

# MARK-I

## TEMPORARY CROSSING PLATFORM

### OPERATIONS & MAINTENANCE RECOMMENDATIONS



Physical properties are defined by The Aluminum Association, AASHTO, ASTM, and/or standard engineering practice. The values shown are nominal and may vary. The information found in this document is believed to be true and accurate. No warranties of any kind are made as to the suitability of any The Approach LLC product for particular applications or the results obtained there from. The information provided is subject to change without notification, and is not to scale. The information provided may not meet Federal, State or local building codes, ordinances, or regulations in any jurisdiction and is not intended to take the place of the requirements of applicable codes and standards. The information presented is for review and approval of the architect and engineer of record, and is not a substitute for professional evaluation and determination required for any particular project or application. © 2010-2016 The Approach LLC. All Rights Reserved.

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### WARNING!

- Do not exceed any rated load or design configuration under any circumstances. Slings provided by The Approach are not rated or tested for overhead lifts unless specified by the customer, and lifting procedure should be treated accordingly.
- Inspect Mark-1 for structural damage, especially at all beams, built up members, bearings surfaces, and lift points upon receipt as well as before and after each use. If a Mark-1 platform is damaged and its structural capacity impacted, it should be adequately repaired or retired from service.
- Inspect any slings or other ancillary lifting materials for wear or damage. If structural capacity is impacted, they should be retired from service.
- All platform bearing surfaces should be analyzed for stability and load carrying capacity before use.
- Mark-1 platforms are designed to be light-weight, and should be handled with care. Lifting and lowering should be slow and weight distributed evenly. Lift points are not designed to carry more than the individual plank's weight when uniformly loaded. Lifting angles should not exceed 30 degrees from vertical and spreader bars should be used if sling contact with platforms are anticipated.
- Always check [www.theapproachinnovations.com](http://www.theapproachinnovations.com) to insure that you have the most current version of this document.

## WHAT THE MARK-1 IS AND ISN'T

The Mark-1 product line was created to provide rapidly deployable crossing platforms which incorporate durability & toughness, low maintenance, and light weight. While all Mark-1 materials are designed with maximum durability in mind, care should always be taken to ensure even lifting and loading in the directions anticipated. Aluminum is approximately 1/3 the weight of steel and nearly as strong but it is a softer and less rigid material. The Mark-1 platforms are very rugged, but care should be considered more critical for these products than some other temporary construction products. Regular inspections, including pre and post service, should be performed and documented. If a Mark-1 platform is damaged and its structural capacity impacted, it should be repaired or retired from service.

## GEOTECHNICAL RESPONSIBILITY & FOUNDATION INTERACTION

It is of high importance that a geotechnical investigation and assessment be made by a qualified engineer to determine suitability for use at any given project location. At minimum, bearing capacity of the foundation soils should be established and both bearing capacity and slope stability verified for the anticipated loads.

The stakes provided should be driven to grade for maximum performance. The stakes have not been design to develop passive resistance or carry any significant lateral loads. While some lateral load resistance will be induced when fully driven, they should be treated as for-alignment-only.

Each individual platform has been designed with a bearing surface at each end. Whenever possible, and unless geotechnical analysis confirms otherwise, bearing surface contact with stable soils should be maximized.

Successful performance of the Mark-1 platform is highly dependent on the soils and slopes present and the quality of information obtained by the site investigation.

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### STANDARD UNIT ANATOMY

**FRAME:** At the heart of the Mark-1 product line is a 6061-T6 Aluminum Alloy frame which is designed for high strength and corrosion resistance.

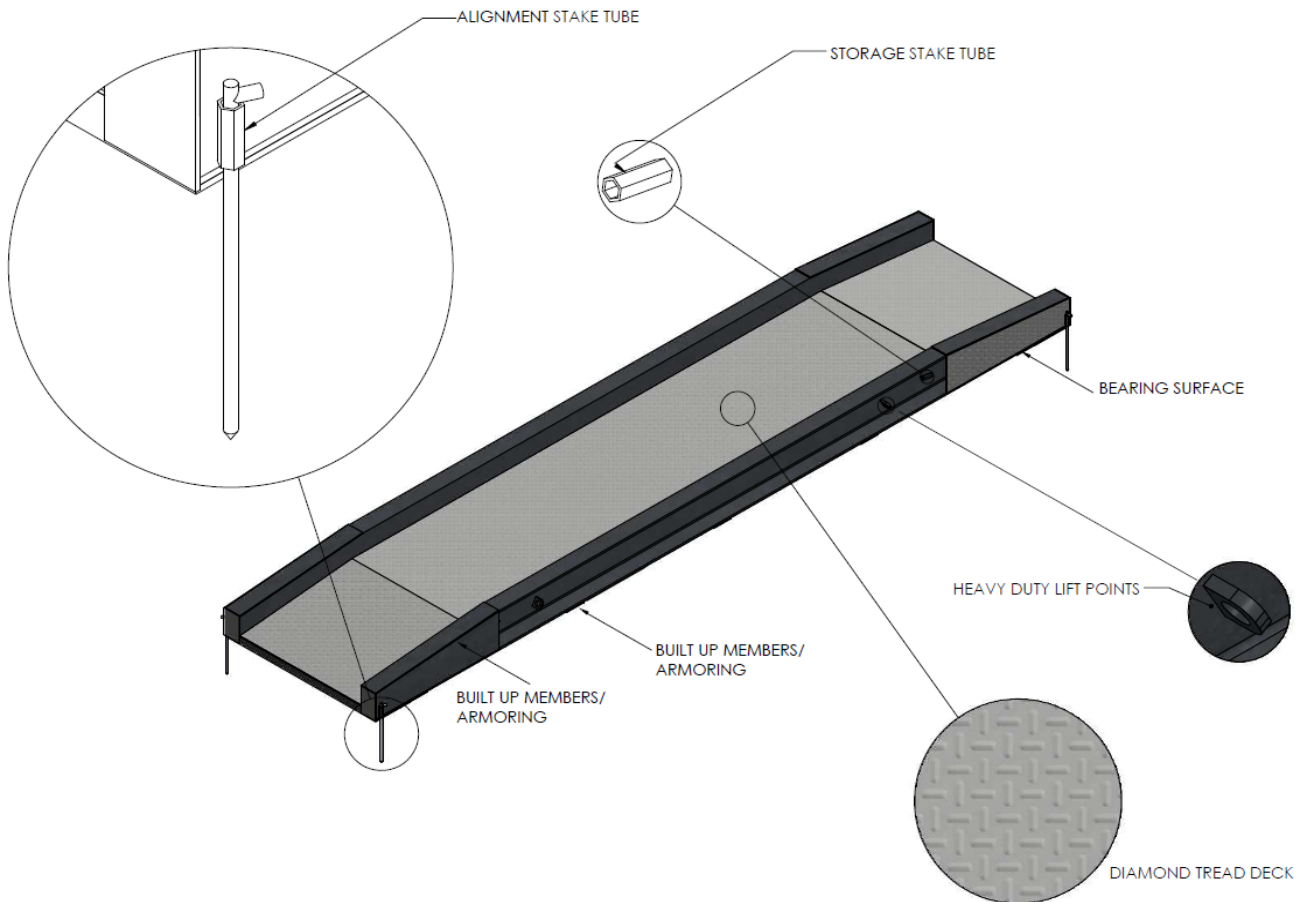
**DECK:** 1/4" 6061-T6 Aluminum diamond tread, only for use with rubber wheeled/tracked vehicles

**ARMOR/BUILT UP MEMBERS:** Internal beams transfer load to the exterior channels. The deck and bottom armoring provide some necessary load transfer in addition to functioning as contact strips.

**BEARING SURFACE:** An 18" bearing surface is provided consisting of some mill finish and some diamond tread surfacing for varied conditions. All 18" should be in contact whenever possible.

**STAKE TUBES:** 4 tubes are provided to hold the alignment stakes in service. 4 more are provided for stake storage when not in use.

**HOIST POINTS:** 4 hoist points are provided and designed to carry the unloaded weight of the structure. They should be loaded in the same direction as the hoist points themselves.



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### DESIGN & LOADING SPECS:

MODEL (ex. Mark I)

LENGTH (ft) (ex. 20')

DESIGN VEHICLE CAPACITY (ex. 65,000 LB)

DESIGN VEHICLE CONFIGURATION (ex. TANDEM AXLE)

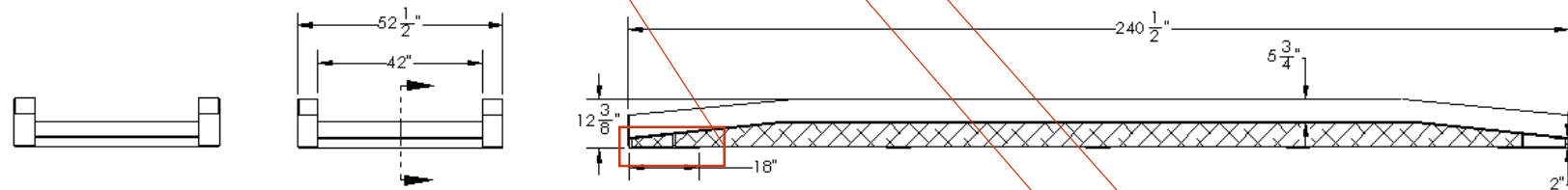
ESTIMATED LIFTING WEIGHT (ex. 1,300 LB/INDIVIDUAL PLATFORM)

BEARING SURFACE LENGTH (ex. 18")

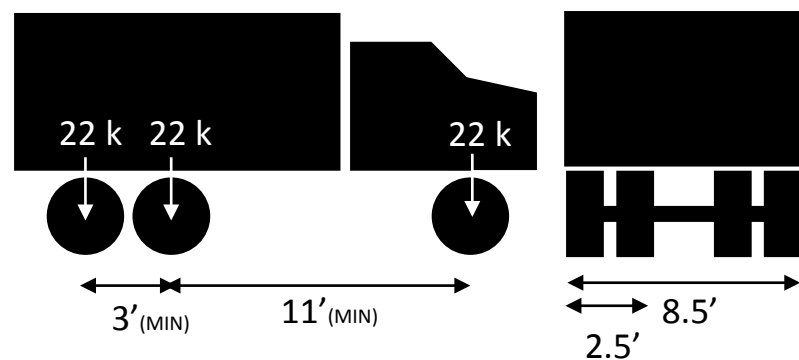
MAX AXLE LOAD (ex. 22,000 LB/AXLE OR 11,000 LB/Wheel)

MIN. DESIGN GEOMETRY (ex. 13" min. wheel width)

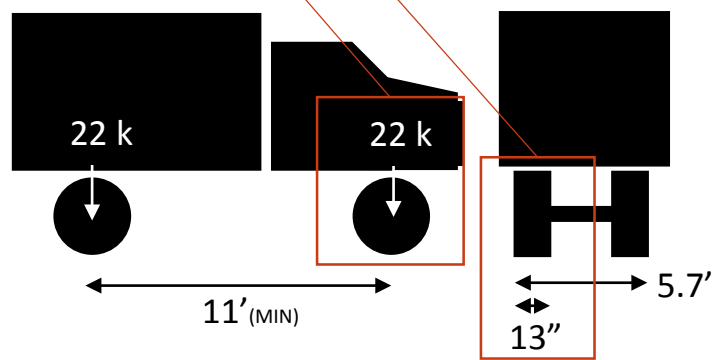
Model: M1-20-65T  
Lifting Weight: 1,300 lb



### TANDEM AXLE CAPACITY



### SINGLE AXLE CAPACITY



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### SERVICE

#### Pre-inspection & Planning

Inspect lifting equipment and Mark-1 for structural damage, deformation, or corrosion, especially at all welds, beams, built up members, bearings surfaces, wear surfaces, and lift points upon receipt as well as before and after each use. If a Mark-1 platform is damaged and it's structural capacity impacted, it should be adequately repaired or retired from service.

Mark bearing locations for placement. Ensure that the bearing surfaces are level and are capable of carrying the anticipated loads as well as distributing them evenly. **\*\*\*consult an engineer to verify bearing capacity and slope stability of anticipated bearing locations\*\*\***

#### Lifting

Always plan the lift carefully. Slings and hoist points must not be overloaded. Ensure that load is well centered on the slings and that the point of lift is directly above the center of gravity of the load, balanced and stable. Ensure that the slings cannot slide or in other way risk the safety of the lift. Lifting angles should be in plane with the hoist points and should not exceed 30 degrees from vertical. Spreader bars should be used if sling contact with platforms are anticipated. Do not tie knots in slings, and ensure that the sling is not twisted. Protect the slings against sharp edges. Avoid shock loading and snatch lifting. Do not drag a load in the sling and do not drag slings over the ground. Examine slings after use and remove from service if visible damage has been suffered.

#### Setting

Carefully set platforms on level bearing surfaces which can carry and evenly distribute anticipated loads and slope stability will not be impacted. Maximize as much contact with the Mark-1 bearing surface and the ground as possible for stability and load distribution. Ensure that planks are perfectly parallel, aligned with individual wheel paths, and that deck elevations are consistent. Stakes should be fully driven at all 4 corners to aid in holding alignment.

#### Use

Have a spotter verify alignment of wheels and planks through entire travel as vehicle slowly approaches. Carefully board the platforms taking caution to travel straight without excessive acceleration or braking. A spotter should be used until vehicle is safely off the platforms.

#### Post-inspection & Storage

Inspect lifting equipment and Mark-1 for structural damage, deformation, or corrosion, especially at all welds, beams, built up members, bearings surfaces, wear surfaces, and lift points upon receipt as well as before and after each use. If a Mark-1 platform is damaged and it's structural capacity impacted, it should be adequately repaired or retired from service. Store Mark-1 and components in a cool, dry location away from the sun, chemicals, excessive heat, and where mechanical damage is possible.



# MARK-1 TEMPORARY CROSSING PLATFORM

## STORAGE & MAINTENANCE OF THE MARK I CROSSING PLATFORM & ANCILARY PRODUCTS

The Approach Mark-1 products are designed for ease of deployment and low maintenance service. The procedures outlined below will aid in developing a maintenance schedule that should protect the quality of your new investment for years to come.

### Aluminum Components

Aluminum components develop a tough oxide coating which serves to protect the bare metal. With time, the surface of this finish may darken and discolor, however neither weathering, sunlight, nor natural fresh & seawater will degrade the material strength or service life of the aluminum frame. However, some preventative maintenance is prudent prior to storage to prevent possible long-term attack.

#### I. Inspection

- a. Inspect Mark-1 for structural damage or corrosion, especially at all welds beams, built up members, bearings surfaces, wear surfaces, and lift points upon receipt as well as before and after each use. If a Mark-1 platform is damaged and its structural capacity impacted, it should be adequately repaired or retired from service.

#### II. Cleaning

- a. Use only mild soaps or detergents for cleaning aluminum surfaces. Abrasives, etching cleaners and other special cleaners are not recommended. Household cleaners often contain coarse abrasives and should not be used.
- b. Avoid cleaning during periods of extreme temperature.
- c. Do not mix cleaners.
- d. Remove the cleaner thoroughly. Rinse with clean water if the cleaner is water based. Cleaners containing wax, oil, or silicones should be removed with a dry cloth. Be careful to purge the cleaner from joints & seams. Always check with local & national codes for the proper protection from runoff & discharge, and disposal of cleaning agents.

#### III. Storage

- a. Although designed for long-term continuous use, your Mark-1 system may be seasonally or infrequently stored, or stacked on site for extended periods of time prior to installation.
- b. Do not store aluminum in contact with dissimilar metals like uncoated steel as galvanic action could take place. Always use galvanic isolators like polymer pads or untreated wood when storage on steel trailers or racks is preferred.
- c. Whenever possible products should be stored at a stable temperature, indoors, and protected from wind-blown rain, combustion products, and construction dust.
- d. Non-packaged or non-wrapped aluminum may safely be stored in the open, providing parts are not stored flat, are above ground, and separated sufficiently to allow the free passage of air.
- e. Collected moisture or rainfall should be removed within a day or two. If these precautions are not taken, the metal may be water stained. Some cartons are marked with dyes and printing inks that run and stain when wet.

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### STORAGE & MAINTENANCE OF THE MARK I CROSSING PLATFORM & ANCILLARY PRODUCTS WHERE APPLICABLE

#### Accessories & Ancillary Items

##### I. Alignment Stakes

###### a. Inspection

- i. Inspect stakes before and after each use for damage, deformation, corrosion, or deterioration of the coating. If a stake is damaged or its protective coating deteriorated, it should be adequately repaired or retired from service.

###### b. Cleaning

- i. Use only mild soaps or detergents for cleaning the coating surfaces. Abrasives, etching cleaners and other special cleaners are not recommended. Household cleaners often contain coarse abrasives and should not be used.
- ii. Avoid cleaning during periods of extreme temperature.
- iii. Do not mix cleaners.
- iv. Remove the cleaner thoroughly. Rinse with clean water if the cleaner is water based. Cleaners containing wax, oil, or silicones should be removed with a dry cloth. Be careful to purge the cleaner from joints & seams. Always check with local & national codes for the proper protection from runoff & discharge, and disposal of cleaning agents.

###### c. Storage

- i. Stakes can be stored in stake tubes on the Mark-1 in accordance with its storage recommendations. Any exposed steel in the stakes should be coated where potential long-term contact with the aluminum structure is expected to prevent potential galvanic action.

##### II. Lifting Slings

###### a. Inspection

- i. Inspect slings, shackles, hooks, and links before and after each use for frays, damage, deformation, corrosion, or deterioration of the coating. If a sling, hook, link, or shackle is damaged or its protective coating deteriorated, it should be adequately repaired or retired from service.

###### b. Storage

- i. Store in a clean, dry, well ventilated place, away from the ground or floor and away from direct sunlight, ultra-violet light and fluorescent lights. Store away from extremes of heat, away from sources of ignition, atmospheric or liquid chemicals, and away from the possibility of mechanical damage.

#### Replacement Parts

When ordering replacement parts from The Approach, refer to your order number. Consult your Regional Sales Manager through:

The Approach Innovations  
878 Peachtree st. ne  
Unit 308  
Atlanta, GA 30309  
(678) 902 5890  
<http://www.theapproachinnovations.com/contact>

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