

Multipurpose Decontamination System (MPDS)

Job Aid

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Produced by:

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DANGER

Set the main switch to the STOP position before opening the control unit. The unit contains high-voltage circuits with exposed terminals. Touching a live terminal can cause severe shock, injury, or death.

WARNINGS

- 1. Control the waste water discharge when decontaminating personnel, clothing, and equipment so that it does not cause an environmental hazard.**
- 2. Do not operate the MPDS in a confined space because of toxic fumes. Ensure adequate ventilation of exhaust gases.**
- 3. Keep your thumb next to your index finger and ensure that your legs are clear when operating the starting handle. It can kick back hard when the engine fires incorrectly.**

WARNINGS (Continued)

- 4. Wear the proper protective clothing when using harmful (corrosive, irritant, or toxic) chemical agents.**
- 5. Operate the spray lance trigger to depressurize the water system after shutdown. Failure to do so can cause injury when pressurized components are disconnected.**
- 6. Wear protective clothing during decontamination operations.**
- 7. Do not point the steam spray towards unprotected persons. It can cause severe scalding.**
- 8. Do not touch the steam delivery equipment during or shortly after steam operation. It can cause skin burns.**
- 9. Exercise extreme caution when you are handling diesel fuel or are near it. Fuel is flammable.**
- 10. Allow several minutes after shutdown before touching the engine, boiler, or water/steam delivery ancillaries.**

WARNINGS (Continued)

- 11. Wear hearing protection when operating the MPDS. Failure to do so can result in hearing loss.**
- 12. Ensure that foreign objects, however small, are not present in the intake water because they can block or damage the MPDS water system. Always use the water filter.**
- 13. Do not use corrosive cleaning products. They can damage the MPDS water system, resulting in very short component life.**

BEFORE-OPERATION, PREVENTIVE-MAINTENANCE CHECKS AND SERVICES (PMCS)

1. Check the operating-time counter on the control panel, and ensure that all incremental maintenance has been performed.
2. Prepare the water softener system as needed.
3. Ensure that the water pump drive belt play is between 1.5 and 2 centimeters.
4. Ensure that the blower drive belt play is between 5 and 8 millimeters.
5. Check the engine oil dipstick. If it is below the MINIMUM mark, top off the oil to the required level.
6. Check the engine air filter. If the dust deposit level is up to or above the SERVICE mark, clean the filter.
7. Check the water pump oil level. If it is below the center of the glass, top off the oil to the required level.

BEFORE-OPERATION PMCS (Continued)

8. Check the fuel level, and refuel as required.
9. Inspect the MPDS exterior for damage or missing parts. Repair or replace parts as necessary.

START-UP PROCEDURES

1. Electrical Start.

- a. Ensure that before-operation PMCS has been completed.
- b. Connect the battery.
- c. Ensure that the soap dispenser control, the water pump flow rate lever, and the water temperature controls are set for the required operating mode.
- d. Set the control panel main switch to the IGNITION ON position. Ensure that the battery light illuminates.
- e. Preheat the engine oil and the air inlet by pressing the OIL PREHEAT and AIR PREHEAT buttons and holding them down for 2 minutes if the engine and air temperatures are below 0°C (32°F).

START-UP PROCEDURES (Continued)

- f. Set the control panel throttle lever to the HALF OPEN position.
- g. Press the control panel STARTER button, and hold it down until the engine starts. If it does not start in 15 seconds, release it, wait 30 seconds, and press it again. Repeat this process three more times if necessary. If the engine fails to start four times, refer to the troubleshooting procedures in the operator's manual.
- h. Ensure that the battery light extinguishes after the engine starts.

2. Manual Start.

- a. Ensure that before-operation PMCS has been completed.
- b. Connect the battery.
- c. Ensure that the soap dispenser control, the water pump flow rate lever, and the water temperature controls are set for the required operating mode.
- d. Set the control panel throttle lever to the START position.

START-UP PROCEDURES (Continued)

- e. Set the control panel main switch to the IGNITION ON position.
- f. Preheat the engine oil and the air inlet by pressing the OIL PREHEAT and AIR PREHEAT buttons and holding them down for 2 minutes if the engine and air temperatures are below 0°C (32°F).
- g. Insert the starting handle into the engine-cranking socket.
- h. Turn the engine valve bypass lever to the NO COMPRESSION position.
- i. Stand to the side of the engine, ensure that your feet are well braced, and place one hand on the crank and the other one on the frame.
- j. Crank the handle slowly two or three times, and then turn it as fast as possible.
- k. Continue cranking as fast as possible until the engine starts. After seven or eight turns, the decompression lever will disengage.
- l. Stop cranking, remove the starting handle (it will disengage when the engine starts), and replace it in the storage clips.

SHUT-DOWN PROCEDURES

1. Use the cold-water washing mode and clean the MPDS as necessary if dirt or chemicals have accumulated during operation.
2. Ensure that the water system is flushed out if decontamination agents were used.
3. Stop the engine.
 - a. Set the control panel main switch to the STOP position.
 - b. Set the throttle lever to the QUARTER OPEN position (idle).
 - c. Allow 5 to 10 minutes for the engine to cool.
 - d. Set the throttle lever to the STOP position.
 - e. Depress the trigger and hold it until the water stops flowing if the spray lance is connected.
 - f. Use an antifreeze mixture to safeguard the pump in freezing weather, and drain the hoses of all water.

HOT-WATER OPERATION

1. Ensure that before-operation PMCS has been completed.
2. Connect the spray lance to the MPDS using one or two lengths of high-pressure hose (black) as needed.
3. Set the water pump flow rate lever to the DOWN position (high rate).
4. Set the soap dispenser CHEM control knob to 0 (closed).
5. Connect the MPDS chemical hose to the chemical bottle if a decontamination agent is being used.
6. Set the control panel temperature demand pointer (red) to the required temperature (from 0 to 80°C).
7. Start the engine.
8. Set the throttle lever to the FULLY OPEN position.
9. Set the control panel main switch to the PUMP ON position. Ensure that the magnetic clutch indicator lamp illuminates briefly and then extinguishes. Ensure that the pump pressure gauge reads 60 to 70 bars.

HOT-WATER OPERATION (Continued)

10. Set the control panel burner switch to the BURNER ON position. Point the spray lance in a safe direction, briefly depress the trigger, and ensure that the BURNER ON lamp illuminates. (The burner stays on while the water is flowing.)
11. Rotate the spray lance shaft to select the desired nozzle, and proceed with decontamination operations.

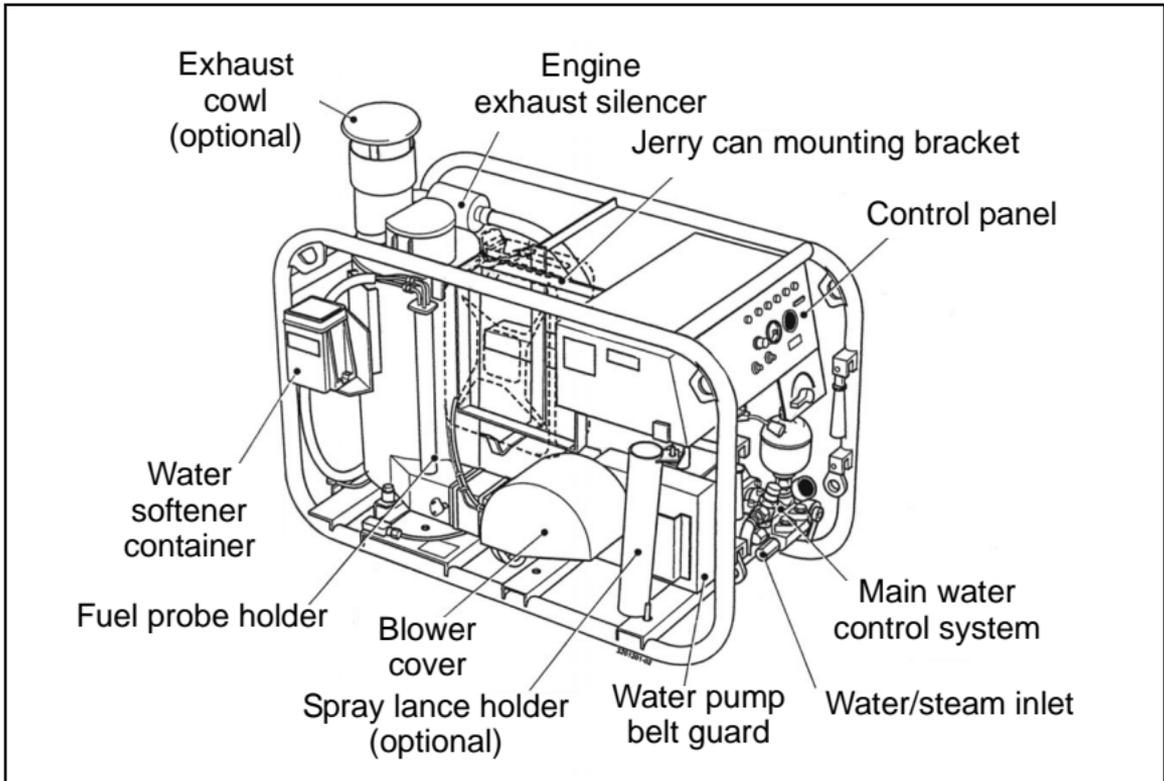


Figure 1. MPDS (Left Side)

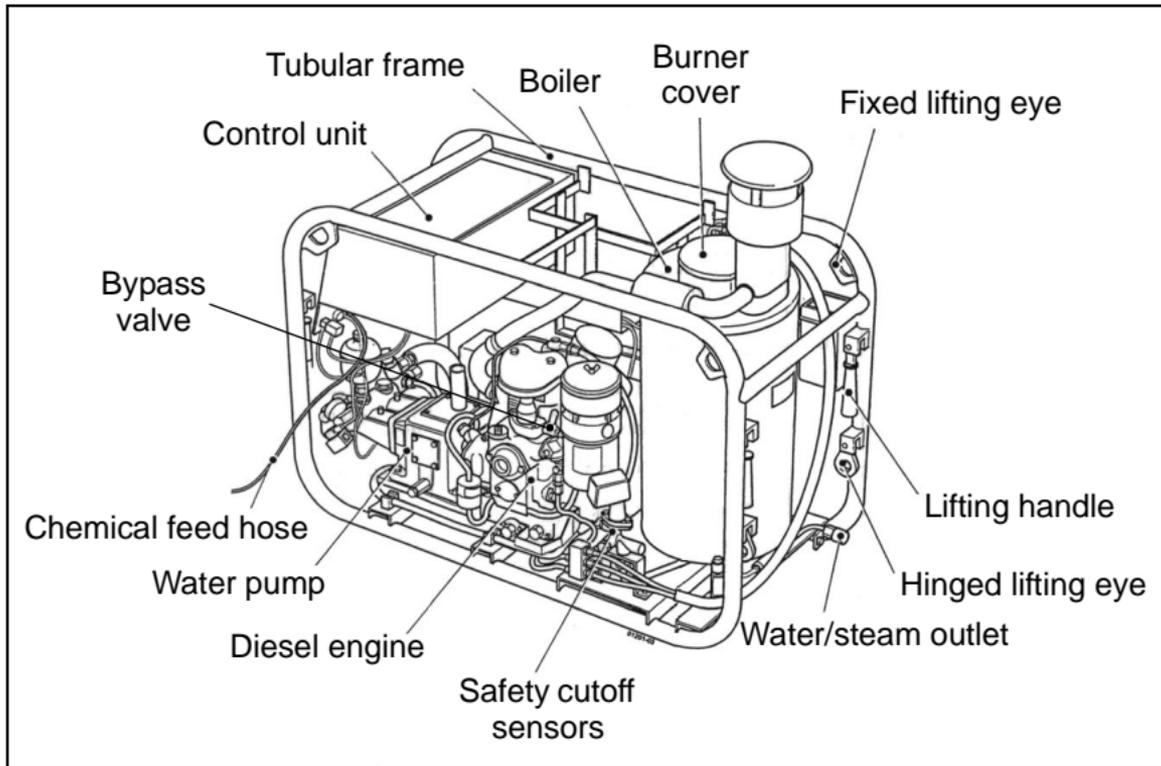
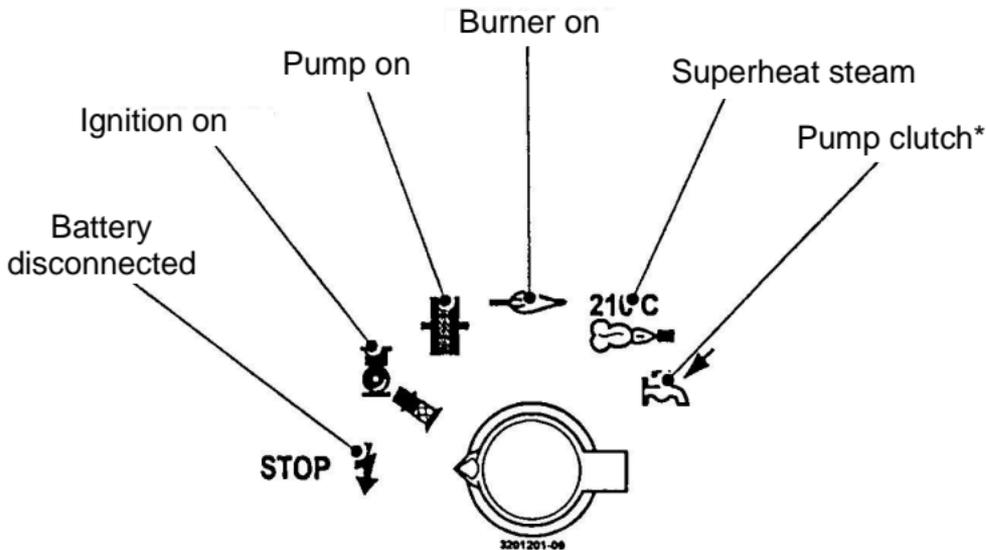


Figure 2. MPDS (Right Side)



*This switch disengages the pump clutch. Use it only when water is already under pressure and you are heating the water with the MPDS.

Figure 3. Main Switch

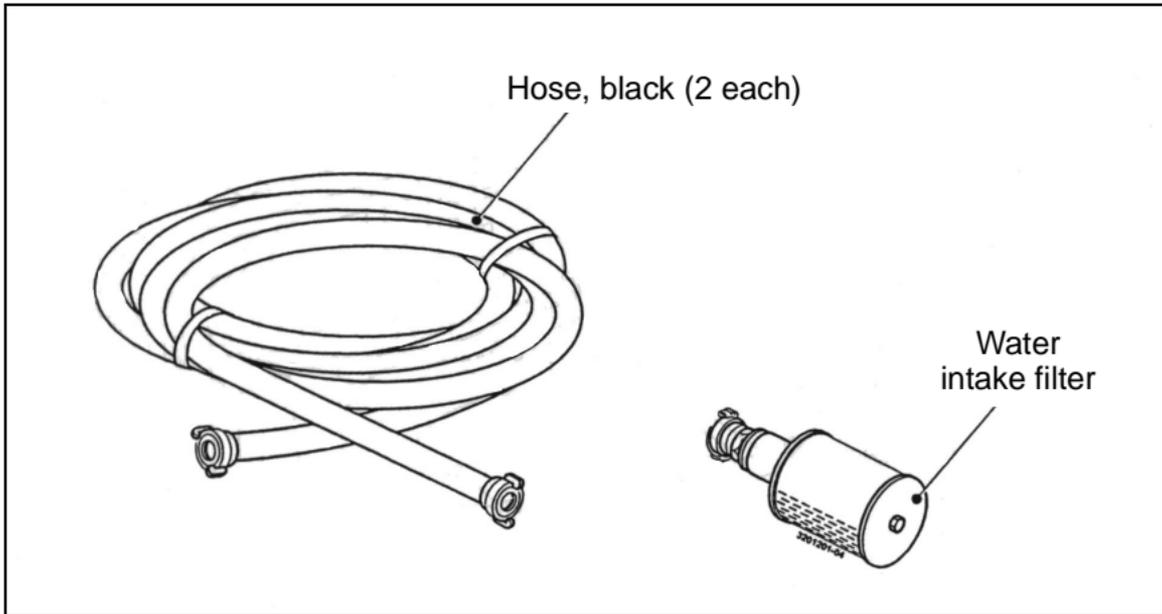


Figure 4. Water Intake System

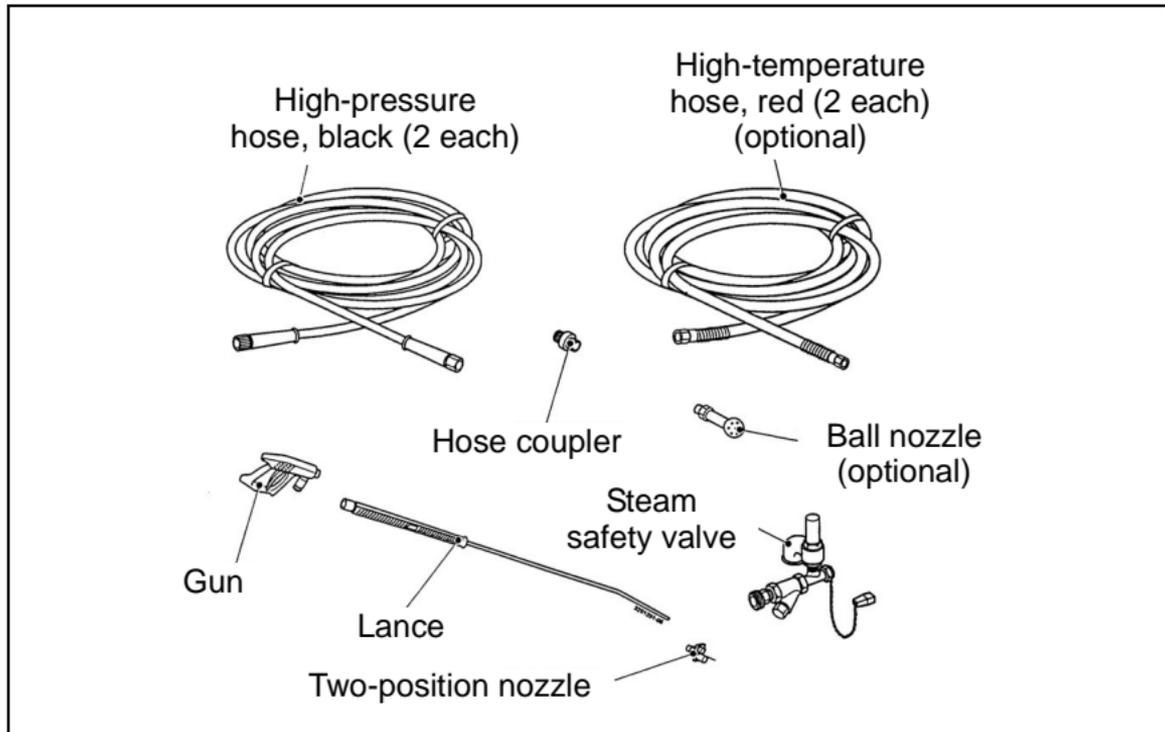


Figure 5. Water Delivery System

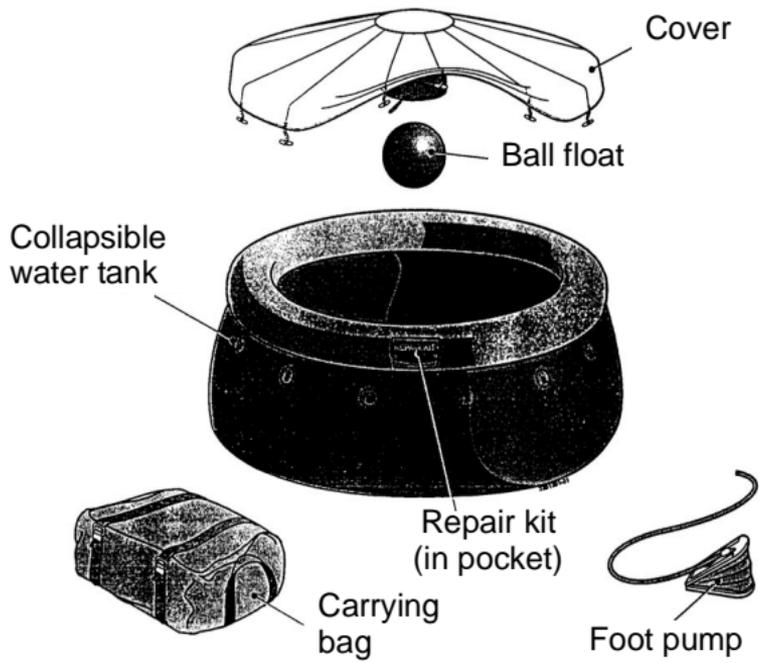


Figure 6. Collapsible Water Tank (Optional)