

TM 5-4240-536-10

TECHNICAL MANUAL

**OPERATOR'S MANUAL
FOR**

**BARRIER, VEHICLE ARRESTING, PORTABLE:
Vehicle Lightweight Arresting Device (VLAD), M2**

NSN 4240-01-518-4626



DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

30 JUNE 2005

WARNING SUMMARY

TO PREVENT PERSONNEL INJURY OR EVEN DEATH, THE VEHICLE LIGHTWEIGHT ARRESTING DEVICE SHOULD NOT BE USED AGAINST MOTORCYCLES OR ARTICULATED VEHICLES INCLUDING VEHICLES TOWING TRAILERS.

TO PREVENT PERSONNEL INJURY OR EVEN DEATH, ALL PERSONNEL SHOULD STAND CLEAR OF DEPLOYED NET IN CASE TARGET VEHICLE MAKES EVASIVE MANEUVERS OR TRIES TO AVOID THE VLAD.

THE VLAD CARRYING BAG CONTAINS A NET DEVICE WITH TWO ROWS OF SHARP BARBED SPIKES ON THE LEADING EDGE. DO NOT SIT, STAND, OR LAY ON PACKED CARRYING BAG TO PREVENT PERSONNEL INJURY.

TWO PEOPLE ARE REQUIRED TO LIFT AND HANDLE THE PACKED VLAD CARRYING BAG TO PREVENT BACK AND/OR OTHER MUSCULAR INJURY.

DO NOT PLACE NET DEVICE BEFORE A BEND OR OTHER HAZARD IN THE ROAD. FAILURE TO COMPLY MAY RESULT IN PERSONNEL INJURY.

AVOID UNNECESSARY HANDLING OF NET DEVICE TO PREVENT HAND INJURY FROM BARBED SPIKES. WEARING LEATHER GLOVES IS RECOMMENDED.

TO PREVENT PERSONNEL INJURY, DO NOT STEP ON BARBED SPIKES ON LEADING EDGE OF NET DEVICE.

DO NOT WRAP DEPLOYMENT LANYARDS AROUND HANDS OR FINGERS TO PREVENT PERSONNEL INJURY.

IMMEDIATELY RELEASE LANYARDS AFTER DEPLOYMENT OF THE NET AND STAND CLEAR OF AREA TO PREVENT PERSONNEL INJURY.

APPROACH ALL VEHICLES STOPPED BY THE VLAD WITH CAUTION. ON SOME OCCASIONS, THE VEHICLE MAY BE STOPPED BUT STILL HAVE LIMITED MOBILITY.

BEFORE REMOVING NET FROM VEHICLE, MAKE SURE SITUATION IS UNDER CONTROL.

TO PREVENT PERSONNEL INJURY, DO NOT USE HANDS OR FEET TO FLATTEN THE CARRYING BAG CONTAINING THE SPIKED NET DEVICE.

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LIST OF EFFECTIVE PAGES/WORK PACKAGES

Date of issue for the original manual is:

Original 30 June 2005

**TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 12 AND TOTAL
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HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 30 June 2005

TECHNICAL MANUAL

OPERATOR'S MANUAL

BARRIER, VEHICLE ARRESTING, PORTABLE: Vehicle Lightweight Arresting Device (VLAD), M2

NSN 4240-01-518-4626

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual, direct to: Logistics Research and Engineering Directorate (AMSRD-AAR-AIL-LS), U.S. Army RDECOM, Armament Research, Development and Engineering Center, Picatinny, NJ 07806-5000. You may also send in your recommended changes via electronic mail or by fax. Our e-mail address is LSB@PICA.ARMY.MIL. Our fax number is DSN 880-4633, Commercial (973) 724-4633. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

GENERAL

This manual contains all descriptive, operational, and maintenance information required to operate and maintain the Vehicle Lightweight Arresting Device (VLAD), M2.

CONTENT OF MANUAL

This manual is divided into four chapters:

- Chapter 1, General Information, Equipment Description, and Theory of Operation
- Chapter 2, Operator Instructions
- Chapter 3, Maintenance Instructions
- Chapter 4, Supporting Information

HOW TO ACCESS INFORMATION QUICKLY

The chapters are divided into work packages (WP). Each WP is assigned a six digit sequence number. The sequence numbers run consecutively throughout the manual. The first four digits of the WP sequence number are based on the location of the WP (e.g., 0005 00 is the fifth WP). The last two digits are reserved for WPs added after initial publication (e.g., 0005 01 is a WP added between WP 0005 00 and 0006 00). WP page numbers are numbered consecutively and consist of the WP sequence number followed by -1, -2, -3, etc. (e.g., 0005 00-1, 0005 00-2, etc.).

SUPPORTING ILLUSTRATIONS

All supporting illustrations are located on the same or facing page as the text they support.

CHAPTER 1

**GENERAL INFORMATION, EQUIPMENT DESCRIPTION,
AND THEORY OF OPERATION
FOR
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2**

OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
GENERAL INFORMATION

SCOPE

This Technical Manual (TM) contains operator instructions for the Vehicle Lightweight Arresting Device (VLAD).

Type of Manual: Operator Maintenance.

Model Number and Equipment Name: Barrier, Vehicle Arresting, Portable: Vehicle Lightweight Arresting Device (VLAD), M2

Purpose of Equipment: The VLAD is a one-time use, man-portable system designed to stop suspect vehicles traveling at speed. It will be used on dismount points, check points, and roadblocks to prevent unauthorized access by wheeled vehicles into or out of protected areas.

MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, Functional Users Manual for The Army Maintenance Management System (TAMMS). Accidents involving injury to personnel or damage to material will be reported on DA Form 285 (U.S. Army Accident Report) in accordance with AR 385-40.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your VLAD needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: U.S. Army RDECOM, ARDEC, ATTN: AMSRD-AAR-QEP-C, 1 Rock Island Arsenal, Rock Island, IL 61299-7300. We will send you a reply.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

If a corrosion problem is identified, it can be reported using SF 368, Product Quality Deficiency Report. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem.

The form should be submitted to the address specified in DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS).

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

To disable the system, use a knife to cut the net device into several small sections to prevent unauthorized re-use.

PREPARATION FOR STORAGE OR SHIPMENT

All VLAD components are packed in a man-portable carrying bag. If the net device was deployed but not used to stop a vehicle, it can be repacked. See WP 0006 00, REPACKING THE NET DEVICE.

NOMENCLATURE CROSS-REFERENCE LIST

Common Name

Official Nomenclature

VLAD

BARRIER, VEHICLE ARRESTING, PORTABLE: Vehicle Lightweight Arresting Device (VLAD), M2

LIST OF ABBREVIATIONS/ACRONYMS

<u>Abbreviation/Acronym</u>	<u>Definition</u>
BII	Basic Issue Items
COEI	Components of End Item
CPC	Corrosion Prevention Control
DA	Department of the Army
EIR	Equipment Improvement Recommendations
PAM	Pamphlet
SF	Standard Form
TAMMS	The Army Maintenance Management System
TM	Technical Manual
VLAD	Vehicle Lightweight Arresting Device
WP	Work Package

QUALITY OF MATERIAL

Quality assurance on VLAD components is provided primarily by the user through visual inspection. VLAD is a one-time use item. There are no authorized repairs or replacement parts.

SAFETY, CARE, AND HANDLING

There are no hazardous materials associated with the VLAD. The system is safe to handle and activate; however, safety, care and handling precautions must be followed. Observe all warnings, cautions and notes in this manual. Since the VLAD is designed to stop a vehicle in a relatively straight line, site selection is very important. To prevent personnel injury, do not place the net device before a bend or other hazard in the road. The recommended VLAD deployment site should have approximately 300 feet of straight road beyond the net device. Allow 200 feet for stopping the suspect vehicle plus an additional 100 feet as a safety zone in case the vehicle veers or swerves to avoid the net device. If deployed in wet conditions, this distance should be doubled to 600 feet. The system should never be used against motorcycles or articulated vehicles including vehicles towing trailers.

To prevent personnel injury or even death, all personnel should stand clear of deployed net in case the target vehicle makes evasive maneuvers or tries to avoid the VLAD. After a vehicle has been stopped, personnel should ensure that the situation is under control before removing the net from the vehicle.

The VLAD carrying bag contains a net device with two rows of sharp barbed spikes on the leading edge. DO NOT sit, stand, or lay on the packed bag. Avoid unnecessary handling of the net device to prevent injury from barbed spikes. Wearing leather gloves is recommended. When the net is deployed, care should be taken not to step on the barbed spikes. If the Lanyard Deployment Mode is used, the ends of the lanyards attached to the net should be loosely held. DO NOT wrap deployment lanyards around hands or fingers.

OPERATOR MAINTENANCE

VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2

(NSN 4240-01-518-4626, PN 13008224)

EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

The VLAD is a non-lethal, lightweight, man-portable, one-time use system that provides friendly forces with an easily emplaced entrapment device for wheeled vehicles. VLAD can fully stop a range of vehicles including small to large passenger vehicles and light trucks using a spiked net design. Two rows of hardened steel, barbed spikes on the leading edge of the net device puncture the vehicle's front tires. The net wraps around the tires, pulls tight under the vehicle to stop the wheels, and brings the vehicle to a stop. When deployed, the system has a low profile that is difficult to detect until the target vehicle is within a few feet of the device. There are two modes of deployment: Rapid Deployment and Lanyard Deployment. Rapid Deployment of the net device can be completed in less than one minute. When time is available, Lanyard Deployment of the net device is used. The system can be recovered and repacked if no vehicle actually ran over the spikes on the end of the net.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

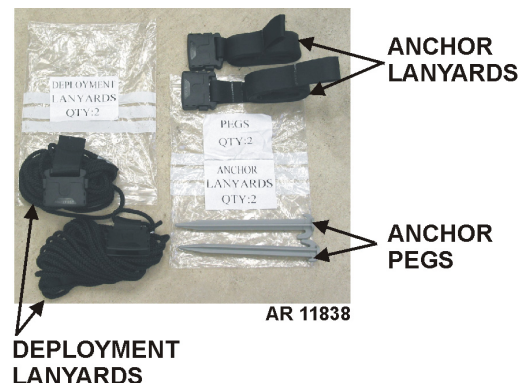
Carrying Bag

WARNING

The VLAD carrying bag contains a net device with two rows of sharp barbed spikes on the leading edge. DO NOT sit, stand, or lay on packed carrying bag to prevent personnel injury.

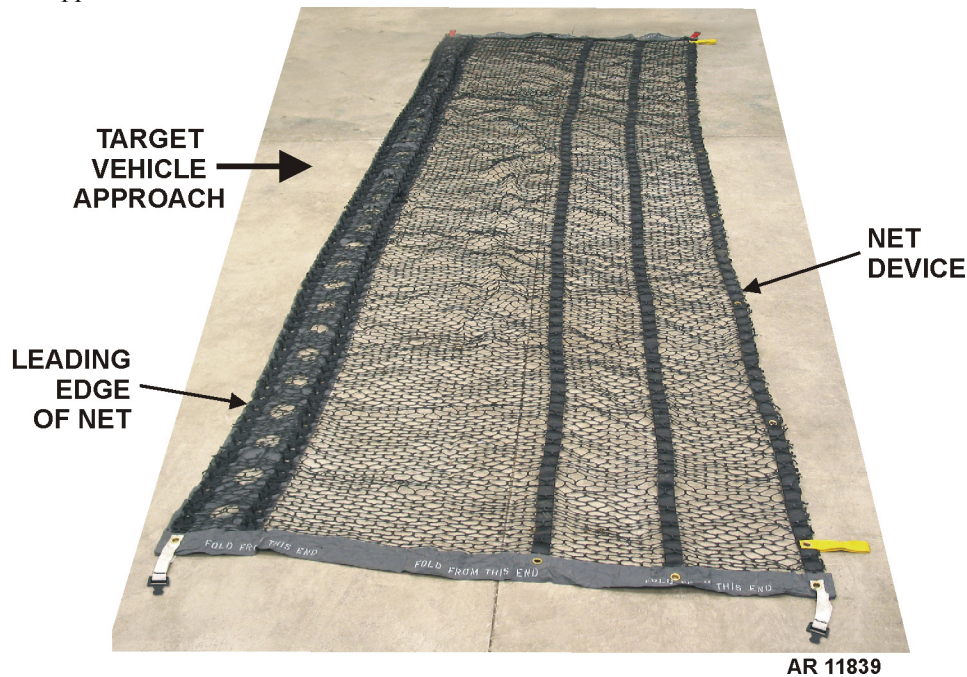
Two people are required to lift and handle the packed VLAD carrying bag to prevent back and/or muscular injury.

All VLAD components are packed in the carrying bag. The VLAD net device, containing two rows of sharp, barbed, steel spikes, is folded inside the bag. Observe the warning on the outside of the bag. A pouch on the top flap of the carrying bag contains an Instruction Manual. A pouch on the side of the carrying bag marked "Deployment Lanyards" contains two plastic bags with components for Lanyard Deployment. One plastic bag contains two 28-foot deployment lanyards. A second plastic bag contains two plastic anchor pegs and two 10-foot anchor lanyards that have pre-sewn loops at 10-, 64-, and 120-inches. These loops allow personnel to choose the appropriate loop that will anchor the net device depending on soil conditions at the site selected.



Net Device

There are two modes of deployment of the net device: Rapid Deployment and Lanyard Deployment (Stand-by Mode). The VLAD net device is placed across the roadway with the leading edge facing the target vehicle approach. The leading edge of the net device has two rows of sharp, hardened steel spikes covered with plastic sheaths to protect users from injury. Do not remove the plastic sheaths as they are designed to crush down and expose the spikes when the target vehicle's tires run over them. For Lanyard Deployment, two 28-foot deployment lanyards are clipped to the two red deployment handles on the side of the folded net device. The lanyards are then stretched out across the road. This allows traffic to freely pass while deployment personnel, remaining at a relatively safe distance, can use deployment lanyards to quickly pull the net device across the road if a target vehicle approaches.



AR 11839

EQUIPMENT DATA

a. Vehicle Lightweight Arresting Device (VLAD).

M2

NSN	4240-01-518-4626
Part number	13008224
Total weight	45.2 lb
Supply Class	II M
Temperature Limits	-25 to +160°F
Packed	All components are packed in Carrying Bag containing: Net Device, Deployment Lanyards, Anchor Lanyards, Anchor Pegs, Technical Manual.

b. Carrying Bag:

Part number	HT30-0274024
Color	Black
Dimensions	29.5 x 17.7 x 7.9 in. (0.75 x 0.45 x 0.2 m)

c. Net Device:

Part number	HT30-0274061
Weight	39 lb
Material	High modulus polyethylene fiber
Dimensions	9.8 x 16.4 ft (300 x 600 cm)
Quantity	1

EQUIPMENT DATA - Continued

d. Deployment Lanyards:

Part number	HT30-0274161
Length.....	28 ft
Quantity.....	2

e. Anchor Lanyards:

Part number	HT30-0274014
Length.....	10 ft (with pre-sewn anchor peg loops at 10-, 64-, and 120-in.)
Quantity.....	2

f. Anchor Pegs:

Part number	HT30-0274015
Material	Plastic
Quantity.....	2

g. Instruction Manual

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OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
THEORY OF OPERATION

GENERAL

The Vehicle Lightweight Arresting Device (VLAD) is a non-lethal system designed to be placed at vehicle checkpoints to fully stop a range of vehicles using a unique spiked net design. The system is lightweight, man-portable, and able to be deployed across a roadway in less than a minute while causing minimal damage to passenger vehicles and light trucks (less than 2 tons). When deployed, the VLAD creates a low profile system that is difficult to detect until the target vehicle is within a few feet of the net device. To prevent injury or even death, the VLAD should NOT be used to stop motorcycles or articulated vehicles including vehicles towing trailers.

Site selection for emplacement of the VLAD is important. To prevent serious injury or even death, DO NOT place the net before a bend or other hazard in the road since VLAD is designed to arrest a vehicle in a predominately straight line. The site selected should be just after a natural slowing feature. A total of 300 feet of straight road beyond the net device is recommended (200 feet for stopping the suspect vehicle and another 100 feet as a safety zone). However, if the net is to be used during wet conditions, the area selected should have double the normal distance (600 feet) of straight road beyond the net device.

VLAD contains two anchor lanyards, two plastic anchor pegs, two deployment lanyards, and one net device packed in a carrying bag. The net device, made of a stretchable polyethylene fiber to enable the kinetic energy of the vehicle to be absorbed, is both lightweight and strong. The leading edge of the VLAD net device contains a large number of sharp, hardened steel, barbed spikes. The spikes are protected from snagging and accidental injury with plastic sheaths which are designed to crush down and expose the spikes when a tire runs over them. DO NOT remove the plastic sheaths. Avoid unnecessary handling of the net device to prevent hand injury from barbed spikes. Wearing leather gloves is recommended.

There are two modes of deployment for VLAD: Rapid Deployment for quick setup or Lanyard Deployment for Stand-by Mode. Rapid Deployment can be completed in less than one minute. When time is available, Lanyard Deployment is used. For Lanyard Deployment, two 28-foot deployment lanyards are clipped to the two red deployment handles on the side of the folded net device. The lanyards are then stretched out across the road. This allows traffic to freely pass while deployment personnel, remaining at a relatively safe distance, can use deployment lanyards to quickly pull the net device across the road if a target vehicle approaches. As the vehicle runs over the net device, the two rows of barbed spikes on the leading edge pierce the vehicle's front tires. The net wraps around the tires, pulls tight under the vehicle, and stops the wheels from rotating which brings the vehicle to a standstill.

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CHAPTER 2

OPERATOR INSTRUCTIONS
FOR
VEHICLE LIGHTWEIGHT ARRESTING DEVICE, M2

OPERATOR MAINTENANCE

VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2

(NSN 4240-01-518-4626, PN 13008224)

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS

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OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
OPERATING VLAD

INITIAL SETUP:**Materials/Parts**

Anchor Lanyards (2) (Item 3, WP 0011 00, COEI)
 Anchor Pegs (2) (Item 4, WP 0011 00, COEI)
 Carrying Bag (1) (Item 2, WP 0011 00, COEI)
 Deployment Lanyards (2) (Item 5, WP 0011 00, COEI)
 Gloves, leather (Item 4, WP 0012 00)
 Net Device (1) (Item 6, WP 0011 00, COEI)

Personnel Required

Two

References

WP 0006 00

GENERAL**WARNING**

The VLAD carrying bag contains a net device with two rows of sharp barbed spikes on the leading edge. DO NOT sit, stand, or lay on packed carrying bag to prevent personnel injury.

Two people are required to lift and handle the packed VLAD carrying bag to prevent back and/or muscular injury.

This work package covers Inspection, Site Selection, and the two modes of deployment for the Vehicle Lightweight Arresting Device (VLAD). The Rapid Deployment mode allows quick emplacement of the net device (less than one minute). The Lanyard Deployment mode (Stand-by Mode) allows traffic to pass or deployment personnel, while remaining at a safe distance, the ability to use deployment lanyards to quickly pull the net device across the road if a target vehicle approaches.

INSPECTION BEFORE EMPLACEMENT

Visually inspect to ensure all components are present and not damaged. The VLAD carrying bag contains a net device. Two plastic bags in the side pouch marked "Deployment Lanyards" contain two anchor lanyards/straps, two anchor pegs, and two deployment lanyards. If components in the side pouch are missing, the system is functional, but only in the Rapid Deployment mode.



SITE SELECTION**WARNING**

DO NOT place net device before a bend or other hazard in the road. Failure to comply may result in personnel injury.

The VLAD is designed to stop suspect vehicles traveling at speed. This presents a number of significant risks. Misuse of the system or a suspect vehicle trying to avoid being stopped can result in serious injury or even death. Since there are many scenario variations that may arise (e.g., vehicle size, vehicle speed, road conditions, traffic conditions), always thoroughly assess the situation and possible consequences. VLAD is designed to stop a vehicle in a relatively straight line. To prevent personnel injury, ensure that the site selected is NOT before a bend or other hazard in the road. All personnel should stand clear of deployed net. (See chart below for typical stopping distances.)

1. Ensure the deployment site has 300 feet (approx. 91 meters) of straight road beyond the net device. Allow 200 feet for stopping the suspect vehicle plus an additional 100 feet as a safety zone, in case the vehicle veers or swerves to avoid the VLAD. However, if the net is to be used during wet conditions, the area selected should have double the normal distance of straight road beyond the net device (600 feet (approx. 182 meters)).
2. Since a fast moving vehicle will have a much higher chance of evading the net device, the site selected should be just after a natural slowing feature to maximize the chance of a successful mission. Typical stopping distances for medium passenger vehicles and light trucks (less than 2 tons) are as follows:

Vehicle Speed	Typical stopping distance
30 mph (48 km/h)	82 feet (25 m)
40 mph (64 km/h)	118 feet (36 m)
50 mph (80 km/h)	180 feet (55 m)

3. Decide whether Rapid Deployment or Lanyard Deployment will be used.

RAPID DEPLOYMENT**WARNING**

To prevent personnel injury or even death, the Vehicle Lightweight Arresting Device should not be used against motorcycles or articulated vehicles including vehicles towing trailers.

Two people are required to lift and handle the packed VLAD carrying bag to prevent back and/or other muscular injury.

NOTE

VLAD can be carried by the two handles on the ends of the bag or by the two carrying straps.

1. Once a deployment site has been selected, determine the most likely direction of the threat vehicle.

- Using two people, each person grabs a carrying strap or each person grabs a handle on the end of the VLAD carrying bag. Place carrying bag just off the roadway with arrows marked "TOWARDS TARGET VEHICLE" pointing towards threat vehicle approach and the pouch marked "Deployment Lanyards" at curb/roadside.

VLAD PLACEMENT



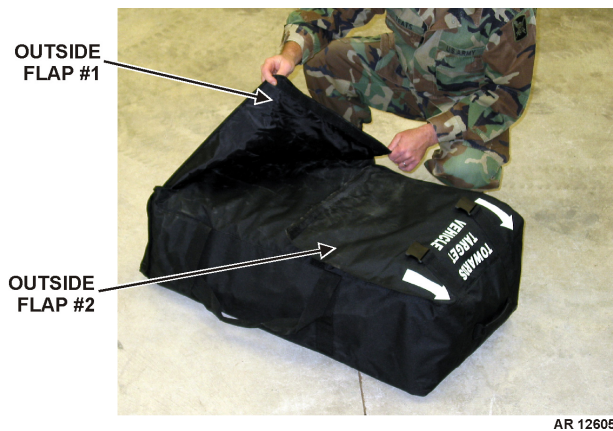
- Using thumb and index finger on each side of the buckle, squeeze both buckle releases together to unclip outside strap on carrying bag. Repeat for second outside strap.



**BUCKLE
RELEASES**



4. Pull open outside flaps #1 and #2. Pull open inside flaps #1 and #2.



5. One end of carrying bag is closed with hook and pile closures. To open that end of carrying bag, pull the hook and pile closures apart and lay it flat. See illustration below.



WARNING

Avoid unnecessary handling of net device to prevent hand injury from barbed spikes. Wearing leather gloves is recommended.

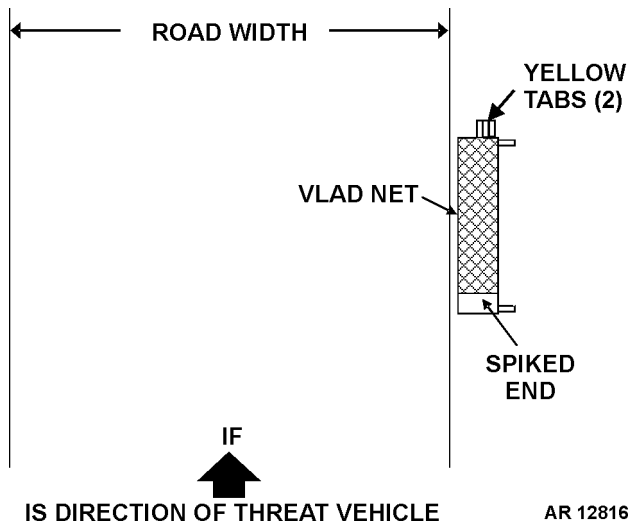
6. Using two people, one person carefully places both hands under the entire spiked section of the folded net and lifts it up while the other person pulls the carrying bag out of the way. Set carrying bag aside for possible repacking.



WARNING

To prevent personnel injury, do not step on barbed spikes on leading edge of net device.

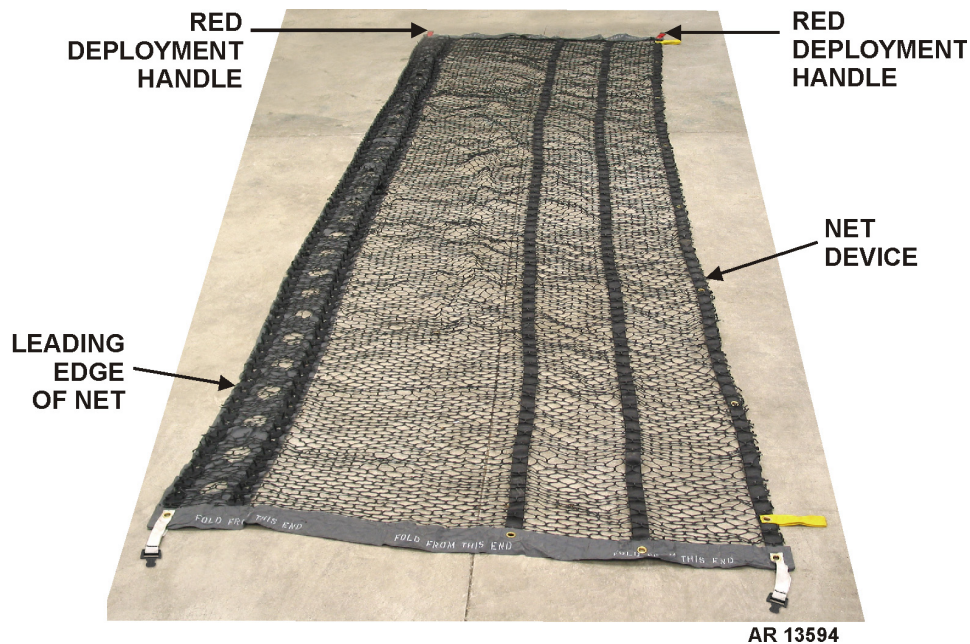
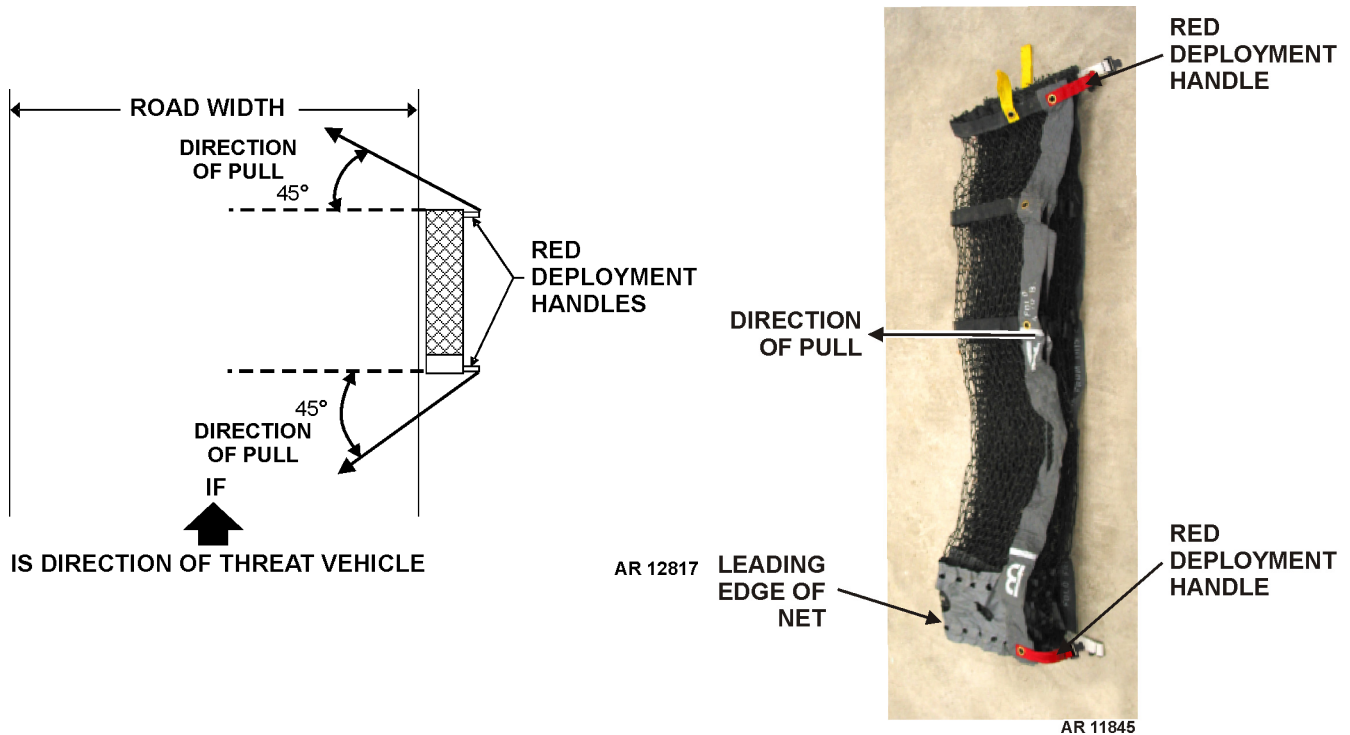
7. One person carefully holds the spiked net in place as the other person grabs the two yellow tabs on the other end of the net and walks away pulling the net until it is unfolded. Net should be parallel with the roadside. See illustration below.



CAUTION

It is important to ensure the barbed spikes on the leading edge of the net are upright and the net is pulled tight.

8. Using two people, each person grabs a red deployment handle and pulls the net device across the road at a 45 degree angle (approx.). See illustration below. The barbed spikes on the leading edge of the net should be upright and net should be pulled tight. DO NOT remove plastic covers over barbed spikes. They are designed to crush down and expose the spikes when a tire runs over them.



WARNING

To prevent personnel injury, do not step on barbed spikes on leading edge of net device.

9. If necessary and time allows, reposition the net and make sure net is as flat as possible to avoid being detected by threat vehicle. Do not step on barbed spikes.

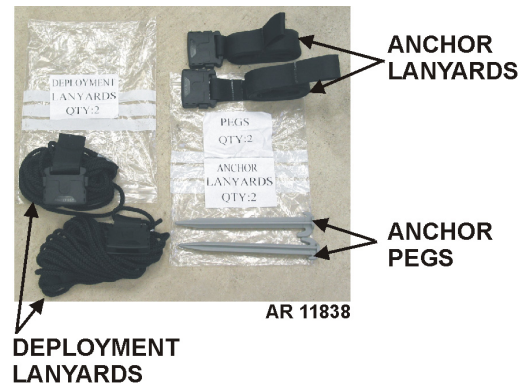
WARNING

To prevent personnel injury or even death, all personnel should stand clear of deployed net in case target vehicle makes evasive maneuvers or tries to avoid the VLAD.

10. Stand clear of area.
11. If VLAD was deployed but not used to stop a vehicle, see WP 0006 00, REPACKING THE NET DEVICE.

LANYARD DEPLOYMENT (Stand-by Mode)

1. Perform Rapid Deployment steps 1 thru 7. Observe all WARNINGS and CAUTIONS.
2. Remove two plastic bags from pouch on outside of carrying bag marked "Deployment Lanyards". Remove two plastic anchor pegs, two anchor lanyards, and two deployment lanyards from plastic bags. Place empty plastic bags back in pouch for possible re-use. Set carrying bag aside for possible repacking.

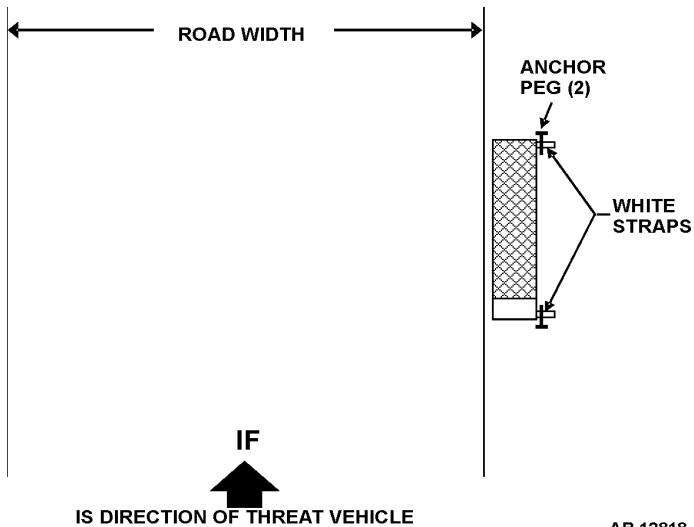


3. To anchor the net device, determine if there are soft edges at the side of the road. If there are soft edges at the side of the road, go to step a. below. If there are no soft edges, go to step b. below.

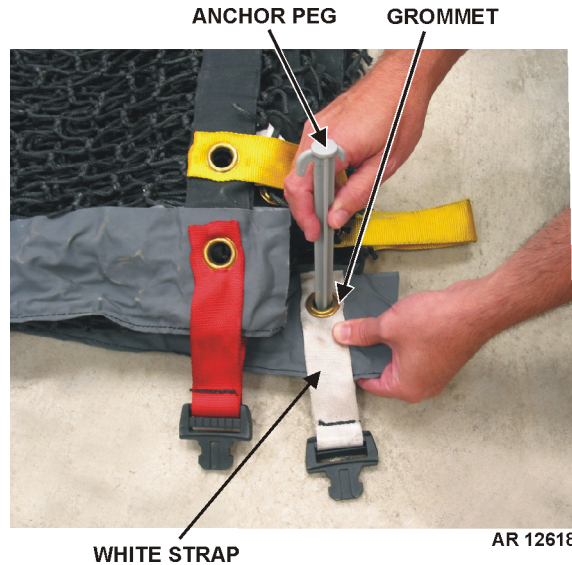
CAUTION

Use hands to push plastic anchor pegs into the ground. Do not hammer or force too deeply into the ground or stopping of the vehicle may be affected.

- a. If there are soft edges at the side of the road, use the two plastic anchor pegs to secure the net device. Insert a plastic anchor peg through the grommet in each of the two white straps on the end of the net. Push plastic anchor pegs into the ground. DO NOT hammer in or force in too deeply.



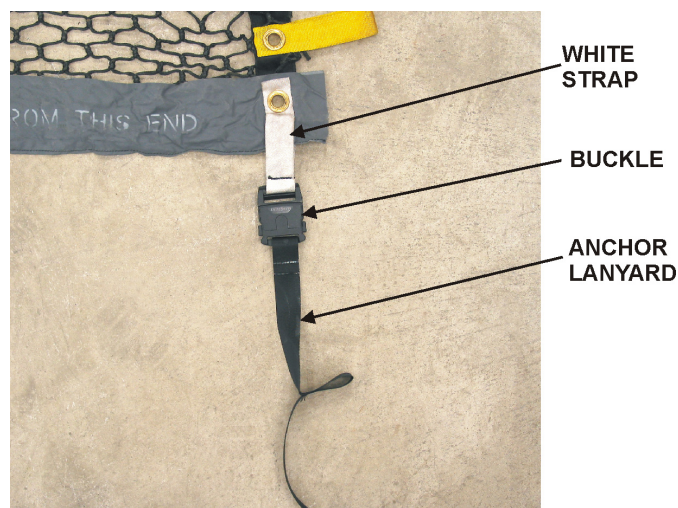
AR 12818



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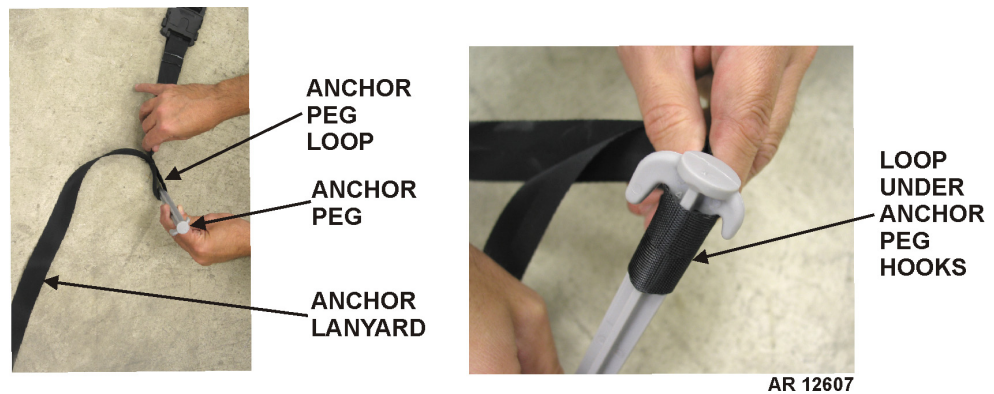
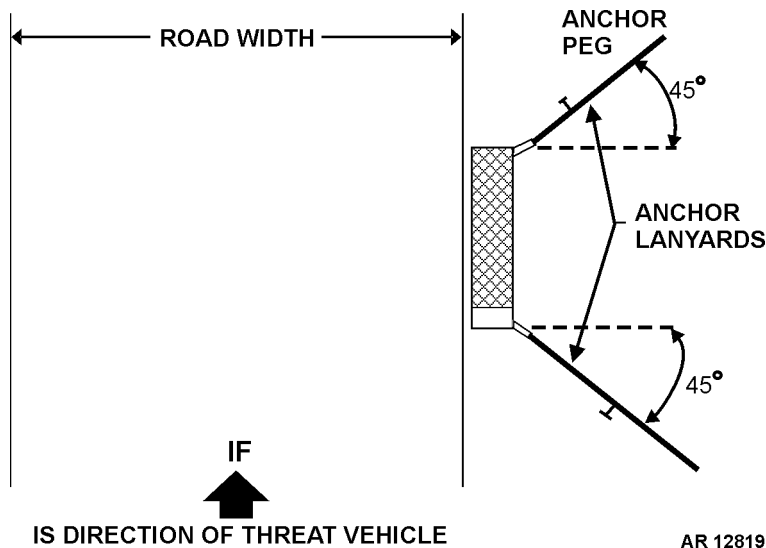
- b. If there are no soft edges at the side of the road:

- (1) Clip an anchor lanyard/strap to the buckle at the end of the white strap at each side of the net.

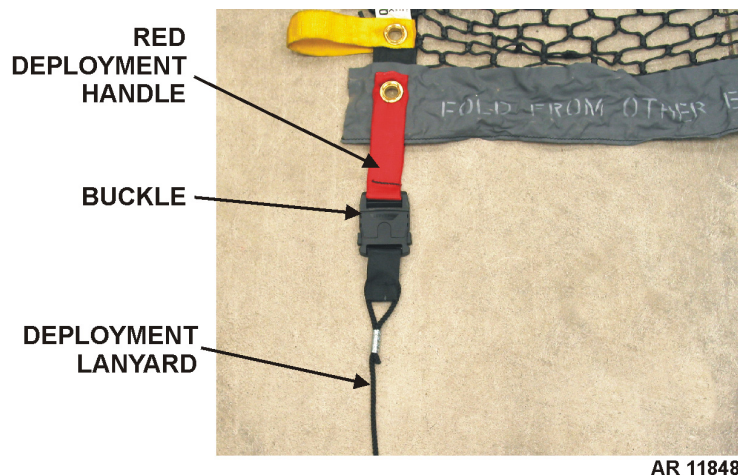


AR 11847

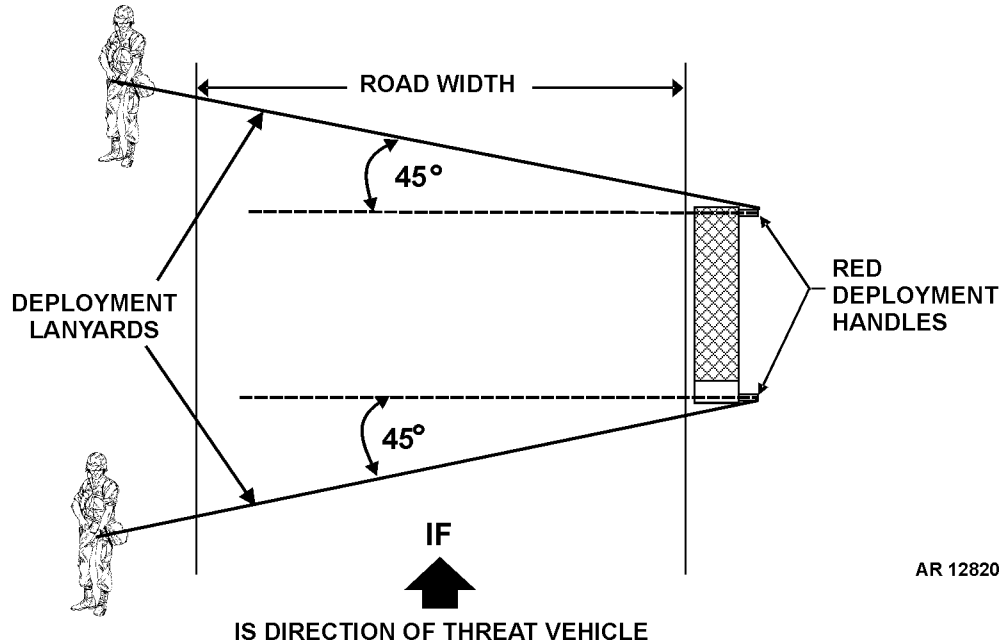
- (2) Run one of the anchor lanyards out to a softer area at a 45 degree angle (approx.). Insert an anchor peg into one of the three pre-sewn anchor peg loops on the anchor lanyard. Using hands, push anchor peg into ground ensuring loop is securely under the anchor peg hooks on the top of the anchor peg. DO NOT hammer in or force in too deeply. Repeat at other side of net.



4. Clip a deployment lanyard to the buckle at the end of the two red deployment handles on the net device.



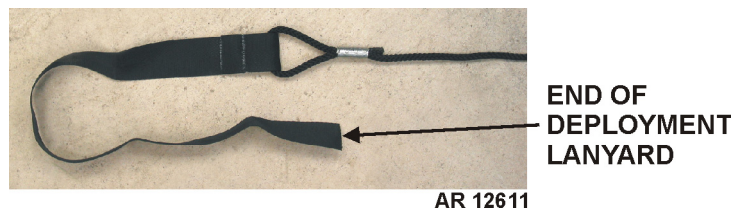
5. Using two people, each person grabs an end of a deployment lanyard and walks it to the opposite side of the road at a 45 degree angle (approx.). Do not unfold the net at this time.



WARNING

DO NOT wrap deployment lanyards around hands or fingers to prevent personnel injury.

6. From hidden vantage point, each person loosely holds the end of a deployment lanyard and awaits a target vehicle. DO NOT wrap end of deployment lanyard around hands or fingers.



WARNING

Release deployment lanyards as soon as possible after deployment of the net to prevent personnel injury.

To prevent personnel injury or even death, all personnel should stand clear of deployed net in case target vehicle makes evasive maneuvers or tries to avoid the VLAD.

7. Just before target vehicle approaches, both people quickly pull deployment lanyards across the road and immediately release the lanyards. Stand clear of area in case target vehicle makes evasive maneuvers or tries to avoid the VLAD.
8. Make sure the situation is under control after the vehicle has been stopped and proceed to REMOVE NET DEVICE FROM VEHICLE (below).
9. If VLAD net device was deployed but not used to stop a vehicle, proceed to WP 0006 00, REPACKING THE NET DEVICE.

REMOVE NET DEVICE FROM VEHICLE**WARNING**

Approach all vehicles stopped by the VLAD with caution. On some occasions the vehicle may be stopped but still have limited mobility.

Before removing net device from vehicle, make sure situation is under control.

Avoid unnecessary handling of the net device to prevent hand injury from barbed spikes. Wearing leather gloves is recommended.

To prevent personnel injury, do not step on barbed spikes on the leading edge of the net.

1. Once occupant(s) of the stopped vehicle have been dealt with and situation is under control, use a sharp knife to remove the bulk of the net from vehicle tires. Be careful not to step on barbed spikes.
2. Dispose of any remaining netting to prevent unauthorized re-use.
3. Recover the vehicle in accordance with local SOP.

END OF WORK PACKAGE

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OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
REPACKING THE NET DEVICE

INITIAL SETUP:**Materials/Parts**

Anchor Lanyards (2) (Item 3, WP 0011 00, COEI)
 Anchor Pegs (2) (Item 4, WP 0011 00, COEI)
 Carrying Bag (1) (Item 2, WP 0011 00, COEI)
 Deployment Lanyards (2) (Item 5, WP 0011 00, COEI)
 Gloves, leather (Item 4, WP 0012 00)
 Net Device (1) (Item 6, WP 0011 00, COEI)

Personnel Required

Two

GENERAL

The VLAD is a one-time use item. However, if the VLAD was deployed but not used to stop a vehicle, perform the repacking instructions in this work package to allow the item to be re-used. If the VLAD was deployed in wet weather conditions, the net must be laid out to dry to prevent mold growth before repacking.

REPACKING THE NET DEVICE**NOTE**

Two people are required to repack the VLAD net device.

1. If net device was anchored, remove the two plastic bags from pouch on outside of carrying bag marked "DEPLOYMENT LANYARDS". Remove anchor pegs from ground, if used. Remove and fold anchor lanyards and deployment lanyards from net device, if used. Place items in proper plastic bag. Place the two plastic bags back in pouch marked "DEPLOYMENT LANYARDS".

**WARNING**

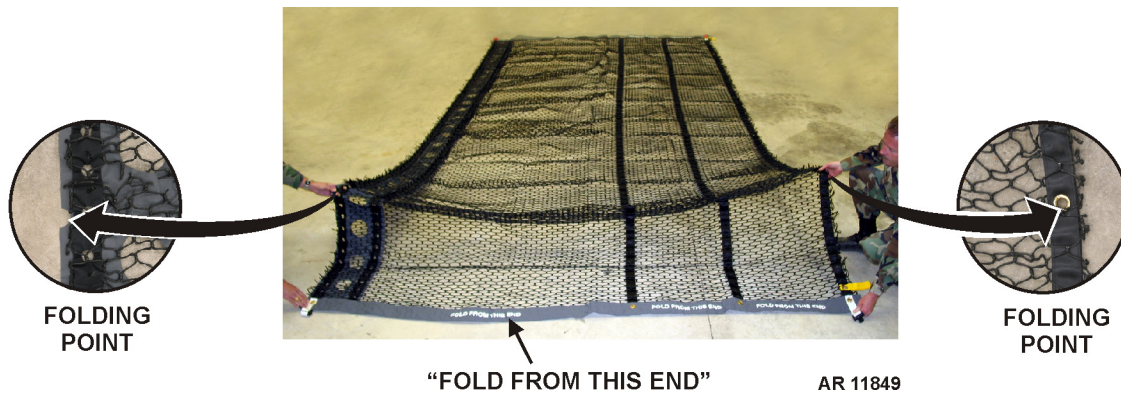
The VLAD carrying bag contains a net device with two rows of sharp barbed spikes on the leading edge. DO NOT sit, stand, or lay on packed carrying bag to prevent personnel injury.

Avoid unnecessary handling of net device to prevent hand injury from barbed spikes. Wearing leather gloves is recommended.

To prevent personnel injury, do not step on barbed spikes on leading edge of net device.

2. Remove any heavy debris if net device is dirty. Wearing leather gloves is recommended.

3. Starting from the end of the net labelled “FOLD FROM THIS END”, one person kneels down at the spiked end of the net near the white strap and uses the half-circle indentations on the outer edge of the net as folding points. A second person kneels down at the non-spiked end of the net near the white strap and uses the grommets as folding points. Both people place one hand on a white strap to keep the net in place. Note hand position in illustration below.



4. Using folding points, both people begin folding the net in an “accordion” pattern by pulling and dragging the net. Continue to drag and fold the net into equal sections ensuring the folded spiked sections are neatly placed on top of each other until there is only one remaining net section to be folded.



5. For the last net section, each person grabs a red deployment handle and places the remaining net section over the folded net so that spikes are pointed down into spiked section of folded net.



6. Completely open carrying bag. Place end of carrying bag marked "SPIKES THIS END" in line with spiked end of folded net as shown below.
7. Straddling folded net, place both hands under entire folded spiked section. Lift and place spiked section into end of the carrying bag marked "SPIKES THIS END".



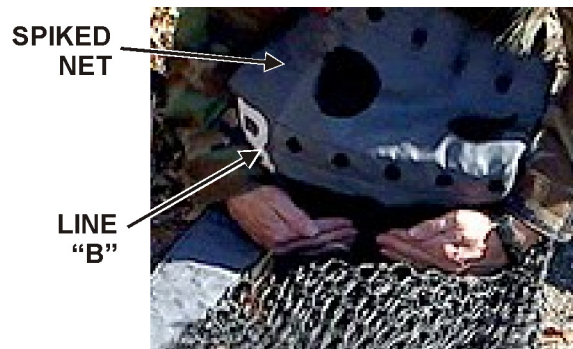
SPIKED SECTION
CARRYING BAG
"SPIKES THIS END" (BOTTOM OF BAG)



FOLDED NET
SPIKED SECTION

AR 11851

8. At the end of the spiked section of the net, use hands to make an indentation in the net just behind line "B".



AR 13544

9. Straddle remaining folded net. Place both hands under folding line "A" area of net and lift up. Bring folding line "A" up to meet folding line "B" at the edge of spiked section of net.



FOLDING LINE "A"



FOLDING LINE "B"

AR 11853

10. Lift up non-spiked end of net and fold it over spiked section. Ensure all net is neatly packed in carrying bag.



**NON-SPIKED
END OF NET**

**SPIKED
SECTION**



END OF NET

AR 11854

11. If the end of the carrying bag with hook and pile tapes is open, secure bag by pressing hook and pile tapes together.



**HOOK AND
PILE TAPES**

AR 13545

12. Place inside flap #2 over the net. Place inside flap #1 over inside flap #2. Use hook and pile tapes to secure.

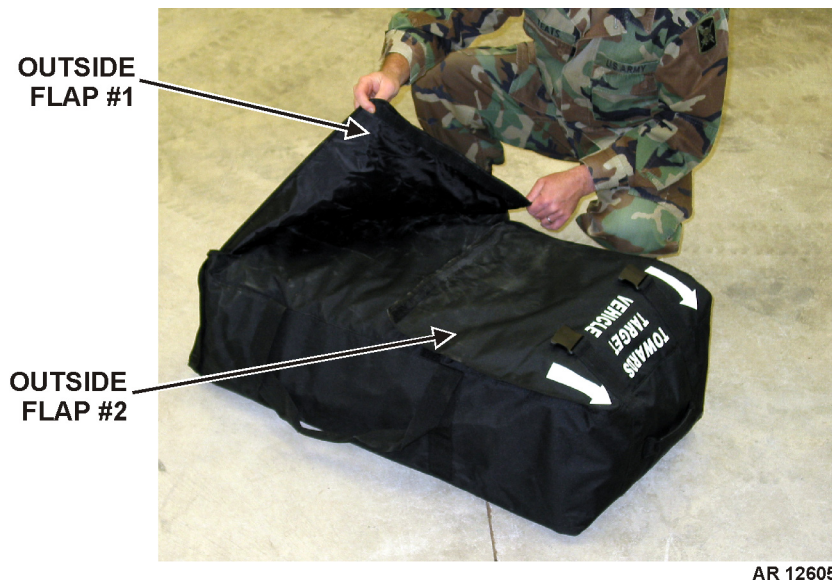


**INSIDE
FLAP #1**

**INSIDE
FLAP #2**

AR 12606

13. Place outside flap #2 over the inside flaps. Fold outside flap #1 over all. Use hook and pile tapes to secure.



WARNING

To prevent personnel injury, do not use hands or feet to flatten the carrying bag containing the spiked net device.

14. Clip the buckles together on the two outside straps to secure carrying bag.



15. Fold and place this Technical Manual inside the pouch on top of the VLAD carrying bag.



END OF WORK PACKAGE

OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
OPERATION UNDER UNUSUAL CONDITIONS

INITIAL SETUP:

References

WP 0005 00
WP 0006 00

GENERAL

The VLAD is capable of operation in normal, cold, wet, humid, and dry environments and during weather conditions of rain, dust and sand storms.

COLD ENVIRONMENT

If VLAD is deployed in extreme cold environment and will be left in place, periodically lift up the net to ensure the net has not frozen to the ground.

Plastic anchor pegs provided with the VLAD cannot be hammered into the ground. Plastic anchor pegs will not be used to anchor the net device in extreme cold temperatures or frozen soil.

WET ENVIRONMENT

If VLAD will be used during wet conditions such as rain, snow, etc., ensure the site selected has 600 feet (approx 182 meters) of straight road beyond the placement of the device (double the normal distance of 300 feet (approx. 91 meters)). See WP 0005 00, SITE SELECTION.

If VLAD was deployed in wet weather but was not used, the net must be laid out to dry to prevent mold growth before performing repacking procedures. See WP 0006 00, REPACKING THE NET DEVICE.

NBC ENVIRONMENT

VLAD can be used in MOPP IV. For planning purposes, the assembling time in MOPP IV may be degraded.

END OF WORK PACKAGE

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OPERATOR MAINTENANCE

VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2

(NSN 4240-01-518-4626, PN 13008224)

EMERGENCY PROCEDURES

THIS WORK PACKAGE IS NOT APPLICABLE.

END OF WORK PACKAGE

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CHAPTER 3

MAINTENANCE INSTRUCTIONS
FOR
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2

OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
MAINTENANCE INSTRUCTIONS

INITIAL SETUP:**Personnel Required**

Two

References

WP 0006 00

GENERAL

Although the VLAD requires no maintenance, the following steps will enhance the life and reliability of the system.

1. Check the system before use. This is especially important if VLAD has been stored longer than three months. Report any damage that may prevent performance of the system.
2. Every three months, lay the net device on the ground to ensure the material does not set in a creased manner. This can also be accomplished by normal training and rotation of systems.
3. If the VLAD was deployed in wet weather but was not used, lay the net out to dry before performing repacking procedures to prevent mold growth. See WP 0006 00, REPACKING THE NET DEVICE.
4. Modifications or repairs are not authorized.

END OF WORK PACKAGE

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CHAPTER 4

SUPPORTING INFORMATION
FOR
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2

OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)

REFERENCES

SCOPE

This work package lists all Army regulations, forms, pamphlets, and miscellaneous publications referenced in this manual.

ARMY REGULATIONS

AR 385-40 Accident Reporting and Records

FORMS

DA Form 285 U.S. Army Accident Report

DA Form 2028 Recommended Changes to Publications and Blank Forms

SF 368 Product Quality Deficiency Report

PAMPHLETS

DA Pam 25-30 Consolidated Index of Army Publications and Blank Forms

DA Pam 738-750 Functional Users Manual for The Army Maintenance Management System (TAMMS)

MISCELLANEOUS PUBLICATIONS

CTA 8-100 Army Medical Department Expendable/Durable Items

CTA 50-970 Expendable/Durable Items (Except: Medical, Class V, Repair Parts and Heraldic Items)

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OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS

INTRODUCTION

Scope

This work package lists COEI and BII for the Vehicle Lightweight Arresting Device (VLAD) to help you inventory items for safe and efficient operation of the equipment.

General

The COEI and BII information is divided into the following lists:

Components of End Item (COEI). This list is for information purposes only and is not authority to requisition replacements. These items are part of the VLAD. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

Basic Issue Items (BII). These essential items are required to place the VLAD in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the VLAD during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the COEI List and BII List

Column (1) - Illus Number. Gives you the number of the item illustrated.

Column (2) - National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

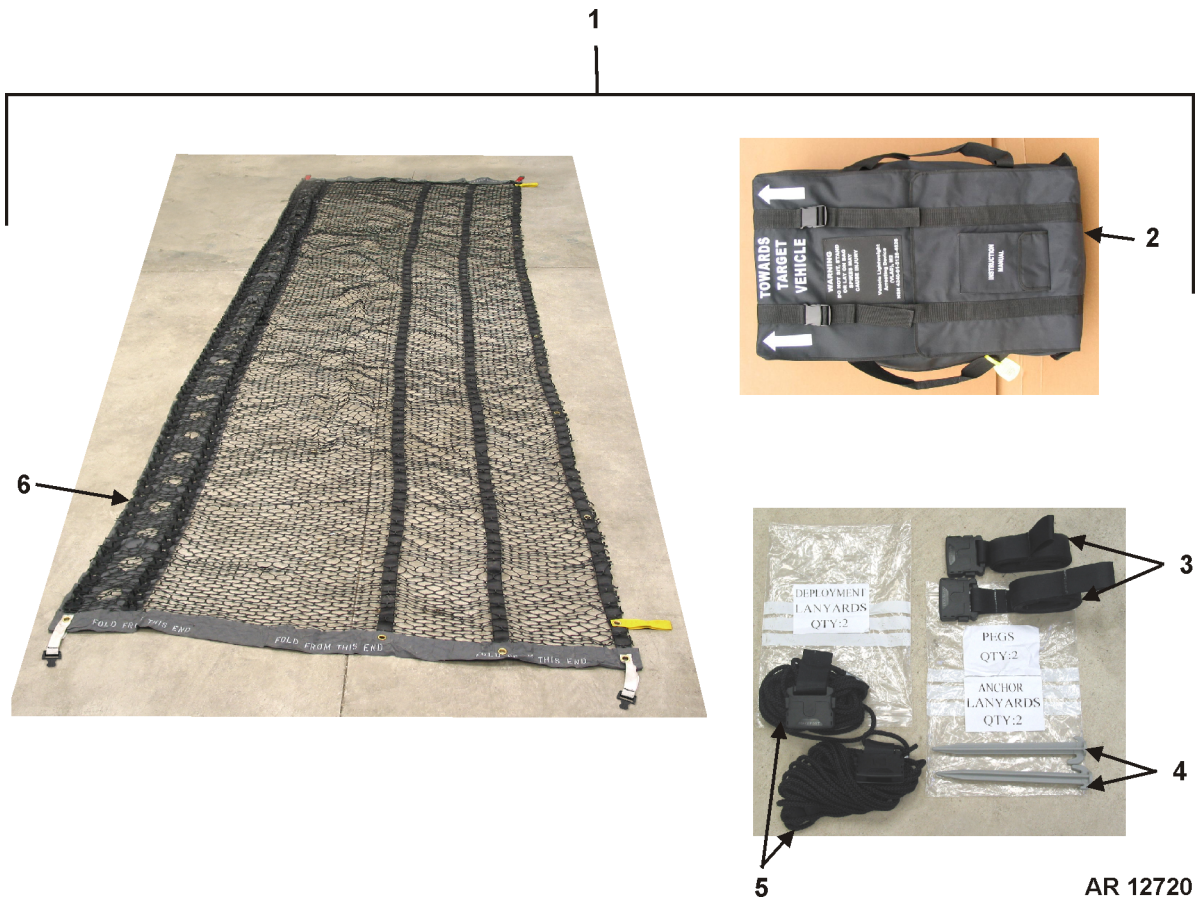
Column (3) - Description, CAGEC, and Part Number. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COEI and BII is also included in this column. The last line below the description is the CAGEC (Commercial and Government Entity Code) (in parentheses) and the part number.

Column (4) - Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment.

Column (5) - Unit of Measure (U/M). Indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) - Qty Rqr. Indicates the quantity required.

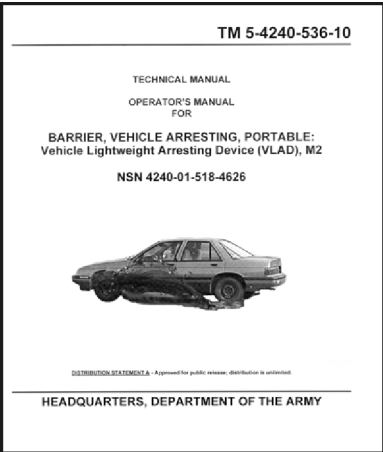
COMPONENTS OF END ITEM (COEI) LIST



AR 12720

Table 1. Components of End Item List .

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY RQR
1	4240-01-518-4626	VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2 (19200) 13008224 Consisting of:		EA	1
2	N/A	Carrying Bag (19200) HT30-0274024 Containing:		EA	1
3	N/A	Anchor Lanyards (19200) HT30-0274014		EA	2
4	N/A	Anchor Pegs (19200) HT30-0274015		EA	2
5	N/A	Deployment Lanyards (19200) HT30-0274016		EA	2
6	N/A	Net Device (19200) HT30-0274061		EA	1



AR 13599

BASIC ISSUE ITEMS (BII) LIST

Table 2. Basic Issue Items List .

(1) ILLUS NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION, CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/M	(6) QTY RQR
1	N/A	Technical Manual TM 5-4240-536-10		EA	1

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OPERATOR MAINTENANCE
VEHICLE LIGHTWEIGHT ARRESTING DEVICE (VLAD), M2
(NSN 4240-01-518-4626, PN 13008224)
EXPENDABLE AND DURABLE ITEMS LIST

INTRODUCTION

Scope

This work package lists expendable and durable items that you will need to operate and maintain Barrier, Vehicle Arresting, Portable: Vehicle Lightweight Arresting Device (VLAD), M2. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except: Medical, Class V, Repair Parts and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns in the Expendable/Durable Items List

Column (1) - Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., Use brake fluid (item 5, WP 0098 00).).

Column (2) - Level. This column identifies the lowest level of maintenance (C = Operator/Crew, O = Unit, F = Direct Support, H = General Support, D = Depot).

Column (3) - National Stock Number (NSN). This is the NSN assigned to the item which you can use to requisition it.

Column (4) - Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column provides the other information you need to identify the item.

Column (5) - Unit of Measure (U/M). This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

EXPENDABLE AND DURABLE ITEMS LIST

Table 1. Expendable and Durable Items List .

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, CAGEC, PART NUMBER	(5) U/M
1	O	N/A	Anchor, Lanyards: HT30-0274014	EA
2	O	N/A	Deployment, Lanyards: HT30-0274016	EA
3	O	N/A	Peg: HT30-0274015	EA
4	O	8415-00-634-4658	Gloves: Leather	EA

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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is ODISC4.						Use Part II (<i>reverse</i>) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).		DATE	
TO: (<i>Forward to proponent of publication or form</i>) (<i>Include ZIP Code</i>)						FROM: (<i>Activity and location</i>) (<i>Include ZIP Code</i>)			
PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS									
PUBLICATION/FORM NUMBER TM 9-1375-225-12						DATE 18 Jun 99		TITLE SOF Demo Kit, M303	
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO.*	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON <i>(Provide exact wording of recommended changes, if possible).</i>			
1						Page 0001 00-2. Change "Rock Island, IL 61201" to read "Aberdeen Proving Ground, MD 21010". Reason: Wrong Address.			
2				5		Page 0012 00-5. Add callout "2" to the shaft slinger in the illustration. Reason: Callout missing from illustration.			
* Reference to line numbers within the paragraph or subparagraph.									
TYPED NAME, GRADE OR TITLE					TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE	

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TO: <i>(Forward direct to addressee listed in publication)</i> LRED (AMSRD-AAR-AIL-LS) U.S. Army RDECOM, ARDEC Picatinny, NJ 07806-5000				FROM: <i>(Activity and location) (Include ZIP Code)</i>				DATE	
PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS									
PUBLICATION NUMBER				DATE		TITLE			
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION	
PART III - REMARKS <i>(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)</i>									
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE		

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PUBLICATION NUMBER				DATE		TITLE			
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION	
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PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS									
PUBLICATION NUMBER				DATE		TITLE			
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION	
PART III - REMARKS <i>(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)</i>									
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE		

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