

FIELD MANUAL · MDU-155R

# Mobile Disaster Unit

# 155-Piece, Rolling

Self-contained emergency cache for immediate deployment. Designed for 2–4 individuals during initial disaster response until professional services arrive.

 **Households**

 **Small Businesses**

 **Schools**

 **CERT Teams**

## SECTION 1

# Mission Brief & Intended Use

## 1.1 Mission Scope

The MDU-155R is a self-contained, multi-function logistical cache for immediate deployment during and after a localized disaster. It equips a small group (2–4 individuals) with essential tools for:

- Initial scene safety
- Light search and rescue
- Basic first aid
- Short-term sustainment until professional services arrive

## 1.2 Intended Use Cases

Primary resource for response to earthquakes, tornadoes, severe winter storms, prolonged power outages, or localized flooding.

## 1.3 Operational Limitations

The MDU-155R is **NOT** a substitute for professional Fire-Rescue, EMS, or Law Enforcement response.

- **Search & Rescue:** Light-duty only (non-structural debris). Does **not** support operations in structurally compromised or collapsed buildings.
- **Medical:** Basic Life Support (BLS) and first aid only. Does **not** contain advanced trauma components such as tourniquets or hemostatic agents for massive hemorrhage control.

## SECTION 2

# Equipment & Component Familiarization

All equipment is organized by operational function to facilitate rapid deployment. **Familiarize yourself with these modules before an incident occurs.**

	<b>2.1 PPE &amp; Scene Safety</b> Hard hats, safety vests, goggles, leather palm gloves, nitrile gloves, barricade tape, rolling duffel bag
	<b>2.2 Search, Rescue &amp; Utility</b> Pry bar, folding shovel, flashlights, gas shut-off tool, wrench, vice grips, ropes, duct tape
	<b>2.3 Hemorrhage Control</b> Bloodstoppers (4), Surgi Pads (6), paramedic scissors, medical tape rolls
	<b>2.4 Minor Wound &amp; Burn Care</b> 234-piece first aid sub-kit, burn gel pads, non-adherent pads, hydrogen peroxide/eye wash, triangular bandages
	<b>2.5 Fracture &amp; Sprain</b> Medium splints (2), small chemical ice packs (3)
	<b>2.6 Diagnostics &amp; Assessment</b> CPR mouthpiece (1), ammonia inhalants (10)
	<b>2.7 Shelter &amp; Sustenance</b> Solar & paramedic blankets, tarp, bungee cords, ponchos, food rations (6), water pouches (9), water bag & pump
	<b>2.8 Light, Signaling &amp; Comms</b> Lightsticks (6), solar radio, whistles (10), distress banner, emergency candles, waterproof matches
	<b>2.9 Hygiene &amp; Sanitation</b> Moist towelettes, toothbrushes/paste, toilet liners & chemicals

# PPE & Rescue Tools — Detailed Reference

## 2.1 Personal Protective Equipment

### Rolling Duffel Bag (600D Polyester)

Primary transport container. Use wheels on smooth terrain; carry handles or shoulder strap on rough terrain or stairs.

### Safety Vests (2)

High visibility to identify team members and prevent accidental injury.

### Leather Palm Gloves (2 Pairs)

Hand protection from cuts, abrasions, and splinters when handling debris or tools.

### Caution / Barricade Tape (300')

Cordon off unsafe areas, establish staging perimeters, or mark hazards.

### Hard Hats (2)

Protect from small falling debris. **Must be worn during all search, rescue, and utility control operations.**

### Safety Goggles (2)

Eye protection from dust, debris, and liquid splashes.

### Nitrile Gloves (100)

Primary Body Substance Isolation (BSI) barrier for all medical aid. Change gloves between patients.

## 2.2 Search, Rescue & Utility Control Tools

### 24" Pry Bar

Leverage for lifting debris, forcing jammed doors. **Not for major structural components.**

### Flashlights (2) + Batteries

Primary light sources for low/no-light environments. Confirm batteries installed before deployment.

### 10" Adjustable Wrench & Vice Grips

General purpose; supplements utility shut-off operations.

### Duct Tape (50') & Utility Tool

Multi-purpose adhesive and 14-in-1 pocket tool for repairs, splint securing, and minor adjustments.

### Folding Shovel

Digging, clearing small debris, and sanitation tasks.

### Gas Shut-Off Tool (4-Way)

Shuts off natural gas meters and water valves. **Use only if gas is suspected and you are trained.**

### 50-Foot Ropes (2)

Hoisting equipment, securing tarps, bundling debris. **NOT life-safety rated. Never use for rescue or climbing.**

# Medical Supplies — Detailed Reference

## 2.3 Hemorrhage Control & Major Wounds

### Bloodstoppers (4)

Large, sterile trauma dressings with integrated pressure bar. Apply direct pressure to moderate-to-severe bleeding.

### 5x9 Surgi Pads (6)

Large absorbent sterile pads. Cover major wounds or pack into a wound before applying a pressure dressing.

### Paramedic Scissors

Cut away clothing to expose injuries; also cuts tape, bandages, and seatbelts.

### Tape Rolls (3)

Medical tape to secure dressings, bandages, and splints.

## 2.5 Fracture & Sprain Management

### Medium Splints (2)

Pliable splints to immobilize suspected fractures or severe sprains. Form to fit the limb; secure with tape or triangular bandages.

### Small Ice Packs (3)

Chemical cold packs. Strike or squeeze firmly to activate. Apply to sprains, strains, or bruises to reduce swelling.

## 2.4 Minor Wound, Burn & General Care

### 234-Piece First Aid Kit

Sub-kit for minor cuts and abrasions. Deploy this for minor care to **preserve trauma supplies**.

### Cool Blaze Burn Gel

Sterile, water-based gel for cooling minor burns and providing pain relief after burning process is stopped.

### Non-Adherent Pads (12)

Sterile pads that won't stick to wounds. Use directly on burns or abrasions before wrapping.

### Hydrogen Peroxide / Eye Wash

Irrigate and clean minor wounds or flush debris from eyes.

### Triangular Bandages (3)

Versatile: create slings, swaths, or secure splints.

## 2.6 Diagnostics & Patient Assessment

### CPR Mouthpiece (1)

Barrier device placed over patient's mouth during rescue breathing to prevent direct contact.

### Ammonia Inhalants (10)

**Extreme caution.** Administer only to an unconscious/fainting person by trained personnel. Hold 4–6 inches from nose. Improper use can cause respiratory distress.

# Shelter, Signaling & Sustenance — Detailed Reference

## 2.7 Shelter, Sustenance & Environment

### Solar Blankets (6) & Paramedic Blankets (2)

Mylar and cloth blankets to prevent hypothermia by reflecting and retaining body heat.

### 8x10 Blue Tarp & Bungee Cord Pack

Create an expedient overhead shelter from rain or sun.

### Adult Ponchos (6)

Wearable rain protection for all team members.

### 3600 Cal Food Rations (6) & Water Pouches (9)

5-year shelf life. Ration based on number of people and estimated duration. Mayday Water Pouches for individual use.

### 8-Liter Water Bag & Hand Pump

For storing and dispensing larger quantities of water to the group.

## 2.8 Light, Signaling & Communication

### 12-Hour Lightsticks (6)

Bend and shake to activate. Area lighting or personal markers. **Non-sparking — safe near potential fuel leaks.**

### Solar Radio with Flashlight

Access NOAA/AM/FM emergency broadcasts. Backup light source. Charge via solar panel or hand crank.

### Metal Whistles with Lanyards (10)

High-decibel signaling device. International distress signal: **three blasts.**

### Distress Banner (15" x 36")

Brightly colored banner to signal for help from air or distance.

### Emergency Candles (5) & Waterproof Matches (45)

Light and ignition source. **Never use if gas leak is suspected. Well-ventilated areas only. Never leave unattended.**

## 2.9 Hygiene & Sanitation

- **Moist Towelettes, Toothbrushes/Paste:** Personal hygiene to prevent illness
- **Toilet Liners & Chemicals:** Safe management of human waste via improvised bucket toilet
- **Maxi Pad:** Intended use or as a sterile, absorbent wound dressing

## SECTION 3

# Standard Operating Procedure: Deployment

  **Scenario Reference**

A 6.5M earthquake has struck. Your office building is structurally intact but damaged. Power is out, cell service is intermittent, and emergency services are overwhelmed. Multiple colleagues are injured, debris is present, and natural gas odor has been reported near the utility closet.

1

**Phase 1**

Scene Assessment &amp; Staging Area

2

**Phase 2**

Hazard Mitigation &amp; Rescue

3

**Phase 3**

Triage &amp; Medical Aid

4

**Phase 4**

Shelter &amp; Sustainment

# Phase 1: Scene Assessment & Phase 2: Hazard Mitigation

## Phase 1: Scene Assessment & Staging Area

### 1 Assess Immediate Area

Perform a rapid visual assessment before moving the kit. Identify falling objects, broken glass, unstable furniture, and potential gas or water leaks.

### 2 Relocate to Safe Staging Area

Move the MDU-155R to a pre-designated safe area (central room away from windows, or open outdoor space). This becomes your operational base.

### 3 Don PPE — Non-Negotiable

All team members immediately don hard hat, safety vest, safety goggles, and leather palm gloves.

### 4 Inventory & Organize

Open the duffel completely. Group components by function on the tarp for rapid access (medical supplies together, tools together).

## Phase 2: Hazard Mitigation & Rescue

### 1 Utility Control

If gas is confirmed and you are trained, dispatch one person with the gas shut-off tool and wrench to the main gas line. **Do NOT operate any electrical switches.**

### 2 Light Search

Conduct a methodical search of your immediate area for all personnel. Use flashlights for dark areas.

### 3 Extrication & Access

If a person is trapped by non-structural debris (e.g., a fallen filing cabinet), use the pry bar for leverage. Work as a team.

### 4 Cordon Off Hazards

Use caution tape to isolate identified hazards — suspected gas leak areas, rooms with collapsed ceilings, and other dangers.

# Phase 3: Triage & Medical Aid & Phase 4: Shelter

## Phase 3: Triage & Medical Aid

### 1 Triage All Personnel

Assess all individuals. Categorize by severity: **(1) Walking Wounded** (minor cuts/scrapes), **(2) Immediate** (severe bleeding, fractures), **(3) Delayed** (non-life-threatening).

### 2 Hemorrhage Control — Priority

Address life-threatening bleeding first. Don nitrile gloves, cut away clothing with paramedic scissors, apply Bloodstopper or Surgi Pad with firm direct pressure.

### 3 Treat Other Injuries

Once severe bleeding is controlled: apply burn gel to minor burns, splint suspected fractures, clean/bandage wounds using the 234-piece first aid kit.

### 4 Monitor Patients

Keep injured personnel warm with solar or paramedic blankets. Continuously monitor their condition.

## Phase 4: Shelter & Sustainment

### 1 Establish Shelter

Use the tarp and ropes/bungees to create a designated shelter, especially for injured personnel, protecting against rain and sun exposure.

### 2 Ration Supplies

Account for all personnel. Ration food and water based on available supply and estimated time until help arrives. Use the water bag for communal storage.

### 3 Establish Communications

Activate the solar radio to monitor emergency broadcasts for instructions and updates. Distribute whistles to all personnel for signaling.

 SECTION 4

# Critical Warnings, Limits & Safety

 **Scope of Practice**

This kit is for **basic first aid only**. Do not perform any medical procedure for which you are not trained and certified. Improper use of medical devices can cause further harm.

 **Structural Collapse Hazard**

Tools in this kit are **NOT rated** for breaching, shoring, or operating within collapsed structures. Do not enter any building you suspect is structurally unsound.

 **Utility Control**

Shutting off gas or water mains should only be performed by **trained individuals**. Incorrectly shutting off or attempting to turn utilities back on can lead to catastrophic failure or explosion.

 **Rope Safety**

Included ropes are for **utility purposes only**. They are NOT life-safety ropes and must **never** be used for rappelling, climbing, or supporting human weight.

 **Ammonia Inhalants**

Use only on unconscious individuals. Maintain a 4–6 inch distance from the patient's nose. Use in well-ventilated areas only. These are potent chemicals.

 **Fire Hazard**

Use candles with extreme caution. **Never leave unattended**. Do not use candles or matches if a gas leak is suspected under any circumstances.

## SECTION 5

# Readiness, Inspection & Sustainment

## 5.1 Quarterly Inspection (Every 3 Months)

01

### Battery Check

Remove batteries from flashlights and radio. Check for terminal corrosion and test strength. Replace as needed.

**Store batteries separately from devices.**

02

### Visual Inspection

Inspect all components for damage, rust, or degradation. Ensure packaging on all sterile items is intact and uncompromised.

03

### Full Inventory

Conduct a complete inventory against the component list to confirm all items are present and accounted for.

## 5.2 Bi-Annual Inspection (Every 6 Months)

01

### Expiration Date Check

Review all items with expiration dates (food, water, medical supplies). Log expiration dates. Flag and replace any item within 6 months of expiration.

02

### Function Test

Test the hand crank radio, flashlight switches, and the folding shovel locking mechanism.

## 5.3 Resupply & Reconstitution

### Critical Rule: Zero Tolerance for Depletion

Any time the kit is deployed, a **full inventory and resupply must be conducted immediately afterward**. Even single items used must be replaced before the kit is returned to standby.

### Replace Promptly

Replace expired food, water, and medical supplies as soon as identified. Do not wait until the next inspection cycle.

### Rotate, Don't Discard

Rotate near-expired items into your daily home or office supplies rather than discarding them. This eliminates waste and reinforces readiness habits.