

UNITED STATES MARINE CORPS  
Logistics Operations School  
Marine Corps Combat Service Support School  
PSC Box 20041  
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LS 201

**STUDENT OUTLINE**

**LAY ASSAULT TRACKWAY MATTING**

**LEARNING OBJECTIVES**

1. Terminal Learning Objective: Given an assignment as a member of a team required to lay Assault Trackway Kit, necessary tools and equipment, lay Assault Trackway Matting, to ensure unrestricted movement of rolling stock or safe helicopter landing in accordance with TM-06831A-15. (0481.01.01)

2. Enabling Learning Objective: Given an assignment as a member of a team required to lay Assault Trackway Kit, without the aid of references, identify the components of the kit in accordance with TM-06831A-15. (0481.01.01a)

(1) Determine the amount of assault track way required.  
(0481.01.01b)

(2) Maneuver the rolled panels into position in.  
(0481.01.01c)

(3) Assemble the assault track way. (0481.01.01d)

(4) Perform maintenance on the assault track way.  
(0481.01.01e)

**OUTLINE**

1. **THE COMPONENTS OF THE KIT.**

a. Beach matting is used to provide a temporary roadway for a wheeled vehicles in areas otherwise rendered impassable due to bomb or shell blast, mud conditions, washouts, or deep sand, and to improve landing point sites. Each Mo-mat kit cost two thousand five hundred dollars (\$2500.00). One panel of MO-MAT is 48 feet-6 inches long by 12 feet-2 inches wide by 5/8 of an

inch thick. The strength rating of the MO-MAT is 50,000 pounds per square inch with a high traction coating on the topside. Each panel weighs 600 pounds and the kits contain the following items.

(1) The panel and edge stiffener are made of fiberglass reinforced plastic material molded into a flexible waffle-like configuration. They have a traction coating on the top surface. When not in use, the panel may be rolled up for easy storage.

(2) The nut plate strips are used in conjunction with the bolt and washer assemblies or the flanged bolts to fasten panels together to attach each edge stiffener to panels and to attach metal anchor plates to panels. Each nut plate strip consists of four evenly spaced plastic nuts molded into a base strip contoured to fit the panel configuration. A collar protrudes from each nut and locks into corresponding holes in the recessed nodes of the panel. Nut plate strips are attached to the underside of panels.

(3) The edge stiffener assembly consists of an edge stiffener, bolt and washer assemblies, and nut plate strips. The edge stiffener is used to reinforce panel edges subject to repeated passage of heavy vehicles and is attached to the panel with bolt and washer assemblies or flanged bolts and nut plate strips.

(4) The anchor assembly consists of one metal anchor plate, four flanged bolts, and one nut plate strip. A portion of the metal anchor plate is formed to match the configuration of the panel. The anchor plate is installed on top of the panel edge and secured in place with flanged bolts and the nut plate strips. Anchoring is necessary to prevent bow waving due to vehicular traffic or shifting of the panels due to high winds, helicopter rotor down wash, or sloping terrain and is accomplished with a rope through the large anchor holes and attached to a stake.

## **2. DETERMINE THE AMOUNT OF ASSAULT TRACK WAY KIT REQUIRED.**

a. Since a single sheet of MO-MAT is 48 feet 6 inches in length and one edge stiffener is 6 inches in width, you should estimate in 50-foot increments to ensure you have enough distance to unroll the MO-MAT. If you are unrolling two sheets of MO-MAT, you should estimate that you need 100' of distance cleared to position the unrolled MO-MAT.

b. Since a single sheet of MO-MAT is 12 feet 2 inches in width, and one edge stiffener is 12 feet 2 inches in length, you should estimate the space needed to not only fit the MO-MAT but also the engineer stakes as well. Remember, width is determined by how far you put your engineer stakes from your MO-MAT.

**3. MANEUVER THE ROLLED PANELS INTO POSITION.**

a. MO-MAT can be transported by forklift, the use of vehicles, landing craft and helo to put it in a general area in which you want to unroll it.

b. By the use of teamwork, it is possible to position the rolled panel(s) in the exact spot to be unrolled. After ensuring the rolled panel(s) will not be running into obstacles, release the retention straps and unroll the panel(s).

**4. ASSEMBLE THE ASSAULT TRACKWAY.**

a. For installation, the only tools required are a sledgehammer and a  $\frac{3}{4}$  inch hex socket or box wrench. Other tools such as a crescent wrench or speed wrench can also be used.

(1) Road way configuration.

a. After the rolled panel is in position and the retention straps have been removed, unroll the MO-MAT.

b. Attach 9 nut plate strips to the underside ends of the MO-MAT.

c. Attach the second sheet of MO-MAT by positioning the second panel on top of the first panel with the end holes aligned. Install THE bolts and washers assembly into the two end holes.

d. Continue to do the same for the remaining sheets.

e. After the panels have been rolled out and put into position, install edge stiffeners at the entrance and exit points. Also install the anchor plates and engineer stakes every 50 feet for the roadway configuration. This will prevent the MO-MAT from moving out of position.

f. When going around obstacles, the MO-MAT can be connected together from the ends as well as the sides. When making the roadway configuration go around obstacles, do not put engineer stakes on the inside of a turn. This will help prevent puncturing of tires from the engineer stakes.

(2) Helicopter pad.

a. Position/unroll panel of MO-MAT onto the area cleared for mat installation.

b. With one panel rolled out, attach nut plate strips to the underside of the end and joining edge of the two panels. Nut plate strips may be installed while unrolling panel.

c. Roll the second panel into position on top of the end of the first panel and adjust the roll so that the boltholes are aligned. Install bolts at each corner before fully unrolling the second roll to facilitate hole alignment and installation of the remainder of the bolts.

d. Position Panel #3 offset eight inches from the edge of Panel #1 and overlapping six inches of panel #1 until the nodes are nested and the holes are aligned.

e. Install a bolt in the first hole of panel #3 and tighten. Check the alignment of the hole while gradually unrolling the panel. Install bolts in the remaining holes.

f. Repeat a thru e steps until the mat is laid out.

g. Starting at the corner of the mat, install the anchor assemblies. Attach additional anchor plates approximately 20-25 feet apart around the entire mat.

h. If access roads are not connected to the mat or pad, edge stiffeners are recommended due to the heavy traffic of vehicles and equipment to and from the mat or pad.

i. The Helo configuration can be used as an landing point for helicopters as well as a storage deck to keep gear and equipment from getting mud or dirt caked onto them.

5. MAINTENANCE ON THE ASSAULT TRACK WAY KIT.

a. Maintenance of MO-MAT consists of inspecting the panels for holes, rips, or other damaged areas. Also checking the panels, anchor plates, and edge stiffeners for looseness or poor assembly. There are two methods recommended for the repair of MO-MAT.

(1) Repair method #1 covers small holes, one inch or less in size, and surface damage to the panel face along the panel edge. It is not recommended during inclement weather such as rain, snow, or dust storms. Perform the following eight steps.

(a) Remove all soil from damaged areas with a brush or stiff fiber broom, and then wipe the area dry.

(b) Position back-up MO-MAT and separation paper, if required, under the panel repair area.

(c) Take a roll of adhesive in accordance with manufacturer's instruction.

(d) Apply adhesive around the damaged area and force it between the delaminated fibers.

(e) Position a piece of MO-MAT over the damaged area and press it into place by stepping on the cover piece of MO-MAT to assist in spreading adhesive into the damaged fibers.

(f) Pour a small amount of gasoline or kerosene on the covered piece of MO-MAT (just enough to cover it) and light the fuel. The heat will cause the adhesive to melt into the damaged fibers.

(g) Let it burn for approximately two minutes, put it out, and let it cool. The MO-MAT is now ready for use.

(2) Repair method #2 covers repairs of large holes and rips on the edge of the panel. This method may also be used to repair surface delaminations or surface fiber damage. This method is suitable for all types of weather.

(a) If necessary, enlarge the hole of the damaged area to permit the positioning of the nut late strips through the damaged area.

(b) Fill, level, and compact the soil under the damaged area.

(c) Make a patch from other MO-MAT four inches larger than the hole.

(d) Position a piece of flat wood under the patch to be drilled.

(e) Place the pre-drilled patch over the hole and use it as a template to drill holes.

(f) Drill 5/8-inch holes in the patch and bolt it to the MO-MAT as required.

**REFERENCES:**

1. TM-06831A-15. Operating and Maintenance Instructions for MO-MAT Kit.