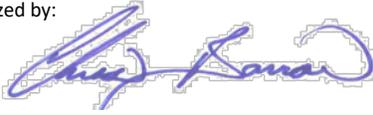


	TRAVIS COUNTY ESD #5 MANCHACA FIRE RESCUE Department Best Practices	<h1 style="text-align: center;">D101</h1>
	Authorized by:  Fire Chief Chris Barron	Effective: 2/12/2019 Rescinds: na Reference: Application: Shift Personnel
<h2>Care, Inspection, and Maintenance of Emergency Vehicles</h2>		

I. Purpose

To establish best practices for the care, maintenance, and inspection of front-line and ready-reserve apparatus.

II. Background

Fire apparatus must be maintained in top condition and mission ready for response at a moment’s notice. This is true regardless of the apparatus status as front line or ready reserve. The firefighting crew plays a vital role in maintaining the apparatus through ongoing inspection, preventive maintenance, and reporting of issues found on the apparatus. The early discovery and correction of apparatus and equipment issues will help prevent unexpected failures that may affect service delivery to our customers.

III. Best Practices

A. **Responsibility of crew.** Each member of the crew has a responsibility to ensure the mission-ready status of our fleet.

1. **Officer responsibility.** Officers are responsible for ensuring that apparatus and associated equipment is inspected and maintained. Additionally, the officer should ensure that apparatus and equipment is used as intended and within manufacture’s recommendations.
2. **Driver’s responsibility.** Drivers are responsible for inspection and care of their front line apparatus and its associated equipment. Driver’s shall directly conduct care and maintenance of their apparatus as well as other front line and ready reserve apparatus or supervise the assistance of firefighters in apparatus and equipment care and inspection.
3. **Firefighter’s responsibility.** Firefighters shall assist the Drivers with the care and inspection of apparatus. They should seek direction from the Driver for any questions they have in the care and inspection of apparatus and equipment. Any deficiencies should be reported to the Driver for pass-on or correction.

- B. **Apparatus cleaning.** At minimum, all apparatus should be cleaned in accordance with the weekly chore schedule. Soiling from high call volume, inclement weather, operation off paved surfaces, and other situations may require more frequent cleaning than called for on the weekly schedule in order to maintain a professional appearance.
1. **Shift change.** The off-going officer and driver of the front line engine are responsible for ensuring that the apparatus and its equipment are clean prior to being relieved by the oncoming shift.
 2. **Low temperature.** Crews may defer washing of an apparatus if the temperature is below 40°F.
 3. **Water restrictions.** During times of water use restrictions, routine washing of the apparatus should be limited. The apparatus should be washed for public events such as public education events or tours. The apparatus may be washed at the Officer's discretion if the apparatus is determined to be excessively dirty.
- C. **Shoreline use.** When the apparatus is parked and shut down at the station it should be plugged into a shoreline. This includes any apparatus parked outside of the bay for more than 2 hours.
1. **Bay use.** Apparatus shall typically be parked in their designated bay slot. Apparatus with a bay slot should not be parked outside on a regular basis. Temporary parking outside the bay is permitted when bay space is needed for functions such as cleaning, drills, and public events. Private vehicles, including motorcycles, should not be parked in the apparatus bay except for temporary purposes such as loading, offloading, or minor repairs.
- D. **Booster tank.** The apparatus water tank should be refilled on scene whenever possible. If not possible, the apparatus tank should be refilled as soon as practical.
- E. **Return to service.** An apparatus should be returned to a fully equipped, mission-ready status as soon as practical after an incident or training event.
- F. **Apparatus idling.** When an apparatus is to be left unattended for an extended period, it should typically be shut down. This includes when an apparatus is at an incident base/staging area and the crew is being utilized without the apparatus. The apparatus should be allowed to idle if it is beneficial to the safety or mission of the crew. When the apparatus is being idled, the high idle feature should be engaged. The apparatus should not be left idling in the apparatus bay or in a location where the exhaust could have a detrimental effect. Some examples of acceptable use of idling include:
1. Use of emergency lighting or flood lights for scene safety
 2. The need for a climate controlled space during incidents or training
 3. A command vehicle being utilized as a command post
- G. **Turbo cool down.** Motor turbochargers typically engage around 1500 rpm and if not allowed to cool down properly, can reach temperatures of 1500 °F. These temperatures can burn off lubricating oils and cause bearing damage. Damage can be cumulative from several occasions where a turbo was not

cooled down properly. If an apparatus was operated above 1500 rpm, the motor should be idled for 4 minutes before it is shut down. Engine idling should not occur in the apparatus bay.

- H. **Regeneration.** Diesel apparatus built after 2007 are equipped with a diesel particulate filter (DPF) and apparatus after 2014 have a DPF and a catalytic reduction chamber that utilize diesel exhaust fluid (DEF). These features are designed to reduce emissions from diesel vehicles to meet EPA emission standards. Periodically, the soot particles in the exhaust stream will begin to restrict air flow through the DPF and the apparatus will enter a high temperature mode in order to burn the soot out of the DPF. This process is known as regeneration. Regeneration can occur under three circumstances.
1. **Passive regeneration.** Passive regeneration occurs through the routine operation of the vehicle under heavy load conditions such as highway driving or pumping operations. Providing an opportunity for passive regeneration to occur helps prolong the interval between active regeneration cycles. Vehicles that do a lot of stop-and-go driving or perform long periods of idling can benefit from being placed in scenarios where passive regeneration can occur.
 2. **Active-Automatic regeneration.** Active regeneration is when the apparatus is being driven, sensors detects the need to regen, and operating conditions (engine load, speed, temperature) are correct to perform the regen. Active regen involves injecting a fine mist of diesel into the exhaust stream, which reacts with the catalyst to elevate the exhaust temperature to burn off the soot in the DPF. An active automatic regen may be prematurely aborted if the apparatus is not driven under the correct conditions long enough to complete the regen. This may eventually cause warning lights to appear on the instrument panel, telling the driver that the apparatus needs to perform a parked regen.
 3. **Active-Parked regeneration.** Also known as a manual regen, an active-parked regen is possible when an indicator light on the instrument panel indicates the need to regen. When performing a parked regen, the apparatus should be parked outside with no obstructions within 10 feet of the exhaust outlet to prevent damage from high temperature exhaust. Once in position with the parking brake engaged and the dash indicator light illuminated, the manual regen switch can be pressed for 5 seconds to start the regen cycle. The apparatus will automatically exit the regen mode once the cycle is complete. This may typically take anywhere from 20-50 minutes. The regen cycle can be interrupted if needed by pressing the regen switch for 5 seconds, releasing the parking break, or shutting down the vehicle.
- I. **Diesel exhaust fluid.** Diesel exhaust fluid (DEF) is an additive used by the emission controls systems on diesel engines produced after 2014. It is held in its own storage tank on the apparatus and should be filled periodically just as we maintain the fuel level on our apparatus. Never place DEF into the diesel tank on an apparatus. To do so could cause severe damage to the motor. If DEF is placed in the diesel tank, place the apparatus out of service, do not start the apparatus, and refer the matter to the department mechanic. When dispensing DEF, any spills should be cleaned up immediately. DEF will cause damage to apparatus surfaces and apparatus bay floor sealants.
- J. **Reporting service needs.** Apparatus maintenance and repair needs should be reported in a timely manner through the PS Trax application. If the nature of the problem would affect the ability of the

apparatus to operate safely or prevent a mission-critical function from being performed, the apparatus should be placed out of service. When an apparatus is placed out of service, the Battalion Chief should be directly notified via phone call or text in addition to reporting the issue in PS Trax.

- K. **Apparatus and equipment checks.** The off-going Officer and Driver are responsible for ensuring that all front line apparatus are in full operational readiness and any pertinent information about apparatus or equipment condition be passed on to the oncoming crew. The expectation is that the oncoming crew is being presented with apparatus that are ready for an immediate response.
1. **Frequency of checks.** A daily check of each lead apparatus shall be performed at the beginning of each 24-hour period. Additionally, weekly checks shall be performed on apparatus in accordance with the Department's Station Chores and Equipment Checks Schedule.
 2. **Qualified operators.** Driver/Operators tasked with operating an apparatus shall be familiar with the proper operation of the apparatus and have successfully completed the Department's qualification process for that apparatus.
 3. **Reserve apparatus.** When a reserve apparatus is placed into frontline service, the Driver/Operator is responsible for conducting the daily apparatus check for that apparatus. Additionally, the Driver/Operator shall consult the equipment transfer list to confirm that all needed equipment from the frontline unit has been transferred to the reserve unit.
 4. **Applicability and scope of checks.** The PS Trax checklists for apparatus and equipment checks cover general categories that are addressed during the checks. Those same checks are detailed in this policy, but in additional detail. Members checking off an apparatus or equipment in PS Trax are signifying that they have performed the check in accordance with Department policy.
 5. **Exhausting-producing equipment.** To prevent buildup of exhaust gasses in the station, apparatus and small engine equipment shall be ran and tested in an outdoor environment and disconnected from the shoreline.
- L. **Daily checks.** The frontline engine, brush truck, and tender shall undergo a daily equipment check. The daily check shall be recorded in the PS Trax application. Should the application be offline, the paper check forms shall be used as a backup.
1. **Interior of Apparatus.** The interior of the apparatus should be inspected for the following:
 - a. The interior is clean and free of debris
 - b. Seat and steering wheel, if adjustable, are adjusted for the current Driver/Operator
 - c. All safety belts are securely mounted, adjust, and latch properly
 - d. Dome lights; front, rear, left, right, driver's, and step well all function properly
 - e. Unusual noises when the engine is running
 - f. Equipment and tools carried in the cab are inventoried, inspected and secured
 - g. Map books and preplans are inventoried
 - h. Inspect or inventory any miscellaneous items

- i. SCBAs are properly secured
 - j. Mirrors adjusted for current Driver/Operator
2. **Gauges/Switches.** Ensure the following gauges, meters and switches are working properly:
 - a. Pressure and Temperature gauges
 - b. Voltage/Electrical meters
 - c. All electrical equipment switches
 - d. High Idle
 - e. Turn signals
 - f. Headlight switches
 - g. Windshield wiper controls
 - h. Air Conditioner(s) and/or Fans
 - i. Apparatus status display screen (if equipped)
 - j. Door ajar indicator lamp is functional
3. **Fuel Level.** The apparatus fuel level shall be maintained above $\frac{3}{4}$ of a tank.
4. **Siren/Horn.**
 - a. All audible warning devices are tested.
 - b. The public address system is tested.
5. **Radio(s)/Knox/MDC.**
 - a. Mobile and portable radios are inventoried and inspected.
 - b. Knox box is checked for proper operation.
 - c. The Visinet Mobile software is closed and relaunched to allow for updates to be accepted and the oncoming crew logged on while removing the off going crew.
6. **SCBAs.** SCBAs are inspected and secured in accordance with Policy B102: use, Inspection and Care of SCBA and PASS.
7. **Exterior of Apparatus.** Inspect the following items on the exterior of the apparatus:
 - a. Mirrors – securely mounted to the vehicle
 - b. Windshield – clean no cracks or chips
 - c. Windshield wipers – blades and arms in good condition
 - d. Doors – latches and windows working properly
 - e. New body damage – dents, scrapes, or scratches
 - f. Compartment doors – all exterior compartment doors are not damaged, operate properly and latch securely
 - g. Equipment/Tools – All equipment and tools carried or mounted on the exterior of the vehicle are inspected and secured

8. **Lights.** Inspect the following visual warning devices for damage and proper operation:

- a. Head lights (high and low beams)
- b. Turn signals
- c. Brake lights
- d. Four-way flashers
- e. Emergency lighting
- f. Running lights, Side-markers, Step lights
- g. Scene/Alley lights
- h. Flood lights/Light tower

NOTE: The engine must be running when the lights are checked. Without the engine running, the load manager and light sequencer will not operate properly. Turn signals and four-way flashers must be checked separately.

9. **Wheels, Rims and Tires.** Inspect the wheels, rims and tires for the following:

- a. Damaged or bent rims
- b. Rust around wheel nuts may indicate the nuts are loose
- c. Tread damage or separation (No fabric should show through the tread or sidewall)
- d. Dual tires do not contact each other or other parts of the vehicle
- e. Mud flaps are not damaged and are mounted securely

10. **Water/Foam Tanks.** Water and foam tank levels are visually inspected from the topside access hatch to ensure the tank is full. The pump panel tank level indicator is compared to the actual level to ensure it is working properly.

11. **Pump/CAFS/Hose/Nozzle.**

- a. The fire pump engaged and checked to ensure proper operation
- b. The CAFS system (if equipped) is engaged to ensure it operates
- c. Hoses and nozzles inspected for damage and inventoried

12. **Appliances/Adapters.** Appliances and adapters inspected for damage and inventoried

13. **Compartments.** Each compartment inventoried to ensure apparatus has the full complement of equipment

14. **Medical Response Equipment.**

- a. Medical bag(s) are in good condition
- b. Oxygen supply is checked
- c. Medical and trauma supplies inventoried
- d. Medical equipment (BP cuff, stethoscope, glucometer, suction unit, etc.) present and functioning

- e. Medications inventoried and expiration dates checked
- f. AED check and supplies inventoried

15. **Extinguishers.** Pressurized Water, Dry Chemical, and Carbon Dioxide Extinguishers inventoried and inspected to ensure they are full and undamaged.

16. **Ground Ladders.** Ground ladders inspected for damage and the heat sensor labels checked to ensure the ladders have not been exposed to significant heat.

17. **Hand Tools.** Hand Tools inventoried and inspected for damage

18. **Powered Tools.** Power tools inspected and an operational check done according to the manufacturer directions.

19. **Generator/Inverter.** The apparatus generator inspected and an operational check done according to the manufacturer directions.

20. **Miscellaneous.** Any miscellaneous or specialty equipment not listed above are inventoried and inspected according to manufacturer directions.

- a. **Rehab supplies.** Rehab supplies and drinking water should be checked daily on frontline apparatus. Water coolers should be replenished with fresh water and ice on a daily basis.

M. **Weekly Apparatus General Inspection.** Each apparatus shall undergo a weekly equipment check. The weekly check shall include all of the components of the daily check and the additional items listed below. The check shall be recorded in the PS Trax application. Should the application be offline, the paper check forms shall be used as a backup.

1. **MDC restart.** The MDC is shut down and restarted to allow for Windows updates to be accepted.

2. **Steering Wheel.** The steering wheel is checked to ensure wheel play of no more than 10 degrees (approximately two inches movement at the rim of a 20" steering wheel)

NOTE: All equipment is secured after inspection and the cab prepared to be tilted.

3. **Brake System.** Testing of the dual air system and parking brake:

- a. **Set up for test.** Using appropriate and safe working procedures (i.e., wheel chock set, parking brake applied, transmission in neutral), start the engine to build up air pressure.
- b. **High pressure cut out.** When the air governor cut-out pressure is reached, note the pressure (max. 130 psi).
- c. **Compressor cut-in.** Apply and release the service brake pedal gently to allow the air pressure to drop and the air governor to cut in. Note pressure when it begins to rise (min. 85 psi). Allow the system to build back to cut-out pressure. While recharging, it should take less than 45 seconds, to build pressure from 85 to 100 psi.

- d. **Static test.** Shut the engine off. With the wheels chocked, release the parking brake and check the pressure gauge(s) for one minute. Note any pressure drop (2 psi per minute is allowed).
 - e. **Brake applied test.** With the engine off, release the parking brake and fully apply the foot brake, allow pressure to stabilize, then hold it for one minute, observing any drop in pressure (3 psi per minute is allowed).
 - f. **Low-air warning devices and emergency brake test.** Turn on the ignition, but do not start the engine. Release the parking brake. Gently apply and release the foot brake until the low-air warning devices activate (must activate at no less than 60 psi). Continue depleting the system until the parking brake engages (must activate at no less than 40 psi in both tanks). Start the engine and allow the system to build pressure. Air pressure should build to a pressure above 60 psi in the rear tank within 45 seconds.
4. **Brake Air Reservoir Tanks.** Collection of moisture inside air reservoirs due to condensation is normal even if the system is equipped with an automatic dryer. Petcock valves or pull cables connected to spring-loaded bleeder valves on each tank are used to bleed accumulated condensation. The brake system will require recharging.
5. **Tire Pressure and Tread Depth.** Inspect all the tires for the following:
- a. Air pressure (See apparatus operation manual for correct psi)
 - b. Cut or cracked valve stems
 - c. State law requires a tread Depth of at least 4/32" in every major groove on the tires. (Place a quarter upside down into several tread grooves across the tire. If part of Washington's head is always covered, more than 4/32" of tread depth is remaining)
6. **Engine Compartment.** A visual inspection of the engine compartment should consist of the following:
- a. Leaks in the engine compartment or on the ground below (fuel, coolant, oil, power steering fluid, hydraulic fluid, battery fluid)
 - b. Inspect belts for tightness and excessive wear
 - c. Chassis frame (cracks in welds)
 - d. Turbocharger
 - e. Excessive dirt, oil or grease could hide damage or defects
7. **Batteries.** Visually inspect the batteries for the following:
- a. Battery condition, connections, and tie downs
 - b. Terminals for proper connection and corrosion
8. **Electrical System.** Visually inspect the electrical system for the following:
- a. Cracked, worn electrical wiring insulation
 - b. Alternator belts for tightness

9. **Brake Drums/Shoes.** Visually inspect the brake drums or shoes for the following:

- a. Cracked drums
- b. Shoes or pads with oil, grease, or brake fluid on them
- c. Shoes worn dangerously thin, missing, or broken

10. **Exhaust Systems.** Visually inspect the exhaust system for the following:

- a. Loose, broken, or missing exhaust pipes
- b. Loose, broken, or missing mounting brackets, clamps, bolts, or nuts
- c. Exhaust system parts are leaking

11. **Suspension System.** Visually inspect the suspension system for the following:

- a. Cracked or broken spring hangers
- b. Missing or broken leaves in any leaf spring. If $\frac{1}{4}$ or more are missing, it will put the vehicle "out of service" but any defect could be dangerous
- c. Broken leaves in a multi-leaf spring or leaves that have shifted so they might hit a tire or other vehicle part
- d. Leaking shock absorbers
- e. Torque rod or arm, U-bolts, spring hangers, or other axle positioning parts that are cracked, damaged, or missing
- f. Any loose, cracked, broken, or missing frame members

12. **Fuel Systems.** Inspect the following parts of the fuel system:

- a. Fuel lines for damage or loose connections
- b. Exterior of filters for leaks and that fuel is below the "Replace Filter" line

13. **Crankcase/Oil.** Inspect the following parts of the crankcase:

- a. Engine crankcase for visible damage or leaks
- b. Crankcase oil level (NOTE: The oil level must be inspected on level ground with the engine off for at least 15 minutes)

14. **Cooling System.** Inspect the following parts of the cooling system:

- a. Radiator for damage and leaks
- b. Level of vehicle coolant

NOTE: The coolant level indicator can become stained and may appear full at any level. If the indicator appears stained, the coolant level should be checked by removing the radiator cap.

DANGER: To avoid burns from steam or coolant, the radiator pressure cap should only be removed when the engine is cool.

15. **Transmission.** Inspect the following parts of the transmission system:

- a. Transmission housing and drive shaft for visible damage and leaks
- b. Transmission fluid level

NOTE: Transmission fluid must be tested with the fluid at operating temperature (between 140° - 220°) with the engine running at idle.

DANGER: Avoid having loose clothing or items hanging off of member's gear or clothing that could be caught by moving parts from a running motor or driver shaft.

16. **Steering System.** Inspect the following parts of the steering system:

- a. Power steering fluid level
- b. Missing nuts, bolts, cotter keys, or other parts
- c. Bent, loose, worn, or broken parts, such as steering column, steering gear box, or tie rods
- d. Leaks in the power steering system

17. **Generator/Inverter.**

- a. Inspect the onboard generator per manufacturer instructions
- b. Test all electrical extension cords, outlets, and portable lights

18. **Miscellaneous.**

- a. **Rescue tools.** Hydraulic rescue tools are operated and checked for range of motion, signs of hydraulic leaks and physical damage. Struts and straps checked for damage, wear, and smooth operation
- b. **Swift Water Rescue equipment.** Items inventoried, lights checked, ropes inspected.
- c. **Rope Rescue equipment.** Items inventoried, checked for damage/wear. Ropes inspected for damage or wear.

N. **Weekly Pumping Apparatus Floor Test.** Each pumping apparatus shall undergo the pumping apparatus floor test as a part of the weekly check for that apparatus. The check shall be recorded in the PS Trax application. Should the application be offline, the paper check forms shall be used as a backup.

1. Place apparatus into "pump mode."
2. Open tank-to-pump valve.
3. Use the primer to discharge any air in the pump.
4. If the apparatus is equipped with a Pressure Governor, ensure it is in psi mode.
5. Open the pump recirculating valve, obtain 125 psi discharge pressure
6. Set pressure control device.

- a. **Pressure Governor.** With the Master Discharge set at 125 psi, note the RPM level indicated and then slowly close the recirculating valve. A noticeable drop in the apparatus RPMs should be noted. When the valve is reopened, the RPMs should return to the original level.

7. Set the pump recirculating to only be partially open.
8. Remove discharge caps.
9. Inspect the gaskets in all discharge caps for excessive wear and/or corrosion. Replace as necessary.
10. With the caps removed, obtain 125 psi discharge pressure.
11. Check all uncapped discharge outlets for leaks.
12. Return the throttle to idle.
13. Replace caps.
14. Ensure all discharge drain valves are closed and all discharge outlets with the exception of any preconnected handlines are capped.
15. Open all capped discharge outlet valves.
16. Check any valve position indicators for proper function.
17. Obtain 125 psi discharge pressure on the Master Discharge gauge.
18. Check individual discharge outlet gauges to ensure they indicate approximately the same pressure as the Master Discharge gauge. The acceptable variance is ± 10 psi of the Master Discharge Gauge.
19. Check drain valves for leaks under pressure.
20. Check pump housing for excessive leaking.
21. Check the discharge piping for leaks.
22. Check all capped discharge outlets for leaks.
23. Return throttle to idle.
24. Close discharge gate valves and open the drain valves to relieve pressure on each outlet.
25. **CAFS Test.**

- a. Deploys a CAFS capable handline or sets a CAFS compatible nozzle to a CAFS discharge
- b. Opens foam tank
- c. Engages foam proportioning system
- d. Engages air compressor
- e. Establishes a CAFS foam stream from selected discharge
- f. Shuts down foam stream and properly flushes the system
- g. Disengage systems and return apparatus to response ready status (CAFS discharge, fill foam tank as needed, top of water tank)

- O. **Annual Inspections and Pressure Tests.** A visual inspection and pressure test of the gauges on water flow appliances used on 2 ½" hose and larger, carried on apparatus should be completed annually by on duty personnel in conjunction with apparatus hose and pump testing. Additionally, the Tender dump tanks will be deployed and inspected by on duty personnel in conjunction with the apparatus hose and pump testing.

1. **Appliance(s) Visual Inspection.**

- a. There is no obvious damage to the appliance such as dents, cracks or any other defect, i.e. missing parts, which may impair operation.

- b. There is no damage to Storz or threaded connections and the coupling lugs are not missing, broken, or worn.
- c. The maximum operating pressure is clearly marked.
- d. The waterway is clear of debris/obstructions.
- e. The valve handles are operational and attached correctly.
- f. The valves operate to full open/close smoothly and freely.
- g. The internal gaskets are present, have a tight fit, are not deteriorated, and do not protrude from their seat into the waterway.
- h. All swiveling connections rotate freely.
- i. Devices meant to lock-in-place or hold-down the appliance(s) are operational.
- j. Any appliance failing the visual inspection shall be reported via the PS Trax application. Do not perform the gauge pressure test on any appliance that does not pass the visual inspection.

2. **Appliance(s) Gauge Pressure Test.**

- a. Attach each appliance with a gauge to an apparatus outlet.

NOTE: Smaller appliances can be connected directly to a discharge outlet (but not adjacent to the pump operator) while appliances with connections larger than 2 ½" are placed on the ground and connected to the apparatus with a section of hose.

- b. Ensure the appliance valve(s) are fully closed.
- c. Charge the appliance and obtain a pressure of 50 psi on the apparatus Master Discharge gauge.
- d. Exhaust any trapped air from the appliance(s) and hose.
- e. Check the valve(s) for leaks
- f. The appliance pressure gauge must be checked against the Master Discharge Gauge at 50, 100, and 150 psi. The acceptable variance is +/-10 psi of the Master Discharge Gauge.

NOTE: Appliances with integrated pressure relief valves are pressure tested to ensure the pressure relief valve activates at the correct pressure depending on the apparatus it is carried on. DO NOT exceed 200 psi while attempting to activate the relief valve. If the relief valve does not activate at the set pressure, place the appliance out-of-service and report the problem via the PS Trax application.

- g. Return throttle to idle.
- h. Close apparatus valves and relieve any pressure on the outlets.

3. **Tender Dump Tank Inspection.** The dump tank from each tender should be removed from the apparatus and deployed be inspected for damage.

- a. Frame dents, cracks, hinges
- b. Tank liner securely affixed to tank frame
- c. Drain sleeves intact and secured to frame
- d. Tank liner intact, holes identified and patched

