

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

AIR TRANSPORTABILITY GUIDANCE
 EXTERNAL TRANSPORT OF ARTILLERY-FIRING PLATFORM, M6,
 BY U.S. ARMY HELICOPTERS

Headquarters, Department of the Army, Washington, D.C.

30 January 1969

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1. Purpose and Scope

a. This manual presents air transportability guidance for the external transport of the artillery-firing platform, M6 (also referred to as "platform") by U.S. Army helicopters.

b. Reporting of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded to Director, U.S. Army Transportation Engineering Agency, Military Traffic Management and Terminal Service, ATTN: MTT-GD, Fort Eustis, Va., 23604.

2. Applicability

The guidance in this manual applies when the helicopter designated for the external movement has an allowable cargo load capacity equal to or greater than the weight of the platform. In the current U.S. Army inventory the CH-47-series and CH-54 helicopters meet this requirement. With the consent of the helicopter commander, cargo and/or personnel may be added for transport inside the helicopter within allowable load limits and restrictions prescribed by the applicable operator's manual (app).

3. Responsibilities

a. *Transported Unit.*

(1) Effect advance coordination with the transporting unit.

(2) Provide the manpower and materials needed, including cargo slings, to prepare the platform for transport.

(3) Inspect cargo slings and associated equipment for serviceability appropriate to the mission.

(4) Prepare equipment for air transport with supervision and assistance as required from appropriate field support units.

(5) Provide guidance to the helicopter commander relative to safety and to any technical peculiarities of the platform which may affect its air transport.

(6) Establish air /ground communications with transporting unit.

b. *Transporting Unit.*

(1) Operate helicopter-associated equipment.

(2) Inspect the helicopter for serviceability appropriate to the mission, and comply with pertinent aviation directives and maintenance manuals.

(3) Establish air /ground communications with transported unit.

4. Load Description

a. The firing platform (figs. 1 and 2) is an aluminum, adjustable-height platform designed as a support for firing the 105-mm, M102 howitzer in marshy or rice paddy areas.

b. The approximate dimensions and weight of the platform are shown below:

Description	Dimensions			Weight (lb)
	Length (in.)	Width (in.)	Height (in.)	
Artillery-firing platform, M6.	281	271	Adjustable	7,500

c. The height of the platform can be adjusted by means of a jacking assembly located in each of the four corner posts; when the platform is transported for emplacement in a marshy area, all four jacks must be extended.

d. Features of the platform include four detachable footpads or floats which support the platform. The floats can be released by activating a quick-

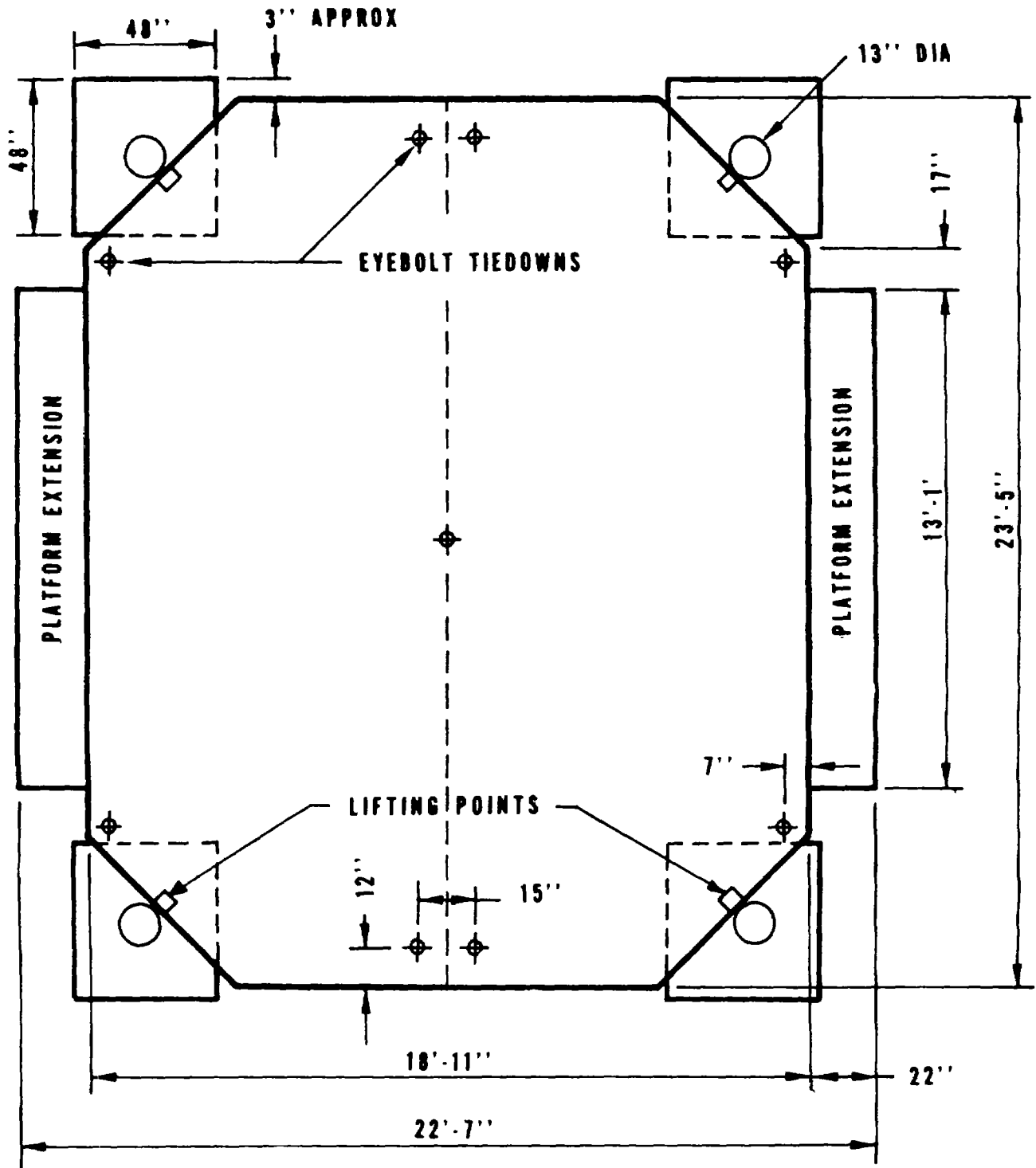


Figure 1. Dimensioned sketch of the artillery-firing platform, M6.

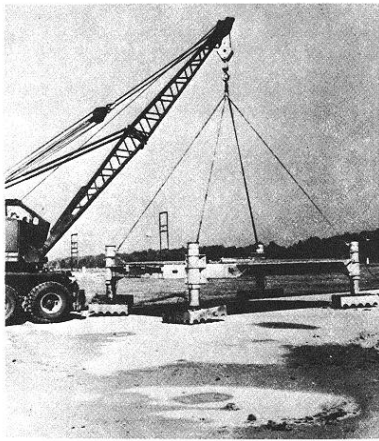


Figure 2. The artillery-firing platform, M6, being test-lifted by mobile crane, using aerial delivery slings.

release device located in each of the jack cover assemblies. Release of the floats may be required when extracting the platform from marshy areas.

e. Four steel rods for use in activating the quick-release device and four wrenches for adjusting platform height are provided with platform.

5. Preparation and Rigging

The platform can be rigged for external transport using either aerial delivery slings or a multileg sling as prescribed in a or b below:

Warning:

The high noise level of CH-47 and CH-54 helicopters can cause permanent damage to the ear and a cumulative loss of hearing. Personnel working in the vicinity should use earplugs. Hookup personnel should wear goggles and hard hats.

Warning:

A charge of static electricity is nearly always present on the helicopter. Use of some type of discharge apparatus (see fig. 37, TM 55-450 8) to ground the hook and discharge electricity is necessary to prevent shock when the hook is touched. After discharge of electricity, the hook is grasped quickly and firmly and held, if possible, until the hookup is completed. If contact with the hook is lost after initial grounding, the hook must be grounded again before it is touched. Do not use the platform as a ground contact.

Caution:

Inspect all slings to insure that cotton buffers and moveable and permanent keepers are present. The presence of buffers and keepers is necessary to prevent nylon-to-nylon or metal-to-nylon contact which will result in damage to slings and possible loss of the load during flight.

Caution:

Care must be taken to insure that the release button on the type-IV link assembly is not depressed when the assembly is padded and taped. Failure to do this may result in loss of the load during flight.

a. External Transport Using Aerial Delivery Slings.

(1) Materials.

(a) One large clevis assembly, suspension air delivery, type-I (FSN 1670-090-5354).

(b) Eight 20-foot, 3-loop aerial delivery slings (FSN 1670-823-5043).

(c) Two 3-foot, 3-loop aerial delivery slings (FSN 1670-753-3788). These slings are not used when the platform is transported by CH-54 helicopter.

(d) Two type-IV link assemblies, single, suspension or extraction, quick-release (FSN 1670-783-5988).

(e) Two-inch pressure-sensitive tape (FSN 8135-266-5016), or suitable substitute, as required.

(2) Rigging.

(a) Assemble firing platform in accordance with instructions provided with the platform (app.). Platform can be assembled by 10 men in approximately 3 hours.

(b) Level platform by adjusting corner-post jack assemblies.

(c) Combine two 20-foot slings, and attach to the lifting point on each corner-post jack assembly. Attach slings by removing lift-point bolt and inserting sling loops. Replace bolt, and insure that bolt is secured by safety pin or nut.

(d) Attach free ends of 20-foot slings to bell end of clevis assembly used to form the apex of the four sling legs.

(e) Form two loop slings using the 3-foot slings and type-IV link assemblies, and attach to bolt end of large clevis assembly. Tape link assemblies to prevent accidental opening; position links to avoid contact with the clevis or the helicopter hook. The loop slings are passed over the CH-47 helicopter hook for pickup. The clevis assembly is attached directly to the hook when the platform is transported by CH-54 helicopter.

(f) Secure platform adjusting wrenches and quick-release rods (four of each) in allocated brackets.

(g) Cluster the four sling legs, and tape together (breakaway technique) to prevent fouling during lift-off.

b. External Transport Using a Multileg Sling.

(1) Materials.

(a) One large clevis assembly, suspension air delivery, type-I (FSN 1670 090-5354). This clevis is not used when the platform is transported by CH-47 helicopter.

(b) One sling, multiple leg, 15,000-pound-capacity, nylon and chain leg (multileg sling) (FSN 1670-902--3080).

(2) *Rigging.*

(a) Assemble firing platform in accordance with instructions provided with the platform (app). Platform can be assembled by 10 men in approximately 3 hours.

(b) Level platform by adjusting corner-post jack assemblies.

(c) Pass one chain leg through the lifting point on each corner-post jack assembly. Hook each chain in the grab link at the fourth chain-link from the free end of the chain.

(d) The multileg sling web ring is passed over the CH-47 helicopter hook for pickup. When the platform is transported by CH-54 helicopter, attach bolt end of the clevis to web ring and pass bell end of clevis over helicopter hook for pickup.

(e) Secure platform adjusting wrenches and quick-release rods (four of each) in allocated brackets.

(f) Cluster the four sling legs, and tape together (breakaway technique) to prevent fouling during lift-off.

c. *Time Required.* Two men can rig the platform for external transport using either sling, in approximately 10 minutes.

Note 1.

It is emphasized that times given for the operations described in this manual are for guidance purposes only and may vary, dependent upon existing conditions.

Note 2.

The platform footpads or floats should be thoroughly greased inside and outside prior to platform emplacement to reduce mud accumulation/cohesion at time of extraction. Use the following grease or equivalent: GAA-Grease, Auto. and Artillery, MIL-G-10924B 9150-530-7369SW.

6. Flight

Caution must be exercised in transporting external cargo, as flight may be affected by the size, weight, and shape of the cargo load (fig. 3). The recommended airspeed with the platform is 50-60 knots. Higher speeds cause load instability.



Figure 3. Lift of the artillery-firing platform, M6, by CH-47B helicopter, using aerial delivery slings.

7. Derigging

Two men can derig the platform in approximately 5 minutes.

**APPENDIX
REFERENCES**

1. Field Manuals

FM 1-100 Army Aviation Utilization

2. Technical Manuals

TM 5-315 Firefighting (Structures, Aircraft, Petroleum, and Nuclear Material) and Rescue Operations in Theaters of Operations

TM 9-1015-244-14 Operator, Organizational, Direct Support, and General Support Maintenance Manual, Including Repair Parts and Special Tools List for Platform, Artillery Firing, M6.

TM 55-450-8 Air Transport of Supplies and Equipment: External-Transport Procedures

TM 55-450-11 Air Transport of Supplies and Equipment: Helicopter External Loads Rigged with Air Delivery Equipment.

TM 55-1520-209-10 Operator's Manual, Army Model CH-47A Helicopter.

TM 55 1520-217-10 Operator's Manual, Army Model CH 54A Helicopters.

TM 55-1520-227-10 Operator's Manual, Army Models CH-47B and CH-47C Helicopters

3. Army Regulations

AR 385-40 Accident Reporting and Records

By Order of the Secretary of the Army:

Official:

KENNETH G. WICKHAM,
*Major General, United States Army,
The Adjutant General.*


W. C. WESTMORELAND,
*General, United States Army,
Chief of Staff.*

Distribution:

To be distributed in accordance with DA Form 12-31, Section I, operator and crew maintenance requirements for CH-47 and CH-54A Helicopters and DA Form 12-40, Section I (qty rqr block No. 17) operator and crew maintenance requirements for Howitzer, 105-MM, Towed, XM102.

☆U.S. GOVERNMENT PRINTING OFFICE: 1969-342-015/2413

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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