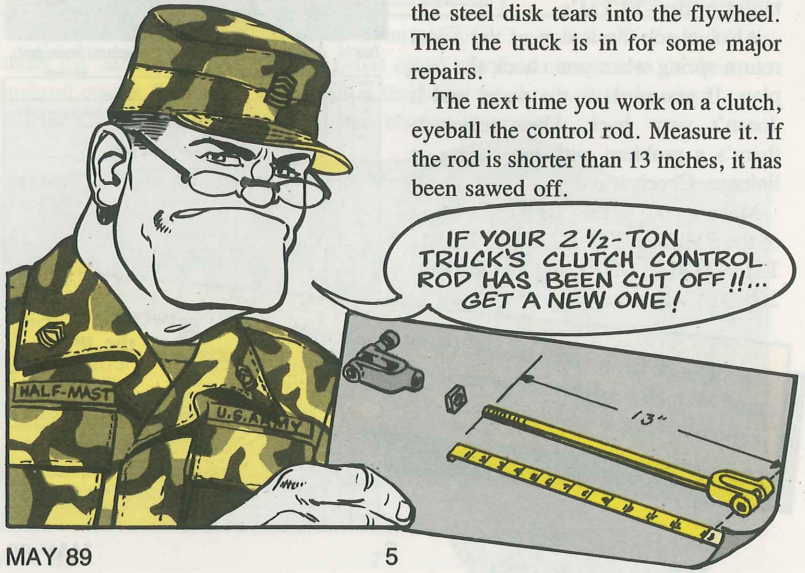
Then measure from the top and front of the hole. Add enough lube to bring the level up to the FULL mark if the lube is low.

Be sure not to move the drag brake adjusting screw on the side of the housing. This messes up the drag brake tension. If that happens, there's nothing to keep the cable from coming off the drum faster than the cable's paid out.

2½-Ton Trucks...

No Monkeying With Clutch Control Rod

Some mechanics think it's OK to monkey around with the free travel adjustment on a 2½-tonner's clutch. They saw off the end of the clutch control rod to stretch the clutch linkage.



This throws a monkey wrench in the works. The right limit is built into the clutch linkage. If you go beyond that limit, the clutch disk rivets rub the flywheel. When they're worn down, the steel disk tears into the flywheel. Then the truck is in for some major repairs.

The next time you work on a clutch, eyeball the control rod. Measure it. If the rod is shorter than 13 inches, it has been sawed off.

Brake Free Travel Limited

Mechanics, the pedal free travel on 2½- and 5-ton trucks with air/hydraulic brakes must be between ¼ and ½ inch. This info was left out of the PMCS tables in the -20 TM's.

Also, check the action of the pedal return spring when you check the free play. If you push in the pedal and it doesn't snap back when released, there's a problem with the spring or linkage. Check it out.

Make a note in the "Brakes" section of the PMCS in TM 9-2320-209-20-1, TM 9-2320-211-20-1 and TM 9-2320-260-20-1, like so:

e. Check brake free travel. Pedal free travel must be between ¼ inch and ½ inch. Adjust as needed. Determine if the action of the pedal return spring is satisfactory.

Table 1-1. Organizational Preventive Maintenance Checks and Services (cont.).

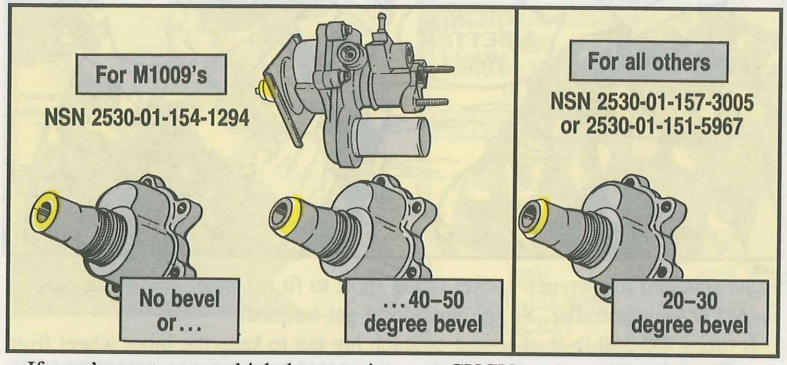
Item No.	S	A	B	Item To Be Inspected	Procedures
	S-Semiannually	A-Annually	B-Biennially		
4				Cab safety devices	Observe the following items and their controls for security, ease of movement, and proper operation:
					a. Horn
					b. Windshield Wipers and Washers
					c. Seat Belts and Fasteners
					d. Turn Signals
					e. Panel Lights
					f. Headlights
					g. Stoplights
					h. Blackout Lights
					i. Parking Lights
					brake pedal. The wheel brakes must release immediately and without difficulty.
					d. With vehicle on incline and transmission in neutral, engage parking brake. Vehicle must not move.
					e. Check brake free travel. Pedal free travel must be between ¼ inch and ½ inch. Adjust as needed. Determine if the action of the pedal return spring is satisfactory.
7				Steering	e. Check vehicle response to steering wheel action. Vehicle must respond instantly. Check steering wheel free play. With vehicle moving forward, free play must not exceed more than 1 inch (2.54 cm) in either direction.

BRAKE BOOSTERS are DIFFERENT

The hydraulic brake boosters on the M1009 CUCV are different from all other models of CUCV's. If you put an M1009 booster on another model CUCV, the brakes will not work right.

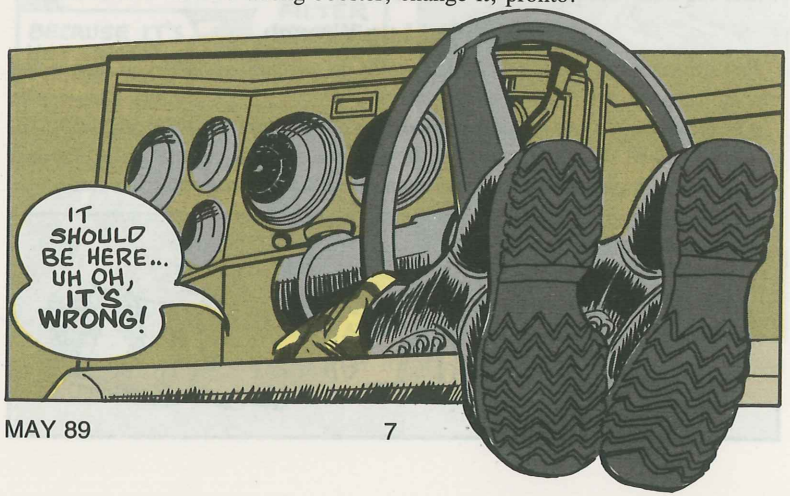
The boosters look alike except for the pushrod end—where it attaches to the brake pedal. The housing on the M1009 booster is machined flat, or has a 40- to 50-degree bevel. It is NSN 2530-01-154-1294.

All other models use NSN 2530-01-157-3005 or 2530-01-151-5967. The pushrod end has a shallower, 20- to 30-degree bevel.



If you're not sure which booster is on a CUCV, get a flashlight and look under the dash. Follow the brake pedal up to where it connects to the booster pushrod on the firewall. Look close at the bevel on the pushrod housing.

If the CUCV has the wrong booster, change it, pronto!



Tools to Torque Inner Lug Nuts

The standard lug wrench socket is too short to fit the inner wheel lug nuts on an M172A1 semitrailer. So the nuts don't get torqued.

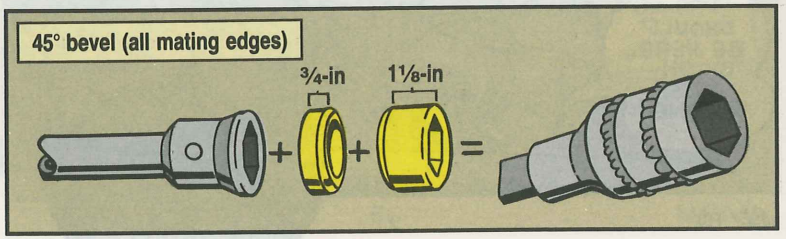
It takes 300-350 lb-ft of torque on each lug nut to keep the inner wheel from wobbling. You'll need a deep-well socket, NSN 5120-00-261-2821, to torque the inner nuts.

After the inner lug nuts are tight, put on the spacer, the outer wheel and outer wheel lug nuts. Torque 'em to 450-500 lb-ft.

Modified Lug Wrench

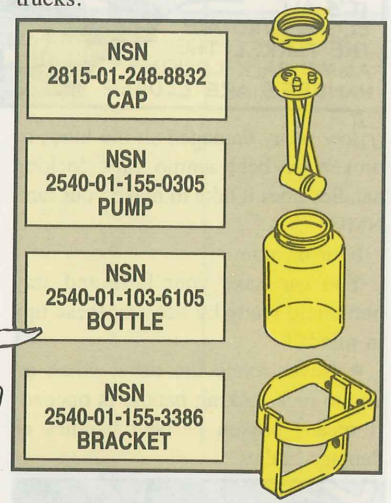
But drivers, that deep-well socket won't do you any good if you have a flat out on the road, miles from the tool box.

You need to get your support to modify your lug wrench, NSN 5120-00-316-9217, so it'll fit the inner nuts. All they've got to do is cut off part of the hex end, weld on a piece of tubing and then put it all back together like so:

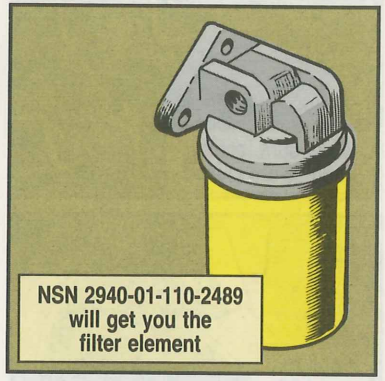


Windshield Wiper Parts

Here're the parts for the windshield washer assemblies on the M939/M939A1-, M911- and M915-series trucks. One assembly fits all these trucks.



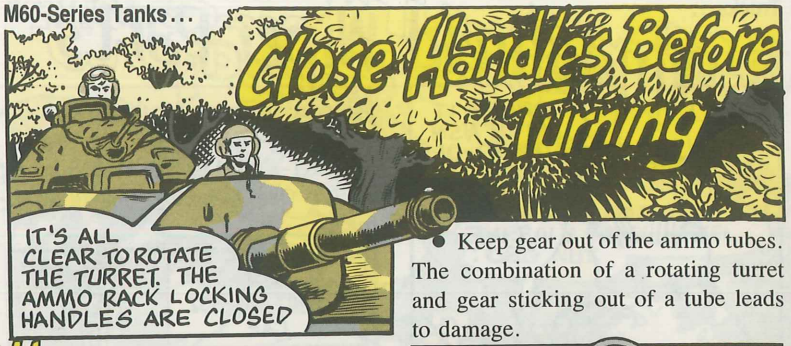
Transmission Oil Filter NSN



The spin-on transmission oil filter for these 5-tonners is not shown in TM 9-2320-272-20P, and the NSN is wrong in the -34P-1.

M60-Series Tanks...

Close Handles Before Turning



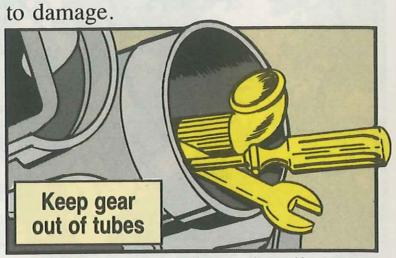
How many damaged ammo tubes or broken or bent ammo rack locking handles does it take to make your tank NMC?

Four or more.

You can save your hide and stay battlefield ready by keeping these tips in mind:

- Never rotate the turret when an ammo rack locking handle is opened. It means broken or bent handles or damaged tubes.

- Keep gear out of the ammo tubes. The combination of a rotating turret and gear sticking out of a tube leads to damage.



- Never use a tube or handle to get in or out of the turret. It's a sure step to damage.
- Tape or wire the handles closed if you aren't carrying ammo.
- If your tank still has the long-style handles in your hull ammo racks, have your mechs replace them. They'll need 15 handles, NSN 5340-01-039-8593, for the left rack, and 11 handles, NSN 5340-01-039-8594, for the right rack.

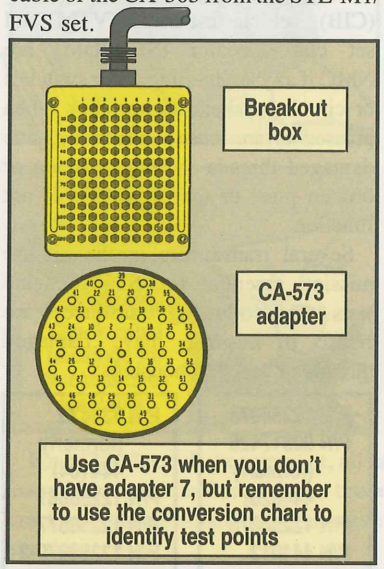
The short handles help prevent damage, but only you can stop it in its tracks.

M1A1 Tanks...

Adapter Can Sub for Missing Part

Breakout boxes are in short supply, but No. 7 adapters for the boxes are even more scarce. The No. 7 adapter is needed to test the tank commander's panel and the temperature control unit. No adapter, no test. Right?

Wrong! The solution is to use the cable adapter CA-573 from the STE-M1/FVS test set. CA-573 can be hooked up to the breakout box in three ways: with the adapter cable No. 1 from the breakout box; or the CX-304 cable or the CX-305 from the STE-M1/FVS set.



Since CA-573 is not wired the same as adapter No. 7, you must use a conversion chart to identify test points on the breakout box versus those on the line replaceable unit TJ-1 wiring diagrams.

Here's the conversion chart:

Breakout box test point	TJ-1 test point using CA-573
7	1
8	2
9	3
10	4
11	5
12	6
13	7
37	8
15	9
16	10
17	11
18	12
1	13
2	14
3	15
19	16
38	17
21	18
14	19
40	20
41	21
23	22
50	23
51	24
39	25
26	26
27	27
63	28
42	29
65	30
74	31
75	32
76	33
77	34
4	35
5	36
6	37

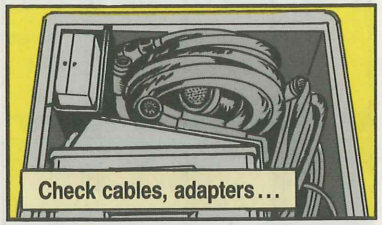
Now Reportable

The three major subgroups of the STE-M1/FVS test set are now readiness reportable under AR 700-138.

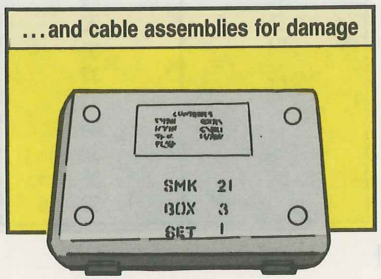
This includes the STE core (LIN TO6859), M1 peculiar equipment (LIN A10867) and M2/M3 peculiar equipment (LIN A10769).

In the core, the following cables and adapters are NMC if they are missing, have damaged or missing pins, damaged threads or cuts or breaks in insulation such that bare wire is exposed:

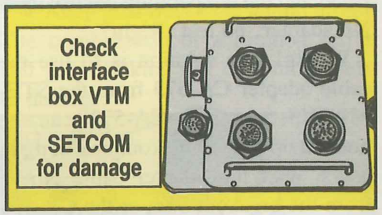
- DCA cable assembly W1
- Special cable assembly W2
- Power cable assembly W5
- Cable assembly CX50



- Power cable assembly W4 (both W4 cables must be NMC for the entire set to be NMC)
- Connector adapter CA101
- NATO adapter CA1



- Cable assemblies CX304, 305, 306, 307, 308 and 309 (both CX307 or CX308 must be NMC for the entire set to be NMC)



The controllable interface box (CIB), vehicle test meter (VTM) and set communicator (SETCOM) are NMC if any are missing; their switches or circuit breakers do not click when pressed or are loose; connectors have damaged threads or bent, missing or broken pins; or the displays will not function.

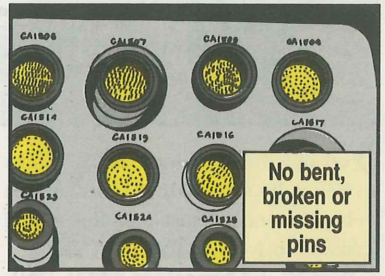
Several transducers in the kit are mission essential for BFVS engine tests. The following transducers are NMC if missing, have damaged threads or cracked housings:

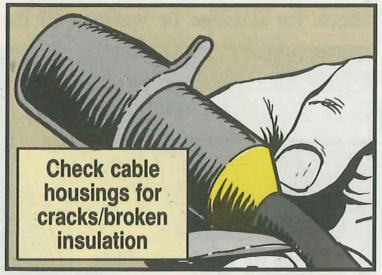
P/N 12258878	P/N 3304X2 (formerly 444104)
P/N 00917425 (formerly 444620)	P/N 12258881
P/N 12258876	P/N 12258877
P/N 444012	P/N 12258879-2

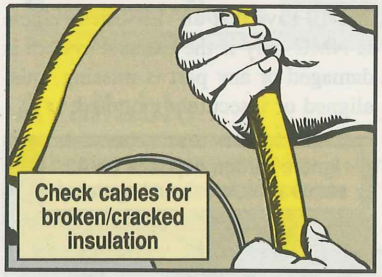
for FMC/NMC

Additionally, the core equipment must pass the functional self-test in TM 9-4910-751-14-1 to be FMC.

For M1 peculiar equipment, all cables, adapters, transducers and electronic assemblies must not be missing, and must be free of bent or missing pins, damaged threads and cracked/broken insulation or housings.

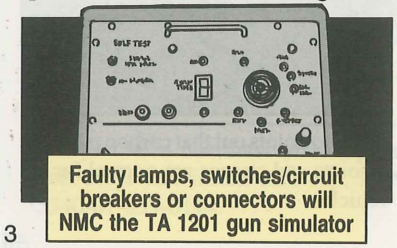






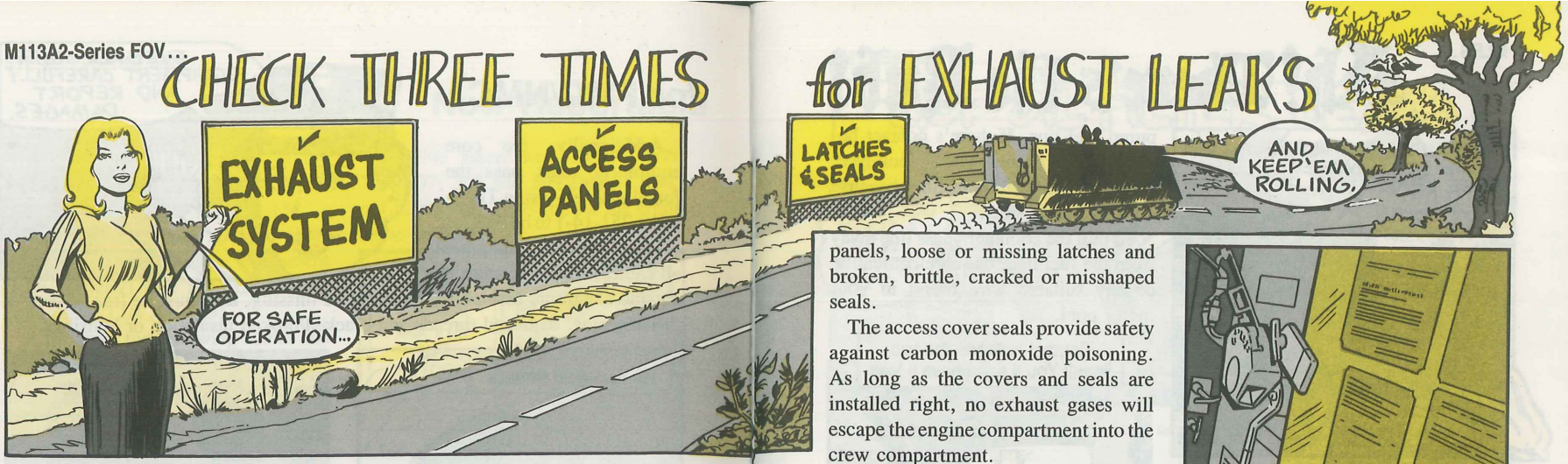
For M2/M3 peculiar equipment, all cables, adapters, transducers and electronic assemblies must be free of bent, broken or missing pins, damaged threads and cracked/broken insulation or housings except for the non-critical TA1202 grenade simulator.

The TA1201 gun simulator will be NMC if any lamps are loose or broken, the switches/circuit breakers don't click when pressed or are loose, or the connectors have bent, missing or broken pins or damaged threads.



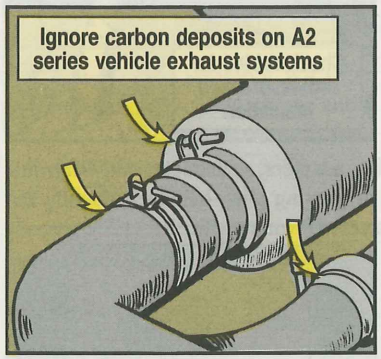
M113A2-Series FOV...

CHECK THREE TIMES for EXHAUST LEAKS



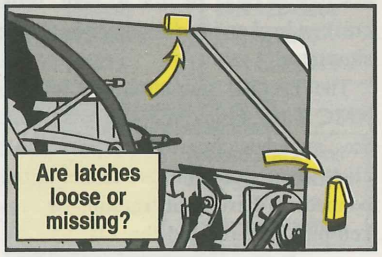
You must make three PMCS checks to be totally sure your M113A2-series vehicle has no exhaust leaks that would make it Not Mission Capable (NMC).

Item 60 in Change 3 to TM 9-2350-261-10 says that an A2-series vehicle is NMC only if the exhaust system is damaged or any part is missing, misaligned or insecurely mounted.



It also points out that carbon particles at joints and clamps are normal for the vehicles.

In addition to Item 60, you must also consider Items 44 and 46 in Change 2 to the TM. They say that your vehicle is NMC if the power plant access panels will not seal. That means you check for damage or warping in the panels, loose or missing latches and broken, brittle, cracked or misshaped seals.



The access cover seals provide safety against carbon monoxide poisoning. As long as the covers and seals are installed right, no exhaust gases will escape the engine compartment into the crew compartment.

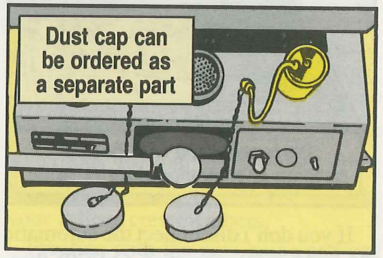
Never operate a carrier with missing engine compartment access covers and seals unless it's during a maintenance check.

This information is backed up by Para 2-14c of AR 385-55, Prevention of Motor Vehicle Accidents.

M2/M3-Series Bradleys/MLRS (M993)...

Dust Cap Available

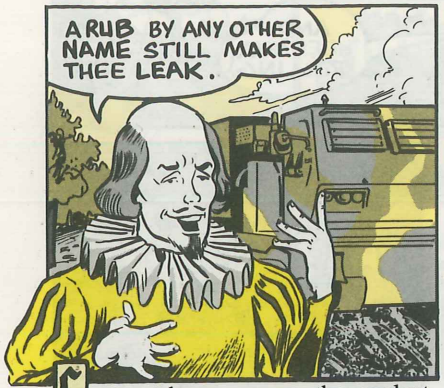
The dust cap for your Bradley's slave cable receptacle is now available as a separate part from the receptacle.



If you need one, have your support unit order and install dust cap, NSN 5340-01-059-0114.

MLRS...

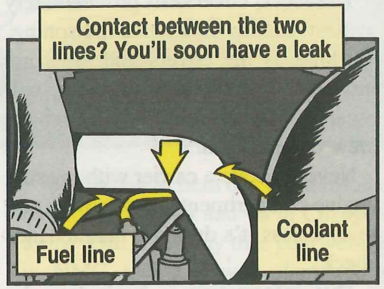
Ah! There's the Rub!



Cast a sharp eye on the coolant bypass line that crosses the engine just under the radiator of your MLRS.

Run your hand along the aluminum line where it goes over the cold start pump fuel line. If there's contact between the two lines, you'll soon have a leak in the aluminum line, because the fuel line is steel.

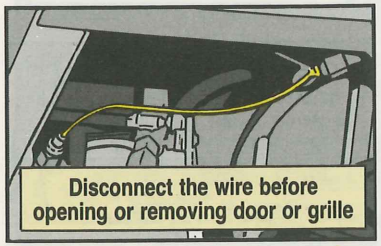
To pull the coolant bypass line away from the fuel line, use an electrical tie or any suitable wire found in your motor pool.



M992 Ammo Carrier...

Disconnect Thermal Wires

Every time you remove the doors and grilles to pull the power pack on an M992, disconnect the thermal wires.



If you don't disconnect the automatic fire extinguisher system (AFES) thermal wires, you'll rip them off. That puts the fire sensors out of commission

until the wires are replaced and makes your vehicle NMC!

TM 9-2350-267-20 is clear in its instructions on disconnecting the thermal wires. Never start work before you know exactly how to get the job done the right way. What works with a similar piece of equipment—like the M109-series SP howitzer—will not work for the 992.

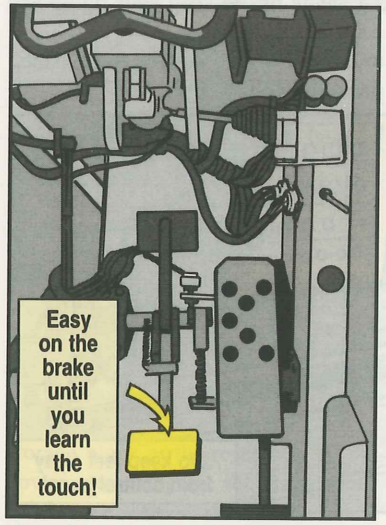
M113-Series FOV...

If you spot an engine oil filter leak near the filter base, look no farther than the gasket for the cause.

Oil filter kit, NSN 2940-00-580-6283, comes with either three rubber gaskets or two rubber gaskets and one hard gasket. You need only one gasket with each filter. In cold weather, rubber gaskets tend to leak. It's best to use the hard gasket. If you need a hard gasket, use NSN 5330-00-290-7860 to get one.

M113A3 Personnel Carrier...

Beware Sudden Stops!



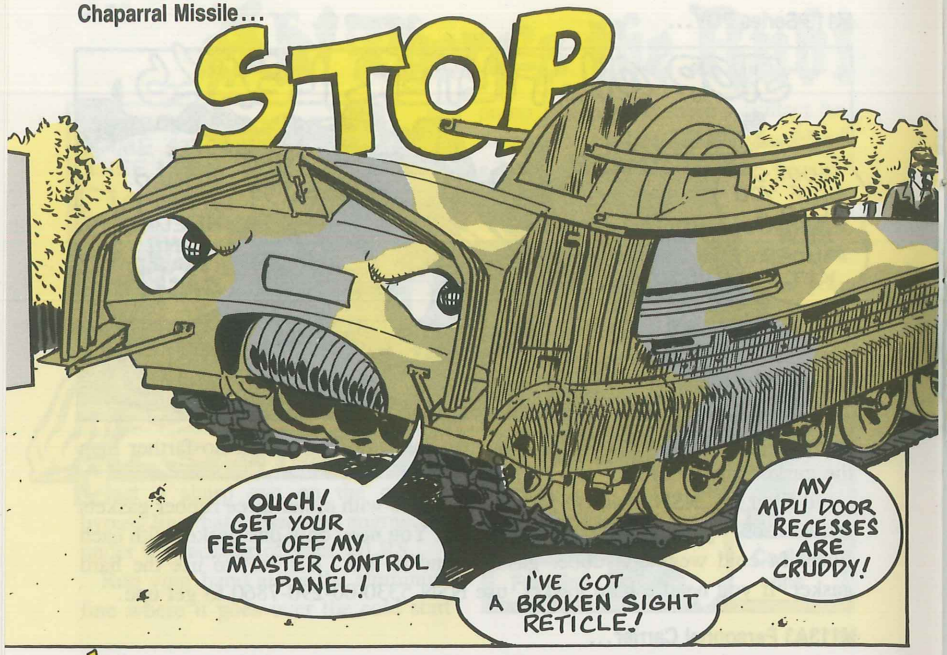
The new M113A3 carrier has a lot of improvements—including one that can cost you your teeth.

Gone are the steering laterals that provided braking power in the older 113's. In their place is a brake pedal that stops you fast—with very little foot pressure.

That stopping on a dime can be hazardous to your teeth—both from the equipment inside the vehicle and your fellow crewmembers.

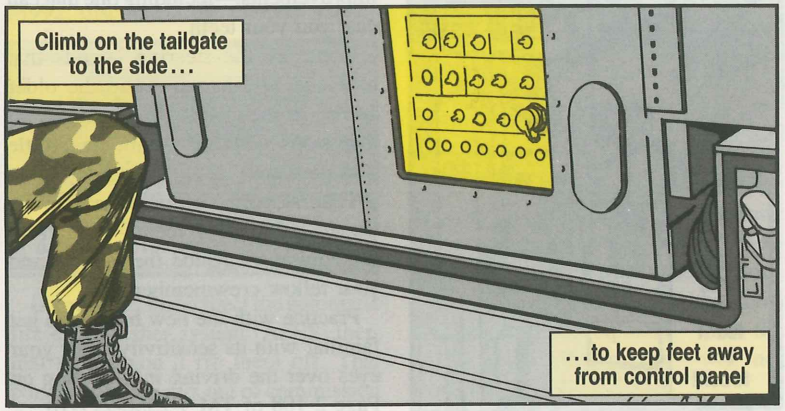
Practice with the new brake and get familiar with its sensitivity. Cast your eyes over the driving info starting on Page 2-108 of TM 9-2350-277-10.

STOP

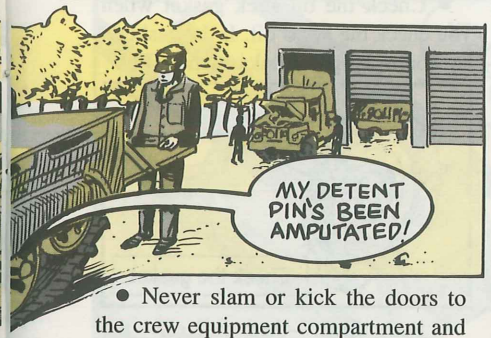


Just a moment of carelessness can put your Chaparral down for the count. Don't find out the hard way. Follow these handy tips to keep your rig up and ready to fight:

- Climb up and down on the tailgate to the side of the master control panel, not over it. Otherwise, boots knock off panel toggle switches.



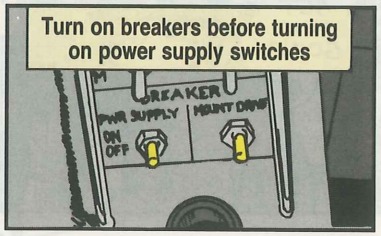
DAMAGE



- Never slam or kick the doors to the crew equipment compartment and main power unit (MPU). That damages the latches and the INTERLOCK INDICATOR won't go off. If the doors won't latch, clean any crud off the door recesses. If that doesn't do the trick, report it.

- Keep the launch rail access doors closed. If they're left open, either a door or canopy will be damaged when the canopy's swung open.
- Keep the umbilical cable receptacle dust cover connected to either the storage block or the receptacle. If the cover's left hanging, the access door busts the cover's chain.
- Make sure the detent assembly on a launch rail is cocked before you load or unload a missile. Otherwise, the detent pin will be sheared off.
- Don't hang the headset on the sight. If the headset's left there, its wires are ripped out when the launch rails are raised or lowered.

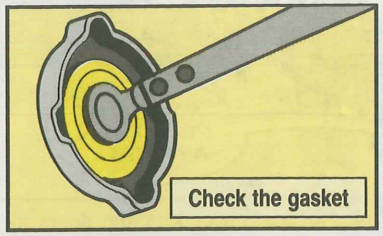
- Store your rifle on the left side of the gunner's compartment. If you stick it on the right side, it catches and cracks the sight reticle. Never toss your helmet or anything else in the compartment, either. That can break the reticle, too.
- Turn on the mount drive circuit breakers before you turn on the power supply switches. If you forget, power surges ruin circuitry.



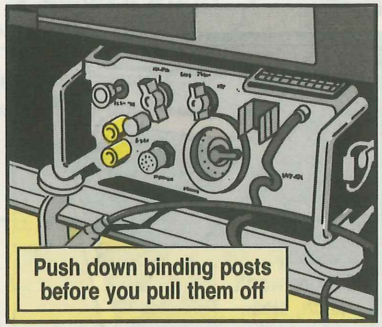
- During blackout operations, use tape to cover lights in the mount control panel. Messing with light bulbs leads to breakage and electrical problems.
- Clean the canopy with the polishing kit, NSN 1560-00-450-3622, and lint free cloth, NSN 7920-00-401-8034, only. Stuff like paint thinner ruins the plexiglass so you can't see through it.

- Push up on the canopy until you feel it lock in place. If you just throw it up and it doesn't lock, the canopy may flatten your head.

- Check the oil stick gasket when you check the MPU oil. If the gasket's shot or missing, oil leaks on the MPU.



- Push down—then pull off—the LINE binding posts on the AN/GRA-39 local or remote control units when you disconnect them. If you pull without pushing, you break wires and damage posts.



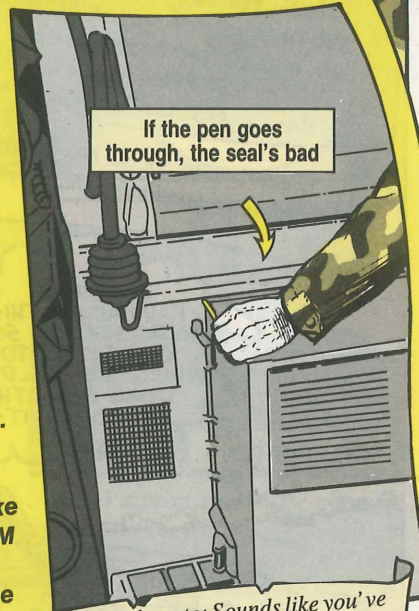
Seal Out Bad Air

Dear Editor,

The seal for the Chaparral's air conditioner often develops leaks at its corners. If the leaks are not spotted, fumes from missile firing get in the gunner's compartment and poison the gunner.

We've found a good way to seal out bad seals. As part of our BEFORE PMCS, we gently stick in a ball point pen at all four corners of the air conditioner just above the seal. Never jam in the pen, though. That could damage the seal. If the pen goes all the way through, we adjust the air conditioner door latches like it shows on Page 3-32 in TM 9-1425-2586-10. If that doesn't fix the seal, it's time to call maintenance.

CW2 Ken Price
APO San Francisco



(Editor's note: Sounds like you've sealed up that problem. We'll give it our seal of approval.)

STARVE FEEDER PROBLEMS

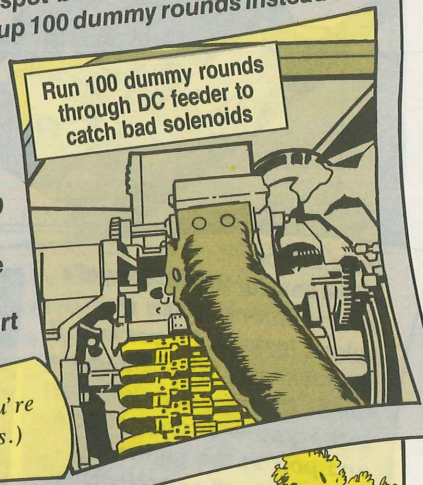
Dear Editor,

Solenoids on the Vulcan's DC feeder take a licking and go on clicking—sometimes. But if one goes bad, the feeder won't work and your Vulcan won't fire.

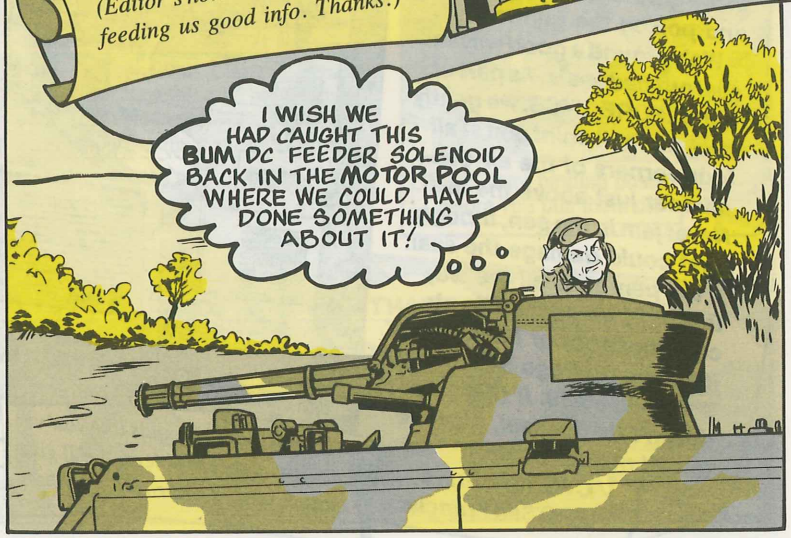
We've found the best way to spot bad solenoids—and we've spotted quite a few—is to cycle up 100 dummy rounds instead of the 6 to 12 that the PMCS in the -10 TM's say. If the solenoid's bad, the feeder will jam. Just a few rounds often won't catch bad solenoids.

Also, when you cycle up 100 rounds, you can test not only the 10-burst rate, but also the 30- and 60-burst rates.

SGT Robert Stewart
Ft Bliss, TX



(Editor's note: Sounds like you're feeding us good info. Thanks.)



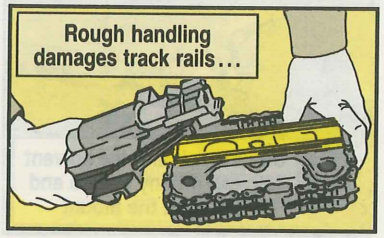
Handle with CARE

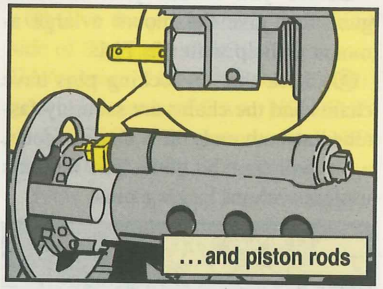
Rough handling the Bradley's M242 chips and burrs the track rails.

If the rails get too banged up, it's impossible to slide the bolt carrier on the track assembly.

Lay the track assembly down. Never stack things on it.

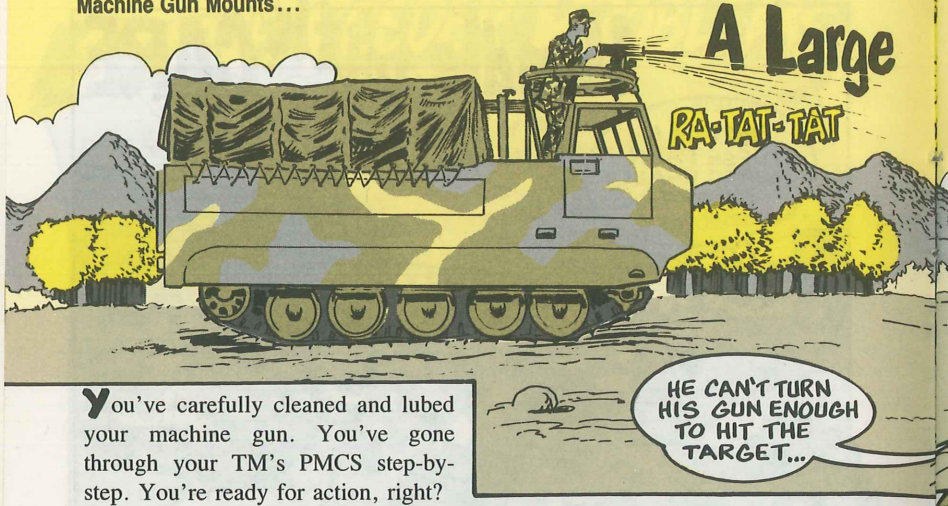
If the rails do get burred, tell your armorer. He can smooth burrs off with a whetstone.





Barrel support assemblies are being dropped and tossed, too. One good jolt bends or shears the piston rod. Then you can't tell if your M242's low on damper fluid. Without enough damper fluid, the barrel support can be cracked during firing. Lay the barrel support down. Never drop or toss it.

A Large A-Mount of Help



You've carefully cleaned and lubed your machine gun. You've gone through your TM's PMCS step-by-step. You're ready for action, right?

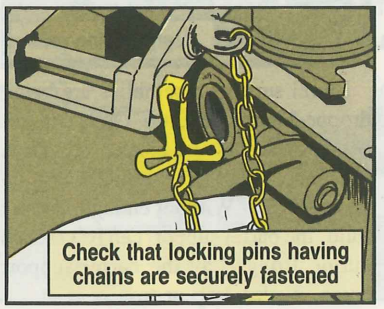
Wrong—if you've forgotten your machine gun's mount. If the mount can't lock or it's frozen with rust, your gun's about as much use as a boat out of water.

Before you mount your machine gun, first give the mount a large a-mount of help with this PM:

◉ Check that all locking pins have chains and the chains are securely fastened at both ends. If a chain's gone, a pin will soon be gone. The mount's useless without locking pins.

Your armorer can order new chains with NSN 4010-00-523-6999. If no chains are available, find something—wire would work—to keep the pin with the mount until you get chains.

◉ Fill a small can with dry cleaning solvent. NSN 6850-00-281-1985 gets a gallon of solvent; NSN 6850-00-110-4498 a pint. Use a brush and the solvent to clean off any grease and rust from the mount. Rub off stubborn rust with crocus cloth, NSN 5350-00-221-0872. Dry the mount with a clean cloth.


Check that locking pins having chains are securely fastened


Use a brush and the solvent to clean off any grease and rust from the mount

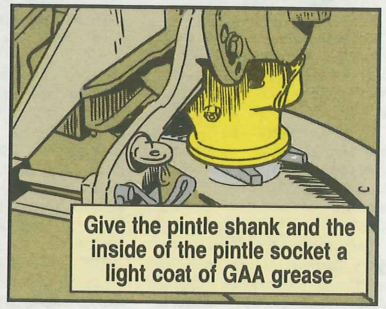
◉ Use PL oil to lube mount parts like locking pins, locking cam, pintle clamping screw, and brake clamps. If it moves, lube it. Wipe a light coat of PL on exposed metal parts. NSN 9150-00-231-6689 brings a quart of PL, NSN 9150-00-231-9062, 5 gallons.

◉ Feel the felt ring seals. If they're hard and brittle, rub some PL on the seals to soften them.

◉ Give the pintle shank and the inside of the pintle socket a light coat of GAA grease. NSN 9150-00-190-0905 gets 6½ pounds of GAA, NSN 9150-00-530-7369, 120 pounds, and NSN 9150-00-065-0029, 2¼ ounces.

Now you're ready for mounting.


Wipe a light coat of PL on exposed metal parts


Give the pintle shank and the inside of the pintle socket a light coat of GAA grease

Maintenance & Safety-Of-Use Messages

AMCCOM-AMMO SOU-MSG-89-03—Advisory, Operational, 120MM tank ammo, rescinds AMCCOM-AMMO SOU-MSG-89-01, AMSMC-DSM 281730Z Feb 89.

AVSCOM Maintenance Information Msg—Proper method of torquing bolt, part number NAS1310-46H in AH-1S, AH-1F, AH-1E and AH-1P helicopters, AMSAV-XSOF 272000Z Jan 89.

CECOM SOU-MSG-89-02-01—Advisory, Operational, Inspection of BA-5567/U Lithium-sulfur dioxide batteries made by Saft America, Inc. under contract numbers DAAB07-85-C-H332, Lots 0187A and 0587E, and DAAB07-86-C-C029, Lots 0987A, 0987B, 1087D and 1187A, AMSEL-SF-REE 031800Z Feb 89.

TACOM SOU-MSG-88-58—Operational, Tire failure on M911 truck tractor (C-HET), NSN 2320-01-025-3733, AMSTA-M 241545Z Jan 89.

TACOM SOU-MSG-89-6—Advisory, Technical/Maintenance, Follow-up of TACOM SOU-MSG-88-50 on trailer bolster, 4-wheel general purpose M796, NSN 2330-00-089-3866, TACOM AMSTA-MVA 032030Z Feb 89.

TACOM SOU-MSG-89-3—Technical, Follow-up of TACOM SOU-MSG-89-1 on 4,000/6,000 Lb CBD forklift, NSN's 3930-01-172-7891 and 3930-01-172-7892, AMSTA-M 102030Z Feb 89.

TACOM SOU-MSG-89-5—One-time inspection on inner boom, NSN 3815-00-120-4804, made by A. Gunthard Co under contract number DAAE07-87-C-2725, AMSTA-M(NMP) 102355Z Feb 89.

TACOM SOU-MSG-89-11—Advisory, Technical/Maintenance, Potential safety hazard when using the M172A1 loading ramps, AMSTA-M 281400Z Feb 89.

TACOM SOU-MSG-89-8—Advisory, Technical/Maintenance, Inspection of ramp hydraulic cylinder, NSN 2590-00-446-2487, for the M113 personnel carrier, AMSTA-MCB 241400Z Feb 89.

TROSCOM Maintenance Advisory MSG 88-50—Use breakerless ignition system kit, NSN 2920-01-123-2562, with the 6 HP Mil Std Engine, NSN 2805-01-139-0596, AMSTR-MES 261805Z Jan 89.

TROSCOM Maintenance Advisory MSG 89-03—Minor alteration on the bridle, extraction line, deployment bag, NSN 1670-01-035-6054, AMSTR-MES 261815Z Jan 89.

TROSCOM Maintenance Advisory MSG 89-04—Proper grounding of the clothing repair shop, trailer mounted, NSN's 3530-01-015-2220, 3530-01-017-9123, 3530-01-017-9124, 3530-01-033-0851 and 3530-01-075-3503, AMSTR-MES 311335Z Jan 89.

TROSCOM Maintenance Advisory MSG 89-05—Replacement procedures of the rubber seal, NSN 1670-01-118-1877 used on FF-2 automatic opening device, NSN 1670-01-213-8145, AMSTR-MES 91935Z Feb 89.

TROSCOM Maintenance Advisory MSG 89-07—Information plates mounted on 5/10 KW generator sets, NSN's 6115-00-465-1044 and 6115-00-465-1030, may be incorrect, AMSTR-MES 161600Z Feb 89.

TROSCOM SOU-MSG-03-89—Advisory, Possible fire hazard caused by shorted wire in firefighting truck, 1000 GPM, NSN 4210-01-193-3621, AMSTR-MES 061900Z Feb 89.

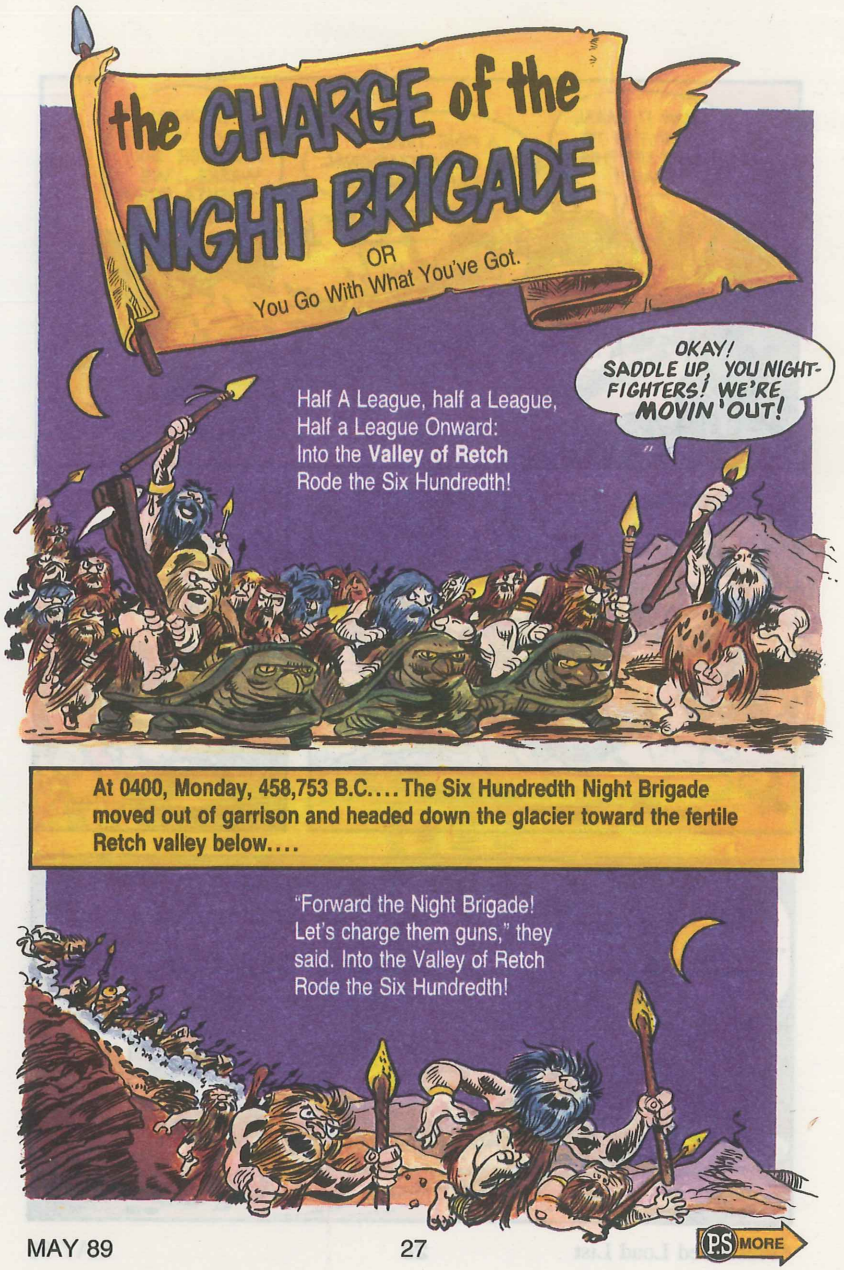
TROSCOM SOU-MSG-04-89—Advisory, Hydrostatic test of diver tool hoses, AMSTR-MES 102000Z Feb 89.

TROSCOM SOU-MSG-05-89—Advisory, Added procedure to TM's 10-4500-200-13 and 5-4540-202-12&P for portable space heaters, AMSTR-MES 162140Z Feb 89.

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

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 3-4240-315-20&P May 88 M93 filter unit
TM 9-1270-233-23&P Dec 88 Helmet
TM 9-2350-284-20-2-1 Nov 88 M2A2/M3A2 Bradley
TM 9-2350-284-20-2-2 Nov 88 M2A2/M3A2 Bradley
TM 9-2350-284-20-2-3 Nov 88 M2A2/M3A2 Bradley
TM 9-4935-2541-24P Nov 88 Shop 8 equipment (HAWK missile)
TM 11-5805-776-10-HR Nov 88 AN/TTC-39A(V)3 automatic telephone central office
TM 11-5805-776-12-1 Nov 88 AN/TTC-39A(V)3 automatic telephone central office
TM 11-5805-776-12-2 Nov 88 AN/TTC-39A(V)3 automatic telephone central office
TM 11-5805-776-12-3 Nov 88 AN/TTC-39A(V)3 automatic telephone central office
TM 11-5805-776-12-4 Nov 88 AN/TTC-39A(V)3 automatic telephone central office
TM 11-5805-776-12-5-1 Nov 88 AN/TTC-39(V)3 automatic telephone central office



*Prescribed Load List

Return Address
DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

Commander
USAMC Materiel Readiness Support Activity
ATTN: AMXMD-MD
Lexington, KY 40511-5101

(TAPE OR STAPLE HERE)

TO *TIPS*: (Please print) DATE: _____

ITEM NOMENCLATURE: _____

NSN OR PART NUMBER: _____

MANUFACTURER: _____

PUBLICATIONS REFERENCE: SUPPLY CATALOG (OR TM NUMBER IF SPECIAL TOOL OR BASIC ISSUE ITEM): _____

TOOL PROBLEM/RECOMMENDATION/SUGGESTION: _____

MAY 89

FULL NAME: _____

ADDRESS: _____

AUTOVON/COMM PHONE #: _____

★ ★

IDEA CONTROL NUMBER _____

*Mail this form FREE! Official Mail is authorized. SEND IT through your unit or mail room.

TIPS on TIPS

Different manufacturers may make the same design tool, so it helps a lot if you identify the manufacturer. Most items do show the manufacturer's name, code or part number. But even if you can't peg the manufacturer, send your comments anyway. If several reports come in on an item, the tool people will be able to identify the manufacturer.

Meanwhile,... Back at the victor's camp...

At 1200 hours, Monday, 458,753 B.C., The Six Hundredth retreated to positions held the day before... they never returned—because their maintenance know-how never improved and they could never **"GO-WITH-WHAT-THEY'VE-GOT."**

P.S END

UH-60A Black Hawk...

Seats Are Made for SITTING

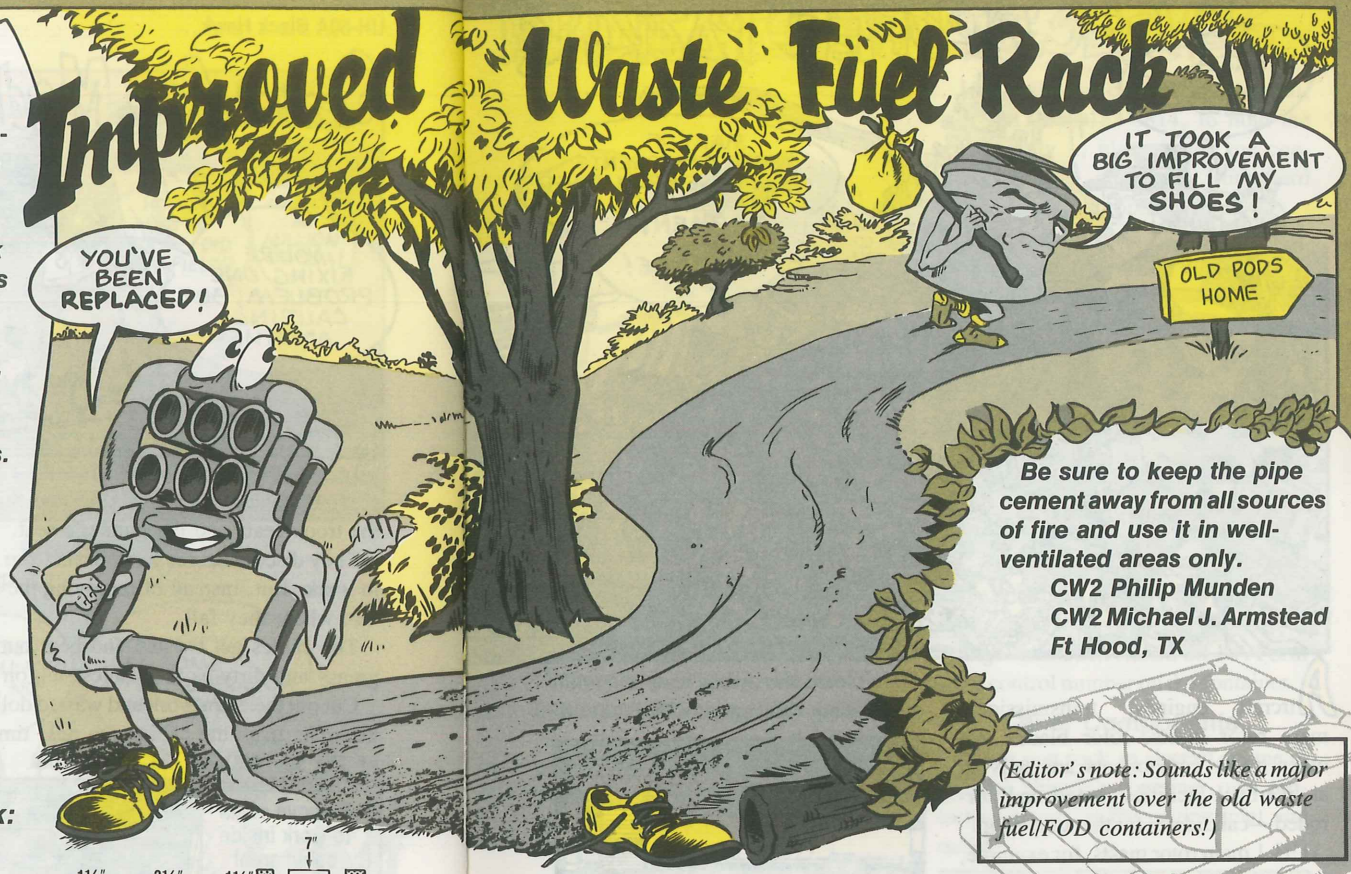
Some Black Hawk mechanics do a terrific job on maintenance in the cabin area. But while they're fixing one thing, they're tearing up others—namely, the troop seats and the gunner's seat.

They disconnect the troop seats from their overhead attachments to make room to work. But, instead of removing the seats from the cabin area, they just leave 'em where they fall.

The cables get twisted and bent out of shape while the cloth seats get oily, greasy and dirty as mechanics step on them to do the job.

Cut out the extra work and wasted dollars in seat replacement costs by removing the seats from the cabin area next time you do interior maintenance. Task 23 of TM 55-1520-237-23-5 tells how.

Improved Waste Fuel Rack



Dear Editor,

Most of our current waste fuel/FOD pods are expensive to make and maintain. They deteriorate fast, fall apart and become hazards themselves on the flight line.

So we made a much better rack using plastic pipe and fittings. It's quick and easy to build and it withstands all environmental conditions extremely well. Plus, it's not as likely to get blown around by rotorwash or wind storms as metal or wooden racks.

Here are the materials you need:

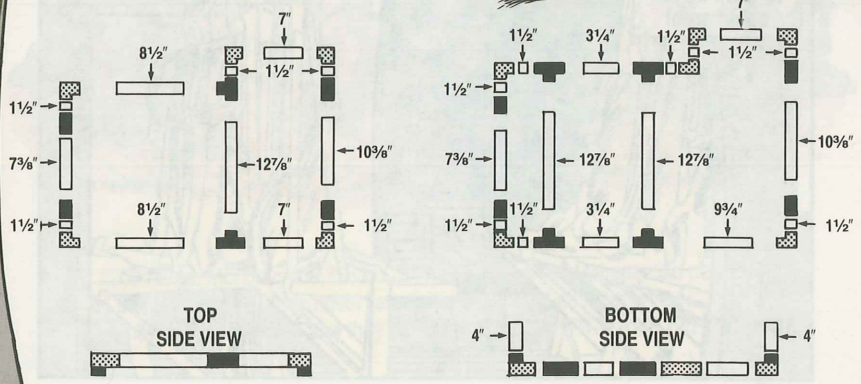
QTY	ITEM
14 feet	¾-in plastic pipe
36 inches	4-in plastic pipe
11 each	¾-in elbow
14 each	¾-in T-fitting
1 bottle	PVC cement
6 each	rivets or screws

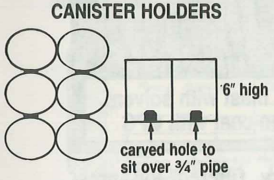
Be sure to keep the pipe cement away from all sources of fire and use it in well-ventilated areas only.

CW2 Philip Munden
CW2 Michael J. Armstead
Ft Hood, TX

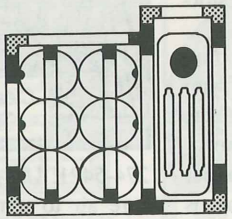
(Editor's note: Sounds like a major improvement over the old waste fuel/FOD containers!)

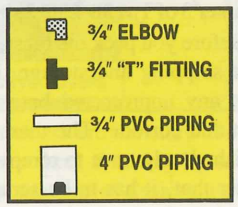
Here's how to make the rack:





Use the rivets or screws to hold the canisters in place by securing them to the top side rails.





PROPER PACKING

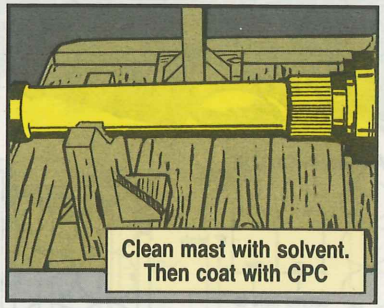
Aircraft engines, transmissions, main rotor masts, rotor blades and other major components are arriving at overhaul facilities rusted and corroded—candidates for the scrap heap.

UH-1 main rotor masts, for example, are really taking a beating during storage and shipment.

If you have a reusable metal shipping container for the mast, use it. If you have to make a wooden container, chapter 3 of TM 38-230-2 shows how.

Before you pack the mast, remember that shipping and storage time means that any unprotected bare metal will rust and corrode. The mast can be refinished only once to remove damage. After that, it has to be scrapped.

So clean the mast with P-D-680 drycleaning solvent, NSN-6850-00-274-5421. Use dry, filtered, low-pressure air to remove the solvent from holes and crevices.

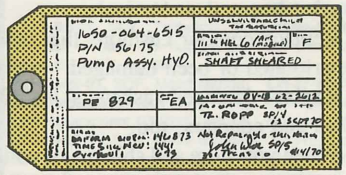


Then coat the entire mast and bearings with corrosion preventive compound, NSN 8030-00-837-6557.

PROTECTS AND PRESERVES

Wrap the mast with greaseproof flexible barrier material, NSN 8135-00-224-8885, and tape it shut with pressure-sensitive tape, NSN 7510-01-146-7767. The wrap prevents the preservative from rubbing off.

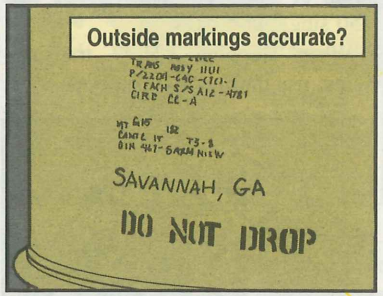
Include the DA Form 1577-2 repairable tag and the DA Form 2410 component record in the shipping container. Use a greaseproof envelope to protect the paperwork.



Include tag in the shipping container

Use cellulose cushioning material, NSN 8135-00-183-8814, to hold the mast firmly in place inside the container and to protect it from hard knocks during shipping.

After you close the container, eyeball the markings on the outside to make sure they agree with what you're shipping. If the markings are different, change 'em. Then stencil the DA Form 2410 control number on the container.



Other Components

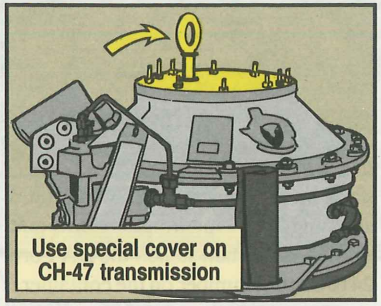
When you pack an aircraft engine in a metal shipping container, use protective covers at the engine inlet and outlet.

Engine containers are moisture controlled, so keep them that way by adding the right amount of desiccant as

P.S MORE

explained on page 18-19 of MIL-P-116J. NSN 6850-00-264-6571 gets a drum of 300 8-unit bags; -6562 gets 250 single-unit bags.

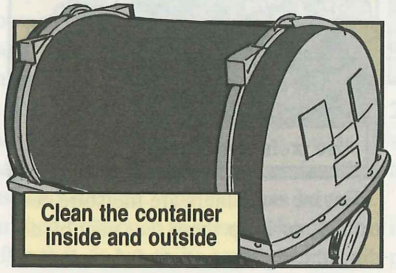
When shipping CH-47 transmissions, use the special protective cover



that comes with the transmission. It keeps moisture out and holds the planetary gears safely in place.

Maintain Containers

Keep your shipping containers in serviceable condition. Clean them inside and out with water and detergent



or by steam cleaning. That'll get rid of all dirt, sand and grease. Replace damaged or missing hardware with the items listed in TB 55-8100-200-24, Maintenance of Specialized Reusable Containers for Aircraft Equipment.

Replace bum humidity indicators with NSN 6685-00-752-8240. A good

indicator card shows blue or pink tint in the 50 percent circle.

Replace shock mounts that have cracks deeper than 1/32 inch.

Replace contour cushions that have deteriorated or been damaged.

Replace damaged gaskets, skids, fittings and adapters, too.

When you store and ship major components in well-maintained containers, and when you preserve them properly, the components will arrive at the repair facility in no worse condition than they started.

END

EASIER SEAT REMOVAL

Removing seats from your Apache's cockpit can be a backbreaking task if you go strictly by the book.

The seats are heavy and bulky, and the cockpit doors don't leave much room for maneuvering... unless you free the door strut to let the door swing up out of the way.

Just remove the nut and washer that connects each strut to the airframe.

Then slip the strut off the airframe post.

Swing the door up and out of the way while you lift and maneuver the seat out of the cockpit.

Get a buddy to hold the door up, though, or you could accidentally jar it and have it come down on your back or head.

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.

UH-1-89-01, SOF, Technical, Inspection of main rotor hub assemblies, 032130Z Jan 89.

AH-64-89-01, SOF, Maint Mandatory, Inspection of nut P/N AN320-5, until replacement, 032200Z Jan 89.

CH-47-89-01, SOF, Maint Mandatory, Policy and procedures guidance for reverting from progressive phase maintenance, 042300Z Jan 89.

CH-47-89-02, SOF, Technical, Records check and inspection of certain flight control connecting links and bellcranks, 102310Z Jan 89.

AH-1-89-01, SOF, Maint Mandatory, Reduction of recurring ultrasonic inspection for K747 main rotor blade aluminum root end fitting, P/N K747-061-5, 112140Z Jan 89.

AH-64-89-02, SOF, Maint, Inspection of fuel hose assemblies for premature aging, 262300Z Jan 89.

CH-47-89-03, SOF, Technical, CH-47D only, grounding for application of MWO 55-1520-240-50-38, 272315Z Jan 89.

UH-1-89-02, SOF Technical, Inspection of main rotor hub assemblies, 012200Z Feb 89.

AH-1-89-02, SOF, Technical, Inspection tail rotor hub assemblies and yoke assemblies for staking of yoke trunnion bearings, 022300Z Feb 89.

AH-64-89-MIM-01, Improved repair procedure for tail rotor elastomeric bearings, 042100Z Jan 89.

UH-60-89-MIM-01, Auxiliary power unit ignitor plugs, 052100Z Jan 89.

GEN-89-MIM-01, Replacement of defective class 3 fasteners (AN320-5 and AN320-6 nuts), 052300Z Jan 89.

UH-1-89-MIM-01, Advance notice of upcoming TM change, 092200Z Jan 89.

AH-1-89-MIM-01, Rebonding of Teflon fabric and intermixing of matched collet sets, 202210Z Jan 89.

CH-47-89-MIM-01, Total aircraft systems review, 262230Z Jan 89.

Keep Cap Snug

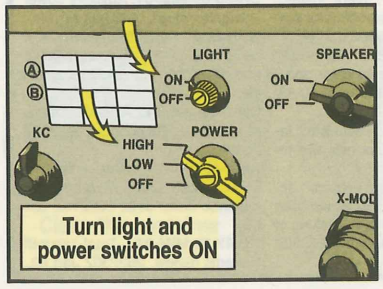
Before you turn in your RT-524 receiver-transmitter for repair, answer these questions:

—Is the X-mode cap in place and tight?

—Is the RT set for X-mode operation?

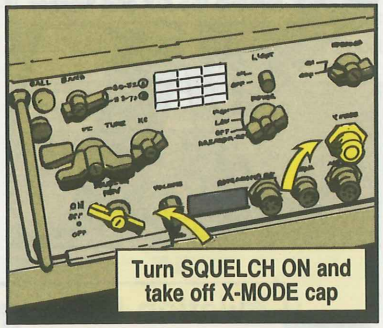
If the answer is "No" to either of these, then run this test—

1. Put on the X-mode cap tightly.
2. Switch on your RT.
3. Turn the light switch ON.



4. Put the squelch to OLD ON.
5. Take off the X-mode cap.

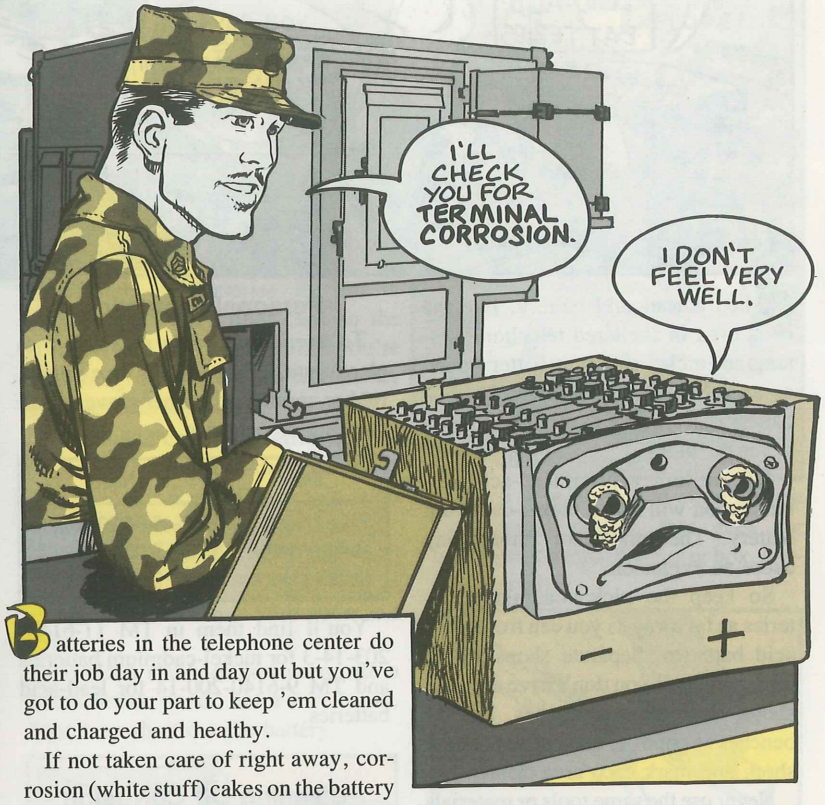
If the call lamp lights, all's OK.



No light might just mean a bad lamp, of course. So, now you use your ears.

6. Turn off the RT.
7. Replace the X-mode cap. The cap has circuits in it your RT needs to operate when secure equipment is not being used.
8. Set the squelch to NEW OFF, and turn on the RT.
9. If you hear a rushing noise, it's OK.
10. Take off the cap and the rushing sound should stop. If it doesn't, get your set adjusted.

Corrosion Invasion



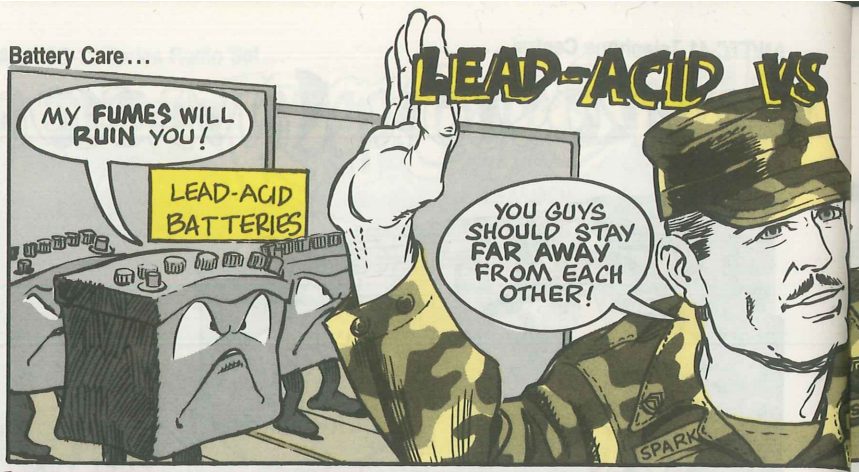
Batteries in the telephone center do their job day in and day out but you've got to do your part to keep 'em cleaned and charged and healthy.

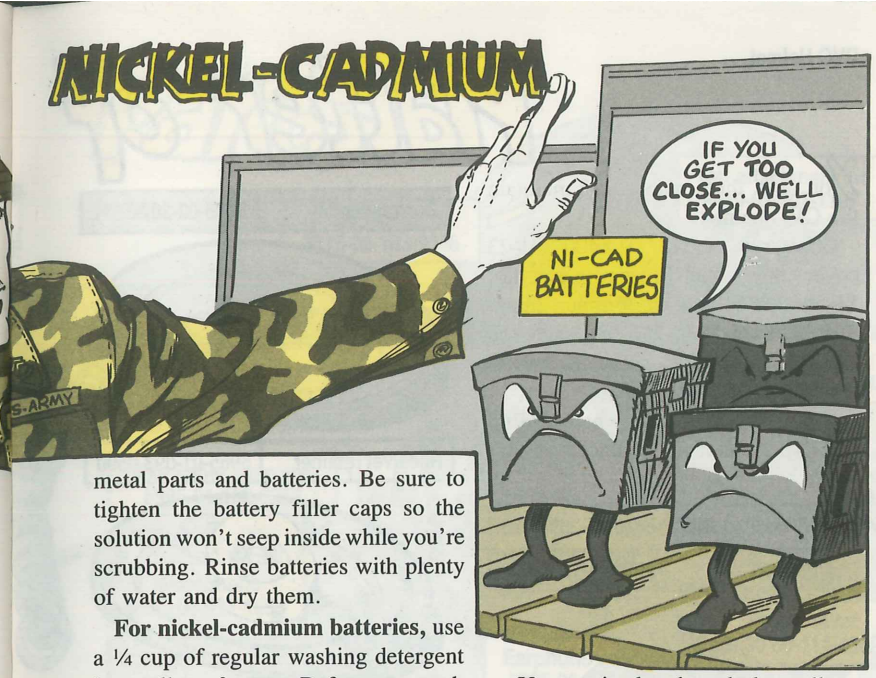
If not taken care of right away, corrosion (white stuff) cakes on the battery posts, cable clamps or any metal parts that touch the battery.

Corrosion gets under the paint and other coatings on metal parts. If you can see corrosion, you can bet your boots there's a lot of it you can't see. You've got to take the batteries out of the center to clean up the mess . . . no matter which batteries you have.

Remember, when you're exchanging the hot weather BB-297 lead-acid batteries for the cold weather BB-501 nickel-cadmium type, they don't get along very well.

So, keep those cats-and-dogs fighters in neutral corners by decontaminating the battery box, like it says in Para 4-19 of TM 11-5805-693-12.





When a lead-acid battery, like the ones used in sheltered telephone systems and nickel-cadmium battery, such as an AN/PPS-5 radar set's BB-422 battery, get together—watch out! They never get along.

Just one little whiff of lead-acid contamination will ruin a nickel-cadmium battery. The mixing of fumes may cause an explosion.

So keep the nickel-cadmium batteries as far away as you can from lead-acid batteries. Separate shops would be super: but if you don't have separate shops, use separate benches. Put the benches at opposite ends of the battery shop, and mark each area clearly.

Never use the same tools or materials on both types of batteries. That goes for face shields, aprons, gloves, optical antifreeze/battery testers, screwdrivers and wrenches.

To help make sure you keep 'em apart, mark tools and materials used on nickel-cadmium batteries with blue paint and those for lead-acid batteries with pink paint.

Personal Protection

To keep from being splashed with electrolyte, always use a face shield, rubber apron, and rubber gloves when working on batteries.

Item	NSN
Face shield	4240-00-202-9473
Rubber apron	8415-00-082-6108
Rubber gloves	8415-00-266-8675

You'll find them in TM 11-6140-203-14-3 for nickel-cadmium batteries and TM 9-6140-200-14 for lead-acid batteries.

Cleaning Off Corrosion

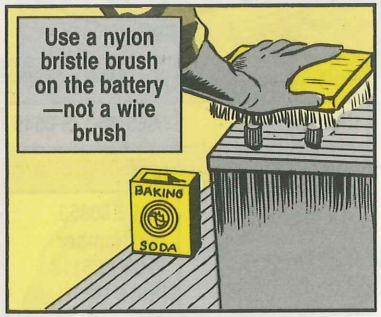
For a thorough cleaning, pull out the batteries so you can clean every part.

For easy cleaning, you can use liquid solution to wash away most corrosion. But it takes different kinds for different batteries.

On the lead-acid batteries, mix ½ pound of baking soda in a gallon of water. Use a scrub brush to clean the metal parts and batteries. Be sure to tighten the battery filler caps so the solution won't seep inside while you're scrubbing. Rinse batteries with plenty of water and dry them.

For nickel-cadmium batteries, use a ¼ cup of regular washing detergent in a gallon of water. Before you wash the batteries, snug down the filler caps. That keeps out dirt, corrosion and water. Wash the batteries with a sponge or cloth. Rinse with water and dry.

To clean stubborn corrosion, use a nylon bristle brush, not a wire brush. That may short out the battery.



Use a wire brush and clean all rust from metal parts . . . that goes for holddown clamps, the tray or box, anything metal.

Get right down to the bare metal. Paint the bare metal with the same kind of coating that is already on the metal.

Clean the posts and clamps with the battery terminal cleaner.

Platter of Parts

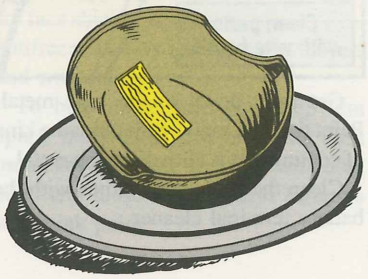
You need three manuals to maintain the CVC helmet.

Chapter 5 of TM 10-8400-201-23 covers the helmet PM and parts; TM 11-5965-286-14 has communication PM; TM 11-5965-286-23P lists the communication parts on the MK-1697/G headset-microphone kit.

Here're some of those hard-to-find repair parts that are replaced at unit level:

Small/Medium shell	8470-01-259-1693
Large shell	8470-01-259-1694

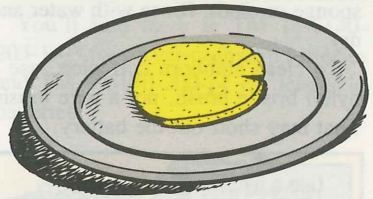
Velcro pad kit	8415-01-207-1196



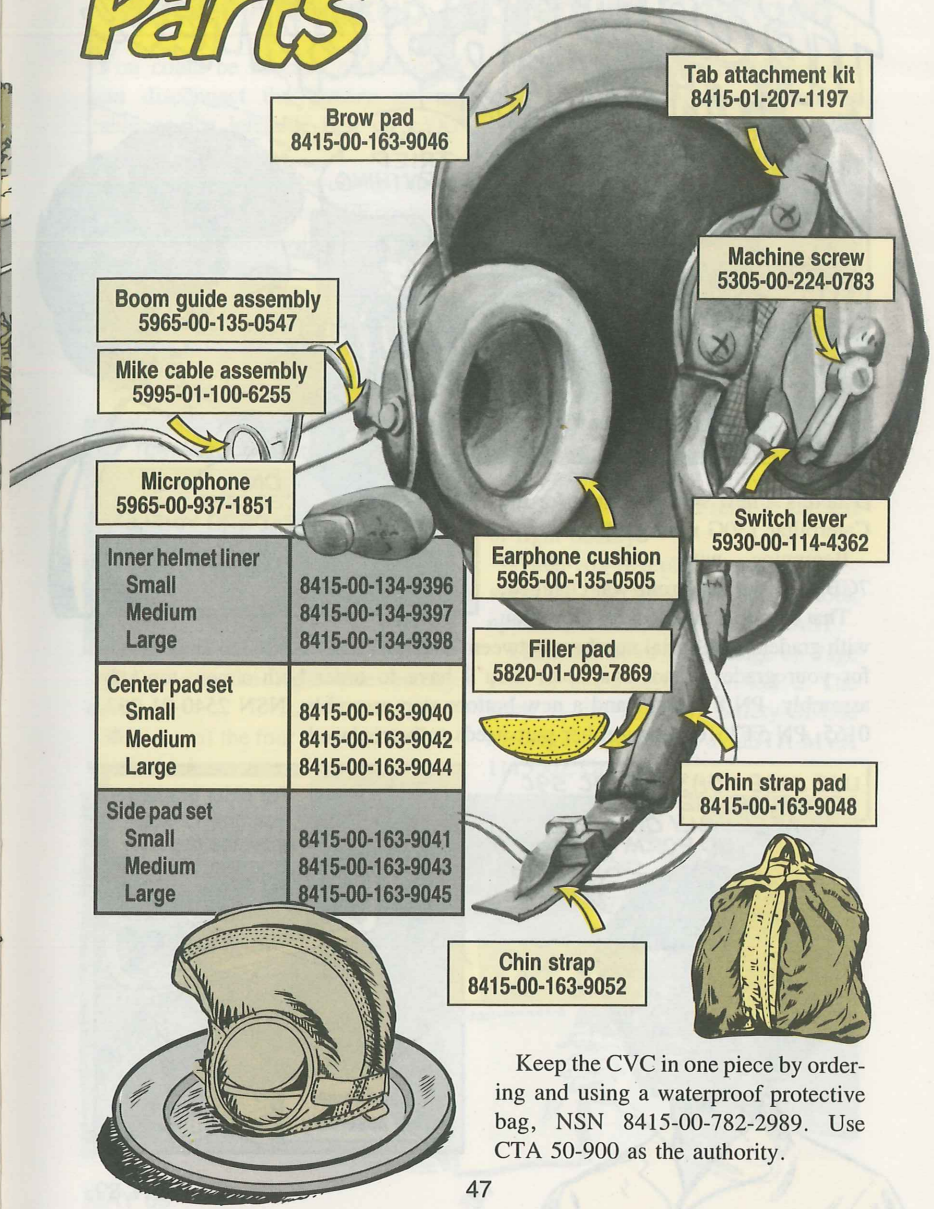
Cord assembly	5995-00-302-7521

Receiver retainer	5965-01-093-0590

Right filler pad	5965-01-063-1910
Left filler pad	5965-01-063-1909



Molding, 36" strip	9390-00-710-4355
Clothing clip	5965-00-135-0545
Space plate	5365-01-076-8073
Grommet	CAGE 80063, Part Number SM-B-436118 (RIC B16)



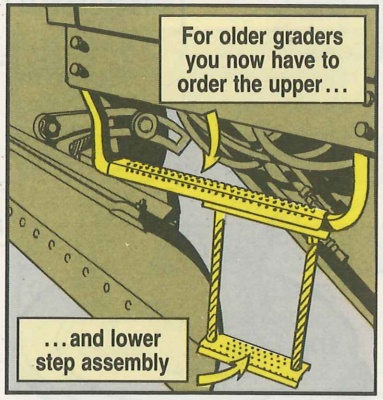
Inner helmet liner	
Small	8415-00-134-9396
Medium	8415-00-134-9397
Large	8415-00-134-9398
Center pad set	
Small	8415-00-163-9040
Medium	8415-00-163-9042
Large	8415-00-163-9044
Side pad set	
Small	8415-00-163-9041
Medium	8415-00-163-9043
Large	8415-00-163-9045

Keep the CVC in one piece by ordering and using a waterproof protective bag, NSN 8415-00-782-2989. Use CTA 50-900 as the authority.

There's a new step assembly for the Caterpillar 130G road grader.

Beginning with serial number 7GB0631, the step group was changed.

That sets up a problem for all of you with graders with serial numbers between 7GB0001 and 7GB0631. The old step for your grader is not available. You'll have to order both a new top step assembly, PN 8W4389, and a new bottom step assembly, NSN 2540-01-233-0165, PN 5T7616, when either part needs to be replaced.



Battery Hookup Procedure Changed

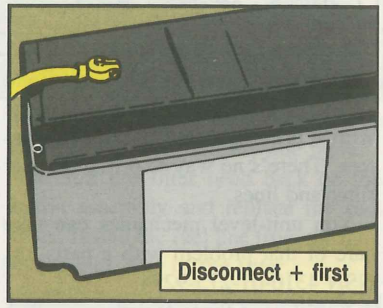
You could be shocked or burned if you disconnect the battery ground cable on the left side first on 130G graders.

That's because even with the battery disconnect switch in the OFF position, there is current flowing through the ground connection.

To prevent shocks, here's how to disconnect the battery cables to remove batteries:

- Turn the disconnect switch OFF.

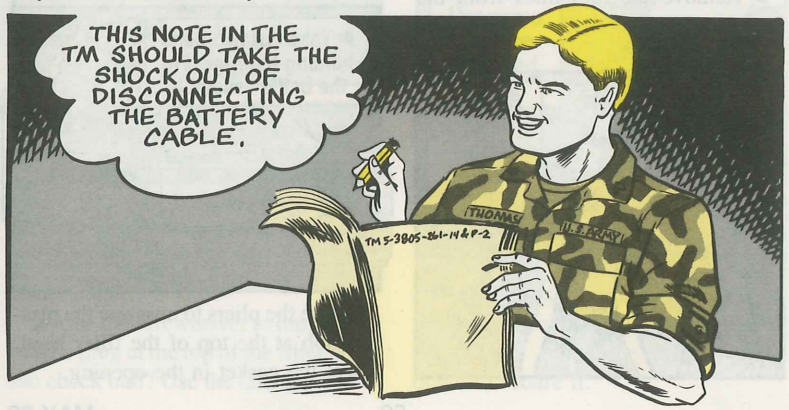
- Remove the right side battery cover.
- Take off the four nuts and the battery hold-down assembly.
- Disconnect the right side positive cable first, and secure it away from the battery terminal.



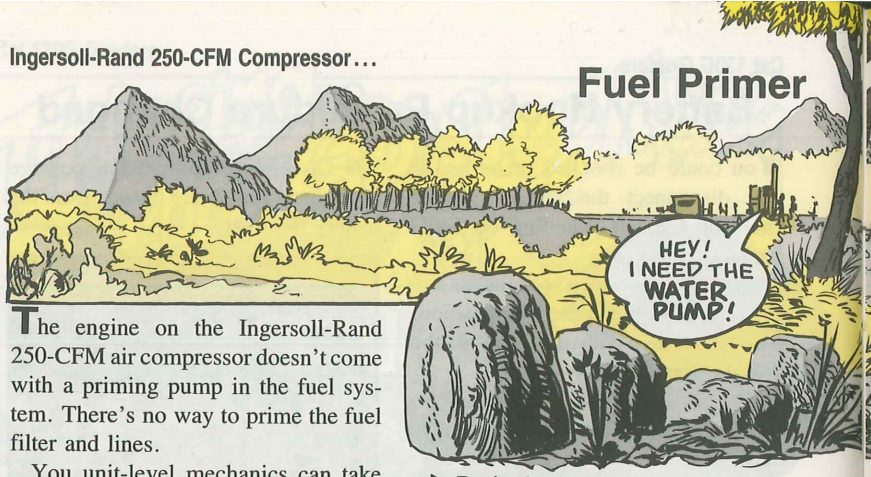
- Disconnect any other battery cables necessary, and remove the left or right battery.

When you're replacing a battery, reverse the disconnect procedure. Hook up the right side positive cable LAST.

Make a note of this change on Page 1-82 of TM 5-3805-261-14&P-2. The word is in TACOM Safety-Of-Use Message 88-47, AMSTA-MVA 111500Z Oct 88.



Fuel Primer



The engine on the Ingersoll-Rand 250-CFM air compressor doesn't come with a priming pump in the fuel system. There's no way to prime the fuel filter and lines.

You unit-level mechanics can take care of that problem with a parts kit, NSN 4310-01-275-9294.

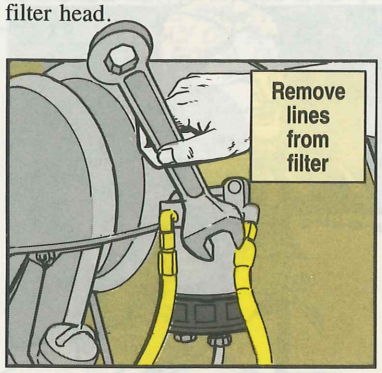
You'll need these tools:

Flat tip screwdriver, 3/8-in tip	5120-00-237-6985*
10-in slip joint pliers	5120-00-278-0352
11/16 box & open end wrench	5120-00-228-9509*
Pipe strap wrench, 18-in	5120-00-262-8491

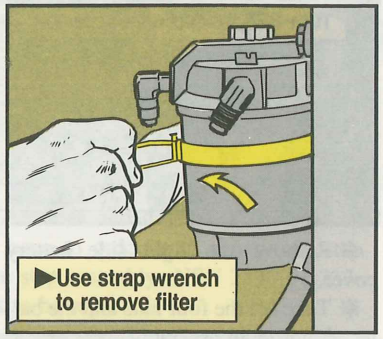
**In the General Mechanic's tool kit*

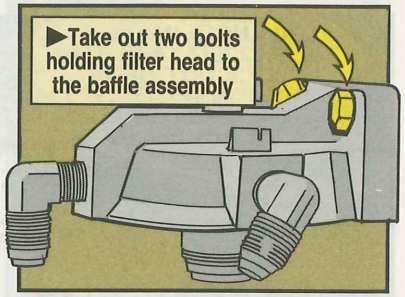
Here's how to install the pump:

▶Remove the fuel lines from the filter head.



▶Drain the fuel into a suitable container and dispose of properly.

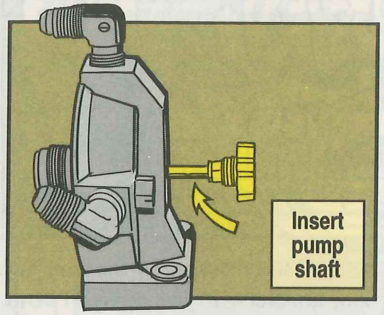




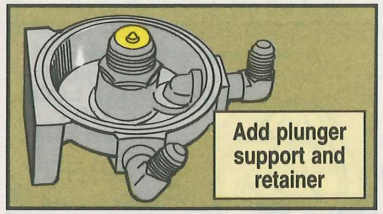
▶Use the pliers to unscrew the plastic knob at the top of the filter head. Leave the gasket in the opening.

Pump Added

▶Lube the pump shaft with diesel fuel and push it through the opening that's left after you removed the knob.



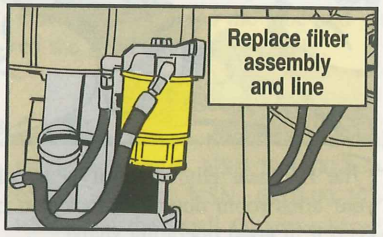
▶Turn the filter head over and install the white plunger ring support with the cup facing away from the



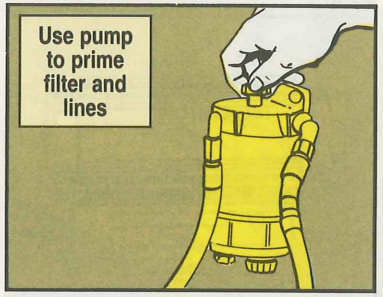
head. Then slide the orange pump plunger on the shaft. Push it on until it snaps into position behind the retainer edge.

▶Use the screwdriver to remove the plastic plug at the top of the filter head. No check ball? Use the one that comes with the kit. There's no need to replace the ball if there's already one there.

▶Bolt the filter head back on the baffle assembly and replace the fuel filter. Install the fuel line from the tank to the inlet side of the filter.



▶Use the pump to prime the filter until you get a steady stream out of the discharge side of the filter.

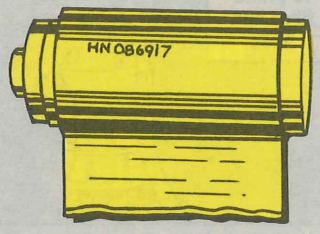


▶Replace the remaining fuel line. Resume pumping until you feel pressure. Then screw the primer pump down to secure it.

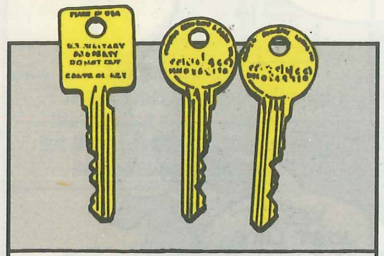
LOCKING UP PM

The Hi-Shear High Security Padlock, NSN 5340-00-799-8248, hanging on your arms room door will lock you out too, armorers, if you neglect PM to keep it in good operating shape.

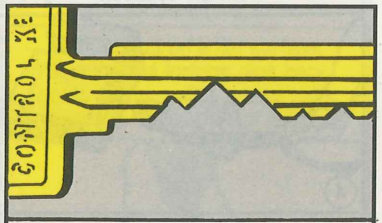
But the matching cylinder is not numbered. To keep keys matched to the lock, use the etching tool, NSN 5130-00-203-7943, in the No. 2 Common shop set to:



Etch the serial number of keys on their matching cylinder.



Each Hi-shear lock has its own matched set of serial numbered keys —a control key (with square bow) and two regular operational keys (with round bow).



Deep cuts and sharp angles make keys prone to cracking when forced. Jiggle the key, or tap the lock lightly with a wood or plastic mallet to get the key working easily.

Key Maintenance

Never use the control key unless you want to take the plug out of the housing to service or replace a cylinder or parts.

Keep an eye on the keys. If they start to crack, they'll soon break. So, use your extra key and order a new cylinder and keys before your key breaks inside the lock. NSN 5340-01-151-9310 gets a new cylinder with two operating keys and a control key.

Never force the key into the cylinder or force it to turn. If it goes in or turns hard, pull PM on the lock.

Padlock PM

Lube the cylinder with corrosion preventive compound (CPC) every six months or so. NSN 8030-00-938-1947 gets a 16-oz spray can of the compound. Just spray CPC into the lock. Then hold the cylinder pointed down so any excess runs out.

Put the key in, open and close the lock and remove the key. Do this several times to spread the lube and get all the parts working smoothly.

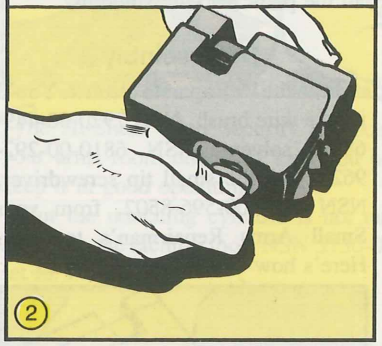
Disassembly

Take the lock apart to clean it. You'll need a wire brush, NSN 7920-00-449-6859, solvent, NSN 6810-00-292-9625, and the small tip screwdriver, NSN 5120-00-596-8502, from your Small Arms Repairman's tool kit. Here's how to take the lock apart:

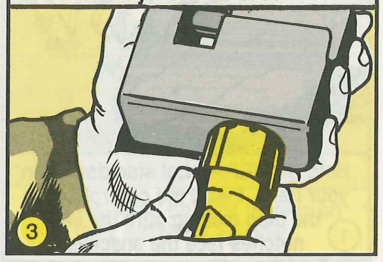
Hold the HSP—label side down—in your hand. Insert the control key in the plug making sure the key notches face the shackle. (1)

PS MORE

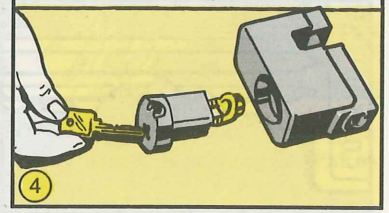
Push the key all the way in and turn the key counterclockwise past LOCK.



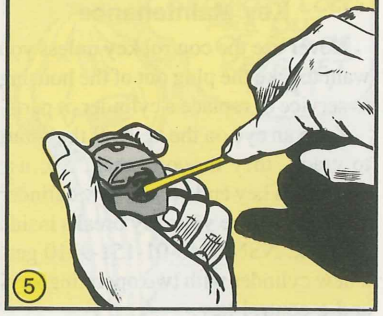
Pull the key and plug away from the case.

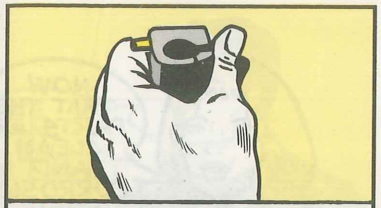


Remove the key and pawl from the cylinder.



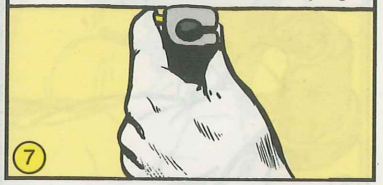
Hold the plug upright so you can see the detent ball. Press the ball into the plug housing with the small tip screwdriver.





The plug locking pins will hold the ball out of the way as you tilt the plug and let the cylinder slide out into your hand.

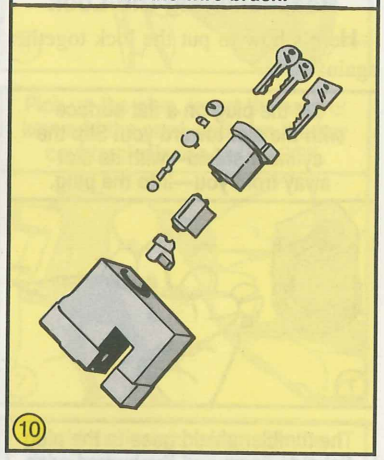
Set the plug on a flat surface. Squeeze the locking pins back onto the plug. The detent ball will drop to the bottom of the plug.



Tilt the plug and catch the ball and the spring connected locking pins in your hand. Put items in a safe place so they won't get lost. Never remove the spring from pins.

Turn the plug upside down and use the screwdriver tip to push out the retaining ring, tumbler shield and cylinder shield.

All parts and the case can now be inspected, cleaned and replaced as necessary. Remove corrosion with the wire brush.



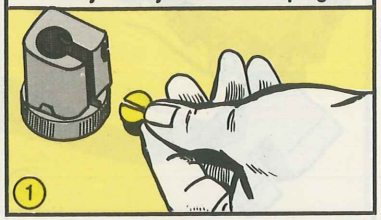
P.S MORE

Clean all parts and the padlock body with solvent. Then lubricate with molybdenum disulfide powder.

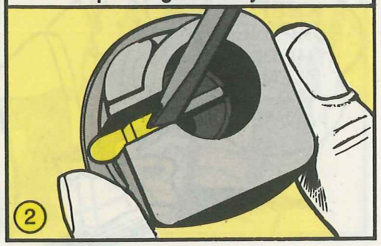
Reassembling the Lock

Here's how to put the lock together again:

Set the plug on a flat surface with the slot toward you. Slip the cylinder shield—with its slot away from you—into the plug.

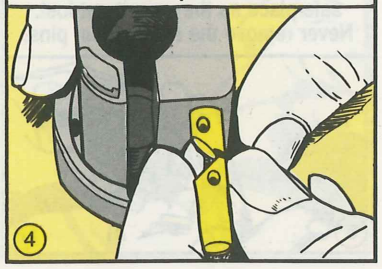


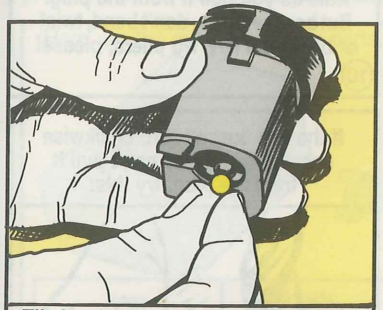
The tumbler shield goes in the plug flat side down and the curved edge pointing toward you.



Seat the retaining ring against the tumbler shield and the cylinder shield. If it's not seated right, you can't seat the cylinder.

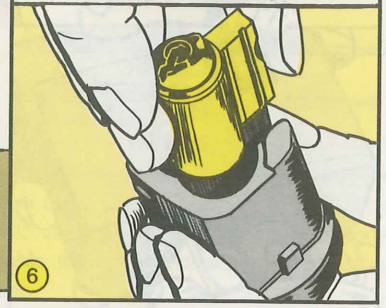
Install the locking pins—short pin first.





Tilt the plug toward you and install the detent ball by pushing it into the plug housing with the screwdriver tip.

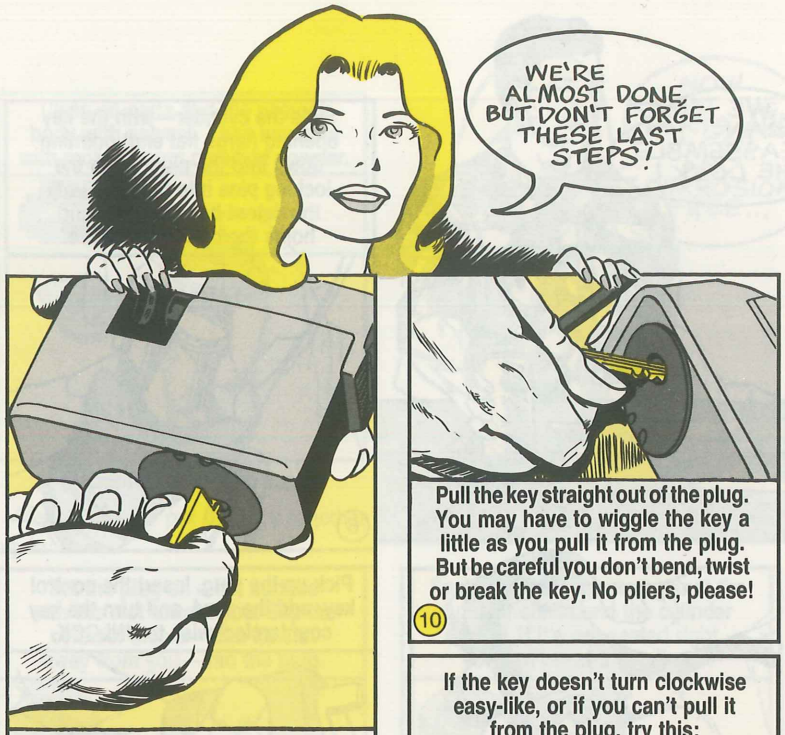
Slide the cylinder—with the key opening (large flat end) pointing down into the plug. Push the locking pins into the plug until the detent ball pops out and holds the cylinder in place.



Pick up the plug. Insert the control key, add the pawl, and turn the key counterclockwise to UNLOCK.

Hold the lock housing with the label side down as you slide the plug assembly into the case. Tilt the lock so that the shackle closes. If the shackle is open, the pawl keeps the plug from seating.

P.S MORE



With the plug in place, turn the control key clockwise about 90 degrees, then counterclockwise slowly until you feel it seat in LOCK.

9

Pull the key straight out of the plug. You may have to wiggle the key a little as you pull it from the plug. But be careful you don't bend, twist or break the key. No pliers, please!

10

If the key doesn't turn clockwise easy-like, or if you can't pull it from the plug, try this:

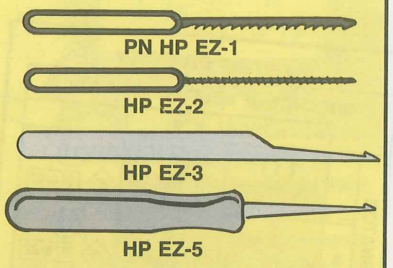
Use you thumb or finger to back the shackle slowly into the case until you can turn the key 90 degrees.

11

Repair Info

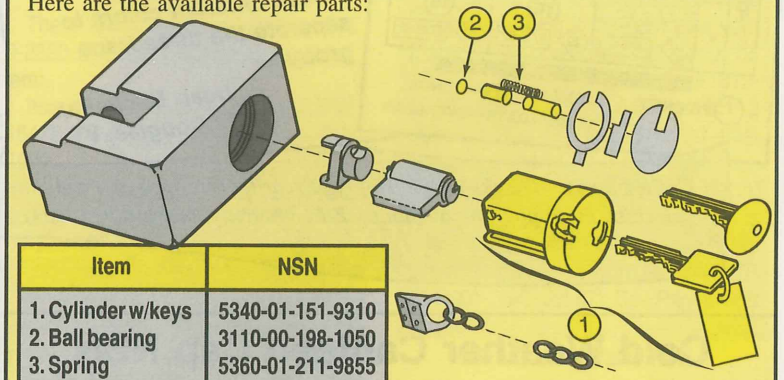
You armorers replace damaged or unserviceable parts. That's all.

If you have an unserviceable HSP because a broken key is in the cylinder, use key extractors. Here's what you need:

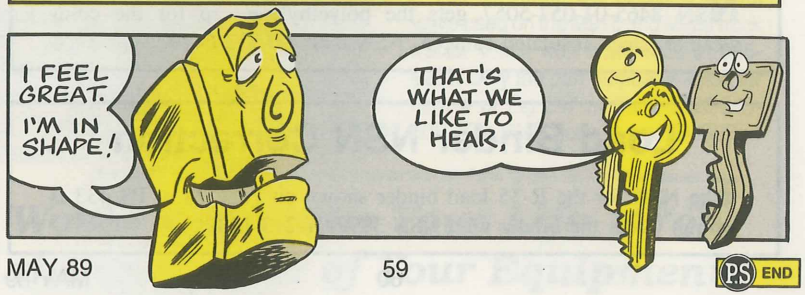


Order extractors on a DD Form 1348-6 using CAGE 1JJ41 from RIC A35. Use Advice Code 2A in card columns 65 and 66 to tell your Supply Support that the extractor is not locally obtainable through manufacture, fabrication, procurement or authorized cannibalization.

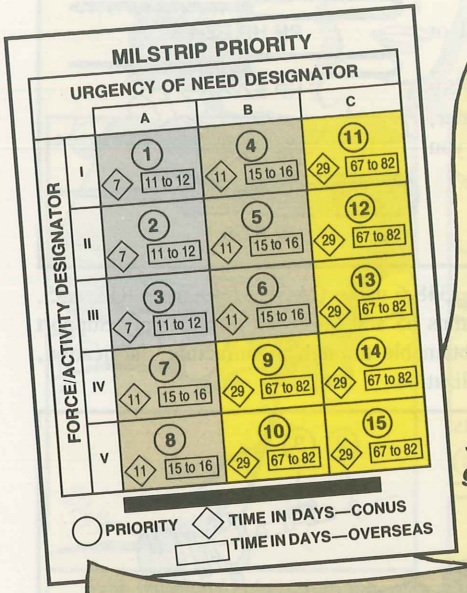
Here are the available repair parts:



Item	NSN
1. Cylinder w/keys	5340-01-151-9310
2. Ball bearing	3110-00-198-1050
3. Spring	5360-01-211-9855



Keep Your Priorities Straight



Dear Editor,

I've got a MILSTRIP priority card which may be helpful to others.

The locally-reproduced card gives me a quick reference in selecting the right priority designator on supply requests. It also shows the delivery time in days for CONUS and OCONUS.

I use different colors to separate the three issue groups.

Dean Buchanan
Ft Douglas, VT

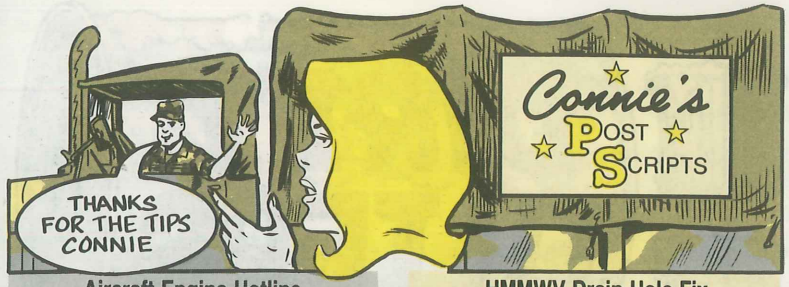
(Editor's note: Thanks for sharing your card. Be sure to use only the priorities that apply to your unit's Force/Activity Designator (FAD).)

Cold Weather Canteen Cap NSN

NSN 8465-01-057-5057 gets the polyethylene cap for the cold-weather, steel, insulated canteen, NSN 8465-00-753-6489.

Load Binder NSN Correction

The NSN for the R-35 load binder shown on Page 24 of PS 433 is wrong. Order the binder with NSN 3990-01-213-1239.



Aircraft Engine Hotline

Got a problem with your bird's engine or engines? Call Corpus Christi Army Depot's engine hotline, AUTOVON 861-2651 or Commercial 512-939-2651. Be prepared to give the engine model and serial numbers, the time since new and time since last depot repair of the engine, and the airframe type and serial numbers.

HEMTT TM Changes

There are a couple of errors in TM 9-2320-279-20P. Here's how to correct 'em:

Item 17, Fig 36, is Volt, Gage; CAGE 16476, PN 06352-1, NSN 6625-01-102-7599.

Item 11, Fig 26, is Belt, V; CAGE 96906, PN MS51065-45-2, NSN 3030-00-528-6953.

HEMTT PMCS Update

Mileage and hours are being added to the scheduled intervals. Make this note in Para 2-13 of TM 9-2320-279-20-1:

Every 3 months or 1,500 miles/250 hours;

Every 6 months or 3,000 miles/400 hours;

Every year or 12,000 miles/800 hours;

Every 2 years or 20,000 miles/1,600 hours.

HMMWV Drain Hole Fix

Drivers and passengers in a HMMWV get wet feet when it rains. That's because the drain holes in the floorboards are too small and too few for water to drain quickly.

You mechanics can dry out the problem by making the fix in Para 2-9h of TB 43-0001-39-3 (Jul 88).

M102 Fire Control PMCS Changes

Missing or inoperable secondary fire control instruments do not make your M102 towed howitzer NMC. Items 12, 13 and 14 in the PMCS in TM 9-1015-234-10 for the M14A1 quadrant, M1A2 gunner's quadrant and M114A1 telescope are wrong. As long as the main fire control instruments (M134A1 mount and M113A1 pantel) pass, your gun is mission capable. The secondary fire control NMC criteria were deleted in TB 43-0001-36-2 (Jul 87). See Pages 4-59 and 4-67.

M915 Control Valve NSN

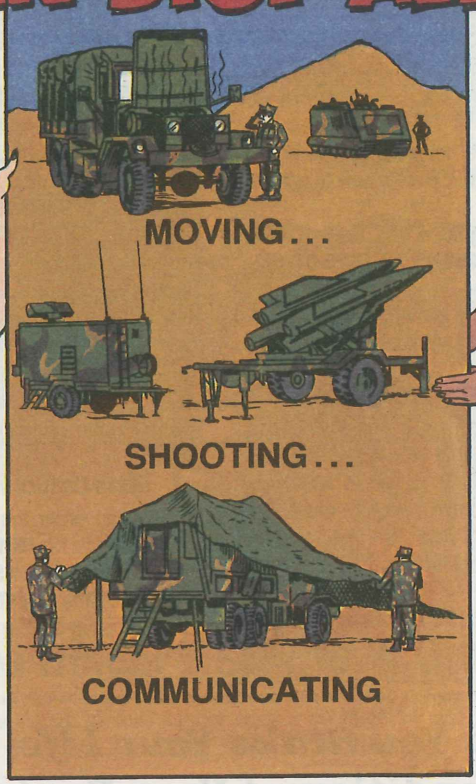
You can order the direction control valve used on the M916 and M920 truck tractor winch with NSN 4820-01-085-9231. Only the part number is listed for Item 4 of Fig 217 in TM 9-2320-273-20P. The SMR code is now PAOFF.

Distribution: To be distributed in accordance with DA Form 12-34-C-R, for TB-43-series.

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1989 — 648-004/00005

CAN STOP ALL...



PIN: 064836–000