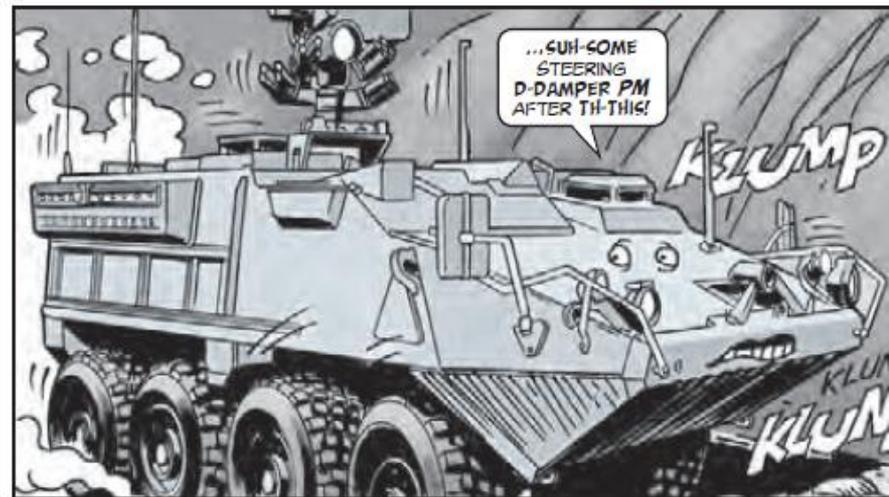
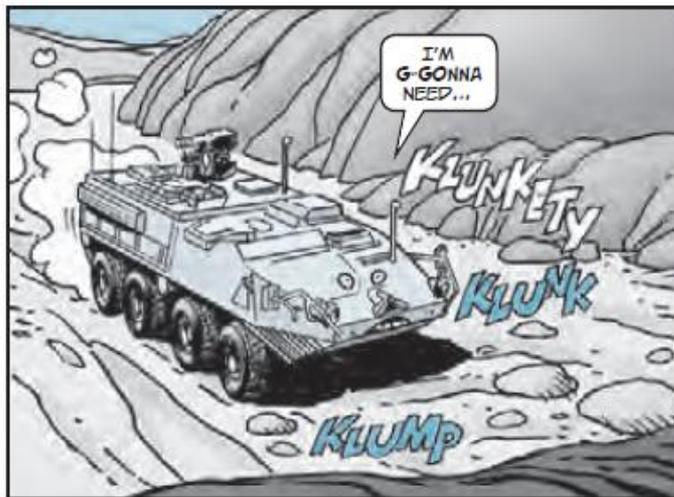
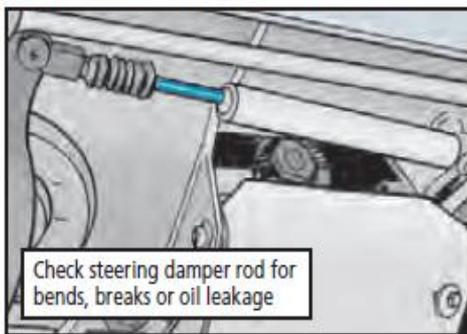


# Damper PM Won't Steer You Wrong



The dampers are like mini shock absorbers that act as a stabilizer for the steering system. Without 'em, the steering column can give you a good shake down.

Rough terrain, rocks, and heavy brush can take a toll on the damper rods. That's why you need to crawl under your Stryker to visually inspect them, especially after a mission over rough terrain. Look for a bent or broken rod or evidence of oil on the cylinder that could indicate a leaking wiper seal. Report any problems to your mechanic.



You'll also need to keep the dampers lubed monthly with GAA. Without lube, the rod binds and will soon bend like a pretzel. You'll find the lube point at the end of the damper rod.

Lube damper to prevent binding



## Cold Weather Problems

Extreme cold weather also has a negative effect on the steering dampers. Sustained temperatures at or below 0°F result in a significantly high number of steering damper failures.

So, vehicles that are part of the 3rd Stryker Brigade in Alaska are now authorized to remove the steering dampers when the temperature drops below 0°F for a sustained period.

Removing the dampers may result in higher amounts of wheel kick and vibration in the steering system, especially over rough terrain. That can result in increased wear on steering components. So, inspect the steering system often for damage if you've removed the dampers.

All drivers with vehicles that have had the dampers removed should receive a precautionary briefing about the dangers of sudden steering movement and how best to reduce it.

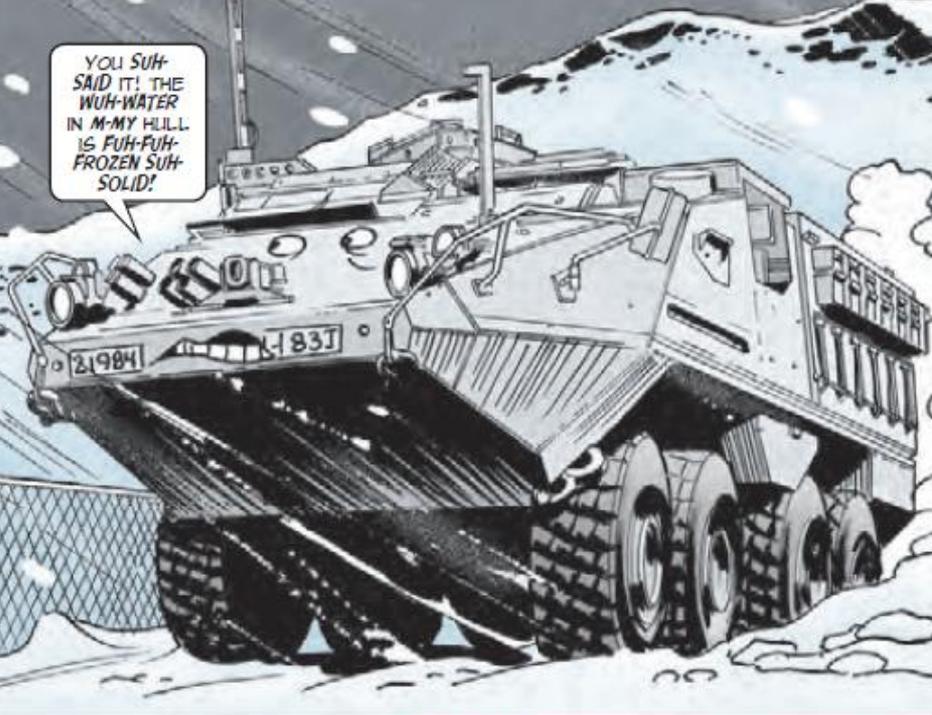
Stryker...

# KEEP WATER ON THE OUTSIDE



MAN, IT'S REALLY CUH-COLD OLT TODAY!

YOU SUH- SAID IT! THE WUH-WATER IN M-MY HULL IS FUH-FUH-FROZEN SUH-SOLID!



Crewmen, you'd be surprised how much water can collect in the hull of your Stryker. It drips off wet boots and uniforms, trickles in through open hatches, is left behind after leaving the wash rack, and seeps in through loose hull drain plugs during fording.

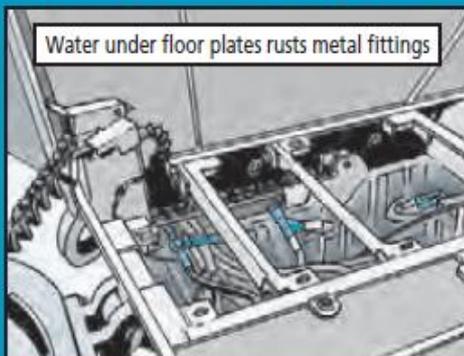
## The Problem

Water can take three forms—solid, liquid and gas. All three create problems for your Stryker.

**Solid:** If you're in a cold-weather environment, the water in the hull and under the floor plates freezes. Since water expands as it freezes, lines and fittings are ruptured, causing all kinds of damage.

**Liquid:** Water under the floor plates will rust the ramp chains; connectors on the air, hydraulic and fuel lines; the ABS system; and pretty much anything else that's made of metal.

**Gas:** As temperatures go up, the water evaporates and condenses on radios and other electronic gear. Enough moisture can short out electronic equipment.



Water under floor plates rusts metal fittings

## The Solution

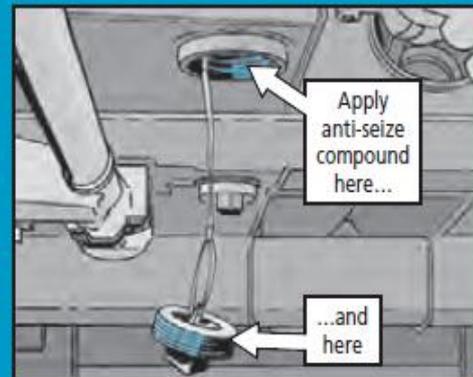
The only way to empty that water is to open the hull drain plugs on the bottom of your Stryker. There are quite a few plugs, so make sure you open all of them or you'll leave water behind.

Make sure any water drained from the hull goes into a drip pan and is disposed of according to your unit's SOP.

Of course, you don't want water to get back in through the plugs, so make sure you reinstall 'em before operation. And do it right. Plugs that are too loose will vibrate free. Plugs that are too tight are hard to open and are more likely to be left closed when draining is needed again.

Apply a little anti-seize compound, NSN 8030-01-087-8254, to the threads before installing the plugs. That lets you tighten the plugs enough to keep them from vibrating loose, but makes them easier to open next time.

Just make sure you put the compound on each plug's threads and the threaded portion of the hull. That way, all the threads are coated and the plugs won't stick.

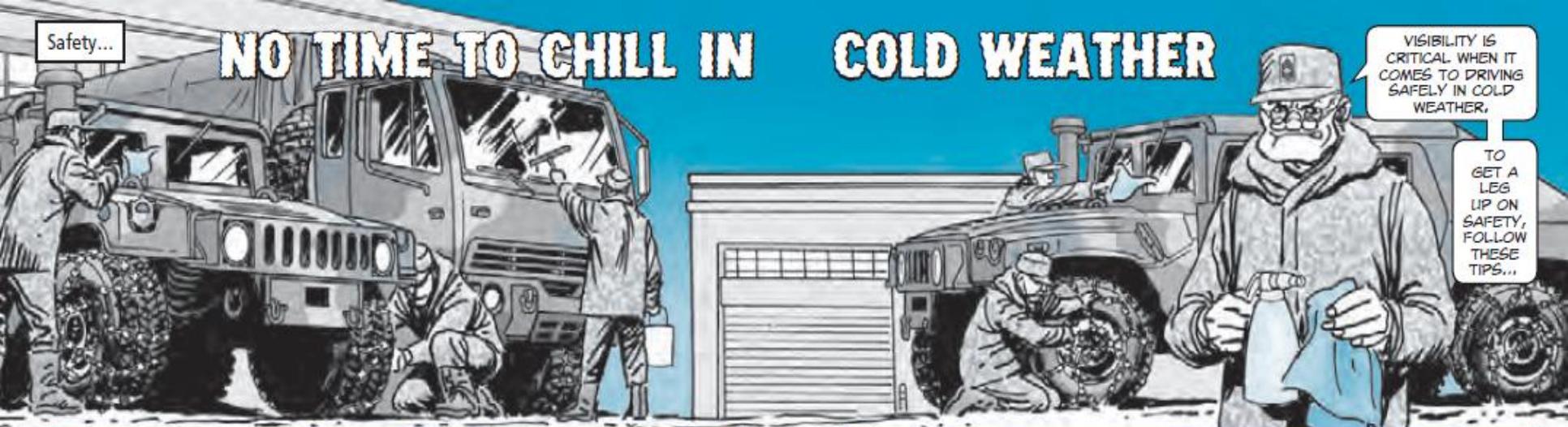


Apply anti-seize compound here...

...and here

Safety...

# NO TIME TO CHILL IN COLD WEATHER

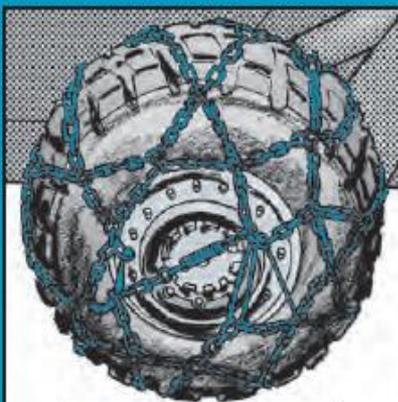


VISIBILITY IS CRITICAL WHEN IT COMES TO DRIVING SAFELY IN COLD WEATHER.

TO GET A LEG UP ON SAFETY, FOLLOW THESE TIPS...

## Before Heading Out

- Make sure inside and outside rearview mirrors are clean, clear and properly adjusted.
- Check that you have tire chains for your vehicle that are the proper size and in good condition.
- Remove ice, snow and condensation from all vehicle windows. Remember, if your vehicle has ballistic glass, it will scratch more easily than regular glass and can be damaged by ice scrapers. Do not use any products that contain ammonia when cleaning ballistic glass. Ammonia breaks down the bond between the inner and outer sections of ballistic glass. Avoid aerosol window cleaners, too. The propellant in some of these cleaners can also cause ballistic glass separation.



Install chains in ice and snow

TO CLEAN BALLISTIC GLASS...

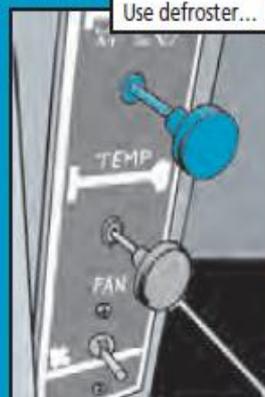


- Rinse the window with clean water from a squirt bottle to soften up and rinse away debris.
- Mix up a batch of soapy water using general purpose liquid detergent. Don't use dry detergent. It may scratch the glass if it doesn't totally dissolve in the water.
- Gently wash the windows with a clean cotton rag and the soapy water. While you're at it, wash the windshield wipers, too.
- Rinse with clean water.

## On the Road

- Use defrosters and windshield wipers to keep windshields free of ice, sleet, snow and fog.

Use defroster...



...and windshield wipers to improve vision



- If the tactical situation permits, use headlights in snowstorms and during periods of reduced visibility.
- Increase driving intervals between convoy vehicles in inclement weather.
- Use a ground guide when backing a vehicle or when you need assistance picking out a path in deep snow.
- Tire chains increase traction for both starts and stops. But remove slack from tire chains. Loose chains damage tires and axle components and can get caught in debris.
- Read and follow all instructions in the operator's manual for your specific vehicle. Look for a chapter or section called, "Operation Under Unusual Conditions."
- For more tips on driving in adverse weather, see Appendix G in FM 55-30, *Army Motor Transport Units and Operations*.

HMMWV...

IF YOU  
CAN'T GO,  
CHECK THE  
GLOW!

GNRRRRRR



I CAN'T GET  
YOU STARTED,  
WHAT SHOULD  
I DO?

GET  
SOME-  
BODY TO  
CHECK  
MY GLOW  
PLUGS!

Ever tried to start your HMMWV in cold weather and it wouldn't crank? Then you couldn't get warm or perform your mission!

Your HMMWV gets cold whenever the temperature drops to around 35°F. But it should still start within a couple of tries. If it doesn't, check the glow plugs. That's right, the glow plugs.

Unfortunately, whenever one glow plug fails, the others do, too, and quickly! And that will keep your HMMWV from moving. So when you take your HMMWV in for servicing, have the mechanics also check the glow plugs. It shouldn't take more than 10 minutes and it'll prevent wasted time later.



Replace bad glow plugs with  
NSN 2920-01-188-3863

MRAP  
M-ATVs...

# FLOOR MAT MISHAP



DO NOT REMOVE THE M-ATV'S BLAST-ABSORBING REAR FLOOR MATS.

SOME PASSENGERS DISCARD THE MATS WHILE STOWING UNSECURED EQUIPMENT UNDER THE VEHICLE'S BLAST-ABSORBING SEATS.

WITH THE MATS REMOVED, THERE'S A GREATER RISK OF SERIOUS INJURY IF THE VEHICLE IS HIT BY AN IED AND LOOSE EQUIPMENT GETS TOSSED ABOUT DURING A ROLLOVER.



THE M-ATV IS NOT NMC IF IT'S MISSING THE MATS...BUT WHY INCREASE YOUR RISK OF INJURY?

REPLACE A MISSING REAR FLOOR MAT (LEFT-SIDE) WITH NSN 2540-01-577-0620.

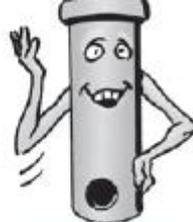
USE NSN 2540-01-577-0627 TO REPLACE THE REAR RIGHT-SIDE MAT.

WONDERING WHAT TO DO WITH THAT UNSECURED EQUIPMENT?

TAKE A LOOK AT WP 0039 IN TM 9-2355-335-10 FOR THE LOWDOWN ON HOW TO PROPERLY SECURE AND STOW EQUIPMENT INSIDE THE M-ATV.

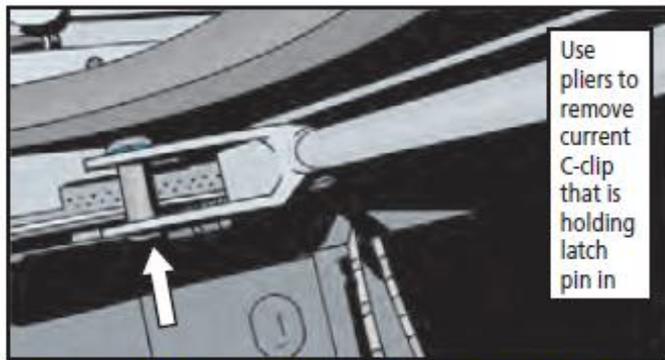
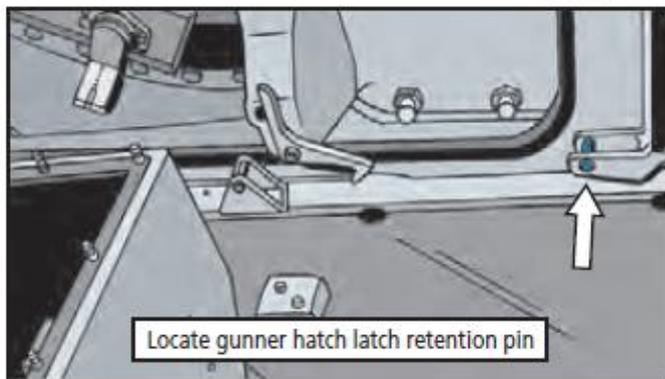


# MRAP GUNNER'S HATCH LATCH PIN

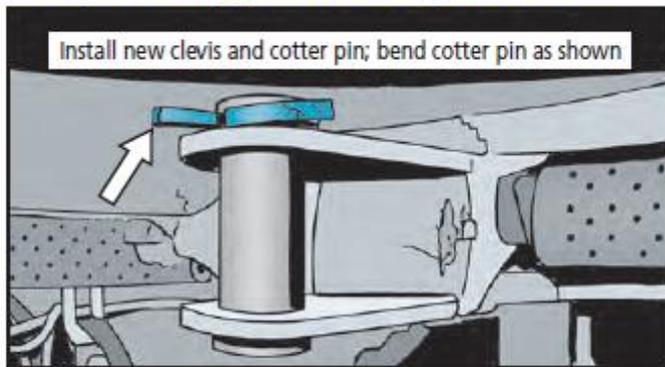


The gunner's sliding hatch inner lock assembly latch pin on the MRAP MaxxProPlus is falling out of place because of a faulty C-clip. That means the hatch can slam down without warning on the gunner! Refer to WP 4-14.4 of TM 9-2355-318-23-3 on how to remove the C-clip, Item 9, and the latch pin, Item 10, and how to replace them with retrofit latch and cotter pins. See TACOM GPA 09-020 for more info:

[https://tulsa.tacom.army.mil/safety/gpm/tacom\\_wn/gpm09-020.html](https://tulsa.tacom.army.mil/safety/gpm/tacom_wn/gpm09-020.html)



BY THE WAY, YOU WILL NEED YOUR CAC TO ACCESS THIS WEBSITE.

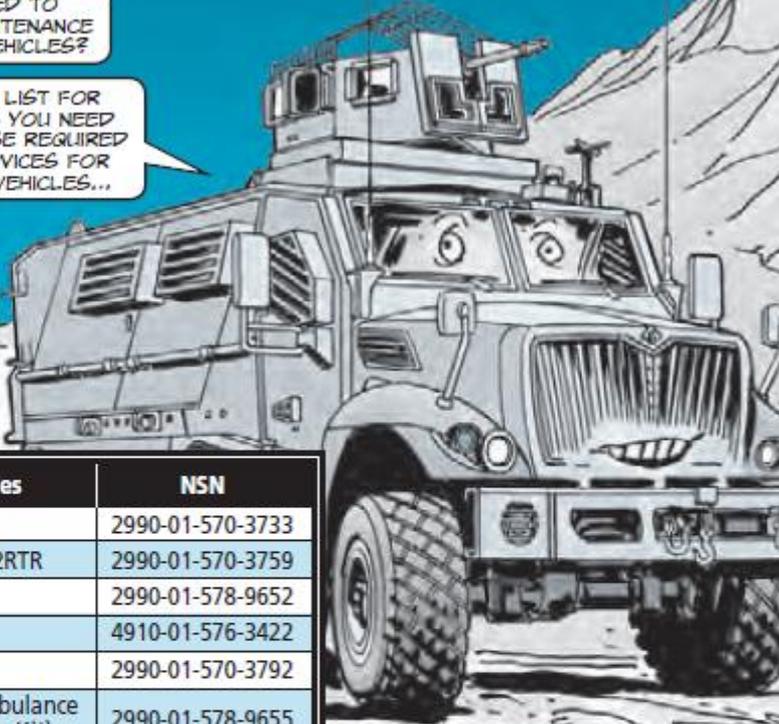


MRAP Vehicles...

# New Service Kits

MECHANICS, NEED TO  
PULL ANNUAL MAINTENANCE  
ON YOUR MRAP VEHICLES?

USE THIS HANDY LIST FOR  
THE SERVICE KITS YOU NEED  
TO PERFORM THOSE REQUIRED  
CHECKS AND SERVICES FOR  
THE FOLLOWING VEHICLES...



MRAP Vehicles	NSN
RG-33/RG-33 Plus	2990-01-570-3733
RG-31A2/A2M1/A2RTR	2990-01-570-3759
RG-31A3	2990-01-578-9652
Cougar	4910-01-576-3422
MaxxPro	2990-01-570-3792
MaxxPro Plus (Ambulance and Dash Service Kit)	2990-01-578-9655
Caiman/Caiman Plus	2990-01-570-3716



BY THE WAY, EACH OF THESE SERVICE  
KITS CONTAINS THE FOLLOWING ITEMS...

- engine oil filter
- transmission filter (s)
- primary air filter
- fuel/water separator element
- fuel filter
- air-dryer filter
- and other vehicle specific service parts

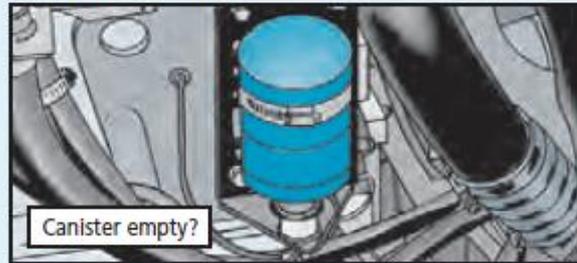
RTCH...



OPERATORS, HERE ARE SOME COLD WEATHER TIPS TO KEEP YOUR ROUGH TERRAIN CONTAINER HANDLER MISSION-READY DURING COLD WEATHER.

### Hard to Start

These vehicles have a fuel canister that automatically injects ether into the engine for cold weather starting. If the RTCH is hard to start, chances are the canister is empty. Have your mechanic replace it.



Canister empty?

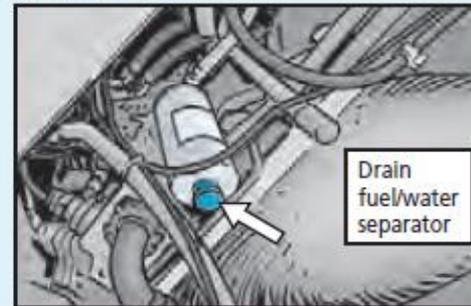
### Drain Out Water

Water in your RTCH's fuel will leave its engine running rough or not at all.

Water gets in the fuel when warm days and cool nights cause condensation to form in the vehicle's fuel tank. Get rid of the water by draining the fuel/water separator each week like it says in the TM.

Open the separator—located behind the roadside engine access door—by turning its drain cock counterclockwise. Store drained fuel in an approved hazardous waste container. Never dump it down a drain or let it run on the ground.

If the fuel is clear, you're OK. If the fuel doesn't run clear after you've drained half a pint or so, close the valve and report it to your mechanic.

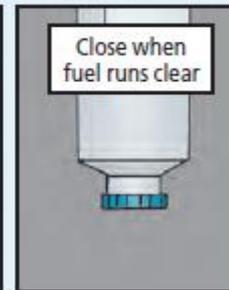


Drain fuel/water separator

Open to drain



Close when fuel runs clear



# Get a Safe Handle on Fueling, Part II



## Odds and Ends

- Fuel handlers, stay alert when fueling. The HEMTT driver will signal when it's time to shut off the fuel.
- If you handle fuel at night, remember two things:
  - ✓ Wear goggles with a clear lens, not a sunglass or tinted lens.
  - ✓ The driver needs an explosion-proof flashlight or a chemlight to signal the fueler when to shut off the fuel.

- The fuel tank has an EMERGENCY FUEL SHUT OFF control. It's on the driver's side of the HEMTT. Pulling the control cuts off the flow of fuel. Every Soldier working near the truck needs to know where the control is—and how to use it.

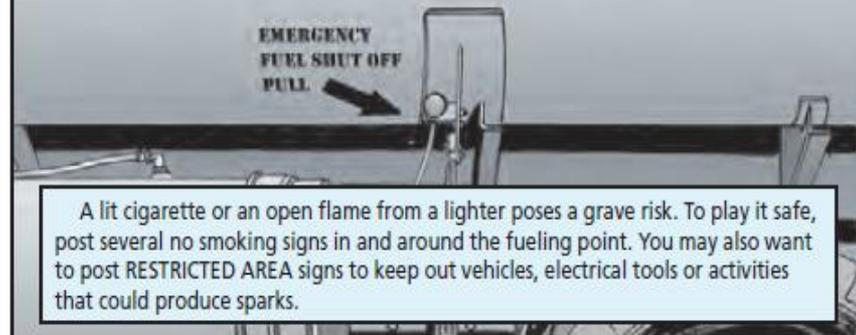


- Federal regulations call for the use of hazardous materials placards when hauling hazardous cargo. That includes JP-8 fuel. Label your tanker with the right 4-digit class 3 Department of Transportation placards for flammable liquids.



- Painted on the side of the fuel tank are the words:

**FLAMMABLE**  
**NO SMOKING WITHIN 50 FEET**



- If a thunderstorm approaches or you see lightning, shut down fueling.

## Fire Extinguishers

ALWAYS KEEP A HAND-HELD FIRE EXTINGUISHER NEARBY—ABOUT AN ARM'S LENGTH AWAY.

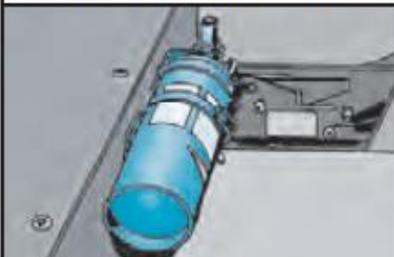
IF A FIRE BREAKS OUT, YOU CAN'T AFFORD EXTRA STEPS RUNNING FOR HELP.

THE -10 TMS NAME THREE DRY CHEMICAL EXTINGUISHERS...



- NSN 4210-01-460-9083. This is a Basic Issue Item (BI) and you need two. One extinguisher is mounted on the driver's side stowage box. The other is mounted on the passenger's side battery box.

- NSN 4210-01-133-9053. This is also a BI and it is mounted in the cabin to the right of the driver's seat.



- NSN 4210-00-965-1108. It's found on the Additional Authorization List and has a recommended quantity of four.

## Sources of Ignition

IN ALMOST ALL CASES, FIRES AND EXPLOSIONS NEED AN OUTSIDE IGNITION SOURCE TO GET STARTED.

HERE ARE SOME COMMON SOURCES.

DON'T LET THEM NEAR YOU WHEN YOU'RE HANDLING FUEL.

- Smoking, matches, cigarette lighters and open flames.



- Friction between metals or other hard substances. They can cause sparks.
- Electrical equipment and wires. They can produce arcs or sparks. They can also produce heat. Make sure all electrical equipment in the area—generators, lights, power tools and extension cords—is explosion proof.

- Static electricity. Assume it's always there and take precautions. Bond and ground your vehicle before handling fuel.

- Welding, soldering, drilling or grinding. They produce sparks and heat.



- Cutting torches.
- Jewelry that might spark against metal.

- There *is* one case when fires can start without an outside ignition source. It happens when rags or waste are soaked in varnish, linseed oil, paint or paint dryers. They can ignite on their own.

HEY...WHAT DO I DO WITH THIS **ONLY RAG**?

JUST TOSS IT OVER THERE IN THE CORNER. THAT'S WHAT WE'VE BEEN DOING.



## Higher Education

IF YOU WANT TO BECOME AN EXPERT FUEL HANDLER, READ YOUR -10 TMS, ESPECIALLY THESE PARTS...

- Warnings, and Warning Icons and Descriptions near the front of the TM.
- Chap 1, Table 4, Significant Hazard and Safety Recommendations.
- Work packages related to fueling operations in Chap 2, Operator Instructions.
- Chap 4, Before and During PMCS.



IF YOU WANT TO PURSUE A PH.D. IN FUEL HANDLING, YOU MUST READ FM 10-67-1, CONCEPTS AND EQUIPMENT OF PETROLEUM OPERATIONS.



YOU'LL FIND IT ON THE ARMY PUBLISHING DIRECTORATE (APD) WEBSITE:  
<http://www.apd.army.mil/>

THE FM HAS CHAPTERS ON TERMINAL OPERATION, TANKERS, AIRCRAFT REFUELING, STORAGE CONTAINERS, HANDLING EQUIPMENT, CLOTHING AND MORE.

PAY PARTICULAR ATTENTION TO CHAP 2, SAFETY, HEALTH AND FIRE FIGHTING.

