MODULE 5: DECONTAMINATION OPERATIONS

LESSON A-12: OPERATIONAL DECONTAMINATION
This Page Intentionally Left Blank
## TRAINING SUPPORT PACKAGE (TSP)

### OPERATIONAL DECONTAMINATION (A-12)

<table>
<thead>
<tr>
<th>Task Number/ Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>031-507-2006</td>
<td>Conduct Operational Decontamination</td>
</tr>
<tr>
<td>031-503-3009</td>
<td>Lead MOPP Gear Exchange</td>
</tr>
</tbody>
</table>

| Effective Date     | 30 January 1998                                  |

| Supersedes TSP(s)  | N/A                                              |

| TSP User           | NBC Defense Officer/NCO                          |

<table>
<thead>
<tr>
<th>Proponent</th>
<th>Commandant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U.S. Army Chemical School</td>
</tr>
<tr>
<td></td>
<td>ATTN: ATZN-CMR-C (Mr. Lennek)</td>
</tr>
<tr>
<td></td>
<td>5th Avenue, Bldg. 1081</td>
</tr>
<tr>
<td></td>
<td>Ft. McClellan, AL 36205-5020</td>
</tr>
</tbody>
</table>

| Comments/ Recommendations | Send comments and recommendations directly to the proponent. |

| Foreign Disclosure Restrictions | Distribution is authorized to U.S. government agencies only to protect technical or operational information from automatic dissemination under the International Exchange Program or by other means. This determination was made 30 January 1998. Other requests for this document will be referred to Commandant, U.S. Army Chemical School, ATTN: ATZN-CMR-A, Fort McClellan, AL 36205-5020. |
### PREFACE

**Purpose**

This training support package provides the instructor with a standardized lesson plan for presenting instruction for:

<table>
<thead>
<tr>
<th>TASK NUMBER:</th>
<th>031-507-2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>TASK TITLE:</td>
<td>Conduct Operational Decontamination</td>
</tr>
<tr>
<td>CONDITIONS:</td>
<td>Given a contaminated unit with degraded combat effectiveness; replacement MOPP gear for each soldier; organic equipment; two Nuclear, Biological, or Chemical (NBC) Contamination Marking Sets; liquid detergent; fuel for water heater and pump unit; one truck (5T); vehicles to be decontaminated; M291 Skin Decontamination Kit; M9 paper; five gallon container of simulated supertropical bleach (STB) dry mix; large piece of plastic or poncho; long handled brushes; grease pencil; unit Standard Operating Procedure (SOP); unit support personnel.</td>
</tr>
<tr>
<td>STANDARD:</td>
<td>Complete all steps correctly, in sequence, and IAW FM 3-5.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TASK NUMBER:</th>
<th>031-503-3009</th>
</tr>
</thead>
<tbody>
<tr>
<td>TASK TITLE:</td>
<td>Lead MOPP Gear Exchange</td>
</tr>
<tr>
<td>CONDITIONS:</td>
<td>Given a contaminated unit with Mission-Oriented Protective Posture (MOPP) gear that is in danger of being penetrated by contamination; replacement MOPP gear for each soldier; M291 Skin Decontamination Kit; M9 paper; five gallon container of simulated supertropical bleach (STB) dry mix; long handled brushes; large piece of plastic or poncho.</td>
</tr>
<tr>
<td>STANDARD:</td>
<td>Complete all steps correctly, in sequence, and IAW FM 3-5.</td>
</tr>
</tbody>
</table>
## SECTION I. ADMINISTRATIVE DATA

<table>
<thead>
<tr>
<th>All Courses Including This Lesson</th>
<th>COURSE NUMBER(S)</th>
<th>COURSE TITLE(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task(s) Taught or Supported</th>
<th>TASK NUMBER</th>
<th>TASK TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>031-507-2006</td>
<td></td>
<td>Conduct Operational Decontamination</td>
</tr>
<tr>
<td>031-503-3009</td>
<td></td>
<td>Lead MOPP Gear Exchange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reinforced Task(s)</th>
<th>TASK NUMBER</th>
<th>TASK TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Academic Hours

The academic hours required to teach this lesson are as follows:

<table>
<thead>
<tr>
<th></th>
<th>PEACETIME HOURS/METHOD</th>
<th>MOBILIZATION HOURS/METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.50 Hours/CO</td>
<td>1.50 Hours/CO</td>
</tr>
<tr>
<td></td>
<td>1.50 Hours/PE2</td>
<td>1.50 Hours/PE2</td>
</tr>
<tr>
<td>TEST</td>
<td>0.50 Hour</td>
<td>0.50 Hour</td>
</tr>
<tr>
<td>TEST REVIEW</td>
<td>0.10 Hour</td>
<td>0.10 Hour</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>3.60 Hours</strong></td>
<td><strong>3.60 Hours</strong></td>
</tr>
</tbody>
</table>

### Test Administration

Testing for this lesson will be administered at the end of the lesson.

### Prerequisite Lesson(s)

<table>
<thead>
<tr>
<th>LESSON NUMBER</th>
<th>LESSON TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-2</td>
<td>Chemical Agents</td>
</tr>
<tr>
<td>A-7</td>
<td>Mission-Oriented Protective Posture</td>
</tr>
<tr>
<td>A-8</td>
<td>Chemical/Biological Defense Measures</td>
</tr>
<tr>
<td>A-10</td>
<td>Introduction to Decontamination Operations</td>
</tr>
<tr>
<td>A-11</td>
<td>Decontamination Equipment</td>
</tr>
</tbody>
</table>

### Clearance and Access

There are no clearance or access requirements for the lesson.
References

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM 3-5</td>
<td>NBC Decontamination</td>
<td>17 Nov 93</td>
</tr>
<tr>
<td>STP 21-24-SMCT</td>
<td>Soldier's Manual of Common Tasks Skill Levels 2-4</td>
<td>Oct 92</td>
</tr>
<tr>
<td>STP 3-54B2-SM</td>
<td>Chemical Operations Specialist Soldier's Manual - MOS 54B Skill Level 2</td>
<td>Oct 95</td>
</tr>
</tbody>
</table>

Student Study Assignments

None

Instructor Requirements

One instructor with knowledge of operational decontamination procedures

Additional Support Personnel Requirements

None

Equipment Required

None

Materials Required

INSTRUCTOR MATERIALS: Training Support Package, Overhead Projector, Viewgraphs, Television, and VCR

STUDENT MATERIALS: Student Guide, Notepad, and Pen/Pencil

Classroom, Training Area, and Range Requirements

A classroom with a power source
### Ammunition Requirements

None

### Instructional Guidance

*Note:* Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material.

### Proponent Lesson Plan Approvals

<table>
<thead>
<tr>
<th>NAME</th>
<th>Rank</th>
<th>Position</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION II. INTRODUCTION

Method of instruction: CO. Instructor to student ratio is 1:25.
Time of instruction: 1.50 hours.

Method of instruction: PE2.
Instructor to student ratio is 1:6 (AC), 1:9 (RC).
Time of instruction: 1.50 hours.

Motivator

The objective of operational decontamination is to reduce the level of contamination in order to regenerate needed combat power. This allows a unit to sustain its mission in a contaminated environment as well as reduce the risk of contamination transfer and spread. As an NBC Officer/NCO you should consider the manpower, time, and materials necessary to ensure that decontamination is done effectively and efficiently.

Note:

Show viewgraph VG 1

Terminal Learning Objective

Note: Inform the students of the following Terminal Learning Objective requirements.

At the completion of this lesson, you [the student] will:

| ACTION: | Conduct operational decontamination and lead MOPP gear exchange. |
| CONDITIONS: | Given a scenario requiring the operational decontamination of a squad-size unit which is described as being NBC contaminated; commander’s guidance; paper; and pencil. |
| STANDARD: | Complete all steps correctly, in sequence, and IAW FM 3-5. |

Safety Requirements

None
<table>
<thead>
<tr>
<th>Risk Assessment Level</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Considerations</td>
<td>None</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Students will be tested with a written examination on which they must achieve a score of 70% or better to receive a GO on this lesson. Examination will last 30 minutes long and be conducted during a normal training session.</td>
</tr>
<tr>
<td>Instructional Lead-in</td>
<td>Let’s get started with how to conduct operational decontamination for the preparation phase.</td>
</tr>
</tbody>
</table>
SECTION III. PRESENTATION

Note: Show viewgraph VG 2

Note: Inform the students of the Enabling Learning Objective requirements.

A. ENABLING LEARNING OBJECTIVE A

<table>
<thead>
<tr>
<th>ACTION:</th>
<th>Conduct procedures for the preparation phase of operational decontamination.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITIONS:</td>
<td>Given a scenario requiring the operational decontamination of a squad-size unit which is described as being NBC contaminated; commander’s guidance; paper; and pencil.</td>
</tr>
<tr>
<td>STANDARD:</td>
<td>Complete all steps correctly, in sequence, and IAW FM 3-5.</td>
</tr>
</tbody>
</table>

1. Learning Step/Activity 1

   During this learning step/activity, students will receive instruction on conducting operation decontamination procedures for the preparation phase.

   Method of instruction: CO. Instructor to student ratio is 1:25.
   Time of instruction: 0.40 hour.
   Media: Instructor presentation and viewgraphs.

Note: Instructor should provide a brief review of decontamination principles and the procedures within the levels of decontamination in terms of their relative degree of effectiveness, as well as a lead-in to operational decontamination procedures.
Note: Instructor should go over the procedures that occur under each of the phases of operational decontamination very briefly and should ensure that students know the relative responsibilities of each of the units in conducting operational decontamination procedures.

Note: Show viewgraph VG 3

Procedures to Conduct the Preparation Phase of Operational Decon

(1) Request—The contaminated unit commander decides to conduct operational decontamination (decon), and calls the battalion TOC (tactical operations center) to request support.

(2) Coordination

(a) The TOC directs the battalion decon crew where to meet the contaminated unit.
   - The contaminated unit chooses the location.
   - Decon sites can be preselected and identified in the operation plan/operation order (OPLAN/OPORD). Linkup points are established in the plan or orders, and are revised based on the situation.

(b) Battalion assets may not be available to provide operational decon support. If not, the battalion coordinates with the division (or brigade) for decon support.

(c) The contaminated unit generally communicates with the decon crew via liaison personnel for communications, or landline. The unit tactical SOP should state which means is used to communicate with the decon crew.

Note: Instructor should emphasize that site selection and site set-up for vehicle washdown and MOPP gear exchange are performed concurrently. The procedures below describe the combined preparation procedures for operational decontamination.

(3) Site selection—The contaminated unit chooses an operational...
decon site (a place where little preparation is required) in coordination with its battalion. Generally, the contaminated unit has the most complete knowledge of local conditions and is best qualified to select the decon site. Consider the following factors when selecting a decon site:

(a) Good overhead concealment
(b) Good drainage
(c) Off the main route, but with easy access for vehicles
(d) Wind direction
(e) Large enough to handle vehicle washdown and MOPP gear exchange for a squad-size element (100 square meters per site)
(f) A water source
   - Make maximum use of existing facilities, such as car washes and swimming pools.
   - Plan for about 100 to 150 gallons of water for each vehicle. Larger or dirtier vehicles will need more water.

(4) Rendezvous—The contaminated unit meets the battalion decon crew at the decon site.

(a) The contaminated unit’s company supply section brings replacement MOPP gear, decontaminants, and skin decon kits to the rendezvous location.

(b) The rendezvous location could be near enemy territory, and the decon crews and company supply section have little, if any, organic security. Therefore, local field SOPs should describe the security and rendezvous procedures for all parties involved to avoid confusion, delay, or confrontation with enemy forces.

(5) Vehicle washdown site setup—The battalion decon crew will set up the vehicle washdown area.

(a) Site setup requires positioning the PDDE (power-driven decon equipment) along the roadway, ready to dispense hot, soapy water.

(b) If water for the M12A1 PDDA has been preheated, preparation for vehicle washdown should take no more
than ten minutes (this is a guideline).

(c) Preparation for vehicle washdown using the M17 LDS will take more time if the water bladder must be filled.

Note: If METT-T (mission, enemy, terrain, troops, and time available) allows, vehicle crew/operator may remove any vegetation used as camouflage from the vehicle and use shovels or similar equipment to remove large amounts of mud. This could be done before the vehicle enters the washdown lane at the operational decon site.

(d) The company supply section provides needed supplies and returns to the company area.

Note: The instructor should point out to the students that although the task, Lead MOPP Gear Exchange, will be covered in ELO C in its entirety, the various steps actually are part of the preparation and execution phases of operational decontamination.

(6) MOPP gear exchange site setup—Two soldiers from the contaminated unit set up a MOPP gear exchange site.

(a) Prepare MOPP gear exchange at a clean site 50 meters upwind of the vehicle washdown site.

(b) Designate individual gear decontamination area location downwind of MOPP gear exchange site.

(c) Lay out ponchos and ground covers for individual equipment to be placed on after they are decontaminated.

(d) Dig a pit to contain contaminated items.

(e) Prepare decontaminants for MOPP gear exchange.

Note: Conduct a check on learning and summarize the learning activity.
Check on Learning

The check on learning is optional. The instructor may choose to conduct a check on learning with the students by asking them the following questions. Take no more than 4 minutes to solicit responses and provide feedback to the class.

a. Who chooses the location of the operational decon site?

(The contaminated unit)

b. List three factors to consider when selecting a decon site.

(Good overhead concealment, good drainage, off the main route/easy access, wind direction, site size, and/or water source)

c. Where should the MOPP gear exchange site be located?

(A clean site 50 meters upwind of vehicle washdown)

Transition

Now that you understand the procedures to prepare for operational decon, let’s look at the execution phase.

Note:

Show viewgraph VG 4

Note:

Inform the students of the Enabling Learning Objective requirements.

B. ENABLING LEARNING OBJECTIVE B

<table>
<thead>
<tr>
<th>ACTION</th>
<th>Conduct procedures for the execution phase of operational decontamination.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITIONS:</td>
<td>Given a scenario requiring the operational decontamination of a squad-size unit which is described as being NBC contaminated; commander's guidance; paper; and pencil.</td>
</tr>
<tr>
<td>STANDARD:</td>
<td>Complete all steps correctly, in sequence, and IAW FM 3-5.</td>
</tr>
</tbody>
</table>
1. **Learning Step/Activity 1**

   During this learning step/activity, students will receive instruction on conducting operational decontamination procedures for the execution phase.

   Method of instruction: CO. Instructor to student ratio is 1:25.
   Time of instruction: 0.60 hour.
   Media: Instructor presentation and viewgraphs.

   **Note:** Show viewgraph VG 5

   **a. Procedures to Conduct the Execution Phase of Operational Decon**

      (1) The execution phase consists of two operational decon techniques: vehicle washdown and MOPP gear exchange.

      (2) The vehicle washdown process basically consists of contaminated vehicles moving forward into a site to remove gross contamination.

      (3) Unit commanders decide whether or not to conduct MOPP gear exchange during operational decon. However, the rate of degradation of personnel peaks about six hours after being in full MOPP.

   **Note:** Refer students to Handout #1 for instruction on vehicle washdown, unsupported and supported.

   **b. Procedures to Conduct Vehicle Washdown**

      (1) Vehicle washdown is conducted as far forward as possible.

      (2) It is most effective when conducted between one and six hours after contamination.

      (3) A combination of equipment may be used to conduct operational decon, such as M12A1 PDDA, M17 LDS, and/or firefighting equipment.
(4) Each vehicle is washed with hot, soapy water for two to three minutes.

(5) Because speed is important and detection is difficult, do not check vehicles for contamination after vehicle washdown.

(6) Unsupported operational decon uses the unit’s own resources to operate vehicle washdown.

(a) Contaminated units conduct operator spraydown prior to vehicle washdown in order to increase decon effectiveness.

(b) Equipment used should have water pressure equal to or greater than 60 to 120 pounds per square inch (psi).

(c) A siphon injector nozzle should be used because it increases the water pressure, has a larger area of coverage, and allows for the use of soap.

(d) Depending on the availability of equipment, METT-T, and the tactical situation, units have the option to select one of the following for vehicle washdown:

Note: Show viewgraph VG 6

- One-lane washdown in which all vehicles flow through a single lane.

Note: Show viewgraph VG 7

- Two-lane washdown in which vehicles enter a marshalling area before being sent through one of two lanes. When using multiple pieces of decon equipment, this method speeds up the process.

(7) Supported operational decon uses chemical company assets to support a contaminated unit to speed up the decon process.

(a) The chemical platoon leader/platoon sergeant must consider METT-T and the tactical situation when employing this method.
(b) Coordination with the supported unit is required for the placement of separate, dispersed operational decon sites within a small area.

(c) Support can be furnished using two methods:

Note: Show viewgraph VG 8

- Two-lane washdown in which vehicles enter a marshalling area before being sent through one of two lanes.
  - Use dispersion to avoid a large concentration of troops in one area.
  - If washdown cannot be completed within one to six hours after contamination, the unit would do better to perform thorough decon.

Note: Show viewgraph VG 9

- Dispersed operational decon requires a large area.
  - Three dual lane decon points are dispersed over an area sufficient in size to minimize vulnerability.
  - Any method of operational decon previously described can be used.
  - The resources and unit capabilities to obtain water are critical for this kind of operation.

Note: At this point the instructor should point out to the students that although the following task, Lead MOPP Gear Exchange, will be covered in ELO C in its entirety, the various steps actually are part of the preparation and execution phases of operational decontamination.
c. **Lead MOPP Gear Exchange**

(1) Direct and lead the squad in conducting MOPP gear exchange using the double or triple buddy team method.

(2) Direct the squad to properly dispose of contaminated gear and trash.

(3) Notify the chain of command that MOPP gear exchange is complete.

---

**Note:** Conduct a check on learning and summarize the learning activity.

---

**Check on Learning**

The check on learning is optional. The instructor may choose to conduct a check on learning with the students by asking them the following questions. Take no more than 5 minutes to solicit responses and provide feedback to the class.

a. What two techniques make up the execution phase of operational decon?

   (Vehicle washdown and MOPP gear exchange.)

b. Explain the difference between unsupported and supported vehicle washdown.

   (Unsupported operational decon uses the unit’s own resources to operate vehicle washdown, while supported operational decon uses chemical company assets to support a contaminated unit to speed up the decon process.)

c. What are the two methods of performing supported operational decon?

   (Two-lane washdown and dispersed operational decon.)

d. What is the last step in leading MOPP gear exchange?

   (Notify the chain of command that MOPP gear exchange is complete.)
Transition: Now let’s look at the procedures to lead MOPP gear exchange in greater detail.

Note: Show viewgraph VG10

Note: Inform the students of the Enabling Learning Objective requirements.

C. ENABLING LEARNING OBJECTIVE C

<table>
<thead>
<tr>
<th>ACTION:</th>
<th>Lead MOPP gear exchange.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITIONS:</td>
<td>Given a scenario requiring a contaminated unit with degraded combat effectiveness to perform MOPP gear exchange; paper; and pencil.</td>
</tr>
<tr>
<td>STANDARD:</td>
<td>Complete all steps correctly, in sequence, and IAW FM 3-5.</td>
</tr>
</tbody>
</table>

1. Learning Step/Activity 1

   During this learning step/activity, students will receive instruction on the procedures for leading MOPP gear exchange.

   Method of instruction: CO. Instructor to student ratio is 1:25.
   Time of instruction: 0.20 hour.
   Media: Instructor presentation and viewgraphs.

Note: The instructor should point out to the students that although the following task, lead MOPP gear exchange, will be covered here in its entirety, that the various steps actually are part of the preparation and execution phases of operational decontamination.

Note: Show viewgraph VG 11
Procedures to Lead MOPP Gear Exchange

**Note:** Refer students to Handout #2 for procedures to conduct MOPP gear Exchange.

1. Determine type of contamination. Different decontaminants and decon methods are used with chemical, biological, and radiological contamination.

2. Select site to perform MOPP gear exchange.
   - (a) The site should be in a contamination-free area, if possible.
   - (b) The site should be accessible by wheeled vehicles.
   - (c) The site should provide cover and concealment.

3. Coordinate for unit supply NCO to bring decontaminates, equipment, and supplies to the site.
   - (a) If overgarments are not available, determine the size and amount of overgarments needed and request from unit supply.
   - (b) Notify unit supply which decontaminants, equipment, and supplies to bring based on the type of contamination.
   - (c) Notify the unit supply NCO of the route to take when entering the site.

4. Direct your squad to prepare the site.
   - (a) The individual gear decon area must be located downwind of the MOPP gear exchange area.
   - (b) Ponchos, pieces of plastic, or other ground covers must be laid out for individual equipment to be placed on after it is decontaminated.
   - (c) A pit must be dug to contain contaminated trash.

**Note:** Show viewgraph VG 12
(5) After the arrival of the supply NCO, direct the preparation of the decontaminants and placement in proper area.

(6) Direct the squad to decontaminate their individual equipment.

(7) Direct and lead the squad in conducting MOPP gear exchange. Assign soldiers to (buddy/triple) teams and have them form a circle around you.

(8) Direct the squad to properly dispose of contaminated gear and trash by placing overgarments and other disposable items in a previously dug pit and cover with dirt.

(9) Notify the chain of command that MOPP gear exchange is complete, and continue the mission.

**Note:** Conduct a check on learning and summarize the learning activity.

**Check on Learning**

The check on learning is optional. The instructor may choose to conduct a check on learning with the students by asking them the following questions. Take no more than 4 minutes to solicit responses and provide feedback to the class.

a. Why do you need to determine the type of contamination?

   (This will determine the type of decontaminants, equipment, and supplies that will be needed to decontaminate.)

b. Where should the individual gear decon area be located in regards to the MOPP gear exchange area?

   (Downwind)

c. How should soldiers be arranged to perform MOPP gear exchange?

   (In buddy or triple teams in a circle around you)
d. What should the soldiers do with contaminated gear?

(Dispose of it by placing it in a previously dug pit and covering it with dirt.)

Transition

Now we’ll look at the last phase of operational decontamination: site clearance.

Note: Show viewgraph VG 13

Note: Inform the students of the Enabling Learning Objective requirements.

D. ENABLING LEARNING OBJECTIVE D

| ACTION: Conduct procedures for the site clearance phase of operational decontamination. |
| CONDITIONS: Given a scenario requiring the operational decontamination of a squad-size unit which is described as being NBC contaminated; commander’s guidance; paper; and pencil. |
| STANDARD: Complete all steps correctly, in sequence, and IAW FM 3-5. |

1. Learning Step/Activity 1

During this learning step/activity, students will receive instruction on conducting operational decontamination procedures for the site clearance phase.

Method of instruction: CO. Instructor to student ratio is 1:25.
Time of instruction: 0.20 hour.
Media: Instructor presentation and viewgraphs.
Procedures to Conduct the Site Clearance Phase of Operational Decon

(1) Although the operational decon operation is done rapidly with little site preparation, these areas will be contaminated when the operation is completed. This could be a hazard to friendly forces occupying the area.

(2) Conduct cleanup procedures.
   (a) METT-T will dictate the clean up requirements in the vehicle washdown area.
   (b) The battalion PDDE crew will clean up the MOPP gear exchange area. They will bury or burn the contaminated refuse and retrieve any unused decontaminants.
      • Burying is the preferred method of disposal because burning will cause a downwind vapor hazard.
      • If contaminated waste is burned, notify the battalion headquarters; they should notify any units that may be affected by the vapor hazard.
      • Prepare a downwind vapor hazard prediction and notify affected units before burning.
   (c) If time and resources permit, boots and gloves can be recycled in accordance with Station 4 of Detailed Troop Decon (DTD).
   (d) The PDDE crew must control contamination runoff during the execution of operational decon. The PDDE crew should move the PDDE a few meters away from the vehicle washdown area and wash the decon equipment, including hoses, after the operation is complete.
   (e) Wet weather gear or TAP (toxicological agent protective) aprons should be decontaminated with STB slurry and retained for future use.
   (f) If MOPP gear exchange is done at a different location, the contaminated unit will be required to clean up and mark after itself.

Note: Show viewgraph VG 14
(3) Conduct marking and reporting.

The battalion PDDE crew marks the operational decon site with standard NBC warning markers and reports the contaminated area using the NBC 5 report. Thus, friendly forces can avoid the area.

**Note:** Conduct a check on learning and summarize the learning activity.

**Check on Learning**

The check on learning is optional. The instructor may choose to conduct a check on learning with the students by asking them the following questions. Take no more than 3 minutes to solicit responses and provide feedback to the class.

a. What is the preferred method of disposing of contaminated waste from the operation decon site?

   (Burying)

b. What is the last thing the PDDE crew washes down?

   (The decon equipment including the hoses)

c. What type of report does the PDDE crew submit after it has marked the operational decon site?

   (NBC 5 report)

**2. Learning Step/Activity 2**

During this learning step/activity, students will perform a practical exercise to conduct operational decontamination procedures.

Method of instruction: **PE2**.
Instructor to student ratio is 1:6 (AC), 1:9 (RC).
Time of instruction: 1.50 hours.
Media: **None**.
Note: Each student will be given a worksheet containing a written scenario. The students will be given time to read and respond to the scenario. The scenario will present a situation requiring the conducting of the procedures for the various phases of operational decontamination. Instructors will monitor students to see that correct procedures are being used. It will be important for the student to:

a. Perform procedures for the site preparation phase of operational decontamination.

b. Perform procedures for the execution phase of operational decontamination.

c. Perform procedures to lead MOPP gear exchange.

d. Perform procedures for the site clearance phase of operational decontamination.

Note: Refer to Appendix C, Practical Exercise 1, for the instructions on how to conduct these practical exercises.

Transition Now we will summarize what you have learned in this lesson.
SECTION IV. SUMMARY

Method of instruction: CO. Instructor to student ratio is 1:25. Time of instruction: 0.10 hour.

Review/Summarize Lesson

In this lesson you learned how to conduct operational decontamination and lead MOPP gear exchange. The following key points were discussed within the lesson unit:

A. Conduct procedures for the preparation phase of operational decontamination.

B. Conduct procedures for the execution phase of operational decontamination.

C. Lead MOPP gear exchange.

D. Conduct procedures for the site clearance phase of operational decontamination.

Check on Learning

Determine if students have learned the material presented by—

a. Soliciting student questions and explanations.

b. Asking questions and getting answers from the students.

c. Correcting student misunderstandings.
## SECTION V. STUDENT EVALUATION

### Testing Requirements

**Written Performance Test**

1. The student must answer correctly a minimum of 70% of the questions on the written test in order to receive a GO for this lesson.

2. The written test is located in Appendix B and consists of multiple choice questions.

**Note:** Refer students to the Student Evaluation Plan.

### Feedback Requirement

a. Schedule and provide feedback on the evaluation and any information to help answer students’ questions about the test.

b. Provide remedial training as needed.

**Note:** Rapid, immediate feedback is essential to effective learning.
OPERATIONAL DECONTAMINATION (A-12)

WRITTEN TEST
FORM A

STUDENT NAME:  CLASS:  DATE:

Instructions: You will have 30 minutes to complete this written test. Please indicate your response by placing a circle around the letter of the correct answer.

1. Who chooses the location of the operational decon site?
   a. The TOC
   b. The contaminated unit
   c. The battalion decon crew
   d. The unit tactical SOP

2. Which of the following is not a factor to consider when choosing an operational decon site?
   a. A water source
   b. Off the main route
   c. Number of chemical casualties
   d. Wind direction

3. How many gallons of water should you plan on using per vehicle for vehicle washdown?
   a. 1 to 15 gallons
   b. 100 to 150 gallons
   c. 500 to 1000 gallons
   d. 1000 to 1500 gallons
4. Where should the contaminated unit and the battalion decon unit rendezvous?
   a. Near enemy territory
   b. At the battalion decon crew’s area of operation
   c. Off the main route
   d. At the decon site selected by the unit requesting decontamination

5. Where should the MOPP gear exchange site be located?
   a. 25 meters downwind of the operational decon site
   b. 50 meters upwind of the vehicle washdown site
   c. 25 meters due north of the vehicle washdown site
   d. 50 meters downwind of the operational decon site

6. What is the decontaminant used in vehicle washdown?
   a. Hot, soapy water
   b. STB
   c. Denatured alcohol
   d. DS2

7. Which of the following uses the contaminated unit’s own resources to operate vehicle washdown?
   a. Supported operational decon
   b. Dispersed operational decon
   c. Unsupported operational decon
   d. Contained operational decon

8. Vehicle washdown should be performed within what time frame after contamination?
   a. Within 1 to 6 hours
   b. Within 10 to 15 hours
   c. Within 15 to 20 hours
   d. Within 24 hours

9. Which of the following is an activity to prepare the site for MOPP gear exchange?
a. Locating the individual gear decon area upwind of the MOPP gear exchange area
b. Laying out ponchos or other ground cover for individual equipment after decon
c. Preparing a route for decon units to take to the MOPP gear exchange area
d. Digging a runoff channel downwind of the MOPP gear exchange area

10. During MOPP gear exchange, where should the soldiers be standing?
   a. In a circle around you working in double or triple buddy teams
   b. In a straight line behind you so each soldier can observe what you are doing
   c. In a straight line in front of you so you can see what each soldier is doing
   d. None of the above

11. What hazard is created by operational decon?
   a. Heavy metal poisoning
   b. Contamination of individuals
   c. Lead poisoning
   d. Contamination of the site

12. What is the preferred method of disposal of contaminated MOPP gear and refuse?
   a. Burning
   b. Burying
   c. Recycling
   d. Removing

13. What is the last task the PDDE crew must perform after the vehicle washdown operation is complete?
   a. Washdown the MOPP gear exchange area
   b. Decontaminate boots and gloves
   c. Wash the decon equipment, including hoses
   d. Prepare a downwind hazard report
14. How is the operational decon site marked at the conclusion of operations?
   a. Standard NBC warning markers
   b. Yellow, plastic cautionary tape
   c. Small, red flags
   d. The site does not need to be marked

15. Which NBC report is used to inform others of the contaminated area created by operational decon?
   a. NBC 2 Report
   b. NBC 3 Report
   c. NBC 4 Report
   d. NBC 5 Report
OPERATIONAL DECONTAMINATION

WRITTEN TEST
FORM B

STUDENT NAME: ________________________  CLASS: ________________________  DATE: ________________________

Instructions: You will have 30 minutes to complete this written test. Please indicate your response by placing a circle around the letter of the correct answer.

1. Which of the following is the last phase of operational decontamination?
   a. MOPP gear exchange
   b. Execution
   c. Vehicle washdown
   d. Site clearance

2. Approximately how large does the site need to be in order for a squad-size element to conduct operational decon?
   a. 50 square meters
   b. 100 square meters
   c. 150 square meters
   d. 500 square meters

3. Who provides replacement MOPP gear, decontaminants, and skin decon kits at the rendezvous location?
   a. The battalion decon crew’s supply section
   b. The TOC’s supply section
   c. The contaminated unit’s company supply section
   d. The brigade’s supply section
4. Before vehicles enter the washdown area, what steps can be taken to speed up operations?
   a. Assign washdown order by vehicle size
   b. Rinse off loose debris
   c. Open hatches and panels to allow easier access
   d. Remove any vegetation and mud

5. Who sets up the MOPP gear exchange site?
   a. Two soldiers from the contaminated unit
   b. Four soldiers from the battalion decon crew
   c. Each individual soldier who will be performing MOPP gear exchange
   d. Personnel directed to do so by the TOC

6. What are the two techniques used during the execution phase of operation decon?
   a. One-lane and two-lane washdown
   b. Supported and unsupported washdown
   c. Vehicle washdown and MOPP gear exchange
   d. Dispersed operational decon and MOPP gear exchange

7. How long should vehicles be washed during vehicle washdown?
   a. One to two minutes
   b. Two to three minutes
   c. At least five minutes
   d. At least ten minutes

8. Which of the following uses chemical company assets to support a contaminated unit?
   a. Dispersed operational decon
   b. Unsupported operational decon
   c. Supported operational decon
   d. One-lane operational decon

9. Your unit is planning to conduct supported operational decon. You wish to utilize the two-lane washdown technique. What factor must you consider before employing this technique?
a. Dispersion to avoid a large concentration of troops in one area
b. Correct sequencing of decon equipment to handle various size vehicles
c. Constant monitoring of runoff to avoid contaminating the site
d. Establishment of a security perimeter to protect all units involved

10. The task, Lead MOPP Gear Exchange, is part of which phase of operational decon?
   a. Preparation phase
   b. Execution phase
   c. Site clearance phase
   d. Both a. and b.

11. Which of these factors affects the selection of a site to perform MOPP gear exchange?
   a. Adequate water supply
   b. Contamination-free area, if possible
   c. Free of obstructions
   d. Good drainage

12. What will determine which decontaminants, equipment, and supplies the unit supply NCO will bring to the MOPP gear exchange site?
   a. Orders from higher headquarters
   b. Type of terrain and size of the site
   c. The local field SOP
   d. Type of contamination

13. What is decontaminated first during MOPP gear exchange?
   a. Contaminated masks
   b. The chosen site
   c. Individual equipment
   d. Decon equipment

14. Which of the following is the preferred method of disposing of contaminated MOPP gear and refuse?
   a. Recycling
b. Burying

c. Reclaiming

d. Burning

15. What is the final step of operational decon?

   a. Decontaminating the PDDE
   b. Cleaning and recycling
   c. Marking and reporting
   d. Burying and burning
## OPERATIONAL DECONTAMINATION

### TEST ANSWER KEY

<table>
<thead>
<tr>
<th>Form A</th>
<th>Form B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. b.</td>
<td>1. d.</td>
</tr>
<tr>
<td>2. c.</td>
<td>2. b.</td>
</tr>
<tr>
<td>3. b.</td>
<td>3. c.</td>
</tr>
<tr>
<td>4. d.</td>
<td>4. d.</td>
</tr>
<tr>
<td>5. b.</td>
<td>5. a.</td>
</tr>
<tr>
<td>6. a.</td>
<td>6. c.</td>
</tr>
<tr>
<td>7. c.</td>
<td>7. b.</td>
</tr>
<tr>
<td>8. a.</td>
<td>8. c.</td>
</tr>
<tr>
<td>9. b.</td>
<td>9. a.</td>
</tr>
<tr>
<td>10. a.</td>
<td>10. d.</td>
</tr>
<tr>
<td>11. d.</td>
<td>11. b.</td>
</tr>
<tr>
<td>12. b.</td>
<td>12. d.</td>
</tr>
<tr>
<td>13. c.</td>
<td>13. c.</td>
</tr>
<tr>
<td>15. d.</td>
<td>15. c.</td>
</tr>
</tbody>
</table>
PRACTICAL EXERCISE SHEET NO. 1

Title

Conduct operational decontamination procedures

Introduction

During operational decontamination many procedures will be occurring simultaneously. As an NBC Officer/NCO you will be required to lead or supervise several of these tasks while remaining organized and in control. Operational decon uses resources, such as equipment and manpower, that are also needed to complete the mission. It is imperative that all of the procedures for performing operational decon are executed as quickly and efficiently as possible.

Motivator

Having learned the steps to conduct operational decon, it is important that you have an opportunity to demonstrate your knowledge of these procedures. In this practical exercise, you will respond to scenarios in which you are tasked with conducting operational decontamination procedures. You will demonstrate your knowledge of this topic by presenting the procedures to be executed for the given scenario.

Terminal Learning Objective

Note: Inform the students of the following terminal learning objective requirements.

At the completion of this practical exercise, you [the student] will:

<table>
<thead>
<tr>
<th>ACTION:</th>
<th>Conduct operational decontamination and lead MOPP gear exchange.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITIONS:</td>
<td>Given a scenario requiring the operational decontamination of a squad-size unit which is described as being NBC contaminated; commander’s guidance; paper; and pencil.</td>
</tr>
<tr>
<td>STANDARD:</td>
<td>Complete all steps correctly, in sequence, and IAW FM 3-5.</td>
</tr>
</tbody>
</table>

Safety Requirements

None

Risk

Low
<table>
<thead>
<tr>
<th>Assessment Level</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Considerations</td>
<td>None</td>
</tr>
</tbody>
</table>

| Evaluation | Students will be evaluated on their ability to describe the steps necessary to conduct operational decontamination procedures. |

| Instructional Lead-in | We will now conduct a practical exercise to conduct operational decontamination procedures. |

| Resource Requirements | Worksheet providing the written scenarios  
Pencil or pen  
Notepad |

| Special Instructions | Students will respond to a given scenario involving conducting operational decontamination procedures. The instructor will divide the students up into groups and give each group a worksheet containing a written scenario. The students will work together in their groups to respond to the scenario by stating the correct procedures to conduct operational decontamination. After giving students time to formulate an answer, the instructor will conduct a debriefing session to allow the students to present their responses to you [the instructor]. As groups present their answers to the practical exercise, stop them for any incorrect response. |

| Feedback Requirements | After all students have had a chance to respond to the scenarios, offer feedback and answer any questions regarding the procedures. Recommend to students that they make a note in their Student Guides as to any procedures they perform incorrectly or out of sequence. |
PRACTICAL EXERCISE SHEET NO. 1

SCENARIO 1:

You are the NBC Officer/NCO for Bravo Company, 3/72nd Engineer Battalion. A squad from your unit is conducting engineer support for a mechanized infantry company and is operating in a chemically contaminated area. They have been operating in MOPP4 for the past 10 hours and they must perform operational decontamination before proceeding to their next mission. The operational decon is necessary to remove gross contamination from their vehicles and to prevent chemical penetration of the soldiers’ MOPP gear for the Engineer squad to continue with its follow-on mission. You will describe the procedures for the preparation, execution, and site clearance phases of operational decontamination.

RESPONSE:
SCENARIO 2:

You are the NBC Officer/NCO for Alpha Company, 2/235th Maintenance Battalion. A maintenance recovery squad from your unit is conducting support operations in a chemically contaminated area. They have been tasked to conduct another support mission. They have requested operational decontamination before proceeding to their next mission to prevent chemical penetration of the soldiers’ MOPP gear and remove gross contamination from their vehicles. You will describe the procedures for the preparation, execution, and site clearance phases of operational decontamination.

RESPONSE:
PRACTICAL EXERCISE SHEET NO. 1

SOLUTION FOR SCENARIOS 1 AND 2

Note: This solution provides a basic outline of the procedures that the students should document to satisfactorily complete this portion of the practical exercise.

1. Preparation Phase of Operational Decontamination
   a. Request decon.
   b. Coordinate with decon elements to select operational decon site.
   c. Site selection.
   d. Rendezvous with decon elements at the decon site.
   e. Site setup of vehicle washdown and MOPP gear exchange areas.

2. Execution Phase of Operational Decontamination
   a. Conduct unsupported vehicle washdown.
      • One-lane washdown
      • Two-lane washdown
   b. Conduct supported vehicle washdown.
      • Two-lane washdown
      • Dispersed operational decon
   c. Lead MOPP gear exchange.

3. Lead MOPP gear exchange (entire procedure).
   a. Determine the type of contamination.
   b. Select a site to perform MOPP gear exchange.
   c. Coordinate for unit supply NCO to bring decontaminants, equipment, and supplies to the site.
   d. Direct squad to prepare the site.
   e. Prepare decontaminant.
   f. Direct the squad to decontaminate individual equipment.
   g. Direct and lead the squad in conducting MOPP gear exchange.
   h. Direct the squad to properly dispose of contaminated gear and trash.
   i. Notify the chain of command that MOPP gear exchange is complete.

4. Site Clearance Phase of Operational Decontamination
   a. Conduct clean up.
   b. Conduct marking and reporting.
STUDENT HANDOUT #1

Task Number/Title
031-507-2006  Conduct Operational Decontamination

Information
These charts and illustrations will provide you with detailed information regarding the two methods of vehicle washdown and the options for conducting each.

<table>
<thead>
<tr>
<th>Steps and Risks</th>
<th>Equipment</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1. Button up vehicle/equipment.</strong></td>
<td>None</td>
<td>Equipment crew/operators close all access doors, hatches, windows, and other openings before washdown. Put muzzle covers on weapons. Nonessential personnel can dismount and begin MOPP gear exchange. They then can act as &quot;buddies&quot; for essential crew/operators. NOTE: Ensure that vehicles equipped with overpressurized systems are operating with one system on.</td>
</tr>
<tr>
<td>Performing this step prevents contamination from being washed or splashed into uncontaminated areas. <strong>Risks.</strong> Failure to perform this step may result in contamination being washed into uncontaminated areas, subjecting crew and maintenance personnel to hazards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 2. Wash down vehicle/equipment.</strong></td>
<td>Use for all forms of contamination:</td>
<td>Chemical, biological, and radiological: Two soldiers per lane from the battalion PDDE crew operate washdown equipment. A third soldier supervises. Soldiers must wear TAP aprons or wet weather gear worn over MOPP gear to keep MOPP gear from being saturated. Soldiers spray hot, soapy water (under pressure) from PDDE onto equipment surfaces. This removes, neutralizes, or destroys most of the gross contamination trapped in dirt and mud. Unheated soapy water or plain water may be used, if necessary, but is less effective than hot, soapy water. Start at the top decks of vehicles and wash downward.</td>
</tr>
<tr>
<td>Performing this step limits spread of contamination, minimizes hazard, and enhances weathering to make detailed equipment decon easier and faster. <strong>Risks.</strong> If you do not perform this step, expect casualties from contact hazards. Spreading or transferring the hazard most likely will increase. Weathering of the hazard will be slowed. You will not be able to reduce MOPP level immediately because an after-vehicle washdown check for contamination is not made. (See Decon in Combat, Chapter 1, for when to unmask for brief periods.)</td>
<td>One PDDE</td>
<td></td>
</tr>
<tr>
<td>Adequate fuel for water or heater (if available) and pump unit</td>
<td>Adequate water supply (about 100 to 150 gallons per vehicle)</td>
<td></td>
</tr>
<tr>
<td>Liquid detergent to mix with water</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 3. Vehicles move into assembly area.</strong> MOPP gear exchange is determined by the commander.</td>
<td>Exchange MOPP suit.</td>
<td></td>
</tr>
</tbody>
</table>
### Unsupported Two-Lane Washdown

<table>
<thead>
<tr>
<th>Steps and Risks</th>
<th>Equipment</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preaction:</strong> Unit tactically disperses in concealed marshalling area. Makes contact with control point for final orders. Control point monitors and supervises rate of movement into lanes to prevent congestion.</td>
<td>Watch</td>
<td>One soldier from the battalion decon crew. Every three minutes, two vehicles will be released from the marshalling area. On signal, vehicles will proceed to the decon station in their respective lane.</td>
</tr>
<tr>
<td><strong>Step 1. Button up vehicle/equipment.</strong> Performing this step prevents contamination from being washed or splashed into uncontaminated areas. This step applies for both lanes.</td>
<td>None</td>
<td>Equipment crew/operators close all access doors, hatches, windows, and other openings before washdown. Put muzzle covers on weapons. Nonessential personnel can dismount and begin MOPP gear exchange. They then can act as “buddies” for essential crew/operators.</td>
</tr>
<tr>
<td><strong>Risks.</strong> Failure to perform this step may result in contamination being washed into uncontaminated areas, subjecting crew and maintenance personnel to hazards.</td>
<td></td>
<td>NOTE: Ensure that vehicles equipped with overpressurized systems are operating with one system on. No MOPP gear exchange is required if crew/operators are inside vehicle and have not been exposed to any contamination.</td>
</tr>
<tr>
<td><strong>Step 2. Wash down vehicle/equipment.</strong> Crews/drivers remain in vehicles. Sprayers use cross technique for two to three minutes, removing gross contamination. This technique avoids water splashing the crew members. Performing this step limits spread of contamination, minimizes hazard, and enhances weathering to make detailed equipment decon easier and faster.</td>
<td>Adequate fuel for water or heater (if available) and pump unit Adequate water supply (about 100 to 150 gallons per vehicle) Liquid detergent to mix with water</td>
<td>Chemical, biological, and radiological: Two soldiers per lane from the battalion decon crew wash down equipment. A third soldier supervises. Soldiers must wear toxicological agent protective (TAP) aprons or wet weather gear worn over MOPP gear to keep MOPP gear from being saturated. Soldiers spray hot, soapy water (under pressure) from PDDE onto equipment surfaces. This removes, neutralizes, or destroys most of the gross contamination trapped in dirt and mud. Unheated soapy water or plain water may be used, if necessary, but is less effective than hot, soapy water. Start at the top decks of vehicles and wash downward.</td>
</tr>
<tr>
<td><strong>Step 3. Vehicles move into assembly area.</strong></td>
<td></td>
<td>Exchange chemical suit.</td>
</tr>
</tbody>
</table>

**NOTE:** Use M PDDA, M17 LDS, 65-GPM pump, fire-fighting equipment, and/or combination.
## Supported Two-Lane Washdown

<table>
<thead>
<tr>
<th>Steps and Risks</th>
<th>Equipment</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preaction:</strong> Unit tactically disperses in concealed marshalling area. Makes contact with control point for final orders. Control point monitors and supervises rate of movement into lanes to prevent congestion.</td>
<td>Watch</td>
<td>One soldier from the battalion decon crew. Ever three minutes, two vehicles will be released from the marshalling area. On signal, vehicles will proceed to the decon station in their respective lane.</td>
</tr>
<tr>
<td><strong>Step 1. Button up vehicle/equipment.</strong> Performing this step prevents contamination from being washed or splashed into uncontaminated areas. This step applies for both lanes.</td>
<td>None</td>
<td>Equipment crew/operators close all access doors, hatches, windows, and other openings before washdown. Put muzzle covers on weapons. Nonessential personnel can dismount and begin MOPP gear exchange. They then can act as “buddies” for essential crew/operators.</td>
</tr>
<tr>
<td><strong>Risks.</strong> Failure to perform this step may result in contamination being washed into uncontaminated areas, subjecting crew and maintenance personnel to hazards.</td>
<td></td>
<td>NOTE: Ensure that vehicles equipped with overpressurized systems are operating with one system on.</td>
</tr>
</tbody>
</table>
| **Step 2. Wash down vehicle/equipment.** Crew/drivers remain in vehicles. Vehicles stop by the first wash. Sprayers decon the half of the vehicle/equipment facing their side, for one and one half minutes. Vehicles then move to the second wash, where sprayers will decontaminate the other half of the vehicle/equipment for one and one-half minutes. | • 3 M17 LDS  
• Adequate fuel for water heaters and pump units  
• Adequate water supply (approximately 100 to 150 gallons per wash point per vehicle)  
• Liquid detergent to mix with water  
NOTE: Use M12 PDDE, M17, LDS, 65-GPM pump, fire-fighting equipment, and/or combination. | Chemical, biological, and radiological: Four soldiers from the chemical decon platoon wash down equipment. A fifth soldier supervisors. Soldiers must wear TAP aprons or wet weather gear worn over MOPP gear to keep MOPP gear from becoming saturated. Soldiers spray hot, soapy water (under pressure) from PDDE onto equipment surfaces. Start at the top decks of vehicles and wash downward. |
| **Step 3. Vehicles move into assembly area.** MOPP gear exchange is determined by the commander. | Exchange MOPP suit. |
STUDENT HANDOUT #2

<table>
<thead>
<tr>
<th>Task Number/ Title</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>031-503-3009 Lead MOPP Gear Exchange</td>
<td>Following are the procedures to conduct MOPP gear exchange.</td>
</tr>
</tbody>
</table>

a. Types of MOPP Gear Exchange

There are three types of procedures for MOPP gear exchange during operational decon.

(1) The buddy team method is conducted with two-soldier teams (two soldiers per team) assisting one another with a squad leader supervising the group. This method is best managed with squad-sized elements.

(2) The triple buddy team method is used by soldiers with the tanker’s or aviator’s mask. A different procedure is required because of the hose attached to the filter canister. A third soldier is needed to hold the filter canister and hose to prevent the transference of contamination to the soldier undergoing the procedure.

(3) The individual (emergency) method is used in extreme emergencies when no one can assist the soldier. There is a high risk of transferring contamination using this method.

b. Buddy Team Method

(1) Overview

The squad forms a circle around a lead team. Typically, the lead team is comprised of the squad leader and another soldier. The soldiers are paired into buddy teams. The buddy teams are spaced around the circle, with 1 to 3 meters between teams. The soldiers control contamination spread by putting contaminated overgarments and discarded decon towelettes in one pile.
The soldiers in each buddy team alternate as they go through step 1. At step 2, one team member proceeds through step 8 before alternating. This will ensure there is no spread of contamination onto skin or undergarments.

NOTE: If at any time during the procedure you suspect you have spread contamination onto your skin or undergarments, stop. Decontaminate immediately the suspected area with your skin decon kit. After the area is decontaminated, proceed with the MOPP gear exchange.

(2) Buddy team procedure
(a) Step 1 - This step removes gross contamination from individual gear (weapon, helmet, load-bearing equipment, and mask carrier).
   - Chemical/biological contamination - If the personnel armor system, ground troops (PASGT) helmet is worn, remove and discard the chemical protective helmet cover. Brush or rub STB into personal equipment. Brush or rub STB dry mix onto the hose if wearing the M24, M25A1, or M42 mask. Gently shake off any excess. Set aside gear on an uncontaminated surface.
   - Radiological contamination - Shake or brush off the contamination.

NOTE: A soldier can do Step 2 by himself/herself or with the help of his/her buddy.

(b) Step 2 - This step allows soldiers to remove their overgarment trousers and overboots later. It also allows for the hood to be rolled easier.
   - Unfasten the shoulder straps on the hood and pull them over the shoulder and reattach them to the Velcro fastener.
   - Loosen drawcord on hood of the protective mask.
   - Remove M9 paper.
- Untie drawcords on trouser legs of the overgarment, unzip the trouser legs, and roll a cuff in the trouser legs.

**NOTE:** Ensure that the cuff does not come above the top of the overboot.

- Unfasten or cut the fasteners on the green vinyl overboot (GVO) or untie/cut the laces on the protective overboot.

(c) **Step 3** - This step removes gross contamination from the mask and hood.

- **Chemical/biological contamination** - Using the M258A1 or M295 Skin Decon Kit, decontaminate the hood and exposed parts of your buddy's mask.
  
  - Start with the mask eye lens outserts, wiping from the top down.
  
  - Then decon the rest of the hood, wiping from the top of the head to the bottom of the hood.
  
  - When you have finished decontaminating your buddy's mask, decontaminate your gloves in preparation for rolling your buddy's hood.

**NOTE:** When decontaminating the mask, do not press so hard that you break your buddy's seal.

- Leave the zipper on the hood closed. Grab the straps where they connect to the back of the hood and lift the hood straight up off the buddy's shoulders.

- Pull the hood up and over the head until the bottom of the back of the hood is to the top of the eye lens outserts, but not over.

- Check for contamination on the underside of the hood edges and decon, if necessary.
– Roll your buddy's hood. Put one tuck (about 2 inches) on the forehead, then begin rolling (tightly) at both temples simultaneously by tucking in with the thumbs as you roll toward the bottom of the zipper.

– M40 mask - The contaminated soldier holds the mask firmly in place to avoid breaking the seal. Make the rolls from each side of the hood come to a point at the bottom of the zipper, forming a V. Put a half twist in the V, forming the two sides into a tail. Then tuck the tail between the upper part of the canister and mask. (Tie tail over and under the hose for the M42.)

• Radiological contamination
  – Wipe your buddy's mask and hood with a sponge dipped in hot, soapy water.
  – Rinse with a sponge dipped in clean water. Dry with paper towels or rags.
  – The buddy does his own gloves.
  – Cool, soapy water is not as effective for removing contamination, but can be used if you scrub longer. Use IDK skin decon kit ONLY if no water is available. If water supply is limited, soldier may use some of his drinking water from his canteen with a wet sponge or cloth.

NOTE: Do not reverse roles. Only your buddy's hood will be decontaminated and rolled at this time.

(d) Step 4 - This step limits the spread of agents and helps prevent the agents from penetrating to the skin or undergarments.

• Chemical/biological contamination
– Unfasten the three snaps on the back of the overgarment trousers. Do this by grasping the outside overgarment jacket and unsnapping the snaps individually.

– Untie the drawcord at the bottom of the jacket.

– Unfasten the Velcro at the wrist and then refasten.

– Unfasten the Velcro closures over the zippered front of the jacket and unzip the jacket.

– Grasp the jacket at the shoulders.

– Instruct the buddy to make a fist.

– Pull the jacket down and away from the soldier, ensuring that the black part of the jacket isn't touched.

– Lay the overgarment jacket on the ground, black side up.

NOTE: The overgarment will be used for the buddy to stand on later.

– Carefully unfasten and unzip the trousers. Do not loosen the waist tabs.

– Instruct the soldier to break the seals on the overshoes by alternately stepping on the heels and pulling up his foot.

– Grasp the trousers and pull them down to the knees. Instruct the soldier to walk out of the trousers/GVOs, taking care not to step on the contaminated side of the overgarment.

NOTE: If wearing overboots, remove trousers first, then step out of overboots (with buddy's help) onto the black side of jacket.

– The soldier should step onto the jacket while wearing his mask, battledress uniform (BDUs), and gloves.
(e) Step 5 - This step removes contaminated gloves and limits the spread of contamination.

- Hold finger tips of the glove and partially slide the hand out.
- When fingers of both hands are free, hold arms away from body and let gloves drop off.

(f) Step 6 - This step restores MOPP protection.

- Open package containing new overgarment, but do not touch the garment.
- Have your buddy reach into the package and pull out the overgarment without touching the outside of the package.
- Your buddy puts on the trousers and jacket, fastens overgarment, and leaves trouser legs open.

NOTE: Do not reverse roles. Only your buddy will put on clean overgarment at this time.

(g) Step 7

- Pick up a package of clean overboots and open it without touching the overboots inside.
- Have your buddy reach into the package (without touching the outside of package), remove the GVO/overboots, put them on, and fasten trouser legs.
- Open a package of clean gloves without touching the gloves.
- Have your buddy remove them from the package (without touching the outside of package) and put them on.
- Put on M9 paper.

NOTE: Do not reverse roles. Only your buddy will put on clean overboots at this time.

(h) Step 8

- Decontaminate your rubber gloves with an M258A1 or M295 Skin Decon Kit.
• Once gloves are decontaminated, unroll your buddy's hood and attach the straps and tighten neck cord.

• Check all zippers and ties on the hood and overgarment to ensure they are closed.

(i) Step 9

• Secure individual gear.

• Put the gloves back on and move to assembly area. If PASGT helmet is worn, then place the new chemical protective helmet cover on helmet.

• Use buddy system to check fit of all secured gear.